

VERB SERIALIZATION IN KANAKANAVU * ¹

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Abstract: This paper aims to study the morphosyntax of verb sequences in Kanakanavu, a Formosan language spoken in Southern Taiwan. It shows that verbs sequences in Kanakanavu can be divided into SVCs (Serial Verb Constructions) and Non-SVCs due to the differences in their grammatical behaviors. Verb sequences formed by the category of motion, manner, resultative, instrumental, ability, frequency and directional verbs truly serialize, while those formed by the category of aspectual, purposive, stance/postural, control, implicative, deontic/epistemic, perception and factive verbs do not involve verb serialization. Both SVCs and Non-SVCs in Kanakanavu form a spectrum from 'non-finite' to 'finite' with respect to grammatical restrictedness on V2 complements. The research indicates that (i) the syntax of "finiteness" may vary from language to language; (ii) typology of serializability can be diverse, and verb serialization can be cognitively motivated; (iii) verb serialization in Kanakanavu behaves similarly to that in Kavalan, where SVCs display AF-only Restriction, but differently from Tsou, where SVCs are characterized by Focus Harmony Restriction.

1. Introduction

Serial Verb Constructions (SVCs) have been known as common grammatical structures in many languages, especially West African languages, Southeast and East Asian languages, or probably some Creole languages. SVC is a distinct grammatical category which can be distinguished from coordination, conjunction (subordination) and bi-clausal complementation. Foley and Olsen (1985) define serial verbs as mono-clausal verb sequences without overt makers of coordination or subordination intervened. Grammatically the serializing verbs patterns together, bearing the same temporal reference, modified under the same negation (adverbial) scope. Baker (1991) claims that verbs extensions of SVC do not constitute a single natural class of (semantic) phenomena because various

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¹ Kanakanavu is an endangered Austronesian language spoken in Southern Taiwan (Minshen village, Sanmin township, Kaohsiung). It has been regarded as a subgroup of Tsouic languages (Tsou, kanakanavu and Saaroa), based on Tsuchida (1976). The study follows Mei's (1982) transcription 'Kanakanavu' although Tsuchida (1976) transcribes it as 'Kanakanabu', in which the *b* phonetically represents a labial fricative.

verbal semantic relations are syntactically manifested in terms of verb serialization. Sebba (1987) also point outs that SVCs are structurally different form similar complement-taking constructions, i.e. control construction, implicative verb construction and factive verb construction in English.

SVCs in Austronesian languages have also been investigated (Crowly 2002). As far as Formosan languages are concerned, SVCs are considered to be productive in Formosan languages. Huang (1997) adopt broad sense of definition for SVCs. She claims that most Formosan languages are serializing languages. In Formosan languages, SVCs serve as main syntactic mechanism to express lots of semantic relations with respect to verbs. Chang (2006) argues against Huang and he proposes that SVC should legitimately be defined by four conditions since SVC represents a unique grammatical category, as shown in (1).

(1) SVC conditions (Chang 2006)

- a. The linkerless condition
- b. The same TAM condition
- c. The subordination condition
- d. The lexical verb condition

In light of these four criteria, Formosan languages like Tsou (as in (2)) and Kavalan (as in (3)) belongs to serializing languages, whereas languages such as Paiwan (as in (4)), Atayal and probably Amis may not be grouped as serializing languages because there is a linker occurring between verb sequences in these languages. Compare the following sentences from Tsou, Kavalan and Paiwan.

(2) Tsou (Chang 2006:6)

- a. mi-'o ahoi bon-# ta tac#m#
AF-1S² start (AF) eat-AF OBL banana
'I start eating bananas.'
- b. os-'o ahoz-a an-a 'o tac#m#
NAF-1S start-PF eat-PF NOM banana
'I start eating the bananas.'

(3) Kavalan (Chang 2006:2)

- a. m-atiw=iku m-ara tu sunis
AF-go=1S.NOM AF-take OBL child

² Abbreviations used in this paper are listed as follows:

AF: agent focus	ASP: aspect	CAU: causative	FUT: future tense
GEN: genitive	IMP: imperative	IRR: irrealis	LF: locative focus
LOC: locative	LNK: linker	NAF: non-agent focus	NOM: nominative
OBL: oblique	PERF: perfective	PF: patient focus	P: plural
RED: reduplication	S: singular		
1: first person	2: second person	3: third person pronoun	

- ‘I go and bring a child back.’
 b. qatiw-an-ku m-ara ya sunis
 go-PF-1S.GEN AF-take NOM child
 ‘I go and bring the child back.’

(4) Paiwan

- a. na-vaik=aken **a** sa-gaku katiw
 PERF-go=1S.NOM LNK go.to<AF>-school yesterday
 ‘I went to school yesterday.’
 b. umal-u **a** senay
 again-IMP LNK sing<AF>
 ‘Sing (it) again!’
 b’.senay-u **a** m-umal
 sing-IMP LNK AF-again
 ‘Sing (it) again!’

