VERBAL *v*P-MODIFIERS IN SAMOAN VERB SERIALIZATION[*]

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This study provides a first investigation of the syntactic and semantic properties of resultative serial verb constructions in the Polynesian language Samoan. Based on syntactic and semantic evidence, I demonstrate that the manner V1 functions as an adjoined event modifier to the causative V2, with further implications for the typology of *v*P-internal modification.

1.　　Introduction

In Samoan resultative serial verb constructions (henceforth: RSVCs), the initial verb (henceforth: V1) denotes the manner of a causing action, which leads to a change-of-state of the object in which the result state is encoded by a non-initial causative verb (henceforth: V2). The causative verb is derived by the prefix *fa'a-* (Collins 2017, Mosel 2004, Mosel & Hovdhaugen 1992).

(1) a. Sā　solo fa'a-mamā　e　Pita le　laulau.　　　　　　　　　SAMOAN
　　　 PST　wipe CAUS-clean　ERG Peter ART table.ABS
　　　 'Peter cleaned the table by wiping it.'

　　 b. Sā　lamu　fa'a-malū　e　Malia le　mea ai.
　　　 PST　chew　CAUS-soft　ERG Mary　ART food.ABS
　　　 'Mary softened the food by chewing it.'

This observation contrasts with RSVCs in other Polynesian languages, such as Niuean (Massam 2013) or Tongan, in which the result state is realized by a stative verb.

(2) a. Ne　hifi-kū　e　ia　haaku　ulu.　　　　　　　　　　　　　　NIUEAN
　　　 PST　cut-short　ERG 3SG GEN.1SG hair
　　　 'She cut my hair short.' (Massam 2013: 66)

　　 b. Kuo　vali　kulokula　e　pasikala.　　　　　　　　　　　　　TONGAN
　　　 PRF　paint red　　　ABS bicycle
　　　 'The bicycle was painted red.' (Shumway 1971: 219)

In addition, RSVCs in serializing languages differ from resultative constructions in non-serializing languages, in which resultative meaning is conveyed by the composition of a verbal and a non-verbal predicate. In this context, two types of resultative constructions are commonly differentiated based on the semantic properties of the main predicate (Hopperdietzel 2020, Mateu & Acedo-Matellan 2015, Talmy 2000). In resultative secondary predication in (3), the manner of the causing event is expressed by the verbal main predicate, while the result state is realized by a non-verbal, i.e. adjectival or prepositional, secondary predicate (Folli & Harley 2020, Embick 2004, Larson 1991 *inter alia*). In contrast, the result state is named by the causative main predicate in the means construction in (3), where the manner of the causing action is expressed by a means adjunct (Biggs & Embick 2020, Sæbø 2016, Solstad 2009 *inter alia*).

(3) a. Peter hammered the metal flat.   RESULTATIVE SECONDARY PREDICATION
     b. Mary flattened the metal by hammering it.   MEANS CONSTRUCTION

Since both manner and result components are realized by a verbal predicate in RSVCs, the categorial status of the respective constituents is not sufficient to discriminate the underlying morphosyntactic and semantic structure of the resultative construction. However, in the syntactic literature, RSVCs commonly receive a uniform analysis as a type of resultative secondary predication, which differs primarily from resultative secondary predication in non-serializing languages in the categorial type of the secondary predicate (verbal vs. non-verbal; based on work by Carstens 2002, Collins 2002, Larson 1991 *inter alia*).

In this paper, I present a first investigation of the morphosyntactic and semantic properties of Samoan RSVCs. Based on the availability of a narrow repetitive reading of the modifier *toe* 'again' (von Stechow 1996) as well as the presence of Voice-conditioned causative morphology on the V2 (Hopperdietzel to appear), I suggest that the causative predicate is the main predicate of the RSVC, with the manner predicate merged as a *v*P-sized adjunct in the specifier of the causative *v*P—a position that has been identified as the locus of (causing) event modification cross-linguistically (Folli & Harley 2020, Alexiadou & Anagnostopoulou 2020, Alexiadou et al. 2015). Therefore, Samoan RSVCs are an instance of the means construction in serializing languages (cf. Sugar 2019 on Uyghur, Ko & Sohn 2015 on Korean). As a result, this investigation suggests that serializing languages exhibit the same split as non-serializing languages with respect to the semantic type of the main predicate, and extends the cross-linguistic typology of verb-internal event modification in causative contexts.

2.   Resultative serial verb constructions in Samoan

The Polynesian language Samoan (Oceanic) is spoken by approximately 400,000 speakers, with only half of them living on the islands of the Samoan archipelago. Most of the data in this paper comes from original fieldwork with three native speakers of Samoan living in Hawai'i for several years, who still use Samoan in their daily communication within a wider expat community. From a morphosyntactic perspective, Samoan is a VSO language that exhibits a split-ergative case alignment, in which absolutive case is marked by tone, and pseudo noun incorporation of objects (Yu 2020, Tollan 2018, Collins 2017). Focusing on RSVCs, this section examines the relative position of semantic verb classes in Samoan RSVCs, suggesting an asymmetrical distribution based on the lexicalization of manner or result meaning (for a more detailed investigation of the lexical semantics of Samoan verb classes see Hopperdietzel 2020).

