# 3 Serial verb constructions and motion semantics

Joseph Lovestrand

Daniel Ross

Abstract

This chapter investigates the expression of associated motion and directional motion in the form of serial verb constructions (SVCs). In a sample of 124 languages with SVCs, 80% have motion SVCs. The most common types are directional SVCs, in which a path-of-motion verb combines with another motion verb, and prior associated motion SVCs expressing motion prior to the activity or state predicated by the other verb in the construction. Concurrent motion and subsequent motion are much less common. In a prior motion SVC, the motion verb nearly always precedes the other verb, and the figure on the path of motion is the subject. In a directional SVC, the path-of-motion verb nearly always follows the other verb, and the grammatical function of the figure on the path of motion can vary according to the semantics of the main verb in the construction.

Keywords: serial verb constructions, associated motion, directional, typology

Joseph Lovestrand, School of Oriental and African Studies, University of London, jl119@soas.ac.uk

Daniel Ross, University of Illinois at Urbana-Champaign, djross3@illinois.edu

## 1 Introduction

Associated motion has almost exclusively been treated as a morphological phenomenon in previous literature (e.g. Koch 1984; Wilkins 1991; Guillaume 2016), but as a grammatical category it can be expressed in other forms. Compared to most contributions to this volume, this chapter takes a broader perspective and turns to the syntactic expression of associated motion through serial verb constructions (SVCs).[1] For many of the languages that do not have a morphological expression of associated motion, multi-verb constructions take on this role (Ross forthcoming).

Consider the following examples, each of which expresses prior associated motion in a different form. Example (1) is an SVC of the type that is discussed in detail in this chapter. Example (2) is a verb-verb compound, where the verb stems form a single grammatical word.[2] Similar meanings can be expressed through pseudocoordination (e.g. English *go and get*: Ross 2016) or other constructions with an overt linking morpheme, as in example (3). Example (4) is a converb construction, in which one of the verbs is marked in a dependent, non-finite form. It also expresses prior motion.

(1) Serial verb construction: Nuaulu, Austronesian (Bolton 1990: 159)

| | | | | |
|---|---|---|---|---|
| *Au* | ***u-eu*** | ***keta*** | *sanue* | *isa.* |
| I | **1SG-go** | **shoot** | bird | a |

'I'm going to go and shoot a bird.'

(2) Verb-verb compound: Rama, Chibchan (Craig 1991: 484)

[1] Other authors have made an explicit connection between associated motion and SVCs including Koch (1986), Nordlinger (2010) and Cleary-Kemp (2015). The connection was independently suggested by Patrick Caudal (personal communication).

[2] Some linguists consider verb-verb compounds to be a subtype of SVCs. We treat them as a separate type of construction. This is discussed in Section 2.

*naas* *ngulkang* ***alais-traal-i***

I wild.pig **hunt-walk-TNS**

'I go hunt the wild pig.'

(3) Pseudocoordination: Mayrinax Atayal, Formosan (Shibatani 2009: 256)

***wah-an*** *ʔiʔ* ***m-itaal*** *niʔ* *yumin* *ʔiʔ* *yaya=niaʔ*

**come-FOC** LINKER **FOC-see** GEN Yumin NOM mother=3SG.GEN

'Yumin came to see his mother.'

(4) Converb complex predicate: Nara, Nilo-Saharan (Tucker & Bryan 1966: 330)

*o* *go* ***mes-ing*** ***ot-o***

me to **speak-CVB** **come.AOR-3SG**

'He came to speak to me.'

Although a thorough survey encompassing all types of multi-verb constructions would be desirable, this chapter only explores the distribution of motion semantics in SVCs. In addition to expanding our understanding of associated motion beyond morphology, this study of multi-verb constructions also gives us some initial insight into the ways in which morphological associated motion is more or less likely to develop historically.

SVC is a traditional descriptive category normally reserved for constructions in which at least two verbs occur in the same clause with no morphological marker linking the verbs or indicating that one is subordinate to the other (e.g. Foley & Olson 1985; Sebba 1987; Joseph & Zwicky 1990; Lefebvre 1991b Durie 1997; Aikhenvald 2006; 2018). This excludes, for example, any construction which requires a verb to appear in a non-finite or participial form. One way that SVCs can differ from asyndetic (unmarked) coordination of verbs is that SVCs may restrict which verbs can appear in the construction. It has long been reported that the most common type

of SVC restricts one of its verbs to a class of motion verbs (Durie 1997: 310; Aikhenvald 2006: 47; 2018: 56, 156). Foley & Olson (1985: 47) call motion verbs "the serializing verb type *par excellence*."

There are actually several types of motion SVCs with different semantic properties, but this diversity is frequently glossed over, conflating distinct types of motion into one general category. In this chapter we follow the volume as a whole in making a distinction between directional semantics and several types of associated motion semantics. A directional morpheme is one that combines with a predicate that already has a motion component in its meaning, as in the SVC in example (5), which shows the combination of the path verb 'go' with the manner-of-motion verb 'run'. Typically, directionals contribute information about the orientation of the path of motion, such as deixis or relative direction.

(5) Directional SVC: Pero, Chadic (Frajzyngier 1989: 251)

| *tà-yí-ù* | ***tánà*** | ***wáatò*** | *mínà* | *nín-cákkà* |
|---|---|---|---|---|
| FUT-make-FORM.B | **run** | **go** | home | SBJ-3M |

'He will run home.'

In contrast, associated motion is "a verbal grammatical category, separate from tense, aspect, mood and direction, whose function is to associate, in different ways, different kinds of translational motion (spatial displacement / change of location) to a (generally non-motion) verb event" (Guillaume & Koch, this volume). A prototypical parameter of an associated motion system is that it will "distinguish the time of motion relative to the main activity – whether the motion is prior to, subsequent to, or concurrent with the time of the main activity" (Koch 1984: 26). All three of these types of associated motion (prior, subsequent, concurrent) can be expressed by a restricted verb in an SVC, as shown in examples (6) through (8).

(6) Prior motion SVC: Arapesh, Papuan (Conrad & Wogiga 1991: 56)

***U-nak*** ***w-i-chúlokuh***

**3PL.F.SBJ.IRR-go** **3PL.F.SBJ-IRR-wash**

'They will go and wash.'

(7) Concurrent motion SVC: Kayardild (Evans 1995: 309–310)

*niwan-burri-yarrba* ***yathuyii-ja*** ***warra-ja,*** *jungarra-ya* *dulk-i*

3SG-emerge-PRECON **laugh-ACT** **go-ACT** big-LOC place-LOC

'Having come out of [the sea], [Kajurkju] went along laughing…'

(8) Subsequent motion SVC: Taba, Austronesian (Bowden 2001: 354)

***n=tua*** *yan* ***n=mul***

**3SG=buy** fish 3SG=**return**

'He's returned from buying fish.'

We searched for examples of these three types of associated motion SVCs, as well as directional SVCs, in a sample of 325 languages, 124 of which have some type of SVC. An overview of the results is shown in Table 1. More detailed quantitative results are given in Section 3. We find that 101 of these languages have motion SVCs. Directional SVCs are slightly more common than SVCs that express associated motion, while 39 languages have both types. Among associated motion SVCs, prior motion is by far the most common in our results, although, as discussed in Section 3.2, it is often difficult to distinguish prior motion from purposive motion. Concurrent motion and subsequent motion SVCs are rare. There is also a type of SVC that combines a motion verb with the verb 'take' with possible subsequent motion interpretations. This construction is discussed separately in Section 3.5.

**Table 1: Distributional results for types of motion SVCs in sample**

| Type of motion SVC | # of languages out of 101 |
|---|---|
| Directional SVC | 70 |
| Prior/purposive motion SVC | 67 |
| Concurrent motion SVC | 5 |
| Subsequent motion SVC | 5 |

We also find that in a prior motion SVC the restricted motion verb nearly always precedes the other verb, regardless of the general word order properties of the language, and that the figure on the path of motion is always the subject.[3] In a directional SVC, the restricted motion verb nearly always follows the other verb, and the identity of the figure on the path of motion is determined by the semantics of the event.

The rest of this chapter is organized as follows. In Section 2, we further elaborate on our definition of motion SVCs, and explain how the criteria were interpreted in the process of identifying SVCs in our sources. In Section 3, we give more background on our distributional study and present the quantitative results with subsections focusing on the distribution of each type of motion semantics. In Section 4, we show that there is a strong correlation between verb order and motion semantics, and discuss possible explanations for some exceptional cases. In Section 5, we discuss how the figure on the path of motion is identified in different types of motion SVCs. Section 6 is a brief conclusion emphasizing the importance of including multi-verb constructions in associated motion research.

[3] As found by Ross (forthcoming), there is a trend towards SVCs being more likely in languages with head-initial (S)VO basic word order than in languages with a verb-final, (S)OV, basic word order. However, there is no indication of a correlation between basic word order and the verb order in motion SVCs.

## 2 Defining motion SVCs

In this section, we explain what criteria we used to determine whether a language in our sample is considered to have a motion SVC. We discuss some borderline cases that we have not included in our study of motion SVCs, and explain the distinction we make between SVCs and verb-verb compounds.

### 2.1 Defining SVCs

The definition used in this study is based on Ross et al. (2015) and Ross (forthcoming). For a particular construction to be considered an example of an SVC, it must at least have the following characteristics: (1) two or more verbs, (2) with no marker of dependency or linking element, (3) with shared tense-aspect-modality and negation, and (4) shared arguments. While the criteria used in this definition are not all uncontroversial, they are well-grounded in the literature on SVCs (see further discussion in Lovestrand 2018; Ross forthcoming).

Like many traditional categories in descriptive linguistics, there is no consensus on a set of necessary and sufficient criteria by which to identify an SVC in any given language. Our definition represents a middle ground covering most of the major themes in previous descriptive and typological work on SVCs. There are both narrower and broader views of SVCs found in the literature, but we have not found them to be practical for our purposes. The number of languages in our sample makes it impractical to assume a more narrow definition of SVCs because, as others have also found, "SVCs are rarely described in sufficient detail in descriptive grammars" (Haspelmath 2016: 291). There are simply some criteria for which it is not possible to find enough information in the available source material, for example, intonation (cf. Givón 1991). On the other hand, our definition of SVCs proves to be sufficiently narrow to find strong correlations between the semantic and formal characteristics we are investigating in this analysis.

A broader definition would result in a less homogenous set of constructions with more variables to control in order to find correlations in the data.

We view verbhood as a lexical category defined on a language-specific basis using criteria such as morphology and syntactic distribution. There is a tendency for verb roots in SVCs to grammaticalize and change their lexical category which, in some cases, creates uncertainty concerning the lexical status of a particular morpheme in a putative SVC (e.g. Westermann 1930: 129–130; Ansre 1966; Crowley 1990; Hamel 1993; Lord 1993). While recognizing this potential complication, in practice, we have followed the judgement of the linguist presenting the data.

### 2.2 Some constructions not included in our study

Most constructions discussed under the term SVC involve multiple verb roots that are each separate grammatical words.[4] Similar constructions that have all the same characteristics as SVCs, but in which two verb roots form a single grammatical word have been called (verb-verb) compounds as a way to distinguish them from multi-word SVCs (e.g. Lord 1973; Déchaine 1993; Crowley 2002). Following these authors, we do not include single-word constructions as SVCs. Nonetheless, we recognize that some linguists do treat them as a type of SVC (e.g. Foley & Olson 1985; Durie 1997; Nishiyama 1998; Aikhenvald 2006, 2018).

The absence of any marker or linking element in SVCs has been a point of interest since the very first publication on SVCs in Akan by Riis (1854: 103), who described a "connection of sentences without any conjunction." However, as early as Hyman (1971), linguists have pointed out that there are constructions that appear to be identical to prototypical cases of serialization

[4] This is assuming that it is possible to distinguish between grammatical and phonological words (Tallman 2020). In practice, we have generally followed the wordhood assumptions of the linguist presenting the data.

except for the presence of some type of linking morpheme (cf. Lord 1993: 2; Carlson 1994: 283–283; Foley 1997: 382; Shibatani 2009). While these constructions certainly merit more cross-linguistic study than they have received, for practical reasons the current study excludes constructions such as those shown in examples (3) and (4) in Section 1.