In spite of no agreed definition for SVCs, Foley and Olson (1985) points out that cross-linguistically SVCs seems to follow a universal hierarchy for favored verb types:

- (5) Motion verbs > stance or postural verbs > stative intransitive verbs > transitive verbs (Foley and Olson 1985:48)

This hierarchy in (5) indicates that the most favored verbs for serializing construction are basic motion verbs *come* and *go*. It can further predict: if other verbs serialize in one language, it might have serialization of motion verbs, but not vice versa.

This paper aims to study the syntax of serial verb construction in Kanakanavu, a Formosan language which has been known as a subgroup of Tsouic languages. Serializing typology varies from language to language. Although many Formosan languages have been recognized as serializing language, it is not clear whether SVCs in Kanakanavu follow the serializing tendency aforementioned. It is problematic. Simply, throughout the diverse verbal categories to what extent will serial construction be attested and to what extent will it be not in Kanakanavu? The main research questions of this paper are listed as follows:

- i. How are SVCs defined and identified in Kanakanavu?
- ii. What verbal categories involve SVCs in Kanakanavu? Do various complement-taking verbs such as control verbs, implicative verbs, and factive verbs, etc. involve SVCs or not?
- iii. If not, how are SVCs distinguished from non-SVCs in Kanakanavu? And what does the distinction imply?

This study will show that Kanakanavu is a serializing language. It will examine different verbal categories in Kanakanavu. By using the four criteria made by Chang (2006), it will reveal the types of serial events that are syntactically involved in verb serializations and those that are not. It will draw

the distinction between SVCs and non-SVCs with regards to their grammatical behaviors. The rest of sections are organized as follows: Section 2 introduces the morphosyntax of Kanakanavu. Section 3 defines SVC for Kanakanavu and draws the distinction between SVCs and non-SVCs. Section 4 discusses the relation between verb serialization and finiteness. Section 5 arrives at a conclusion.

2. The Morphosyntax of Kanakanavu: a Brief Introduction

2.1. Voice System and Pronominal System

2.1.1. Focus

All Kanakanavu verbs are inflected with regards to the basic case-focus distinction: Agent Focus (AF) vs. Non-agent Focus (NAF). NAF constructions can be further divided into Patient Focus (PF), Locative Focus (LF) and Benefactive/Instrumental Focus form, those of which are found in other Formosan languages. The four-way distinction for system and some examples are given below:

Table 1 Focus System in Kanakanavu (Chang 2006, based on Mei 1982, Tsuchida 1976)

	AF	PF	LF	B/IF
Neutral	UM (um-/mu-	-ai		
Perfective	/<um>	ni-		
Imperfective	m-	(p-)-un	-a(n)	se-

(6) Kanakanavu

- a. **um-ʊsʊʔ-ʊ** **cuma** paizi (na) takuacapa
 AF-put Father wine LOC table
 'Father (will) put wine on the table.' (AF)
- =a' **cuma** ya, **um-ʊsʊʔ-ʊ** paizi (na) takuacapa
 Father TOP AF-put wine LOC table
- b. **ʊsʊ-n** **cuma** **paizi** (na) takuacapa
 put-PF Father wine LOC table
 'Father will put the wine on the table.' (PF)
- =b' **paizi** ya, **ʊsʊ-n** **cuma** (na) takuacapa
 wine TOP put-PF Father LOC table
- c. **ni-sʊ-an=cu** **cuma** paizi (na) **takuacapa**
 PERF-put-LF=ASP (COS) Father wine LOC table
 'Father put wine on the table.' (LF)
- =c' **takuacapa** ya, **ni-sʊ-an=cu** **cuma** paizi
 table TOP PERF-put-LF=COS father wine
- d. **se-sʊʔ-ʊ** -maku paizi **nonoman isi** (na) takuacapa
 IF-put-1S.GEN wine thing this LOC table
 'I use the thing (container) to put wine in on the table.' (B/IF)

=d'. nonoman isi ya, se-sʰʰ =maku paizi na takuacapa
 thing this TOP B/IF-put=1S.GEN wine LOC table

The examples in (6a-d) shows that there are no overt case markers on participants in Both AF and NAF sentences. The basic word order in Kanakanavu is ‘verb-actor-patient-peripherals’. The change of case focus from AF to NAF does not affect word order (see Mei 1982). The focused argument can be pre-proposed to sentence-initial position with a topic marker *ya*, as in (6a'-d').