2.1. Manner V1

In Samoan RSVCs, verbs that express the manner of an (action) event appear in the initial V1 position (cf. Mosel 2004). The includes mono-eventive manner verbs, such as *kiki* 'kick', as well as bi-eventive causative manner verbs, such as *solo* 'wipe', which specify the causing action, but leave the result state underspecified (Hopperdietzel 2020, cf. Embick 2009 on English *break*).

(4) a. Sā **kiki** fa'a-ma-tala   e Malia le faitoto'a.   MANNER
      PST kick   CAUS-STAT-open ERG Mary ART door.ABS
      'Mary opened the door by kicking it.'

    b. Sā **solo** fa'a-mamā e Pita le laulau.   CAUSATIVE MANNER
      PST wipe CAUS-clean ERG Peter ART table.ABS
      'Peter cleaned the table by wiping it.'

    c. % Sā **pese** fa'a-moe~moe e Malia le pepe.   UNERGATIVE
      PST sing   CAUS-RED~sleep ERG Mary ART baby.ABS
      'Mary put the baby to sleep by singing (a lullaby).'

In contrast, *fa'a*-causatives cannot occur in this position, although a single event might be responsible for both distinct result states in a plausible way, e.g. a 'wiping' action in (5).

(5)   # Sā **fa'a-mamā** fa'a-mago e   Pita le   laulau.   #FA'A-CAUSATIVE
      PST CAUS-clean CAUS-dry   ERG Peter ART table.ABS
      Intended: 'Peter dried the table by cleaning it.'

However, the observation that causative manner verbs can appear in the V1 slot suggests that the infelicity of *fa'a*-causatives cannot be reduced to their causative event structure.

2.2. Causative V2

The mirror image is observed for the non-initial V2 position in which only *fa'a*-causatives embedding a (derived) stative or an anticausative verb occur (cf. Mosel 2004). Notably, in *fa'a*-causatives, the result state is named by a root, while the causing event is left underspecified.

(6) a. Sā solo **fa'a-mamā** e Pita le laulau.   STATIVE
      PST wipe CAUS-clean ERG Peter ART table.ABS
      'Peter cleaned the table by wiping it.'

    b. Sā tipi **fa'a-pa'u** e Malia le la'au.   ANTICAUSATIVE
      PST cut   CAUS-fall   ERG Mary ART tree.ABS
      'Mary fell the tree by cutting it.'

    c. Sā kiki **fa'a-ma-tala** e Malia le faitoto'a.   DERIVED STATIVE
      PST kick CAUS-STAT-open ERG Mary ART door.ABS
      'Mary opened the door by kicking it.'

The presence of causative morphology is obligatory. If *fa'a-* is omitted, RSVCs become either ungrammatical—in the context of anticausative V2s, as shown in (7)—or receive a slightly different semantic interpretation—in the context of stative V2s.

(7)　# Sā　tipi **pa'u**　e　Malia le　la'au.　　　　#BARE ANTICAUSATIVE
　　　　PST　cut　fall　ERG Mary ART　tree.ABS
　　　　'Mary fell the tree by cutting it.'

In addition, (causative) manner verbs, such as *fa'ī* 'break.off', cannot function as the result-denoting predicates in Samoan RSVCs, despite their causative event structure.

(8)　# Sā　tipi　**fa'ī**　　e　Pita lālā.　　　　　#CAUSATIVE MANNER
　　　　PST　cut　break.off　ERG Peter branch.ABS
　　　　Intended: 'Peter broke off the branches by cutting them.'
　　　　Instead: 'Peter cut and broke the branches off.'

Again, the infelicity of causative manner verbs, but not causative result verbs derived with *fa'a-* indicates that it is not the causative nature of the predicates that governs the distribution.

2.3.　Summary

In sum, Samoan verb classes are asymmetrically distributed in RSVCs according to their lexicalization of manner and result components. While verbs that lexicalize a manner component are restricted to the initial V1 position, verbs that lexicalize a result component can only occur in the non-initial V2 position. Notably, verbs that entail an underspecified result state, such as causative manner verbs, pattern with manner verbs which denote a mono-eventive action event. Moreover, stative and anticausative verbs cannot appear as V2 in this construction in their intransitive form, in contrast to RSVCs in other Polynesian languages, such as Niuean in (2) (Massam 2013).
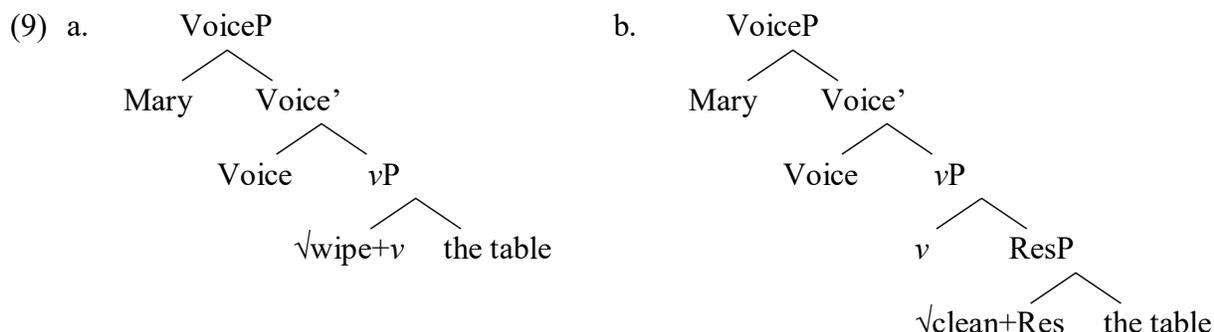
3.　Two types of resultatives