Finally, the definition of SVCs used for selecting the sample also excludes a relatively rare type of construction that uses repeated subject pronominals or tense-aspect markers that appear to be syntactically and phonologically separate from the verb, such as in example (9) where the repeated subject pronouns form a clitic cluster with a number marker.

(9) Ambae (Lolovoli Northeast), Oceanic (Hyslop 2001: 276)

| | | | | | | |
|---|---|---|---|---|---|---|
| *maraga* | *ra=ru* | *mo* | ***singi*** | *ra=ru* | *mo* | ***hivo*** |
| get.up | 3NSG.SBJ=DU | REAL | **sing** | 3NSG.SBJ=DU | REAL | **go.down** |

'Then the two of them sang as they went down.'

In our examination of the expression of motion, we have only included two-verb SVCs, although longer sequences of verbs can also form SVCs. For example, the Thai directional SVC in example (10) has two directional verbs following a manner-of-motion verb.[5]

(10) Thai, Tai-Kadai (Muansuwan 2001: 237)

*Piti* ***dən*** ***khûn*** ***paj***

[5] One implication of this limitation is that it prevents our study from systematically capturing the frequency of another type of associated motion in SVCs, those with explicit "roundtrip" or "interrupted motion" semantics (cf. Rose 2015; Ross, this volume). Impressionistically, this type of SVC is not as common as prior motion SVCs or directional SVCs, but it is not uncommon to find constructions that express a round trip with three verbs, e.g. 'go', 'do', 'come'. This may be most frequently used to express "fetch" events (Schalley 2003), and in some languages the construction might be restricted to this particular event. One analytical question this raises is whether these roundtrip SVCs should be considered a separate type, or an instance of a prior motion SVC embedded in a subsequent motion SVC or vice versa. Note, however, that at least some two-verb SVCs can imply a round trip. See footnote 22.

Piti **walk ascend go**

'Piti walked up, away from the speaker.'

Our definition of SVCs in no way precludes the possibility of further studies into the semantics of motion in the types of multi-verb constructions that are not included in this particular study. Further studies could show whether motion semantics are as frequently reported in other types of multi-verb constructions as they are in SVCs, and whether other constructions show the same correspondences between semantic types of motion and the order of the verbs in the construction.

### 2.3 Defining motion SVCs

Our focus in this study is further limited to what Aikhenvald (2006; 2018) calls "asymmetric" SVCs. Asymmetric SVCs restrict one of the verb slots in the construction to a particular class of verbs. We call this the "restricted" verb.[6] We have made an effort to exclude cases of symmetric SVCs, such as those with resultative or sequential meaning, as well as cases of asyndetic coordination. Asyndetic coordination and symmetric SVCs allow, in principle, any verbs to occur in the construction. In contrast, the restriction on what verbs can occur in an asymmetric SVC indicates that the construction is grammaticalized in the sense that it has a specialized role in the language for expressing a grammatical function.

Out of the set of all constructions that meet our definition of an SVC, this particular study is interested in two-verb SVCs which restrict one of their verbs to a verb of motion, such as verbs glossed 'go', 'come', 'go up' or 'go in'. The verb form in question must be able to express what Guillaume (2016) calls "translational" motion (a literal change of location), but does not

[6] Sebba (1987: 40) calls the restricted verb "fixed", and Aikhenvald (2006; 2018) calls it "minor".

necessarily need to express a path of motion. While we did not specifically search for transitive motion verbs, we noted only one case where the restricted motion verb is a transitive motion verb (example (35), Section 5).[7] In every other case, the restricted motion verb is intransitive.

We exclude SVCs where the restricted motion verb has lost its translational meaning. It is relatively common for motion verbs in multi-verb constructions to take on aspectual meaning such as the verb *yà* 'come' in Khwe in example (11) which has a prospective meaning.

(11) Khwe, Khoisan (Kilian-Hatz 2006: 117)

| | | | |
|---|---|---|---|
| *n\|ĩí* | *ǁgèɛ-khòè-hɛ̀* | ***yà*** | **ǁ*'ó-à-tè*** |
| DEM | female-person-3SG.F | **come** | **die-FORM.I-PRS** |

'This woman is about to die.'

## 3 Distribution of types of motion SVCs

There have been at least three previous quantitative studies of the distribution of semantics of motion in SVCs, but with a smaller scope than our study. Maurer & Michaelis (2013) find directional SVCs in 30 of 75 creole languages examined. In a study of 16 languages of eastern Indonesia, van Staden & Reesink (2008) find prior or purposive motion SVCs in eight languages, and directional SVCs in ten languages.[8] Unterladstetter (2020) expands on van Staden & Reesink's work, examining "multi-verb constructions" (MVCs) from 32 languages of Eastern Indonesia.[9] Every language has an MVC that expresses prior/purposive motion, and all but one

[7] Example (35) shows a construction in Kayardild that uses the transitive verb 'send' to convey concurrent motion of the object in an SVC. Kayardild also has concurrent SVCs with a restricted intransitive motion verb.
[8] Van Staden & Reesink (2008) include verb-verb compounds in their definition. Excluding these would result in one less language with prior/purposive motion SVCs and two less languages with directional SVCs.
[9] Most MVCs in Unterladstetter's data can be considered SVCs. Prior or purposive motions SVCs are considered a type of "stage-relating" construction, specifically called "motion-to-action". Directional SVCs are considered a type of "component-relating" construction divided into three types: "motion complex" (intransitive), "direction complex" (transitive) and "transport complex" (caused accompanied motion, Section 3.5).

language has an MVC with directional meaning (Unterladstetter 2020: 249, 347). Verb order patterns and argument structures of motion MVCs in eastern Indonesia are shown to follow the same patterns we observe in our data (Sections 4 and 5).

Our distributional study is an extended analysis of the sample used in Ross (forthcoming; this volume) using the same, balanced sample of 325 languages which includes the 200-language sample of the *World Atlas of Language Structures* (Dryer & Haspelmath 2013). Ross identifies 124 languages (38.2%) that have at least one type of SVC. The geographic distribution of the languages in the sample with at least one type of SVC is shown in Figure 1.[10] As can be seen in the breakdown in Table 2, the relevant subset of the balanced sample results in a relatively representative set of languages that are spread across many language families and geographic areas.[11] For more details on the language sample and the survey methodology, see Ross (forthcoming; this volume).

[10] This map and the similar maps below were generated using the WALS Interactive Reference Tool by Hans-Jörg Bibiko.

[11] However, there is a relatively large number of Austronesian languages in the sample (52 languages of 325), and this family also has a relatively high rate of languages with SVCs (35 languages, 71.2%). For this reason, we checked our results by splitting the data between Austronesian and non-Austronesian languages, and found no significant differences in the distribution.

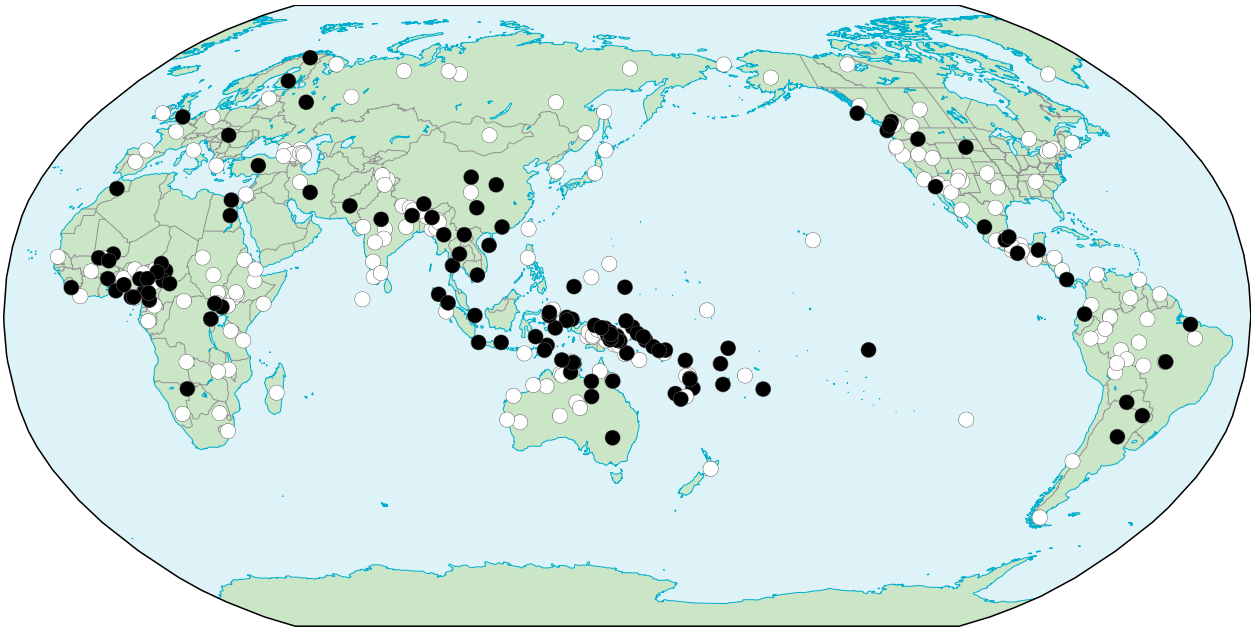

**Figure 1: Distribution of languages with SVCs (Ross forthcoming)**
**black = has SVC, white = no SVC**

**Table 2: Languages in the sample with an SVC by geographic area and language family**

- Africa: **24**
  - Chadic: 5
  - Egyptian: 1
  - Khoisan: 1
  - Niger-Congo, Bantoid: 4
  - Niger-Congo, non-Bantoid: 8
  - Nilo-Saharan: 4
  - Semitic: 1
- Europe & Middle-East: **7**
  - Indo-European: 4
  - Uralic: 3
- North & Central America: **12**
  - Salishan: 2
  - Uto-Aztecan: 3
  - Other: 7
- South America: **7**
  - Tupian: 3
  - Other: 4
- Asia: **14**
  - Austro-Asiatic: 3
  - Indo-Aryan: 2
  - Sino-Tibetan: 5
  - Other: 4
- Australia: **9**
  - Pama-Nyungan: 3
  - Non-Pama-Nyungan: 6
- Pacific, PNG & Indonesia: **48**
  - Oceanic: 23
  - Austronesian (non-Oceanic): 12
  - Torricelli: 2
  - Trans-New Guinea: 4
  - other Papuan: 7

We reviewed the available data on SVCs for these 124 languages and found motion SVCs in 101 of them (81.5%).[12] This confirms that motion is the most common semantic type of SVC, and provides a more precise quantification of this tendency.[13] The full record of types of motion SVCs found, language by language, is given in Appendix A. The summary is given in Table 1 in Section 1. Note that many languages have more than one type of motion SVC. Also, in some languages, one form of SVC can express more than one of the types of motion. In these cases, the language is counted as having all the types of motion SVC that the single form can express.

In addition, we find verb-verb compounds in 64 languages in the sample, including some languages that have both SVCs and verb-verb compounds. Verb-verb compounds are less common than SVCs, and the expression of motion in verb-verb compounds is also less frequent than in SVCs. We have identified 22 languages (34.3%) with a verb-verb compound that includes a motion verb.[14] Detailed results are given in Appendix B. However, these results may be underreported in cases where there is some ambiguity about whether a specific morpheme has grammaticalized into an associated motion marker. For example, Ross (this volume) classifies as morphology a number of forms which could potentially be called compounds (derived from motion verbs) that appear to function paradigmatically (consider, for example, Pirahã, Everett 1986: 300–301).[15] Further research in this area is still needed.