2.1.2. Imperative

According to Tsuchida (1976) and Mei (1982), Kanakanavu verbs are inflected for imperative by adding the suffix *-a* to an AF verb stem and the suffix *-au* to a NAF verb stem. In current oral speech, however, it is observed that *-au* has been pronounced as *-o*, as in (8). Generally speaking, the AF imperative *-a* is usually used on stative verbs (intransitive), as in (7) and the NAF imperative *-o* on active verbs (transitive) in Kanakanavu, as in (8).

(7) Kanakanavu

- | | | | | |
|-----|----|--|----------|------------------|
| | a. | arapana-a/*-o (cf. <i>a/-au</i> in Mei 1982) | | |
| | | run-IMP (AF)/*IMP (PF) | | |
| | | ‘Run!’ | | (AF Imperative) |
| | b. | mara'an-a/*-o (-au) | | |
| | | fast-IMP (AF)/*IMP (PF) | | |
| | | ‘Be fast!’ | | (AF Imperative) |
| (8) | a. | kæn-o/*a | vutukuru | isi |
| | | Eat-IMP (PF) | fish | this |
| | | ‘Eat this fish’ | | (NAF Imperative) |
| | b. | im-o/*a | (zarumu) | |
| | | drink-IMP (PF) | water | |
| | | ‘Drink it!’ | | (NAF Imperative) |

2.1.3. Pronominal System

Kanakanavu has two sets of personal pronoun system: the independent pronouns and bound pronouns (Tsuchida 1976, Mei 1982). Independent pronouns occur freely in a sentence as nouns do, while bound pronouns are always attached to verbs, nouns or auxiliaries. Here we demonstrate the pronominal system based on the categorization of person, number and inclusiveness in Table 2.

Table 2 Pronominal system in Kanakanavu (based on Mei 1982: 210)

Person, number, inclusiveness	Independent		Bound	
	Focused	Unfocused	NOM	GEN
1 S	iiku/iikia	'ikua	-ku/-kia	-(m)aku
2 S	iikasu	kasua	-kasu	-(mu)su
3 S	∅	'inia	-ini/ ∅	-kiai/-ini
1 P (inclusive)	iikita	kitana	-kita	-(mi)ta
1 P (exclusive)	iikimi/iikia	kimia	-kimi/- kia	-mia
2 P	iikamu	kamua	-kamu	-mu
3 P	∅	'inia	-ini/ ∅	-kiai/-ini

In this paper, bound pronouns in Kanakanavu will be analyzed as clitics. As shown in (9), the first person singular nominative and genitive pronouns *-ku* and *-maku* not only occur on a verb stem *ima*, but also climb to the auxiliary *esi*.

(9) Kanakanavu

- a. m-ima=ku zarumu
AF-drink=1S.NOM water
'I drink water.'
- b. im-~~n~~=maku zarumu
drink-PF=1S.GEN water
'I drink the water.'
- c. esi=ku m-ima zarumu
PROG=1S.NOM AF-drink water
'I am drinking water.'
- d. esi=maku im-~~n~~ zarumu
PROG=1S.GEN drink-PF water
'I am drinking the water.'

2.2. Tense/Aspect/Modality

2.2.1. Perfective

Perfective aspect expresses a completed action or event. In Kanakanavu, perfective aspect is marked by *ni-*, which has two allomorphs: *ni-* and *<in>*. *ni-* occurs both on AF and NAF verbs, as in (10a-b). Note that *ni-* may function both as a perfective and a PF marker simultaneously as in (10b). Similar phenomenon can be found in other Formosan languages like Paiwan. The infix *<in>* occurs only when the verb stem begins with a voiceless coronal consonant, i.e. t, c or s (Tsuchida 1976).

(10) Kanakanavu

- a. **ni**-k<um>a-k~~n~~=ku vutukuru
PERF-RED<AF>-eat=1S.NOM fish
'I have eaten fish.'

- b. **ni-kən**=maku vutukuru isi
 PERF.PF-eat=1S.GEN fish this
 ‘I have eaten this fish.’
- c. c<**in**><um>**u**’**la**=ku avia
 see<PERF><AF>=1S.NOM Avia
 ‘I have seen Avia.’

2.2.2. Change-of-state

The change-of-state marker in Kanakanavu is =*cu*. It may grammatically surface as an enclitic attached to AF/NAF verbs, auxiliaries, and even nouns, as in (11a-d).

(11) Kanakanavu

- a. ni-m-~~usu~~=**cu**=ku paizi na takuacapa
 PERF-AF-put=COS=1S.NOM wine LOC table
 ‘I have already put wine on the table.’
- b. ni-s~~u~~’**u**=**cu**=maku paizi na takuacapa
 PERF.PF-put=COS=1S.GEN wine LOC table
 ‘I have already put the wine on the table.’
- c. esi=**cu**=ku k<um>a-kən
 PROG=COS=1S.NOM RED<AF>-eat
 ‘I have been eating.’
- d. avia=**cu**
 Avia=COS
 ‘It is Avia’s turn.’