Before I begin the investigation of the underlying syntactic and semantic structure of Samoan RSVCs, I briefly discuss the properties of two types of resultative constructions in non-serializing languages regarding their type of morphosyntactic and semantic composition: (i) resultative secondary predication and (ii) the means construction.

3.1.　Theoretical assumptions

Adopting a syntactic approach to event (de)composition, I assume that event structure is derived by the relative configuration of lexical and functional heads within the elaborate VP-domain (Folli & Harley 2020, Alexiadou et al. 2015, Ramchand 2008). Acategorial roots, which provide the lexical information of the verbal predicate, come in two classes, depending on their ability to modify a (causing) event, i.e. manner roots, or a (result) state, i.e. result roots (Beavers & Koontz-Garboden 2020, Rappaport Hovav & Levin 2010 *inter alia*). While manner roots directly merge with the event-introducing verbalizer *v*, result roots are introduced within a state-introducing, acategorial Res(ult)P in the complement position of the eventive *v* head (Folli & Harley 2020, Alexiadou et al. 2015, Embick 2004). The external argument is introduced by a

separate Voice head, the locus of agentive semantics, whereas the internal argument is introduced *v*P-internally (Alexiadou et al. 2006, Kratzer 1996). The structures below show the configuration of mono-eventive manner verbs in (9) and bi-eventive causative result verbs in (9).

(9) a.

```
            VoiceP
           /      \
        Mary      Voice'
                 /      \
              Voice      vP
                        /    \
                  √wipe+v    the table
```

b.

```
            VoiceP
           /      \
        Mary      Voice'
                 /      \
              Voice      vP
                        /    \
                       v      ResP
                             /      \
                      √clean+Res    the table
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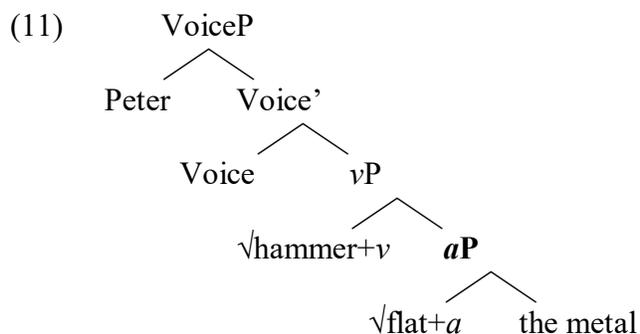
3.2. Resultative secondary predication

In non-serializing languages such as English, resultative meaning is primarily expressed by resultative secondary predication (see Beavers 2012 for an overview). In this construction, the causing event is expressed by a manner verb (here: *hammered*), while the result state is expressed by a non-verbal, stative predicate, for example adjectival (here: *flat*) or prepositional.

(10) a. Peter hammered the metal flat.
     b. *Peter hammered the metal flattened. / * Peter hammer-flattened the metal.

As resultative secondary predication shares several syntactic and semantic properties with lexical causatives, including, for example, the expression of direct causation and adverbial modification, it has been argued that the two (complex) predicates exhibit the same underlying structure (Levin 2020, Levin & Rappaport Hovav 2001, Dowty 1979). Therefore, the primary difference is the categorial status of the result-denoting XP. Instead of an acategorial ResP, a pre-categorized *a*P is merged as an event argument in the complement position of the (causing) event-introducing *v*, which allows the *v* head to be modified by an additional (manner) root (Folli & Harley 2020, Mateu & Acedo-Matellan 2015, Embick 2004, cf. Hoekstra 1988 et seq.).

(11)