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[12] Among the 35 Austronesian languages that have an SVC, 30 of them (85.7%) have a motion SVC.
[13] See Ross & Lovestrand (2018) for a comparison to the frequency of other common semantic types of SVCs.
[14] Unterladstetter (2019:292, 346) finds a similar pattern in 32 Eastern Indonesian languages. Motion semantics are much less frequent in verb-verb compounds compared to other types of multi-verb constructions.
[15] The results of these two studies are complementary, with morphological markers in Ross (this volume) not considered compounds here. As with the other classifications in this sample, classifications were based on our best judgment from the evidence available to us.

In the following subsections, we further explore the distribution of the four semantic types of motion SVCs introduced in Section 1, as well as caused accompanied motion SVCs involving the verb ‘take’. The latter are difficult to classify, and so have been set aside as a separate category.

### 3.1 Directional SVCs

A directional SVC combines a path-of-motion verb with another motion verb, often one that expresses a manner of motion. The interpretation is that the two verbs describe a unitary motion event, as seen in example (12), as well as example (5) above.

(12) Egyptian Arabic, Afro-Asiatic (Woidich 2002: 181; cited in Versteegh 2009: 197)

| | | |
|---|---|---|
| ***miši*** | ***rāḥ*** | *fēn* |
| **3SG.M.walked** | **3SG.M.went.away** | where |

‘Where did he go?’

Directional SVCs are the most common type of motion SVC, found in 70 languages.[16] The geographic distribution of languages with a directional SVC is shown in Figure 2 (black dots), contrasted with languages with motion SVCs, but no directional SVCs (white dots).

[16] Among the 30 Austronesian languages that have a motion SVC, 21 of them (70.0%) have a directional SVC.

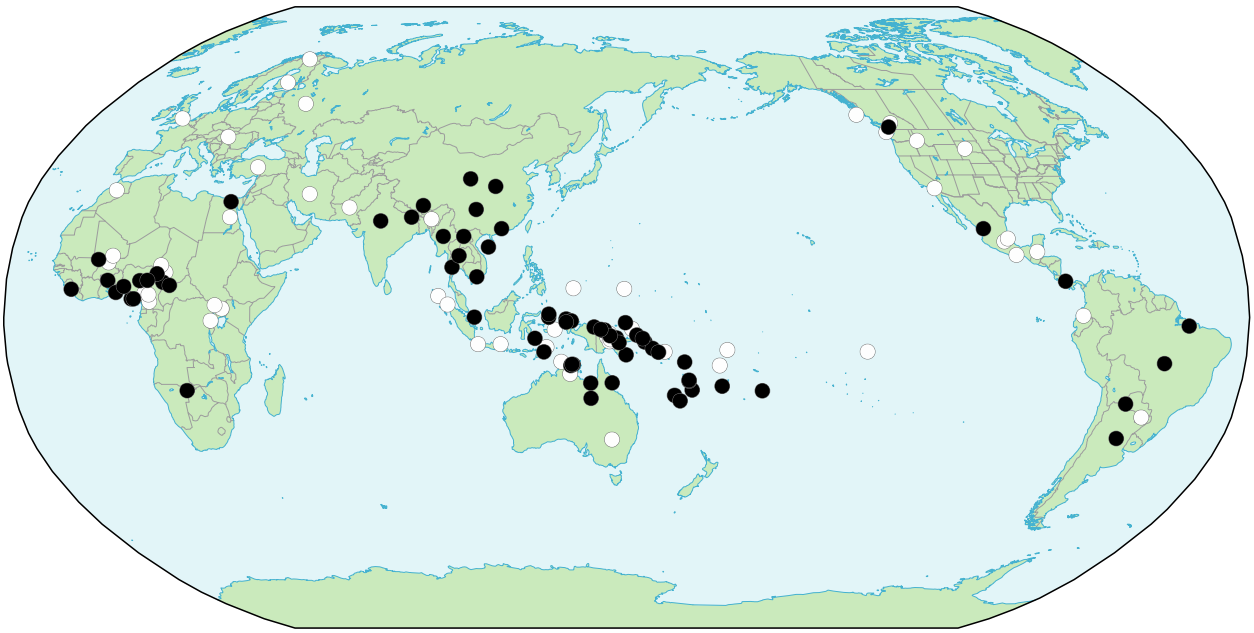

**Figure 2: Distribution of languages with a directional SVC**
**black circle = has directional SVC, white circle = no directional SVC**

### 3.2 Prior motion SVCs and purposive SVCs

For practical reasons, our study conflates two types of motion semantics that are so similar that it is often difficult to distinguish them based on the information available in our sources. These types are prior motion and purposive motion.[17] In a prior motion SVC, a motion verb, typically one glossed 'go' or 'come', combines with another verb. The other verb is generally not restricted to a particular lexical or semantic class, but is typically a non-motion verb.[18] The interpretation is sequential, not simultaneous. The restricted motion verb indicates that the subject changes location before the event or activity predicated by the other verb takes place, as seen in example (13), and example (6) above.

[17] For similar issues in the description of morphological AM, see Ross (this volume), Pakendorf & Stoynova (this volume) and Jacques, Lahaussois & Zhang (this volume).
[18] Although prior/purposive motion SVCs typically involve a motion verb and a non-motion verb, it is possible, at least in some languages, for both verbs to be motion verbs (e.g. Lovestrand 2018: 116). Despite this, in the following discussion we use "non-motion" verb to refer to the not-necessarily-motion verb that occurs in the open or unrestricted slot of the SVC.

(13) Ewe, Niger-Congo (Essegbey 2004: 483)

| | | | | | |
|---|---|---|---|---|---|
| *Kofi* | ***va*** | ***ɖe*** | *nyɔnu-a* | *(*gake* | *wo-gbe)* |
| Kofi | **come** | **marry** | woman-DEF | but | 3SG-refuse |

'Kofi came and married the woman (*but she refused).'

A purposive motion SVC is very similar to a prior motion SVC in that a motion verb combines with another verb and indicates a change of location of the subject (immediately) before the activity or event of the other verb takes place.[19] The difference is that, in the case of a purposive motion SVC, the activity or event predicated by the unrestricted (non-motion) verb is only intended and not asserted. Thus the two actions are not mutually contingent. Whereas a prior motion SVC might be translated into English as "go and (then) V", a purposive motion SVC could be translated as "go (in order) to V," as in example (14).[20]

(14) Sranan, Surinamese creole (Sebba 1987: 104)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *mi* | *ben* | ***go*** | ***trow*** | *nanga* | *a* | *uma* | *ma* | *a* | *no* | *ben* | *wani* | *mi* |
| 1SG | PST | **go** | **marry** | with | DEF | woman | but | 3SG | NEG | PST | want | 1SG |

'I went to marry the woman, but she didn't want me.'

The difficulty in distinguishing these two semantic types stems from the fact that purposive motion can result in an implicature that the intended activity or event predicated by the non-motion verb did in fact occur as a result of the motion. On the other hand, prior motion

[19] Note that Ross (forthcoming) excludes purposive motion from the category of SVCs because the verbs are not "mutually contingent". Since Ross' sample is the basis of this study, there is a slight possibility that a few languages which only have purposive motion constructions may have been excluded from the list of languages with SVCs.
[20] A very loose reading of the definition of associated motion might allow that motion can be associated with a non-asserted purpose verb phrase. However, we do not consider purposive motion to be a subtype of associated motion. Whereas prior motion clearly associates motion with a verb event, it is debatable whether the same can be said of purposive motion.

SVCs suggest (or may even entail) that the motion takes place for the purpose of bringing about the activity or event predicated by the non-motion verb. Presumably for this reason, free translations of these constructions are often ambiguous or inconsistent in regards to the distinction between prior motion and purposive motion.

A simple test can clarify whether the activity or event of the non-motion verb is implied or entailed. In the prior motion SVC in example (13) above, it is a direct contradiction for a conjoined clause to state that the event predicated by the second verb, *ɖe* 'marry', did not take place. The occurrence of this event is entailed by the prior motion SVC. In contrast, in the purposive motion SVC in example (14) it is possible to conjoin another clause stating that the event predicated by the second verb, *trow* 'marry', did not take place. This is because in a purposive motion SVC, the occurrence of the event is only implied, not entailed. Since this distinction is often unclear in our sources, these two types of motion are counted together as a single type of SVC in our study.

Of the 101 languages in our sample that have a motion SVC, we found a prior or purposive motion SVC in 67 of them. Only a relatively small number of sources make an explicit claim about the distinction between prior and purposive motion. We estimate that around half of these are prior motion, and half are purposive motion. This suggests that prior motion is still by far the most commonly expressed type of associated motion in SVCs, but there are too many unclear cases to make a more reliable count of each type. The geographic distribution of languages with a prior/purposive motion SVC is shown in Figure 3 (black dots), in contrast with languages that have motion SVCs, but no prior/purposive motion SVC (white dots). Note that 37 languages have both a directional SVC and a prior/purposive motion SVC, appearing in both Figure 2 and Figure 3.

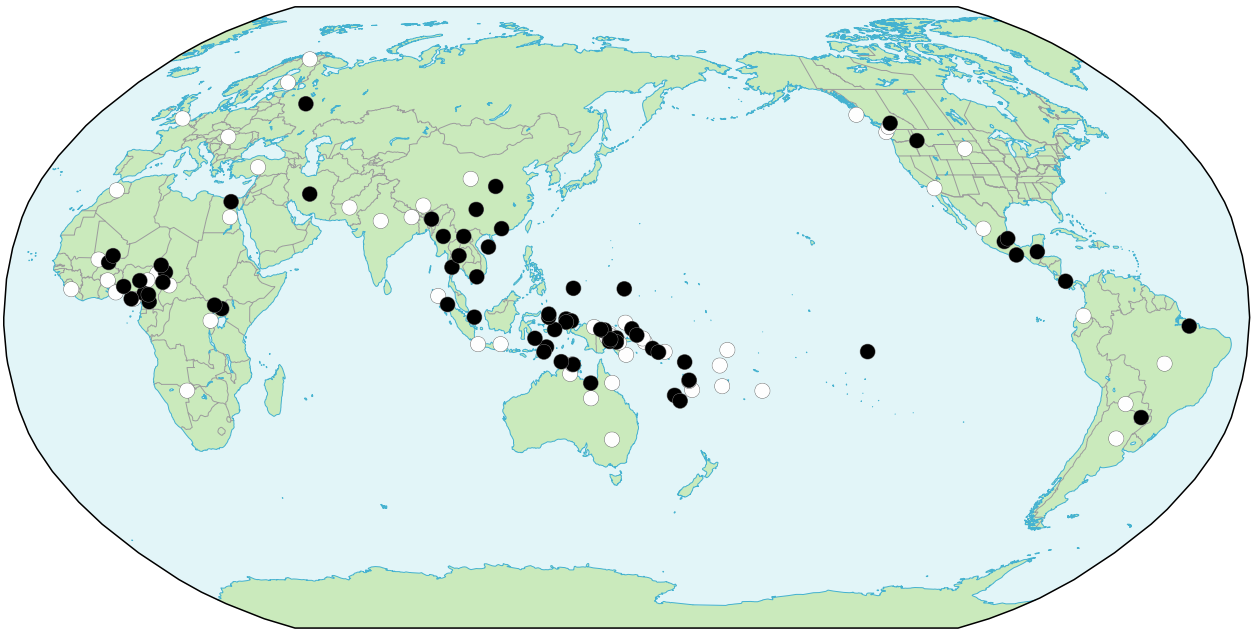

**Figure 3: Distribution of languages with a prior/purposive motion SVC**
**black circle = has prior/purposive motion SVC,**
**white circle = no prior/purposive motion SVC**

### 3.3 Concurrent motion SVCs

Among the 101 languages with motion SVCs, there are only 5 languages with evidence of concurrent motion SVCs.[21] The geographic distribution of languages with a concurrent motion SVC is shown in Figure 4 (black dots), contrasted with languages that have motion SVCs, but no concurrent motion SVC (white dots). Notably, 3 of the 5 languages that have concurrent motion SVCs are Australian languages.