2.2.3. Irrealis

The Irrealis marker *tia/te* occurs as auxiliary in Kanakanavu. Syntactically it serves as a functional head which appears sentence-initially and may attract pronominal and aspectual enclitics, as in (12b-d).

(12) Kanakanavu

- a. **tia** k<um>a-kən avia vutukuru
 IRR RED<AF>-eat Avia fish
 ‘Avia will eat fish.’
- b. **te**=ku k<um>~~u~~ vutukuru
 IRR=1S.NOM eat<AF> fish
 ‘I will eat fish.’
- c. **te**=maku kən-~~u~~ vutukuru
 IRR=1S.GEN eat-PF fish
 ‘I will eat the fish.’
- d. **te**=cu=ku k<um>~~u~~ vutukuru
 IRR=COS=1S.NOM eat<AF> fish
 ‘I am ready to eat fish.’

2.3. Conjunction

2.3.1. Coordination

- a. **no** um-o'-~~u~~can-**in** nura **ya**, ka'an=ku m-ukusa ta-lisinat-a
 If AF-rain-IN tomorrow TOP NEG=1S.NOM AF-go school
 'If it rains tomorrow, I will not go to school.'
 = ka'an-ku m-ukusa ta-lisinat-a, **no** um-o'-~~u~~can-**in** nura
 NEG=1S.NOM AF-go school If AF-rain-IN tomorrow
- b. no iikasu-in iiku ya, te=ku po-cucuru
 if 2S (IND.FOC)-IN 1S (IND.FOC) TOP IRR=1S.NOM speak-true
 'If I were you, I would tell the truth.'
 = te=ku po-cucuru, no iikasu-in iiku
 IRR=1S.NOM speak-true if 2S (IND.FOC)-IN 1S (IND.FOC)

Like Paiwan (see Chang 2000, Wu 2004), Kanakanavu have two temporal subordinators *no* and *me* 'when', which are characterized by the contrast between future and past. *no* provides the subordinate clause with future reading, as in (16) and *me* with past reading, as in (17). Temporal subordinate clauses syntactically functions as adjuncts and they are movable in the sentences, as in (16-17).

(16) Kanakanavu

- nura **no** pu'ei=ku ya, manas~~u~~ m-
 tomorrow when (future) return (AF)=1S.NOM TOP maybe AF-
 ukusa=cu umo'ma' cuma putokikio
 go-COS field Father work (AF)
 'When I return tomorrow, Father would have gone to the field to work.'
 = manas~~u~~ m-ukusa=cu umo'ma' cuma putokikio, nura **no**
 Maybe AF-go-COS field Father work (AF) tomorrow when
 pu'ei=ku
 return=1S.NOM

(17) Kanakanavu

- me** pu'ei-ku mi'~~u~~ra ya, ko'o-maku
 When (past) return (AF)-1S.NOM yesterday TOP NEG-1S.GEN
 c<in>~~u~~'~~u~~la cuma
 see<PERF.PF> Father
 'When I came back yesterday, I didn't see Father.'
 = ko'o-maku c<in>~~u~~'~~u~~la cuma, **me** pu'ei-ku mi'~~u~~ra

3. SVCs vs. Non-SVCs

3.1. Identifying SVC in Kanakanavu

To determine whether serializing construction exists in Kanakanabu, in this section the most favored categories: *come* and *go* will be examined in terms of four conditions proposed by Chang (2006). The four criteria are necessary

conditions for serialization. Violating one of them will be excluded from the list of serialization.

The linkerless condition

In Kananavu verb sequences involving the motion verbs *come* and *go* express consecutive events rather than simultaneous events. Any linking element such as the coordinator *mata* is not attested in serial construction, as in (18).

- (18) a. m-ukusa=ku (*mata) m-alisinat̃
 AF-go=1S.NOM and AF-study
 ‘I go study.’
 b. pu’ei=ku (*mata) m-alisinat̃
 come (AF)=1S.NOM and AF-study
 ‘I return to study.’

Compare the coordinate construction as in (19).

- (19) a. m-ukusa=ku mata m-alisinat̃=ku
 AF-go=1S.NOM and AF-study=1S.NOM
 ‘I go and I study.’
 b. pu’ei=ku mata m-alisinat̃=ku
 come (AF)=1S.NOM and AF-study=1S.NOM
 ‘I return to study.’

The same TAM condition

The most crucial criteria for SVC is that verb sequences should be interpreted within the same time frame, or within the same adverbial modifying scope, i.e. negation (Foley and Olsen 1985, Sebba 1987, Chang 2006). It is observed that in Kananavu SVC the temporal markers occur only on the first verb (V1), as in (20).