```
            VoiceP
           /      \
        Peter      Voice'
                  /      \
               Voice      vP
                         /    \
                  √hammer+v    aP
                              /    \
                        √flat+a    the metal
```

From a semantic perspective, the two predicates enter a causative relation, in which the event denoted by the manner predicate causes the result state denoted by the adjectival predicate (Kratzer 2005, Levin & Rappaport Hovav 2001, Dowty 1979). Adopting a configurational analy-

sis of causative semantics, I assume that the causative relation between the two eventualities is read off the syntactic configuration when an event-denoting head takes a state-denoting XP as its complement (via telic pair formation; Alexiadou et al. 2015, Wood 2015, Ramchand 2008, Higginbotham 2000, see also Beck & Snyder 2001 on Principle R).[1]

(12) a. ⟦hammer⟧   = λe.   hammer(e)
    b. ⟦flat⟧   = λs.   flat(s)
    c. ⟦hammer flat⟧   = λe.∃s. hammer(e) ∧ Caus(e, s) ∧ flat(s)
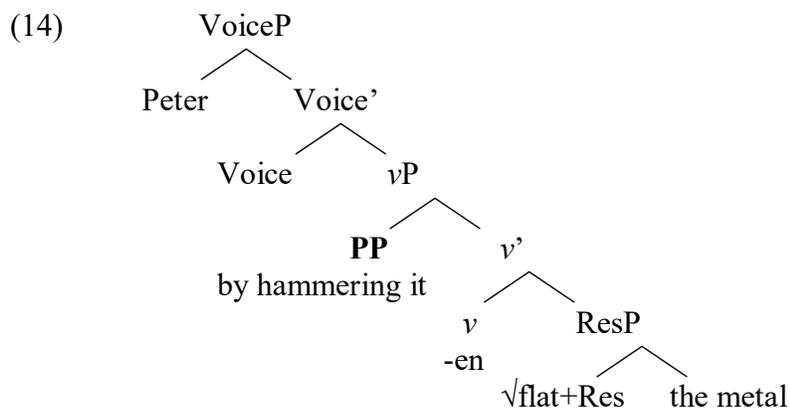
       In sum, resultative secondary predication exhibits the following properties: (i) the manner verb is the main predicate of the construction, (ii) the stative result predicate is a secondary predicate, (iii) which is an argument/complement of the main predicate, and (iv) both predicates stand in a causative relation.

3.3.   The means construction

An alternative way to express a resultative meaning is the means construction, in which a causative predicate (here: *flattened*) combines with a means adjunct (here: *by hammering it*) that specifies the manner of the underspecified causing event entailed by the causative predicate (Biggs & Embick 2020, Sæbø 2016, Truswell 2007 *inter alia*). In non-serializing languages, the means adjunct is typically realized by prepositional, as in (13), or gerundival phrase.

(13)   Peter flattened the metal by hammering it.

Syntactically, the means adjunct functions as an event modifier attached to the causative *v*P of the (lexical) causative predicate, which functions as the main predicate of the construction (Hopperdietzel 2020, Biggs & Embick 2020, Solstad 2009). Therefore, the manner component in the means construction is not realized by a root, as in resultative secondary predication, but by a pre-categorized PP, which functions as a manner-denoting secondary predicate. In contrast, the result component is realized by an acategorial ResP within the (lexical) causative predicate, which subsequently moves to the event-introducing *v* head for categorization (Folli & Harley 2020, Mateu & Acedo-Matellan 2015, Embick 2004).

(14)