[21] Note that example (9) in Section 2.2 is semantically a concurrent motion construction, but it was ruled out as an example of an SVC since it has two independent subject pronouns.

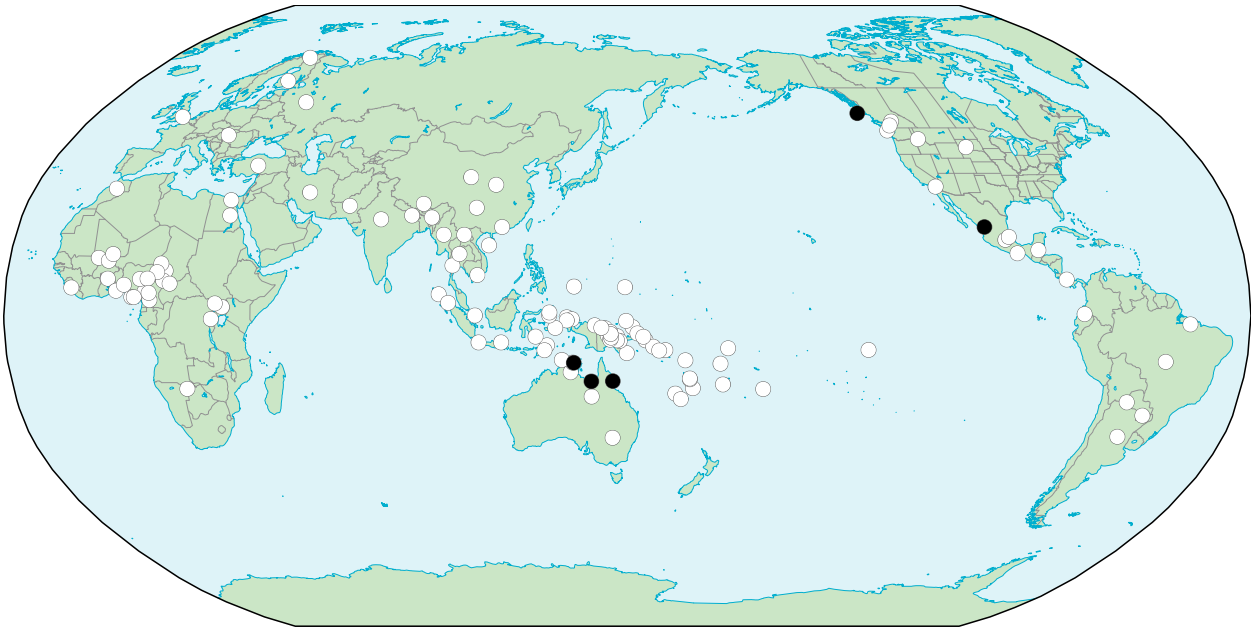

**Figure 4: Distribution of languages with a concurrent motion SVC**
**black circle = has concurrent motion SVC, white circle = no concurrent motion SVC**

Concurrent motion SVCs are similar to directional SVCs in that the activity of the motion verb and the activity of the other verb in the SVC are understood to take place simultaneously. The distinction between concurrent motion and directional SVCs is whether the main verb can express a motion event. In a directional SVC, the restricted directional verb modifies a motion event expressed by another verb by contributing path of motion. In a concurrent motion SVC, the motion verb combines with a non-motion verb contributing a meaning like 'V while going' as in examples (15) and (16).

(15) Kayardild, Non-Pama-Nyungan (Evans 1995: 309)

| ***jiki-ja*** | ***warra-ja*** | *karn-ki* |
|---|---|---|
| **light.fire-ACT** | **go-ACT** | grass-LOC |

'[They] went along setting fire to the grass.'

(16) Southeastern Tepehuan, Uto-Aztecan (García Salido 2007: 10)

*gu* *chioñ* ***su-suaki-t*** ***jii***

ART man **REDUP-cry-PST.3SG** **move.PST**

'The man went crying.'

### 3.4 Subsequent motion SVCs

Productive subsequent motion SVCs are found in only 5 languages. These exclude cases of caused accompanied motion SVCs that combine a motion verb with a verb glossed 'take', which are questionable cases of subsequent motion SVCs (Section 3.5). The geographic distribution of languages with subsequent motion SVCs is shown in Figure 5. Black circles represent languages with productive subsequent motion SVCs, and white circles represent languages with motion SVCs, but no subsequent motion SVCs. Note that the two black circles in Indonesia are overlapping.

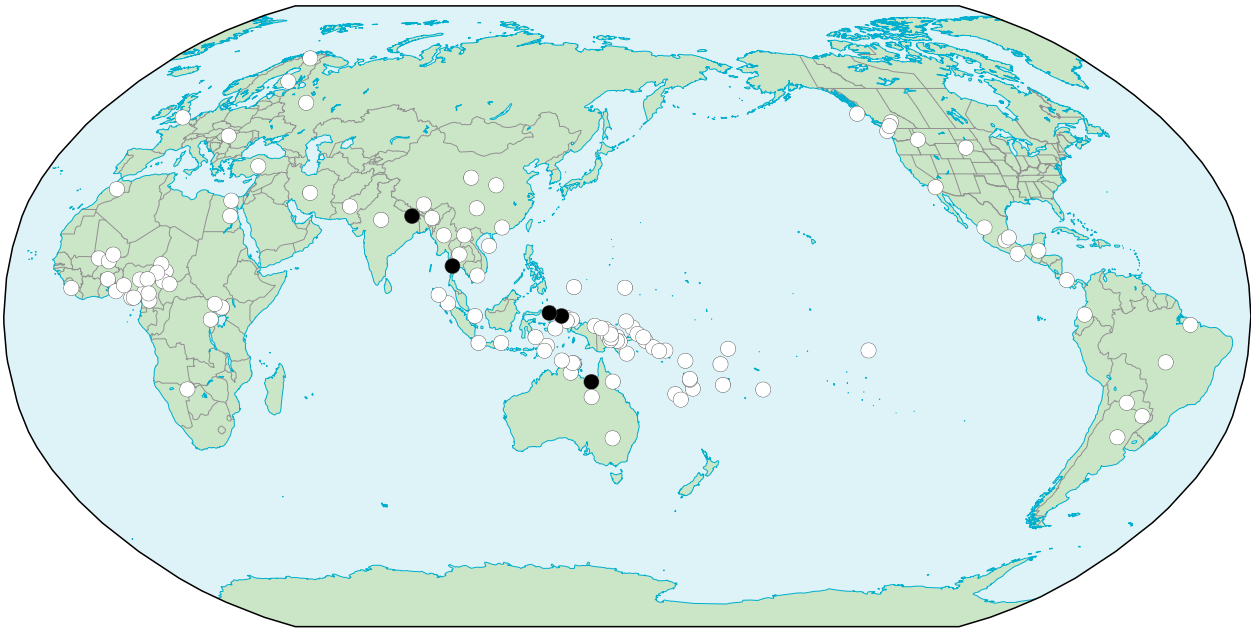

**Figure 5: Distribution of languages with a subsequent motion SVC**
**black circle = has subsequent motion SVC, white circle = no subsequent motion SVC**

Semantically, subsequent motion SVCs are the inverse of prior motion SVCs. The motion verb in a subsequent motion SVC indicates a change of location by at least one of the arguments (immediately) following the activity or event, as in example (17).

(17) Maithili, Indo-Aryan (Yadav 1996: 203)

***pəiṛh əe-l-ah***

**read come-PST-3.HONORIFIC**

'He read and came.'

Two languages spoken in the Halmahera region (Maluku Islands, Indonesia), Tidore and Taba, have a subsequent motion SVC that appears to exclusively use a motion verb glossed 'return' as shown in example (8) above.[22] The restriction to one particular verb to express subsequent motion is strong evidence that this is not a case of standard meaning composition in asyndetic coordination, but a specialized syntactic construction for expressing associated motion. A similar construction in Kayardild allows the verb *danathu* 'leave' to express subsequent motion, as in example (18). In other contexts, the same construction can also express concurrent motion.

(18) Kayardild, Non-Pama-Nyungan (Evans 1995: 310)

| | | | | |
|---|---|---|---|---|
| *dand-da* | *jardi* | *kurulu-tha* | *mutha-ya* | *yakuri-y,* |
| this-NOM | mob | kill-ACT | many-LOC | fish-LOC |
| diya-a-nangku, | dathin-a | **narrkiri-ju** | **dana-thu** | |

[22] Evans (1995: 308-309) discusses an SVC in Kayarldid with the verb 'return' in the second position explaining that the construction expresses an intended subsequent motion, but the 'return' motion is not necessarily entailed. The construction also implies (or perhaps entails) a prior motion before the event or activity of the first verb, and is "used in describing short round trips" (Evans 1995:309). Similar interpretations of subsequent motion are discussed by Bourdin (2006) and Belkadi (2015).

eat-M-NEG.POT that-NOM **bury-POT** **leave-POT**

'These people killed lots of fish, more than could be eaten, they'll bury them there before leaving.'

The SVC with a subsequent motion interpretation in Pwo Karen is remarkable for being ambiguous with a purposive motion interpretation, as seen in example (19). The same structure is also used for directional SVCs, as shown in example (27) below.

(19) Pwo Karen, Sino-Tibetan (Kato 2003: 644)

***jə-ɣɛ.*** ***ʔaN:*** *mI_*

**1SG-come** **eat** rice

'I came after having lunch.' *or* 'I came to eat lunch.'

3.5 Directed caused accompanied motion SVCs with 'take'

There is a relatively common subtype of SVC occurring in at least 16 languages in our sample that combines a verb glossed 'take' and a motion verb expressing "caused accompanied motion" towards a goal (Margetts et al. 2019).[23] The geographic distribution of these 16 languages is shown in Figure 6.

[23] See also "Comitative Subsequent Itive AM" in Ross (this volume).

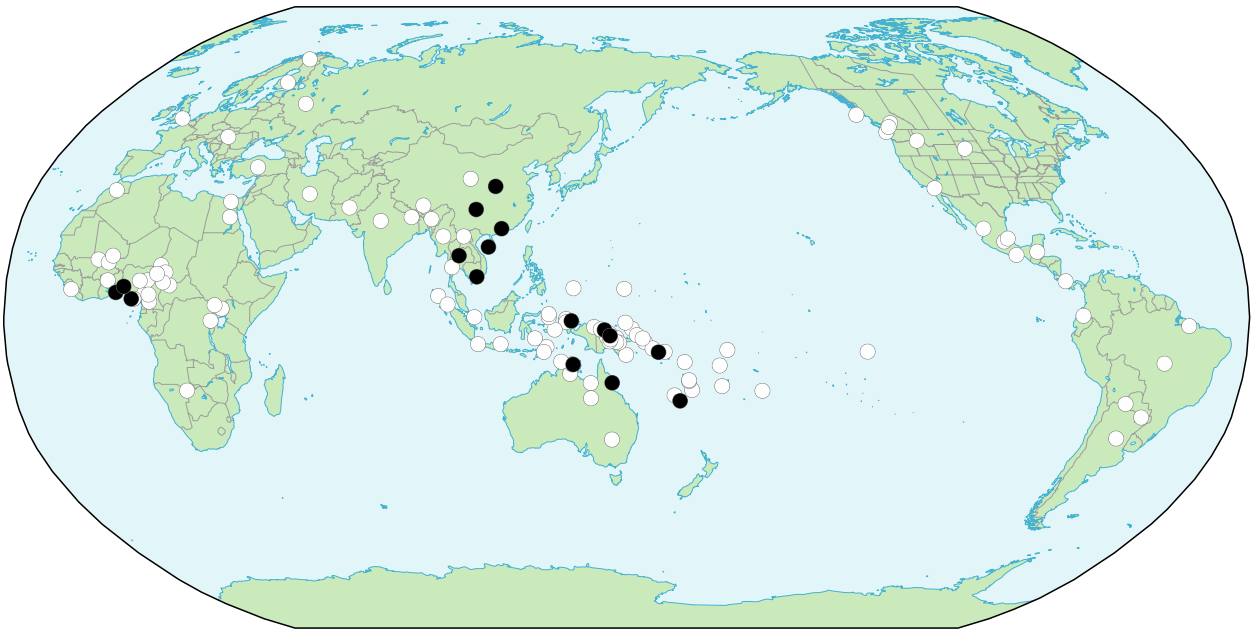

**Figure 6: Distribution of languages with a 'take' caused accompanied motion SVC**
**black circle = has CAM SVC, white circle = no CAM SVC**

Whereas directed caused accompanied motion can be expressed by a single verb *bring* in English, the same meaning is frequently expressed by a combination of morphemes in other languages, such as the use of an SVC which combines a verb glossed 'take' with a motion verb, as in example (20).[24]

(20) Cantonese (Matthews 2006: 76)

| *lei*$_5$ | ***lo*$_2$** | *di*$_1$ | *saam*$_1$ | ***lai*$_4$** |
|---|---|---|---|---|
| you | **take** | PL | clothing | **come** |

'Bring some clothes.'