- (20) a. **ni**-m-ukusa=**cu**=ku m-ala’ tikuru isi
 PERF-AF-go=COS=1S.NOM AF-take clothes this
 ‘I have gone and brought the clothes back.’
 b. *m-ukusa=ku **ni**-m-ala’=**cu** tikuru isi
 AF-go=1S.NOM PERF-AF-take=COS clothes this
 c. **te**-ku pu’ei m-ala’ tikuru isi
 IRR-1S.NOM come (AF) AF-take clothes this
 ‘I will come and bring the clothes back.’
 d. *pu’ei=ku **tia** m-ala’ tikuru isi
 come (AF)=1S.NOM IRR AF-take clothes this

Serial verbs must have the same polarity for the sentence. For example, in Kananavu negation in SVC should only be marked once sentence-initially, applying to the whole string, as in (21a). The second verb (V2) cannot carry its own negation as in (21b).

- (21) a. ka’an=ku m-ukusa m-ala’ tikuru isi
 NEG=1S.NOM AF-go=1S.NOM AF-take clothes this

- ‘I don’t go and bring the clothes back.’
- b. *m-ukusa=ku ka’an m-ala’ tikuru isi
 AF-go=1S.NOM NEG AF-take clothes this
 ‘I go and don’t bring the clothes back.’

Besides, as other scholars point out (Huang 1998, Tang 1999, Chang 2005), the second verbs must behave AF-only restriction, which is specifically found in many Formosan languages³. The second verbs can be inflected only for agent focus voice, whereas the first verbs for both AF and NAF.

- (22) a. m-ukusa=ku m-ala’ tikuru isi
 AF-go=1S.NOM AF-take clothes this
 ‘I go and bring the clothes back.’
- b. *m-ukusa-ku al-~~an~~ tikuru isi
 AF-go-1S.NOM take-PF clothes this
- c. ukus-~~an~~ m-ala’/*al-~~an~~ tikuru isi
 go-PF AF-take/*take-PF clothes this
 ‘I go and bring the clothes back.’

The subordination condition

Based on Chang (2006), the subordination condition is met in Kananavu due to two reasons. First, unlike coordinate construction as in (13-14), verb sequences in SVC are not allowed for permutation. Neither are they eligible for movement like adjunct clauses as in (15-17) above. Second, rather than V2, only V1 attracts pronominal clitics, which occur on the highest predicate (head). Also, given the fact that V2 is morphologically defective while V1 can be fully inflected, it is clear that V2 is structurally dependent on V1. Syntactically V1 serves as the main verb, and take the reduced bare-stem V2 as its complement, which is analogous to nonfinite form in tensed language like English (Tang 1999, Chang 2005)⁴. Consider the following examples.

³ AF-only restriction imposed upon complex predicate constructions can be observed in most Formosan languages other than Tsou, such as in Paiwan, Amis, Kavalan, Atayal, Bunun, Rukai, and so on.

⁴ Due to differences in grammatical behaviors, Tang (1999) divides clausal complements in Paiwan into two parts: *a*-clauses as nonfinite complements and *tu*-clauses as finite. The complementizer *a* co-occurs with non-finite verbs which obligatorily respect AF-only restriction, while the complementizer *tu* with finite verbs which are free from this restriction. Consider:

- (1) Paiwan
- a. ku-si-vaik a m-alap a ku-kava
 1S.GEN-BF-go COMP (LNK) AF-take NOM 1S.GEN-clothes
 ‘I go (there) to take my clothes away.’
- b. ku-k<in>alang tu na-m-alap ti palang tua kava
 1S.GEN-know<PERF.ASP> COMP (LNK) ASP-AF-take NOM Palang OBL clothes
 ‘I knew that Palang took some clothes away.’

In addition, Chang (2005) points out that AF verbs are usually used as citation forms. For example, in Kavalan, the AF form *qeman* convey a notion equivalent to the citation form ‘to eat’ in English.

- (23) a. pu'ei=ku tanasa **m-alisinat** (*NAF/*=ku)
 come (AF)=1S.NOM home AF-study
 'I come home to study.'
 b. *m-alisinat=ku **pu'ei** tanasa
 AF-study=1S.NOM com (AF) home

The lexical verb condition

In SVC, each component verb should be a lexical verb. Therefore each can occur as a main verb in its own right (Chang 2006). The 'come and go' verbs shown above are definitely lexical verbs in Kanakanabu.

3.2. Verb-serializing Categories

In this section, we will demonstrate verbal categories that syntactically involve verb serialization in Kanakanabu, in which the four above-mentioned conditions are met. Serializing categories are confined to combination of V (P) + V (P) in structure.

3.2.1. Motion

As aforementioned, motion verbs are the most favored serial category and it often involves two or more consecutive events. Two serial events observe the principle of temporal sequence. Permutation between two them will result in different meaning. Compare (24a) with (24a'). In serial construction, V2 is always morphologically defective and surfaces as AF form only.