```
                    VoiceP
                   /      \
              Peter       Voice'
                         /      \
                    Voice        vP
                                /    \
                           PP         v'
                    by hammering it  /   \
                                    v      ResP
                                   -en    /    \
                                   √flat+Res   the metal
```

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[1] Note that a discussion of the argument structure properties of resultatives is beyond the scope of this paper.

In contrast to resultative secondary predication, the causative relation between a causing event and a result state is introduced by the causative predicate itself, as in (15). As an event modifier, the means adjunct, which simply denotes the manner of an event in (15), specifies the inherently underspecified causing event already entailed in the event structure of the causative predicate in (15), via Predicate Modification (Sæbø 2016, Solstad 2009, Truswell 2007).[2]

(15) a. $[\![$flatten$]\!]$ $= \lambda e.\exists s.$ Caus(e, s) $\wedge$ flat(s)
    b. $[\![$by hammering$]\!]$ $= \lambda e.$ hammer(e)
    c. $[\![$flatten by hammering flat$]\!] = \lambda e.\exists s.$ hammer(e) $\wedge$ Caus(e, s) $\wedge$ flat(s)

In sum, the means construction shows the following properties: (i) the causative result verb is the main predicate of the construction, (ii) the manner predicate is a secondary predicate, (iii) which is an adjunct to the main predicate, and (iv) asymmetrically modifies the (causing) event entailed by the causative main predicate.

3.4. Summary

A comparison of the morphosyntactic and semantic properties of the two types of resultative constructions reveals that resultative secondary predication and the means construction differ with respect to the main predicate status of the respective meaning component, as well as in their underlying mode of syntactic and semantic composition.

	resultative SP	**means construction**
Main predicate	manner	causative
Secondary predicate	stative/result	manner
Syntactic composition	complementation	adjunction
Semantic relation	causation	modification

Table 1: Syntactic and semantic properties of resultative constructions.

4. Manner verbs as *v*P-modifiers

I now investigate the syntactic and semantic properties of Samoan RSVCs, in which both manner and causative predicates are verbal. As both predicates *could* act as the main predicate of the construction, I apply diagnostics that distinguish between complementation and adjunction.

(16) a. v_1P   COMPLEMENTATION   b. v_2P   ADJUNCTION

         v_1 v_2P v_1P v_2'

              v_2 DP v_2 DP

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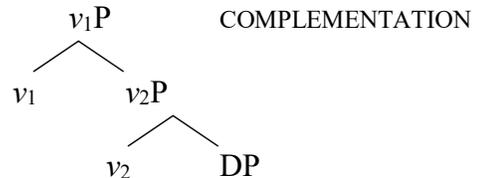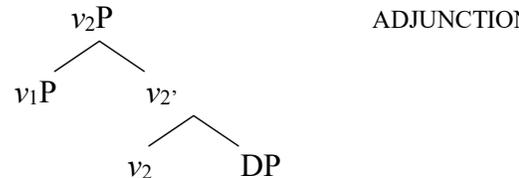
[2] Here, I abstract over the presence of agent and patient arguments in the semantic denotation of the means adjunction (see Alexiadou 2013 for arguments that -ing nominals involve a Voice projection introducing an agent argument). If an agent role is present, the composition would involve Event Identification (Kratzer 1996).
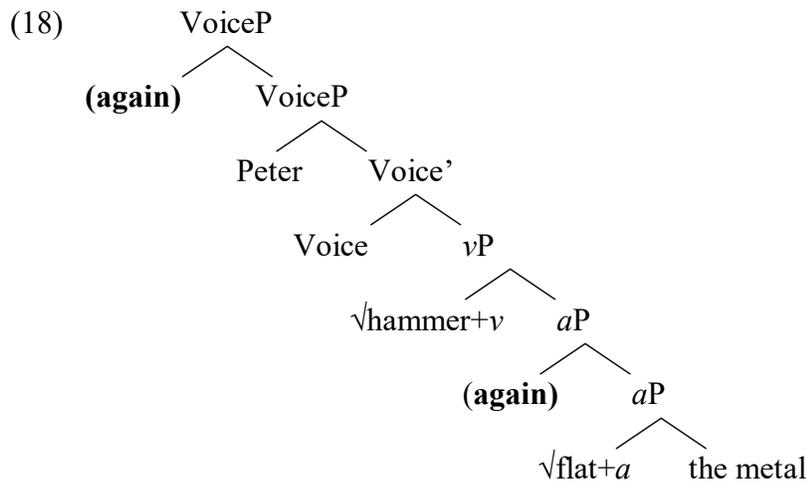
The results indicate that Samoan RSVCs share properties with the means construction, suggesting that the manner predicate functions as a *v*P-sized event modifier, with further implications for the cross-linguistic typology of resultative constructions in serializing languages.

4.1.   A narrow repetitive reading of *toe* 'again'

A first piece of evidence comes from the various readings of repetitive modifiers, such as English *again* and Samoan *toe*. Cross-linguistically, it has been shown that repetitive modifiers are often ambiguous with respect to their scope (Lechner et al. 2015, Beck & Snyder 2001, Dowty 1979). In English, for example, *again* licenses both repetitive and restitutive readings in the context of resultative secondary predication. Under the restitutive reading, only the result state is in the scope of *again*, as in (17), whereas under the repetitive reading, *again* takes the whole complex resultative event in its scope, including both the causing event and the result state, as in (17). However, a third reading, where *again* solely scopes over the causing event, is infelicitous, as in (17).

(17)   Peter (again) hammered the metal flat (again)…
    a. … and the metal was flat before.   RESTITUTIVE
    b. … and Peter hammered the metal flat before.   REPETITIVE (WIDE)
    c. #… and Peter hammered the metal before.   REPETITIVE (NARROW)