It is unclear if these 'take' SVCs expressing caused accompanied motion can be considered a type of subsequent motion SVC, a type of directional SVC or (at least in some

[24] Directed caused accompanied motion can also be expressed by an SVC with a verb glossed 'carry' combined with a directional verb. Assuming that a gloss of 'carry' indicates an unambiguous motion verb, we consider SVCs like example (30) to be a type of directional SVC. In this section, we are only interested in the analysis of SVCs that use a verb glossed 'take'.

cases) idiomatic or lexicalized SVCs. Taking the viewpoint of a literal, word-for-word translation, these can be thought of as a type of subsequent motion SVC. First an object is acquired, and then the acquirer of that object moves in some direction together with the object acquired. However, van Staden and Reesink (2008) view these constructions as a type of directional SVC.[25] Note that for van Staden and Reesink, the main verb of a directional SVC does not necessarily have to express a motion event. In the context of our study of associated motion, their definition would blur the distinction between directional and associated motion meaning.

These caused accompanied motion SVCs might still be considered directional SVCs if verbs glossed 'take' can express a motion event. In an analysis of the semantics of taking events, Narasimhan et al. (2012: 5) offer the following definition: "Removal (or 'taking') events are events in which an agent causes an object to move away from a location." However, it is doubtful that all verbs glossed 'take' necessarily convey motion semantics, particularly in the context of SVCs. For example, in the well-known case of instrumental SVCs, as in example (21), the object of the verb 'take' has the semantic role of instrument. There is no immediate indication that this SVC should be construed as expressing translational motion.

(21) Fon, Niger-Congo (Lefebvre 1991a: 39)

*Kɔ́kú* ***sɔ́*** *àtɨ́* ***hò*** *Àsíbá*

Koku **take** stick **hit** Asiba

'Koku hit Asiba with a stick.'

[25] Unterladstetter (2019:303-305) also groups caused accompanied motion constructions with constructions we consider directional, but concedes that the evidence for this analysis is less than clear. See also Dryer's discussion of Huasteca Nahuatl in Chapter 4 of this volume.

Narasimhan et al. (2012: 10) note that "some placement events involving transfer… may additionally involve a notion of possession that causes such scenes to be excluded from the category of 'placement'." In other words, at least in some contexts, a verb glossed 'take' might be conceived of as expressing possession instead of a removal event. Making a distinction between 'take' as a motion or a non-motion verb would require a precise analysis of the lexical semantics of the verb 'take' in SVCs in different languages. This is beyond what can be accomplished in this analysis, and so these examples are set aside as interesting data for future study.

A further issue with caused accompanied motion SVCs is that of restriction and productivity. Our focus is on asymmetric SVCs which restrict one verb to a class of motion verbs. However, in at least some languages, there is a type of SVC where the verb 'take' is the restricted verb that can be combined with an unrestricted number of main verbs, including motion verbs (Shluinsky 2017; Lee 2019). This is the case in Fon, as shown in examples (21) and (22).[26] Strictly speaking, the SVC in example (22a) does not meet our definition of a motion SVC, since it is not the motion verb that is in the restricted position in the construction.

(22) Fon, Niger-Congo (Lefebvre 1991a: 39)

a. *Kɔ́kú* ***sɔ́*** *àsɔ̃́* ***yì*** *àxì*

Koku **take** crab **go** market

'Koku brought the crab to the market.'

b. *Kɔ́kú* ***sɔ́*** *àsɔ̃́* ***ɖó*** *távò-ǰí*

[26] Lefebvre (1991b) argues that all of the main verbs in these 'take' SVCs, including the verb hò 'hit', are verbs of motion expressing a "change of location".

Koku **take** crab **put** table-on

'Koku put the crab on the table.'

c. *Kɔ́kú* ***sɔ́*** *àsɔ́́* ***nà*** *Àsíbá*

Koku **take** crab **give** Asiba

'Koku gave the crab to Asiba.'

### 3.6 Discussion

The distribution of associated motion semantics in SVCs is roughly similar to the distribution of motion semantics in verbal affixes (Guillaume 2016; Ross, this volume). Among associated motion affixes, prior motion is the most common, while concurrent and subsequent motion are relatively rare. However, the most common type of motion SVCs are not associated motion SVCs, but directional SVCs. The high frequency of directional SVCs can be partially accounted for by assuming that the semantics of direction (the goal of motion) is intrinsically related to result semantics (Talmy 2000; Beavers, Levin & Tham 2010). Observing that there is an apparent restriction against (or very strong tendency to avoid) co-lexicalization of manner and result semantics in a single verb root (Rappaport Hovav & Levin 2010), the conclusion is that direction semantics, just like result semantics, cannot combine with manner-of-motion semantics in a single verb root. Directional SVCs are a strategy for circumventing this restriction by placing two verb roots into a single construction.

A further issue to consider is the co-occurrence of different types of motion SVCs in a single language. When a language has only one type of motion SVC, that type is normally either prior motion (30 languages) or directional (30 languages), with the exception of Haida where concurrent motion is the only type identified. On the other extreme, only one language (Karyardild) has all four types of motion SVC, and this is also the only instance of a language

with both concurrent motion and subsequent motion SVCs. While the instances of concurrent and subsequent motion SVCs may be too small to draw statistical generalizations, it is worth noting that that these two rarer types of associated motion are mostly found in languages with a directional SVC (again with the exception of Haida). In contrast, only 2 of the 5 languages with a concurrent motion SVC also have a prior motion SVC. 4 of the 5 languages with a subsequent motion SVC also have a prior motion SVC.

## 4 Semantic types and verb order

Having established the relatively high frequency of directional motion SVCs and prior/purposive motion SVCs, we now turn to a syntactic pattern that correlates with these two semantic categories. In purposive motion and prior motion SVCs, it is nearly always the case that the motion verb is in the first position in the construction. In directional SVCs, it is normally the case that the directional motion verb is in the second position in the construction. The precise quantification of this tendency in our sample is shown in Table 3.

**Table 3: Motion SVC type and verb order**

| Type of motion SVC | Total in sample | Restricted verb first | Restricted verb second | Variable ordering |
|---|---|---|---|---|
| Directional SVC | 70 | 6 | 63 | 1 |
| Prior/purposive motion SVC | 67 | 63 | 1 | 3 |
| Concurrent motion SVC | 5 | 1 | 3 | 1 |
| Subsequent motion SVC | 5 | 1 | 4 | 0 |

### 4.1 Verb order in prior/purposive motion SVCs

As shown in Table 3, of the 67 languages that have a purposive/prior motion SVC, in 63 of them (94.0%) the restricted motion verb is always reported to be in the first position, as seen in

examples (6), (13) and (14) above. One of the other four languages, Kayardild, always has the restricted motion verb in the second position, as shown in example (23). Note that the same verb order is used for a concurrent motion SVC in this language, as seen above in example (15). Evans (1995: 309–210) writes: "*Warra-ja*… as an associated motion verb it usually means 'go/come along while Ving'… Less frequently a purposive/sequential meaning is conveyed: 'go/come to V'."

(23) Kayardild, Non-Pama-Nyungan (Round 2013: 110)

| *Bardakantha* | *ngijuwa* | ***wuyiijuuntha*** | ***warrajuunth.*** |
|---|---|---|---|
| belly.SEJ | 1sg.SEJ | **put.POT.SEJ** | **go.POT.SEJ** |

'I'll go and feed myself.'

The three other exceptional languages have a flexible pattern. These are Arop-Lokep, Russian and Urubú-Kaapor. Most of the examples given of prior/purposive motion SVCs in Urubú-Kaapor have the motion verb in the second position, but there is at least one example of an apparent prior/purposive motion SVC with the more iconic verb order, namely the motion verb in the first position (Kakumasu 1986: 332, 347). In Russian prior motion SVCs (often called "double-verb" constructions), either verb order is possible without any apparent change in meaning, as in example (24).

(24) Russian, Indo-European (Weiss 2012 and personal communication)

| ***priš-li*** | ***poznakomi-li-s'*** | / | ***poznakomi-li-s'*** | ***priš-li*** |
|---|---|---|---|---|
| **come-PAST.PL** | **introduce-PAST.PL-REFL** | | **introduce-PAST.PL-REFL** | **come-PAST.PL** |

'They came and introduced themselves.'

Arop-Lokep has two different prior/purposive motion SVCs. In one type of prior/purposive motion SVC, the restricted motion verb is in the first position, as expected, and any directional motion verb can be found in the first position of this construction. The other prior/purposive motion SVC in Arop-Lopek places an uninflected verb *pa*, glossed 'walk', after the main verb, as in example (25).[27]

(25) Arop-Lokep, Oceanic (D'Jernes 2002: 262–263)

***A-riu*** ***pa***

**1SG-bathe** **walk**

'I am going to bathe.'

In summary, the motion verb of a prior/purposive motion SVC precedes the other verb in the SVC in nearly every case, with just a few exceptions. There are other exceptions to this pattern in languages that are not included in our sample. Wambaya, an Australian (Mirndi, Non-Pama-Nyungan) language has a prior motion SVC in which the motion verb can either precede or follow the other verb (Nordlinger 2014). There are also at least two Sino-Tibetan languages that have a prior/purposive motion SVC with the motion verb in the second position, Boro (Boro 2012) and Hakhun Tangsa (Boro 2017).

4.2 Verb order in directional SVCs

Turning to directional SVCs, we see a tendency for the verbs to occur in the opposite order. In 63 of 70 languages (90%) that have a directional SVC, the directional verb is in the second position, as in examples (5) and (12) above. In six languages, the directional verb is in the first position,

[27] Although it is most frequently used as a manner-of-motion verb, in some contexts, the verb *pa* can be interpreted as a more general verb of motion (D'Jernes, personal communication). As an uninflected stem, it is difficult to establish conclusively that *pa* is a verb in this context. It may turn out to be the case that the word is better analyzed as an adverbial or other modifier in this context.

and in one language the order is variable. In three of the languages that have a directional SVC in which the directional verb is in the first position, Pwo Karen (Sino-Tibetan), Lavukaleve (Papuan) and Tukang Besi (Austronesian), the construction is ambiguous between a directional interpretation and a prior/purposive motion interpretation. This can be seen in example (26) from Tukang Besi, where two possible interpretations of the construction are given in the free translation.

(26) Tukang Besi, Austronesian (Donohue 1999: 184)

| *Te* | *anabou* | *iso* | ***no-wila*** | ***no-kee-ngkee*** | *kua* | *wunua.* |
|---|---|---|---|---|---|---|
| CORE | child | yon | **3.REAL-go** | **3.REAL-REDUP-hop** | ALL | house |

'The child went hopping to the house.'

*or* 'The child went to the house in order to hop.'