- (24) a. te=ku m-ukusa (na) ta-lisinat-a (*tia) arapanax (*-ku)
 IRR=1S.NOM AF-go LOC school run (AF)
 'I will go to school and run.'
 ≠ a'. te=ku arapanax (*tia) m-ukusa ta-lisinat-a
 IRR=1S.NOM Run (AF) AF-go school
 'I will run to school.'
- b. m-ala=ku tikuru (*tia) pu'ei (na) ta-nas-a
 AF-take=1S.NOM clothes come (AF) LOC home
 'I bring some clothes home.'
- b'. al-~~en~~=maku tikuru (*tia) pu'ei (na) ta-nas-a
 take-PF=1S.GEN clothes come (AF) LOC home
 'I bring the clothes home.'

3.2.2. Manner/Depictive

In Kanakanabu, manner or depictive expressions are syntactically manifested by means of SVC. In the construction, manner adverbials occurs as main verbs (V1) to which aspect markers and pronominal clitics are attached, while the lexical verb (V2: *arapanax*) must behave AF-only restriction, as in (25a'', 25b'). Also, permutation is not allowed, as in (25a'); V1 and V2 must be together modified by the negator *ka'an* at one time, as in (25c-c'). Similar phenomenon can be found in other Formosan languages such as Kavalan (Chang 2005) and Atayal (Huang 1997).

- (25) a. mara'an=cu=ku arapanax
Fast (AF)=COS=1S.NOM run (AF)
'I have run so fast.'
- a'. *arapanax=cu=ku mara'an
run (AF)=COS=1S.NOM Fast (AF)
- a''. *mara'an arapanax=cu=ku
Fast (AF) run=COS=1S.NOM
- b. te=ku m-oyalx arapanax
IRR=1S.NOM AF-slow run (AF)
'I will run slowly.'
- b'. *m-oyalx=ku tia arapanax
AF-slow=1S.NOM IRR run (AF)
- c. ka'an=ku m-oyalx arapanax
NEG=1S.NOM AF-slow run (AF)
'I won't run slowly.'
- c'. *m-oyalx=ku ka'an arapanax
AF-slow=1S.NOM NEG run (AF)

Like many other Formosan languages, adverbials in Kanakanavu grammatically behave as lexical verbs. For example, adverbials can be directly imperativized like active verbs as in (26a-b), and they are inflected for focus can take noun phrases as complement, as in (27).

- (26) a. mara'an-a
Fast-IMP
'Be fast!'
- b. kax-o
eat-IMP
'Eat it!'
- (27) p-ara'an-xn=maku topara
CAU-fast-PF=1S.GEN car
'I make the car faster.'

The manner-lexical verb combination may function as a unitary grammatical unit—a verb complex which jointly licenses a 'non-subcategorized' subject, as in (28a).

- (28) a. [a-p-oyal-xn=maku (*TAM) s<um>a-supulx/*NAF *PRO] **sinatx**
FUT-CAU-slow-PF=1S.GEN RED-<AF>-read book
isi
(NOM) this
'I will read this book slowly.'
- a'. **sinatx isi ya**, [apoyal-xn=maku s<um>a-supulx]
book this TOP slow-PF=1S.GEN RED<AF>-read
'It is this book that I read slowly.'

- a''. *iiku, [apoyal-~~ən~~ s<um>a-s~~əpələ~~] ~~sinatə~~ isi
 1S (IND.FOC/TOP) slow-PF RED<AF>-read book this
- b. [m-oyal~~ə~~=ku s<um>a-s~~əpələ~~] ~~sinatə~~ isi
 AF-slow=1S.NOM CA-RED<AF>-read book (OBL)this
 'I read this book slowly.'
- b'. **sinatU isi ya*, [m-oyal~~ə~~=ku s<um>a-s~~əpələ~~]
 book this TOP AF-slow=1S.NOM RED<AF>-study
- b''. iiku, [m-oyal~~ə~~=ku s<um>a-s~~əpələ~~] ~~sinatə~~
 1S (IND.FOC/TOP)AF-slow=1S.NOM RED<AF>-read book
 isi
 this
 'It is me who read this book slowly.'

There are no overt case makers on arguments in Kananavu. However, in (28a) *sinatə isi* 'this book' is to be identified as grammatical subject co-licensed by the 'manner-lexical verb' serial construction because of the following reasons. First, as shown in (28a-a'), the subject can move across the SVC [V1 (PF) V2 (AF)] and appear as a topic in sentence-initial position. In Kananavu, only the nominative argument can be topicalized. Compare (29a-a'), in which it is the patient *vutukuru isi* 'this fish' that can be topicalized in front of a PF verb, but not the actor =*maku*. The nominative patient in (28a) undergoes the same topicalization process as the one in (29a-a'). That is, the argument *sinatə isi* 'this book' patterns only with PF V1 but not AF V2 within SVC and that is why it can be topicalized to the pre-V1 position. Examples (28b') and (29b') are ungrammatical because the main verbs are used in AF form and the grammatical subjects are actors but not patients. The non-subject argument must stay in-situ.