Adopting a structural approach, the asymmetric entailment of the restitutive reading in the repetitive reading follows from the syntactic position of the repetitive modifier in the derivation (Lechner et al. 2015, von Stechow 1996). Therefore, if *again* attaches low to the *a*P, it takes only the result state in its scope, as in (19); if *again* attaches high to VoiceP, it scopes over the whole (complex) predicate in its c-command domain, as in (20).

(18)   VoiceP
          /\
(again)   VoiceP
         /\
    Peter   Voice'
           /\
    Voice   *v*P
           /\
  √hammer+*v*   *a*P
           /\
    (again)   *a*P
           /\
    √flat+*a*   the metal

(19) a. ⟦again⟧(aP) = again(λs. flat(s))   RESTITUTIVE
    b. Presupposition: $\exists$s'. s'<s $\wedge$ flat(s)

(20) a. ⟦again⟧(VoiceP) = again(λe.$\exists$s. wipe(e) $\wedge$ Caus(e, s) $\wedge$ flat(s))   REPETITIVE (WIDE)
    b. Presupposition: $\exists$e'$\exists$s. e'<e $\wedge$ wipe(e') $\wedge$ Caus(e', s) $\wedge$ flat(s)

On the assumption that *again* can only attach to propositional nodes, a narrow repetitive reading in the context of resultative secondary predication is ruled out, since *again* cannot attach to the causing event introducing *v* prior to the merge of the result-state introducing complement (in contrast, for example, to *re-*; Lechner et al. 2015, Marantz 2009, Bale 2007).

However, such an additional narrow repetitive reading becomes available in the means constructions, in addition to a repetitive and a restituive reading. Crucially, the narrow repetitive reading is felicitous, when *again* attaches within the means adjunction (Hopperdietzel 2020).

(21)   Peter (again) flattened the metal (again) by hammering it (again).
   a. … and the metal was flat before.   RESTITUTIVE
   b. … and Peter hammered the metal flat before.   REPETITIVE (WIDE)
   c. … and Peter hammered the metal before.   REPETITIVE (NARROW)

Therefore, the morphosyntactic size of the manner component—PP vs. root—enables *again* to attach to the manner denoting means adjunct before it modifies the causing event entailed by the causative predicate, as in (22). In this position, *again* solely scopes over the manner event without pre-supposing a prior result state, as in (23).

(22)   VoiceP
         ╱╲
    again   VoiceP
             ╱╲
        Peter   Voice'
              ╱╲
         Voice   vP
               ╱╲
            PP   v'
          ╱╲   ╱╲
    again   PP   v   ResP
      by hammering it -en   ╱╲
                        again   ResP
                              ╱╲
                         √flat+Res   the metal
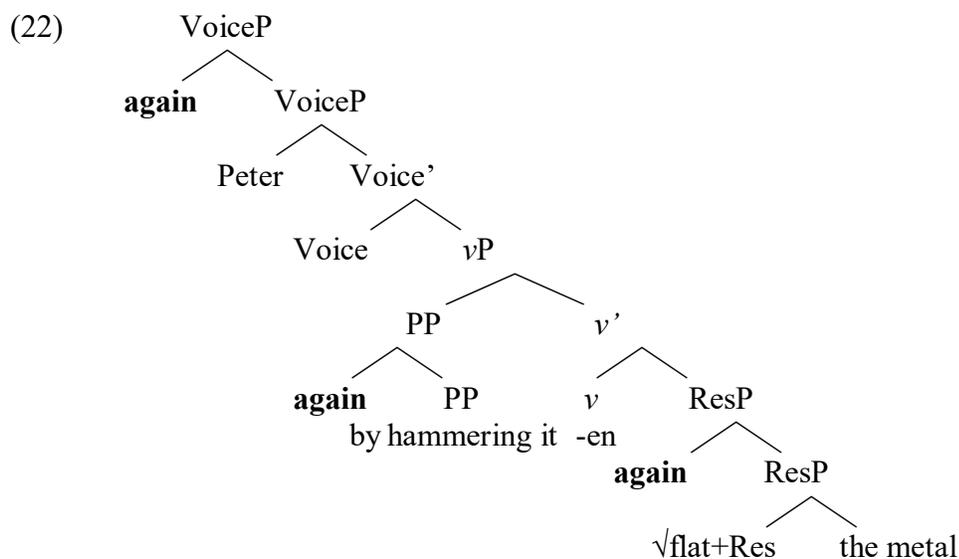
(23) a. ⟦again⟧(PP) = again(λe. hammer(e))
     b. Presupposition: ∃e'. e'<e ∧ hammer(e)

In Samoan, the repetitive modifier *toe* 'again' has been identified to exhibit similar properties to English *again*, licensing both restitutive and wide repetitive readings in the context of causative predicates (Hohaus 2016). This observation also holds true for RSVCs, in which both the restitutive in (24) and the wide repetitive reading are attested in (25).

(24)   CONTEXT: Peter bought a new table from the shop. At home, he put the new table in his living room. It was spotlessly clean. After dinner, the table was very dirty as it was covered in crumbs and sauce. Therefore,

Sā **toe** solo fa'a-mamā   e   Pita le   laulau.   RESTITUTIVE
PST again wipe CAUS-clean   ERG Peter ART table.ABS
'Peter cleaned the table again by wiping it.'

(25) CONTEXT: Peter and his family were having breakfast at their kitchen table. After break-
       fast, the table was covered in crumbs, so Peter wiped the table clean. A few minutes later,
       one of his children spilled some orange juice over the table. Therefore, …

Sā **toe** solo fa'a-mamā   e   Pita le   laulau.   REPETITIVE (WIDE)
PST again wipe CAUS-clean   ERG Peter ART table.ABS
'Peter again cleaned the table by wiping it.'

Crucially, *toe* 'again' licenses an additional wide repetitive reading in RSVCs, scoping solely over the causing event, denoted by the manner V1.

(26) CONTEXT: Peter bought a new table from the shop. At home, he realized that the table had
       some marks on it. Before he returned it to the shop, he tried to clean the table. He took a
       cloth and wiped the table, but the table did not get any cleaner. He got himself a cleaning
       agent and put it on the cloth. As he wiped the table again, it became clean. Therefore, …

Sā **toe** solo fa'a-mamā   e   Pita le   laulau.   REPETITIVE (NARROW)
PST again wipe CAUS-clean   ERG Peter ART table.ABS
'Peter cleaned the table by wiping it again.'

The availability of a narrow repetitive reading in Samoan RSVCs indicates that manner V1 is adjoined to the causative V2, as such a reading is only licensed in structures involving adjunction, but not complementation. Consequently, Samoan RSVCs appear to pattern with means constructions with respect to the interpretation of repetitive modifiers. Note that the fixed position of *toe* 'again' does not preclude a structural analysis (cf. Xu 2016 on Mandarin *you* 'again').