A similar pattern is found in Pwo Karen, except that the construction does not only overlap with prior/purposive meaning, but also with subsequent motion. This can be seen by comparing the structure of the directional SVC in example (27) with the ambiguous prior/purposive or subsequent motion SVC from Pwo Karen in example (19) above.

(27) Pwo Karen, Sino-Tibetan (Kato 2003: 644)

| *ʔəwe.* | ***ɣɛ.*** | ***kli:*** |
|---|---|---|
| 3SG | **come** | **run** |

'He came running.'

Southeastern Tepehuan has a directional SVC with a directional verb in the first position—the same verb order as a concurrent motion SVC. In directional SVCs in Mbay (Nilo-Sarahan), only the verb, *tèē̱* 'go out', can occur in the first position (Keegan 1997: 86–87). Other motion verbs cannot be used.

In only one language, Kayardild, is there a productive and unambiguous directional SVC in which the directional verb always occurs in the first position. In this language, all other motion SVCs have the restricted motion verb in the second position, as in example (23), and directional SVCs have the restricted motion verb in the first position, as in example (28). In terms of verb order in motion SVCs, Kayardild exhibits the inverse of a nearly universal pattern.

(28) Kayardild, Non-Pama-Nyungan (Evans 1995: 580)

| | | |
|---|---|---|
| *ra-yin-da* | ***thula-thi*** | ***jawi-ji*** |
| south-from-NOM | **go.down-IMMED** | **run-IMMED** |

'From the south (they) run down now.'

4.3 Verb order in concurrent and subsequent motion SVCs

Less can be said about verb order in the few examples of concurrent and subsequent motion SVCs. In three of five cases of concurrent motion SVCs, the motion verb is in the second position, and in one language it occurs in the first position. Apparent variable verb order is reported in Southeastern Tepehuan (García Salido 2007: 8–10). In Gurr-goni, Yidiny and Southeastern Tepehuan, the verb order for concurrent motion SVCs is the same as for directional SVCs, in second position. In Kayardild, the verb order for concurrent motion SVCs (motion verb in the second position) is the same as that for prior motion SVCs, but not the same as directional SVCs (first position). In four of five languages with unrestricted subsequent motion SVCs, the motion verb is in the second position. The exceptional order is found in Pwo Karen, where the subsequent motion SVC is ambiguous with a prior/purposive motion SVC, as shown in example (19) above.

4.4 Discussion

In summary, there is a clear tendency for the motion verb to be in the first position in a prior/purposive motion SVC and in the second position in a directional SVC. The motion verb in the few examples of concurrent and subsequent motion SVCs is also usually in the second position. Verb order in prior and subsequent motion SVCs can be seen as reflex of the principle of temporal iconicity which requires the linear order of verbs in the construction to follow the chronological order of the events they represent (e.g. Tai 1985; Li 1993: 480, 500; Durie 1997: 330; Good 2003: 437, 444). However, this explanation does not account for the four languages with exceptional verb order in prior motion SVCs (Kayardild, Russian, Pwo Karen, Arop-Lopek). It is also worth noting that the verb order in prior motion SVCs does not correspond to the strong tendency for prior motion morphology to be suffixing, rather than prefixing (Ross, this volume). This suggests that it is unlikely that SVCs are a common diachronic source for prior motion morphology. Austin (1989: 68-69) notes a similar pattern in Central and Eastern Australian languages where verb order in compound verbs makes them an unlikely source for associated motion morphology.

The strong tendency for the directional verb to be in the second position of a directional SVC cannot be directly explained by an appeal to temporal iconicity because the actions associated with each verb in the construction are simultaneous. A better explanation for verb order tendency in directional SVCs can be derived by treating them as a type of resultative construction (Levin & Rappaport Hovav 1992: 265). The tendency in resultative constructions is that if the result is expressed by a single verb, the result predicate follows the cause predicate (Williams 2008).

A few of the seven cases of exceptional verb order in directional SVCs have a straightforward explanation. In three languages, the directional SVC shares its structure with a

prior motion SVC. The directional interpretation is limited to when the main verb can express a motion event. The directional meaning can be seen as a type of extension of the more basic prior motion meaning.[28] Another case of exceptional word order in a directional SVC, Southeastern Tepehuan, is possibly due to directional meaning being derived from a concurrent motion SVC. Two other exceptional cases, Mbay and Arop-Lokep, are marginal examples of directional SVCs which only allow one specific verb to occur in the restricted position. We have no explanation for the exceptional verb order in Kayardild directional SVCs.

## 5 Identifying the figure on the path of motion

In a small number of languages with an extensive associated motion morphology system, there can be particular forms to indicate that a non-subject argument of the verb is the figure on the path of associated motion (Wilkins 1989: 293–294; Guillaume 2016: 5–6; Ross, this volume). Only in one case (example (35) below) have we found an example of an associated motion SVC that specifies that a non-subject argument is the figure on the path of motion. In the case of prior/purposive motion SVCs, the figure is always the subject, as in examples (6), (13), (14), (23), (24) and (25) above. In the case of directional SVCs, the identity of the figure on the path of motion is determined by the semantics of the event, and it is not always the subject. It is often the case that the main verb is a manner-of-motion verb with only one argument. In these cases, that single argument, the subject, is necessarily also the figure on the path of motion, as in examples (5), (12), (27) and (28) above. The main verb in a directional SVC can also be a

[28] See also Belkadi (this volume), Dryer (Chapter 4 of this volume) and Voisin (this volume). Schokkin (this volume) discusses preverbal "directionals" in Palaui that can express both prior motion and directional motion, arguing that it is a case of associated motion meaning extended from a directional marker (D-AM in the terminology of Belkadi 2015). However, the word order patterns and argument structure of the construction suggest that the construction can be equally or better described as a case of a prior motion SVC that can extend to a directional meaning (AM-D in the terminology of Voisin, this volume).

transitive motion verb, such as ‘throw’ or ‘send’, in which the second argument is propelled along a path of motion by the first. In these cases, the second argument, typically an object, is the figure on the path of motion, as in example (29).

(29) Maybrat, Papuan (Dol 2007: 217)

| | | |
|---|---|---|
| ***t-ai*** | *bola* | ***m-amo*** |
| **1SG-throw** | ball | **3-go** |

‘I throw the ball away.’

There are at least two other possibilities for the identity of the figure on the path of motion in directional SVCs. One possibility is for the figure to be both the subject and the object. This cumulative interpretation is commonly the case when the main verb is ‘carry’, as in example (30).

(30) Abun, Papuan (Berry & Berry 1999: 67)

| | | | | | |
|---|---|---|---|---|---|
| *An* | ***gwat*** | *buku* | ***ma*** | *mo* | *nu* |
| 3SG | **carry** | book | **come** | LOC | house |

‘He brought the book to the house.’

In some cases, there may be ambiguity. With main verbs like ‘pull’ or ‘push’, as in example (31), it could be understood that the subject is moving together with the object, or that the subject is propelling the object along a path of motion, but not moving itself.

(31) Fon, Niger-Congo (Lefebvre & Brousseau 2002: 423)

| | | | | | |
|---|---|---|---|---|---|
| *Kɔ̀kú* | ***dɔ̀n*** | *àzìnkpò* | *ɔ́* | ***wá*** | *fí* |
| Koku | **pull** | chair | DEF | **come** | here |

‘Koku pulled the chair over here.’

Finally, there are also cases of directional SVCs where the figure is not any of the arguments of the main verb, but the orientation of the event itself.[29] In the directional SVC in example (32), neither the subject of the verb *onoono* 'look' nor the thing being looked at is moving. The directional verb refers to the gaze itself which is abstractly conceived of as moving from the eyes of the perceiver up and away towards the thing perceived.[30]

(32) Niuean, Oceanic (Seiter 1980: 19)

| *Ne* | ***onoono*** | ***hake*** | *a* | *ia* | *ke he* | *mahina* |
|---|---|---|---|---|---|---|
| PST | **look** | **go.up** | ABS | he | to | moon |

'He was looking up at the moon.'

With so few examples of concurrent and subsequent motion SVCs, less can be said about how the figure on the path of motion is identified in these constructions. Generally, these constructions are more like directional SVCs than prior/purposive motion SVCs in that the identity of the figure on the path of motion is not necessarily fixed to a particular argument in the construction. In a subsequent motion SVC with a monovalent main verb, it is necessarily the subject that is the figure on the path of motion, as in examples (17), (18) and (19) above. It would be possible to have a cumulative interpretation in which both the subject and object are moving together on the path of motion, and such would be the case if the caused accompanied

[29] See also Ross, this volume, on orientational uses of morphological associated motion, and Dryer, Chapter 4, this volume discussing the use of directional marker with a non-motion verb in Yakima, as well as the discussion of "emanation" in Matsumoto (2020).

[30] On a strict reading of the criteria for SVCs given in Section 2.1, the construction in example (32) does not meet the "shared argument" criterion. This type of construction, and others known as "ambient" serialization (Crowley 1987: 40), are just one example of how treating the criteria for SVCs as a cross-linguistic set of necessary and sufficient conditions ends up arbitrarily dividing what is clearly a natural set of constructions in a language like Niuean. Niuean also has the more prototypical type of argument-sharing directional SVC, so in any case it counts as a language with directional SVCs. We are not aware of any language which has metaphorical/orientational directional SVCs, but does not also have the more prototypical type.

motion SVCs discussed in Section 3.5 are considered subsequent motion SVCs. In concurrent motion SVCs, it is commonly the case that the subject is the figure on the path of motion, as in examples (7) and (15) above. However, if the main verb in a concurrent motion SVC is transitive, it may be understood that a non-subject argument moves along with the subject, as in example (33).

(33) Kayardild, Non-Pama-Nyungan (Evans 1995: 309)

*walmathi bath-in-d* ***burldi-burldi-ja warra-j,*** *burldi-ja birrk-i*

high west-from-NOM **roll-REDUP-ACT go-ACT** roll-ACT string-LOC

'High up, moving from the west she came along, rolling string as she went.'

Example (34) is a concurrent motion SVC in which it is possibly only the object of the main verb *njirrrrerrmirri* 'pound' that is the figure on the path of motion. The subject, the rain, is large enough that it can continue to pound a moving object without moving along the same path of motion itself.

(34) Gurr-goni, Non-Pama-Nyungan (Green 1995: 261)

| ***njirr-rre+rrmi-rri*** | ***njiwurr-ma-bay*** | *gut-djardi* | *wana* |
|---|---|---|---|
| **3SG.ERG>1PL.ABS-pound+REDUP-REAL** | **1PL.ABS-go.along-REAL** | 3IV-rain | big |

'We went along being pelted by heavy rain.'

There is a particularly interesting type of concurrent motion SVC in Kayardild in which the figure on the path of motion must be the object of the main verb. Evans (1995: 310) describes a concurrent (or subsequent) motion SVC with the motion verb *dana-tha* 'leave' which expresses motion by the subject overlapping with (or subsequent to) the action or event of the main verb. Evans contrasts this with another concurrent motion SVC, shown in example (35), using the verb

*wara-tha* ‘send’ which means, “V OBJ as OBJ moves away, or … ‘you look and he's going’” (Evans 1995: 310).[31]

(35) Kayardild, Non-Pama-Nyungan (Evans 1995: 310)

*yan-d, ngakuluwan-ju* ***kurri-ju*** ***wara-thu*** *balung-ku*

now-NOM 1PL.INCL-FUT **look-POT** **send-POT** westward-FUT

‘Now (the short people) are looking out at us (from their hiding places beneath the cliffs) as we go westwards.’

To summarize, each of the two most common types of motion SVCs has its own way of determining the identity of the figure on the path of motion. In prior/purposive motion SVCs, it is always the subject that is the figure on the path of motion. In directional SVCs, the figure on the path of motion depends on the semantics of the event, and can be the subject, the object, cumulative or metaphorical. We did not identify any examples of directional SVCs in which the figure on the path of motion is a non-core argument. In most cases, the identity of the figure in a subsequent or concurrent motion SVC depends on the semantics of the event; however, in Kayardild there is an example of a concurrent motion SVC in which the selection of a particular verb in an SVC can determine whether the figure on the path of motion is the subject or object.