- (29) a. ~~kən-ən~~=maku vutukuru isi
 eat-PF=1S.GEN fish (NOM) this
 'I will eat this fish.'
- a'. *vutukuru isi ya*, ~~kən-ən~~=maku
 fish this TOP eat-PF=1S.GEN
 'It is this fish that I eat.'
- a''. *iiku, ~~kən-ən~~ vutukuru isi
 1S (IND.FOC/TOP) eat-PF fish this
- b. k<um>a-k~~ən~~=ku vutukuru isi
 RED<AF>-eat=1S.NOM fish this
 'I will eat this fish.'
- b'. **vutukuru isi ya*, k<um>a-k~~ən~~=ku
 fish this TOP RED<AF>-eat=1S.NOM
- b''. iiku, k<um>a-k~~ən~~ vutukuru isi
 1S (IND.FOC/TOP) RED<AF>-eat fish this
 'It is me who ate this fish.'

Second, in serial construction as in (28), by no means can the patient *sinatʷ* ‘book’ be topicalized to the pre-V2 position although it is the logical argument (patient) of V2.

- (30) a. *[a-p-oyal-ʷn=maku *sinatʷ isi ya*, s<um>a-səpələ]
 FUT-CAU-slow-PF=1S.GEN book this TOP RED<AF>-study
 b. **[a-p-oyal-ʷn=maku *sinatʷ isi ya*, səpələ-ʷn]
 FUT-CAU-slow-PF-PF=1S.GEN book this TOP study-PF
 c. *sinatʷ isi ya*, [a-p-oyal-ʷn=maku s<um>a-səpələ]
 book this TOP FUT-CAU-slow-PF=1S.GEN RED<AF>-study
 ‘It is this book that I will read slowly.’

The restriction on topicalization has proved that the SVC acts as a verbal grammatical unit which is able to assign nominative case to an argument. This co-licensing effect can also be observed in adverbial expressions of other Formosan languages like Kavalan (Chang 2005) and Paiwan (Wu 2006).

Verb sequences of manner expression may further undergo process of compounding. The subcomponents of manner and the lexical verb are reorganized as a [V-V] compound as in (30). The [V-V] compound syntactically functions as a verb. However, the compounding process resulting from manner expressions seems not productive in Kanakanavu. There are no compounding verbs such as ‘running-fast’, ‘reading slowly’.

- (30) a. m-oyalʷ=ku arapanaʷ-ʷ
 slow (AF)=1S.NOM run (AF)
 ‘I run slowly.’
 aʷ. ara-yalʷ=ku
 run-slow (AF)=1S.NOM
 ‘I jog./I run slowly.’
 b. ara-yalʷ-a
 run-slow-IMP
 ‘Run slowly!’

3.2.3. Resultative

The syntactic manifestation of resultative construction may pattern like that of manner/depictive construction in Kanakanavu. In resultative construction, the resultative/stative verb must occur in V1 position and the causative verb the V2 position. It seems that the four criteria for SVC are met: no permutation (31aʷ), no linking elements, the same TAM reference or Negation scope (31a-aʷ, c-cʷ, d-dʷ), V1 and V2 as lexical verbs.

- (31) a. m-opacai=cu=ku arapanaʷ-ʷ
 AF-Tired=COS=1S.NOM run (AF)
 ‘I ran and then I got tired.’
 aʷ. *m-opacai arapanaʷ-ʷ=cu=ku
 AF-tired run (AF)=COS=1S.NOM

- a''. *arapana'ʘ=cu=ku m-opacai
run (AF)=COS=1S.NOM AF-tired
- b. m-opacai=cu=ku topuru
AF-tired=COS=1S.NOM sit (AF)
'I have sat myself tired.'
- c. te=ku m-e-pacai m-alivura'ʘ vʉnai isi
IRR=1S.NOM AF-e-die AF-hit snake this
'I will beat this snake to death.'
- c' *m-e-pacai=ku tia m-alivura'ʘ vʉnai isi
AF-e-die=1S.NOM IRR AF-hit smake this
- d. ko'o=ku m-opacai arapana
NEG=1S.NOM AF-tired run (AF)
'I didn't run and then I didn't get tired.'
- d' *m-opacai=ku ko'o arapana'ʘ
AF-tired=1S.NOM NEG run (AF)

Besides, the jointly-licensing effect can be observed in resultative serial construction. The nominative patient agrees with PF VI and then can be topicalized.