4.2.   Causative morphology on V2

Further evidence for an adjunction analysis comes from the presence of causative morphology on the result-denoting predicate. As demonstrated in Hopperdietzel (to appear), the causative prefix *fa'a-* is the Voice-conditioned spell-out of a bare eventive *v* head in causative configurations, as *fa'a-* does not occur in non-agentive causative contexts (Koopman 2012, Mosel & Hovdhaugen 1992)—as, for example, in the context of anticausatives or oblique causer PPs which have been argued to be introduced *v*P internally (Alexiadou et al. 2015).

(27) a. Sā   **fa'a-**mamā   e   Pita le   laulau.
        PST   CAUS-clean   ERG Peter ART table.ABS
        'Peter cleaned the table by wiping it.'

     b. Sā   mamā   le   laulau   i   le   matagi.
        PST clean   ART table.ABS OBL ART wind
        'Peter cleaned the table by wiping it.'

Therefore, the spell-out of v is not only determined by an eventuality denoting vP in its complement position, such as English *-en*, but also by the presence of a higher Voice head.

(28) $[v_{<e>}] \leftrightarrow$ *fa'a-* \ $[_{VoiceP}$ Voice $[_{vP}$ ___ $vP_{<e/s>}$]]   (Hopperdietzel to appear)
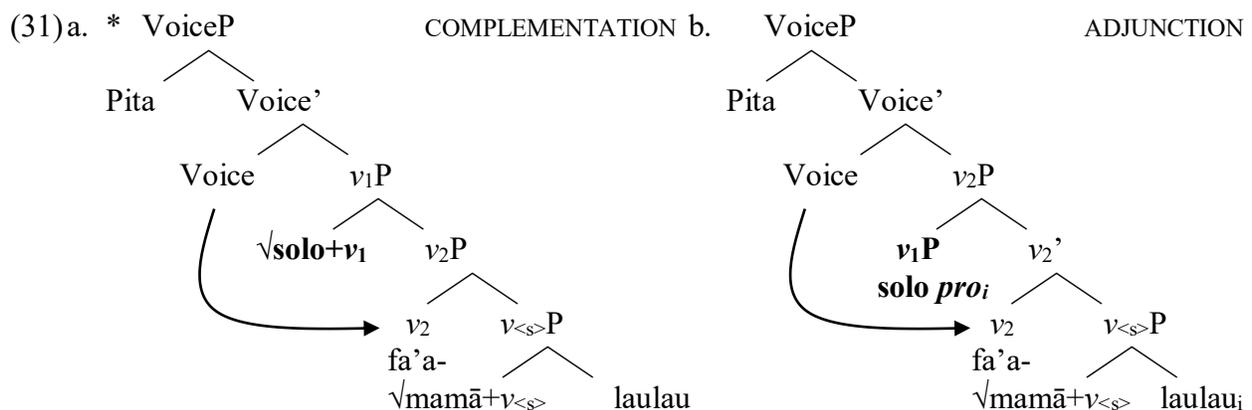
The obligatory presence of *fa'a-* in Samoan RSVCs indicates that the syntactic configuration in which the causing event introducing v head appears must satisfy the spell-out conditions in (28).

(29)   Sā   solo   #(**fa'a-**)mamā   e   Pita   le   laulau.
          PST   wipe   CAUS-clean   ERG Peter   ART table.ABS
          'Peter cleaned the table by wiping it.'

However, a complementation analysis of RSVCs in (31) appears to violate locality constraints on both contextual allomorphy and head movement, as the higher v_1 head intervenes in between Voice and the lower v_2 head, due to the cyclic nature of head movement (cf. the mirror principle; Arregi & Pietraszko 2020, Baker 1985, Travis 1984). On the assumption that contextual allomorphy is restricted to either complex heads or head-complement structures, the presence of v_1 is expected to block the spell-out of the lower v_2 head as *fa'a-*, contrary to fact (Bobaljik & Harley 2017, Bobaljik 2012). In addition, the observation that phrasal elements, such as parentheticals, can occur in between the V1 and the V2 indicates that the two verbs do not form a complex head (Collins 2017), providing a second argument against a complementation analysis.
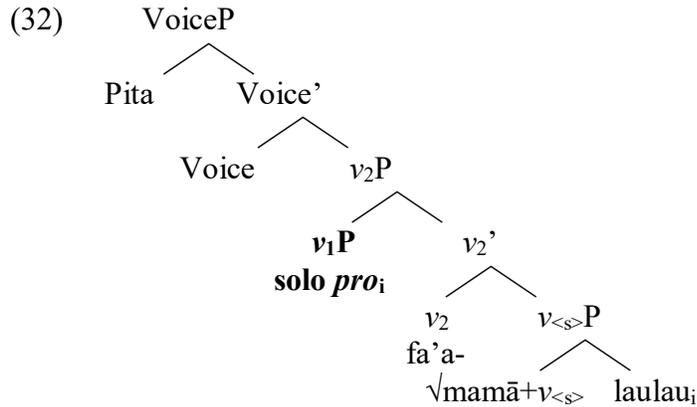
(30)   Sā   vali   (tali lā)   fa'a-lanumūmū   e   le   fafine   le   fale
          PST   paint wait   this   CAUS-color.red   ERG ART woman   ART house
          'The woman painted (wait for this) the house red.' (Collins 2017: 21)

In contrast, if the manner v_1P is adjoined to the causative v_2P as in (31), the adjoined structure is opaque to head movement (Arregi & Pietraszko 2020, Baker 1985, Travis 1984). Consequently, v_1 does not intervene in between Voice and v_2 which form a complex head via Voice-to-v lowering (Hopperdietzel to appear). This configuration satisfies both the locality conditions on contextual allomorphy and the spell-out rule for v to be realized as *fa'a-*. Thus, the presence of causative morphology on the result-denoting V2 is only expected in a means construction. Moreover, the infelicity of *fa'a*-causatives as the manner V1 suggests the absence of a Voice projection in the means adjunct, as they are not ruled out by their causative nature (Hopperdietzel 2020).

(31) a. * VoiceP   COMPLEMENTATION   b.   VoiceP   ADJUNCTION

       Pita   Voice'   Pita   Voice'

              Voice v_1P   Voice v_2P

                    √**solo**+v_1 v_2P v_1P v_2'
                                                                              solo *pro$_i$*
                              v_2 $v_{<s>}$P v_2 $v_{<s>}$P
                              fa'a-   fa'a-
                              √mamā+$v_{<s>}$ laulau   √mamā+$v_{<s>}$ laulau$_i$

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4.3. V1 as event modifiers

The syntactic and semantic evidence shows that Samoan RSVCs belong to the means constructions—the manner V1 is merged as modifier to the causative V2 predicate in (32)—and are not an instance of resultative secondary predication. Parallel to (causing) event modification in non-serializing languages, I assume that the manner vP appears in the modifying position (i.e. as a sister of v') just like event modifying PP or DP adjuncts in non-serializing languages (see Alexiadou & Anagnostopoulou 2020, Alexiadou et al. 2015, also Folli & Harley 2020 for the proposal that manner roots also merge in this position). Therefore, the Samoan data extends the typology of vP-internal event modification to verbal predicates.

(32)