## 6 Conclusion

Motion semantics are very common in asymmetric SVCs, particularly in the form of directional SVCs. Prior associated motion is also relatively common, but in descriptions it is not always clearly distinguished from purposive motion. Concurrent motion and subsequent motion are rare.

[31] This is the one exception we noted to the rule that the restricted verb in a motion SVC will always be an intransitive verb.

More frequent are directed caused accompanied motion SVCs using the verb ‘take’ that arguably express a type of subsequent motion. Prior/purposive motion SVCs nearly always have the motion verb in first position, and the subject of the construction is the figure on the path of motion. Directional SVCs nearly always have the directional motion verb in the second position, and the identity of the figure on the path of motion is determined by the semantics of the event. The few examples of concurrent and subsequent motion SVCs available indicate that they are more like directional SVCs than like prior motion SVCs: they more frequently occur in languages with directional SVCs, they usually occur following the main verb, and they do not always restrict the moving argument to the subject.

Having laid out a picture of the major patterns found in the expression of motion in SVCs, it is still possible that additional relevant patterns were not included in our sample. We hope that by presenting what is already commonly described, researchers working with languages that exhibit ways of expressing motion in SVCs that we have not considered here will be motivated to bring those additional data to the forefront of the discussion of the grammar of motion. Our typological study suggests some guidelines for major features to consider, such as the distinction between directional SVCs and (at least) three types of associated motion SVCs, the distinction between prior and purposive motion, verb order patterns, and the identity of the figure on the path of motion. In particular, rarer cases of SVCs in which the figure of motion is a non-subject deserve some additional attention, as well as motion SVCs with more than one restricted motion verb.

In this chapter and Ross (this volume), we have established that there is substantial similarity in the distribution of associated motion as expressed in verbal morphology and in SVCs. The same range of temporal ordering—prior, concurrent and subsequent—is found in

both forms, and the prior type is most common. Non-subject associated motion also appears to be cross-linguistically rare in SVCs, as it is in morphological systems. We also note that there are very few languages that express associated motion in both verbal morphology and SVCs.[32] The evidence clearly shows that these forms are functionally equivalent, expressing the same grammatical category. A motion verb in an associated motion SVC, therefore, has the properties of a grammaticalized verb in terms of its function, even though it retains its verbal morphology and the core of its lexical meaning (cf. Cardinaletti & Giusti 2001).

Earlier work on associated motion is often explicitly limited to morphological paradigms (e.g. Guillaume 2016). This volume is more open as to the form of expression of associated motion, although the introductory chapter (Guillaume & Koch, this volume) does not explicitly address the issue of multi-verb constructions. Some chapters refer to the expression of associated motion in multi-verb constructions (e.g. Otero, this volume), while others ignore this possibility or explicitly restrict their scope to morphological expressions. There may be practical reasons to restrict the scope of a particular study, but conceptually it makes no more sense to exclude SVCs (and other multi-verb constructions) from the analysis of associated motion than it would to exclude SVCs from the analysis of tense and aspect, or any other grammatical category frequently expressed in multi-verb constructions. Restricting associated motion to morphology significantly reduces our understanding of the phenomenon. For example, the claim by Guillaume & Koch (this volume) that associated motion has not been found in Europe should be clarified to state that the *morphological expression* of associated motion has not been found,

[32] For discussion of languages that use both syntactic and morphological means of expressing associated motion and directional meaning, see Jacques, Lahaussois & Zhang (this volume), Otero (this volume) and Pakendorf & Stoynova (this volume).

since associated motion is expressed in multi-verb constructions in Russian, English and other European languages. This is not merely a terminological issue, but a substantive one, because the different forms express the same grammatical category. A holistic understanding of associated motion will not be achieved if its expression in multi-verb constructions is systematically overlooked.

## Abbreviations

The following abbreviations are used in the interlinearized examples according to how they are glossed in the cited source: 1 'first person', 3 'third person', ABS 'absolutive', ACT 'actual', ALL 'allative', AOR 'aorist', ART 'article', COMPL 'completive', CVB 'converb', DEF 'definite', DU 'dual', ERG 'ergative', F 'feminine', FOC 'focus', FUT 'future', GEN 'genitive', IMMED 'immediate', IMP 'imperative', INCL 'inclusive', IRR 'irrealis', LOC 'locative', M 'masculine', NEG 'negation', NOM 'nominative', NSG 'non-singular', PFV 'perfective', PL 'plural', POT 'potential', PRECON 'precondition', PST 'past', REAL 'realis', REDUP 'reduplication', REFL 'reflexive', SBJ 'subject', SEJ 'sejunct', SEQ 'sequential', SG 'singular', and TNS 'tense marker'.

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## References

Aikhenvald, Alexandra Y. 2006. Serial verb constructions in typological perspective. In Alexandra Y. Aikhenvald & Robert M. W. Dixon (eds.), *Serial verb constructions: A cross-linguistic typology*, 1–68. Oxford: Oxford University Press.

Aikhenvald, Alexandra Y. 2018. *Serial verbs.* Oxford: Oxford University Press.

Ansre, Gilbert. 1966. The verbid - A caveat to "serial verbs." *Journal of West African Languages* 3(1). 29–32.

Austin, Peter. 1989. Verb compounding in Central Australian languages. *La Trobe University Working*

*Papers in Linguistics* 2(4). 43–71.
Beavers, John, Beth Levin & Shiao Wei Tham. 2010. The typology of motion expressions revisited. *Journal of Linguistics* 46(02). 331–377.
Belkadi, Aïcha. 2015. Associated motion with deictic directionals: A comparative overview. *SOAS Working Papers in Linguistics* 17. 49–76.
Belkadi, Aïcha. This volume, chapter 5. Deictic directionality as associated motion: Motion, complex events and event integration in African languages.
Berry, Keith & Christine Berry. 1999. *A description of Abun: A West Papuan language of Irian Jaya*. Canberra: Pacific Linguistics.
Bolton, Rosemary Ann. 1990. *A preliminary description of Nuaulu phonology and grammar.* The University of Texas at Arlington MA thesis.
Boro, Krishna. 2012. Serialized verbs in Boro. In Gwendolyn Hyslop, Stephen Morey & Mark W. Post (eds.), *North East Indian Linguistics*, vol. 4, 83–103. New Delhi: Cambridge University Press India.
Boro, Krishna. 2017. *A grammar of Hakhun Tangsa*. Eugene OR: University of Oregon PhD dissertation.
Bourdin, Philippe. 2006. The marking of directional deixis in Somali: How typologically idiosyncratic is it? In F. K. Erhard Voeltz (ed.), *Studies in African Linguistic Typology*, 13–42. Amsterdam: John Benjamins.
Bowden, John. 2001. *Taba: Description of a South Halmahera language*. Canberra: Pacific Linguistics.
Cardinaletti, Anna & Giuliana Giusti. 2001. "Semi-lexical" motion verbs in Romance and Germanic. In Norbert Corver & Henk van Riemsdijk (eds.), *Semi-lexical categories: The function of content words and the content of function words*, 371–414. Berlin: Mouton de Gruyter.
Carlson, Robert. 1994. *A grammar of Supyire*. Berlin: Mouton de Gruyter.
Cleary-Kemp, Jessica. 2015. *Serial Verb Constructions revisited: A case study from Koro*. University of California, Berkeley PhD.
Conrad, Robert J & Kepas Wogiga. 1991. *An outline of Bukiyip grammar*. Canberra: Pacific Linguistics.
Craig, Colette. 1991. Ways to go in Rama: A case study in polygrammaticalization. In Elizabeth Closs Traugott & Bernd Heine (eds.), *Approaches to grammaticalization*, vol. 2, 454–492. Amsterdam: John Benjamins.
Crowley, Terry. 1987. Serial verbs in Paamese. *Studies in Language* 11(1). 35–84.
Crowley, Terry. 1990. Serial verbs and prepositions in Bislama. In John W.M. Verhaar (ed.), *Melanesian Pidgin and Tok Pisin: Proceedings of the First International Conference on Pidgins and Creoles in Melanesia*, 57-90 Amsterdam: John Benjamins.
Crowley, Terry. 2002. *Serial verbs in Oceanic: A descriptive typology*. Oxford: Oxford University Press.
Déchaine, Rose-Marie. 1993. Serial verb constructions. In Joachim Jacobs, Arnim von Stechow & Theo Vennemann (eds.), *Syntax: Ein internationales Handbuch zeitgenössischer Forschung = An international handbook of contemporary research*, vol. 1, 799–825. Berlin: Walter de Gruyter.
D'Jernes, Lucille. 2002. Arop-Lokep. In John Lynch, Malcolm Ross & Terry Crowley (eds.), *The Oceanic languages*, 249–269. London: Routledge.
Dol, Philomena Hedwig. 2007. *A grammar of Maybrat: A language of the Bird's Head Peninsula, Papua Province, Indonesia*. Canberra: Pacific Linguistics.
Donohue, Mark. 1999. *A grammar of Tukang Besi*. Berlin: Mouton de Gruyter.
Dryer, Matthew. This volume, chapter 4. Associated motion and directionals: Where they overlap.
Dryer, Matthew S & Martin Haspelmath. 2013. *The World Atlas of Language Structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. http://wals.info. (1 July 2018).
Durie, Mark. 1997. Grammatical structures in verb serialization. In Alex Alsina, Joan Bresnan & Peter Sells (eds.), *Complex predicates*, 289–354. Stanford: CSLI Publications.
Essegbey, James. 2004. Auxiliaries in serialising languages: On COME and GO verbs in Sranan and Ewe. *Lingua* 114(4). 473–494.

Evans, Nicholas D. 1995. *A grammar of Kayardild: With historical-comparative notes on Tangkic*. Berlin: Mouton de Gruyter.
Everett, Daniel L. 1986. Pirahã. In Desmond C. Derbyshire & Geoffrey K. Pullum (eds.), *Handbook of Amazonian languages*, vol. 1, 200–326. Berlin: Mouton de Gruyter.
Foley, William A. 1997. Polysynthesis and complex verb formation: The case of applicatives in Yimas. In Alex Alsina, Joan Bresnan & Peter Sells (eds.), *Complex predicates*, 355–395. Stanford, CA: CSLI Publications.
Foley, William A & Mike Olson. 1985. Clausehood and verb serialization. In Johanna Nichols & Anthony C. Woodbury (eds.), *Grammar inside and outside the clause*, 17–60. Cambridge: Cambridge University Press.
Frajzyngier, Zygmunt. 1989. *A grammar of Pero*. Berlin: Reimer.
García Salido, Gabriela. 2007. Serial Verb Constructions in Southeastern Tepehuan: A Uto-Aztecan language. In *Proceedings of the Conference on Indigenous Languages of Latin America-III*. University of Texas at Austin, October 25-27, 2007. https://ailla.utexas.org/sites/default/files/documents/Garcia_CILLA_III.pdf. (23 April 2020).
Givón, Talmy. 1991. Some substantive issues concerning verb serialization: Grammatical vs. cognitive packaging. In Claire Lefebvre (ed.), *Serial verbs: Grammatical, comparative and cognitive approaches*, 137–184. Amsterdam: John Benjamins.
Good, Jeffrey. 2003. *Strong linearity: Three case studies towards a theory of morphosyntactic templatic constructions*. University of California, Berkeley PhD dissertation.
Green, Rebecca. 1995. *A grammar of Gurr-goni*. Canberra: Australian National University PhD dissertation.
Guillaume, Antoine. 2016. Associated motion in South America: Typological and areal perspectives. *Linguistic Typology* 20(1). 81–177.
Guillaume, Antoine & Harold Koch. This volume, chapter 1. Introduction: Associated motion as a grammatical category in linguistic typology.
Hamel, Patricia J. 1993. Serial verbs in Loniu and an evolving preposition. *Oceanic Linguistics* 32(1). 111–132.
Haspelmath, Martin. 2016. The Serial Verb Construction: Comparative concept and cross-linguistic generalizations. *Language and Linguistics* 17(3). 291–319.
Hyman, Larry M. 1971. Consecutivization in Fe$^{?}$fe$^{?}$. *Journal of African Languages* 10(2). 29–43.
Hyslop, Catriona. 2001. *The Lolovoli dialect of the North-East Ambae language, Vanuatu.* (Pacific Linguistics 515) Canberra: Research School of Pacific and Asian Studies.
Jacques, Guillaume & Aimée Lahaussois & Shuya Zhang. This volume, chapter 21. Associated motion in Sino-Tibetan, with a focus on Gyalrongic and Kiranti.
Joseph, Brian D & Arnold M Zwicky (eds.). 1990. *When verbs collide: Papers from the 1990 Ohio State mini-conference on serial verbs*. Ohio State University, Dept. of Linguistics.
Kakumasu, James. 1986. Urubu-Kaapor. In Desmond C. Derbyshire & Geoffrey K. Pullum (eds.), *Handbook of Amazonian languages*, vol. 1, 326–403. Berlin: Mouton de Gruyter.
Kato, Atsuhiko. 2003. Pwo Karen. In Graham Thurgood & Randy J LaPolla (eds.), *The Sino-Tibetan languages*, 632–648. London: Routledge.
Keegan, John M. 1997. *A reference grammar of Mbay*. München: Lincom Europa.
Kilian-Hatz, Christa. 2006. Serial Verb Constructions in Khwe (Central-Khoisan). In Alexandra Y. Aikhenvald & Robert M. W. Dixon (eds.), *Serial verb constructions: A cross-linguistic typology*, 108–123. Oxford: Oxford University Press.
Koch, Harold. 1984. The category of 'associated motion' in Kaytej. *Languages in Central Australia* 1. 23–34.
Koch, Harold. 1986. "Associated motion" in Australian languages. Presented at the Australian Linguistic Society, Brisbane, 7 August 1986.