```
                VoiceP
              /        \
           Pita        Voice'
                      /       \
                  Voice        v₂P
                             /     \
                          v₁P       v₂'
                       solo proᵢ   /    \
                                 v₂      v₍ₛ₎P
                                fa'a-    /    \
                                √mamā+v₍ₛ₎  laulauᵢ
```

On the semantic level, the manner predicate, which denotes an action event, modifies the causing event entailed in the event structure of the causative predicate via Predicate Modification.[3]

(33) a. ⟦fa'a-mamā⟧   = $\lambda e.\exists s.$ Caus(e, s) $\wedge$ clean(s)
    b. ⟦solo⟧   = $\lambda e.$ wipe(e)
    c. ⟦solo fa'a-mamā⟧ = $\lambda e.\exists s.$ wipe(e) $\wedge$ Caus(e, s) $\wedge$ clean(s) (via Predicate Modification)

Cross-linguistically, these findings have further consequences for the analysis of RSVCs, which are commonly analyzed as resultative secondary predication that differs primarily from non-serializing languages in the verbal category of the secondary predicate—e.g. Mandarin resultative verbal compounds (Lin 2004, cf. Carstens 2002, Collins 2002, Larson 1991).

(34)   Lisi   ca-gan-le   zhouzi.   MANDARIN
           Lisi   wipe-dry-PRF table
           'Lisi wiped the table dry.' (Lin 2004: 91)

While such analyses appear to hold for RSVCs in languages such as Mandarin, recent studies on RSVCs in other languages, such as Uyghur or Korean, suggest that serializing languages exhibit the same split in the resultative domain as non-serializing languages between resultative secondary predication and the means construction (Hopperdietzel 2020, Sugar 2019, Ko & Sohn 2015).

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[3] In the context of a causative manner V1, the verbal means adjunct additionally introduces an underspecified result state. However, since this result state is existentially bound, it does not influence the semantic composition.

5. Conclusion

In this paper, I have investigated the syntactic and semantic properties of RSVCs in Samoan, which differ from resultatives in other Polynesian languages, such as Niuean or Tongan, by the obligatory presence of causative morphology on the result-denoting predicate. Based on both the availability of a narrow repetitive reading of the repetitive modifier *toe* 'again' and observed locality constraints on the Samoan causative prefix *fa'a-*, I have argued that the manner V1 is an event modifier adjoined to the causative V2. Samoan RSVCs are therefore an instance of the means constructions, in which a manner secondary predicate identifies the manner of the causing event entailed by a causative predicate. An issue that has not been addressed in this paper concerns the argument structure properties of Samoan RSVCs. As such an analysis is not trivial for the morphosyntactic analysis developed in this paper, further studies may discuss the interaction of argument and event structure in Samoan verb serialization (see Hopperdietzel 2020).

 Cross-linguistically, these findings extend the typology of verb-internal event modification to verbal predicates in serializing languages. Consequently, I have argued that resultatives in serializing languages are subject to the same split regarding the main verb status of the manner or result predicate, respectively, and do not exhibit a unified underlying structure. Since causative morphology appears to be absent in the context of RSVCs in most other Polynesian languages, this family internal variation calls for a comparative study of the syntactic and semantic variation, and their potential interpretational effects.

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