Lee, Taegyeong. 2019. *A cross-linguistic typology of 'take' Serial Verb Constructions*. University of New Mexico MA thesis.
Lefebvre, Claire. 1991a. *Take* serial verb constructions in Fon. In Claire Lefebvre (ed.), *Serial Verbs: Grammatical, comparative and cognitive approaches*, 37–78. Amsterdam: John Benjamins.
Lefebvre, Claire (ed.). 1991b. *Serial verbs: Grammatical, comparative and cognitive approaches.* Amsterdam: John Benjamins.
Lefebvre, Claire & Anne-Marie Brousseau. 2002. *A grammar of Fongbe.* Berlin: Mouton de Gruyter.
Levin, Beth & Malka Rappaport Hovav. 1992. The lexical semantics of verbs of motion: the perspective from unaccusativity. In I.M. Roca (ed.), *Thematic structure: Its role in grammar*, vol. 16, 247–269. Berlin: Foris.
Li, Yafei. 1993. Structural head and aspectuality. *Language* 69(3). 480–504.
Lord, Carol. 1973. Serial verbs in transition. *Studies in African Linguistics* 4(3). 269–296.
Lord, Carol. 1993. *Historical change in serial verb constructions.* Amsterdam: John Benjamins.
Lovestrand, Joseph. 2018. *Serial verb constructions in Barayin: Typology, description and Lexical-Functional Grammar*. University of Oxford PhD dissertation.
Margetts, Anna, Nikolaus Himmelmann, Sonja Riesberg, Harriet Sheppard, Stefan Schnell & Nicholas Thieberger. 2019. BRING and TAKE: Caused accompanied motion events in Austronesian languages. Presented at the 11th International Austronesian and Papuan Languages and Linguistics Conference (APLL11), Leiden University, 13-15 June, 2019.
Matsumoto, Yo. 2020. Neutral and specialized path coding: Toward a new typology of path-coding devices and languages. In Yo Matsumoto & Kazuhiro Kawachi (eds.), *Broader perspectives on motion event descriptions* (Human Cognitive Processing 69) Amsterdam: John Benjamins.
Matthews, Stephen. 2006. On serial verb constructions in Cantonese. In Alexandra Y. Aikhenvald & Robert M. W. Dixon (eds.), *Serial verb constructions: A cross-linguistic typology*, 69–87. Oxford: Oxford University Press.
Maurer, Philippe, Susanne Maria Michaelis & the APiCS Consortium. 2013. Directional serial verb constructions with "come" and "go." In Susanne Maria Michaelis, Philippe Maurer, Martin Haspelmath & Magnus Huber (eds.), *Atlas of Pidgin and Creole Language Structures online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. http://apics-online.info/parameters/84. (27 April 2020).
Muansuwan, Nuttanart. 2001. Directional serial verb constructions in Thai. In Dan Flickinger & Andreas Kathol (eds.), *Proceedings of the 7th International HPSG Conference, UC Berkeley (22-23 July, 2000)*, 229–246. Stanford: CSLI.
Narasimhan, Bhuvana, Anetta Kopecka, Melissa Bowerman, Marianne Gullberg & Asifa Majid. 2012. Putting and taking events: A crosslinguistic perspective. In Anetta Kopecka & Bhuvana Narasimhan (eds.), *Events of putting and taking: A crosslinguistic perspective*, 1–20. Amsterdam: John Benjamins.
Nishiyama, Kunio. 1998. V-V Compounds as serialization. *Journal of East Asian Linguistics* 7(3). 175–217.
Nordlinger, Rachel. 2010. Complex predicates in Wambaya: Detaching predicate composition from syntactic structure. In Mengistu Amberber, Brett Baker & Mark Harvey (eds.), *Complex predicates: Cross-linguistic perspectives on event structure*, 237–258. Cambridge: Cambridge University Press.
Nordlinger, Rachel. 2014. Serial verbs in Wambaya. In Rob Pensalfini, Myfany Turpin & Diana Guillemin (eds.), *Language description informed by theory*, 263–282. Amsterdam: John Benjamins.
Otero, Manuel. This volume, chapter 20. At the intersection of associated motion, direction and exchoative aspect in the Koman languages.
Pakendorf, Brigitte & Natalia Stoynova. This volume, chapter 22. Associated motion in Tungusic

languages: A case of mixed argument structure.
Rappaport Hovav, Malka & Beth Levin. 2010. Reflections on manner/result complementarity. In Malka Rappaport Hovav, Edit Doron & Ivy Sichel (eds.), *Syntax, lexical semantics, and event structure*, 21–38. Oxford: Oxford University Press.
Riis, Hans Nicolaus. 1854. *Grammatical outline and vocabulary of the Oji-language, with especial reference to the Akwapim-dialect, together with a collection of proverbs of the natives*. Basel: Bahnmaier.
Rose, Françoise. 2015. Associated motion in Mojeño Trinitario: Some typological considerations. *Folia Linguistica* 49(1), 117-158.
Ross, Daniel. 2016. Going to surprise: The grammaticalization of itive as mirative. In Jacek Woźny (ed.), *Online proceedings of Cognitive Linguistics in Wrocław Web Conference 2016*. Wrocław, Poland: Polish Cognitive Linguistics Association & University of Wrocław. https://sites.google.com/site/coglingwroc2. (27 April 2020).
Ross, Daniel. This volume, chapter 2. A cross-linguistic survey of associated motion and directionals.
Ross, Daniel. forthcoming. *Pseudocoordination, Serial Verb Constructions and multi-verb predicates: The relationship between form and structure*. University of Illinois at Urbana-Champaign Ph.D. dissertation.
Ross, Daniel, Ryan Grunow, Kelsey Lac, George Jabbour & Jack Dempsey. 2015. Serial Verb Constructions: A distributional and typological perspective. Presented at Illinois Language and Linguistics Society (ILLS) 7, University of Illinois at Urbana-Champaign, April 17, 2015. http://hdl.handle.net/2142/88844. (23 April 23 2020).
Ross, Daniel & Joseph Lovestrand. 2018. What do serial verbs mean? A worldwide survey. Presented at Syntax of the World's Languages 8. INALCO, Paris, 3-5 September 2018. https://swl8.sciencesconf.org/data/pages/Ross_Lovestrand_SWL8.pdf. (23 April 2020).
Round, Erich R. 2013. *Kayardild morphology and syntax*. Oxford: Oxford University Press.
Schalley, Andrea C. 2003. A cross-linguistic comparison of the event-structure of FETCH: Possible coding alternatives and their realizations. *Views & Voices–Inquiries into the English Language and Literature* 1(2). 69–92.
Schokkin, Dineke. This volume, chapter 10. Preverbal directionals as markers of associated motion in Paluai (Austronesian; Oceanic).
Sebba, Mark. 1987. *The syntax of serial verbs: An investigation into serialisation in Sranan and other languages*. Amsterdam: John Benjamins.
Seiter, William J. 1980. *Studies in Niuean syntax*. New York: Garland.
Shibatani, Masayoshi. 2009. On the form of complex predicates: Toward demystifying serial verbs. In Johannes Helmbrecht (ed.), *Form and function in language research*, 309–336. Berlin: Mouton de Gruyter.
Shluinsky, Andrey. 2017. An intragenetic typology of Kwa serial verb constructions. *Linguistic Typology* 21(2). 333–385.
Staden, Miriam van & G Reesink. 2008. Serial verb constructions in a linguistic area. In Gunter Senft (ed.), *Serial verb constructions in Austronesian and Papuan languages*, 17–54. Canberra: Pacific Linguistics.
Tai, James H.-Y. 1985. Temporal sequence and Chinese word order. In John Haiman (ed.), *Iconicity in syntax: Proceedings of a Symposium on Iconicity in Syntax, Stanford, June 24-6, 1983*, 49–72. Amsterdam: John Benjamins.
Tallman, Adam J. R. 2020. Beyond grammatical and phonological words. *Language and Linguistics Compass* 14(2).
Talmy, Leonard. 2000. *Toward a cognitive semantics*. Cambridge, MA: MIT Press.
Tucker, Archibald N & Margaret A Bryan. 1966. *Linguistic analyses: The non-Bantu languages of north-eastern Africa*. London: Oxford University Press.

Unterladstetter, Volker. 2020. *Multi-verb constructions in Eastern Indonesia*. Berlin: Language Science Press.
Versteegh, Kees. 2009. Serial verbs. In Kees Versteegh (ed.), *Encyclopedia of Arabic language and linguistics*, vol. 4, 195–199. Leiden: Brill.
Voisin, Sylvie. This volume, chapter 16. Associated motion and deictic directionals in Atlantic languages.
Weiss, Daniel. 2012. Verb serialization in northeast Europe: The case of Russian and its Finno-Ugric neighbours. In Björn Wiemer, Bernhard Wälchli & Björn Hansen (eds.), *Grammatical replication and borrowability in language contact*, 611–646. Berlin: De Gruyter.
Westermann, Dietrich. 1930. *A study of the Ewe language*. Translated by A.L. Bickford-Smith. London: Oxford University Press.
Wilkins, David P. 1989. *Mparntwe Arrernte (Aranda): Studies in the structure and semantics of grammar*. Canberra: Australian National University PhD dissertation.
Wilkins, David P. 1991. The semantics, pragmatics and diachronic development of 'associated motion' in Mparntwe Arrernte. *Buffalo Papers in Linguistics* 1. 207–257.
Williams, Alexander. 2008. Word order in resultatives. In Charles B Chang & Hannah J Haynie (eds.), *Proceedings of the 26th West Coast Conference on Formal Linguistics, Somervillie, MA*, 507–515. Somerville, MA: Cascadilla Press.
Woidich, Manfred. 2002. Verbalphrasen mit asyndetischem perfekt im Ägyptisch-Arabischen. *Estudios de dialectología norteafricana y andalusí* 6. 121–192.
Yadav, Ramawatar. 1996. *A reference grammar of Maithili*. Berlin: Mouton de Gruyter.