- (32) a. p-opacal-ʉn=maku arapana'ʘ avia
CAU-tired-PF=1S.GEN run (AF) Avia
'I make Avia run and then he gets tired.'
- a' Avia ya, [p-opacal-ʉn=maku arapanaʘʘ]
Avia TOP CAU-tired=1S.GEN run (AF)
'It is Avia whom I caused him to run and then he got tired.'
- b. ni-pe-pacai=maku m-alivua'ʘ vʉnai
PERF.PF-PE-die=1S.GEN AF-hit snake
'I have beaten the snake to death.'
- b' vʉnai ya, [ni-pe-pacai=maku m-alivua'ʘʘ]
snake TOP PERF-PE-die=1S.GEN AF-hit
'It is the snake that I've beaten to death.'

In Kananavu, resultative expressions also involve compounding processes. The processes resulted from resultative expressions seem to be more productive than those from manner expressions, as in (33).

- (33) a. ni-ara-pacai-ku
PERF-run-tired (AF)-1S.NOM
'I get tired because of running.'
- b. to-pacai-ku (cf. *topuru* 'sit')
sit-tired (AF)-1S.NOM
'I get tired because of sitting (too long).'
- c. mali-pacai-ku vʉnai
hit-die-1S.NOM snake

- ‘I beat a snake to death.’
 d. t<in>-~~unpu~~-maku hankaci (cf. *tomatang* ‘cry’, ~~*munpu*~~ ‘wet’)
 cry<AF>-wet-1S.GEN handkerchief
 ‘The handkerchief gets wet because of my crying.’

It is worth noticing that compound verbs like (33a-c) has SVC counterparts as in (31a, b, c), whereas the compound in (33d) does not. Consider (34a).

- (34) a. *~~munpu~~-~~un~~=maku tomatang hankaci
 Wet-PF=1S.GEN cry (AF) handkerchief
 ‘The handkerchief gets wet because of my crying.’

3.2.4. Instrumental

Instrumental expressions may involve [VP1+V(P)2] type of verb serialization. V1 (instrumental verb) must be transitive while V2 may not. The verb sequence shares the same TAM or negation scope and the irrealis marker *tia* or negator *ka’an* cannot intervene between V1 and V2. V2 is also inflected for AF form only, as in (35).

- (35) a. urupaca=ku aratin (**tia*/**ka’an*) **k<um>a-kən**
 use (AF)=1S.NOM chopstick IRR/ NEG CA-RED<AF>-eat
 ‘I use chopsticks to eat.’
 b. urupac-~~un~~=maku aratin isi (**tia*/**ka’an*) **k<um>a-kən**
 use-PF=1S.GEN chopsticks this IRR/NEG CA-RED<AF>-eat
 ‘I use this chopstick to eat.’

3.2.5. Directional

Directional or path verbs in Kanakanavu involve verb serialization, too. The serial construction would be ‘[VP+ V(P)]’. The V1 position must be occupied by directional verbs and V2 by the active verbs. Permutation between V1 and V2 is not allowed, as in (36a’) (cf. Paiwan directional/path verb *pasa/kemasi*⁵, Li

⁵ In Paiwan, directional/path verbs *pasa/kemasi* involve ‘V1-a-V2’ construction, in which permutation between V1 and V2 is allowed. Consider the following examples:

- (2) Paiwan
 a. pasa-pana=aken a m-ekel
 go.toward-riverbank=1S.NOM LNK AF-run
 ‘I run to the riverbank.’
 =a’. m-ekel=aken a pasa-pana
 AF-run=1S.NOM LNK go.toward-riverbank
 b. kasi-gaku=aken a mangtjez
 be.from-school=1S.NOM LNK come.back (AF)
 ‘I come back from school.’

2004, Chang 2006). In Kananavu, directional/path verbs exhibit great verbal properties, i.e. they bear focus inflection (36b), and they can be directly imperativized (36c, 37b).

- (36) a. ma-si-kusa=ku (na) ta-lalakau-a taniaʔ c<um>a-cu'ʔala
 Toward-go(AF)=1S.NOM LOC TA-go.out-LF sun RED<AF>-see
 'I look toward the east.'
- a'. *c<um>a-cu'ʔala=ku ma-si-kusa=ku (na) ta-lalakau-a
 RED<AF>=1S.NOM toward-go(AF)=1S.NOM LOC TA-go.out-LF
 taniaʔ
 sun
 'I cause Avia to look toward the east.'
- b. pa-si-kus-ʔn=maku avia ta-lalakau-a
 CAU-toward-go-PF=1S.GEN Avia TA-go.out-LF
 taniaʔ c<um>a-cu'ʔala
 sun RED<AF>-see
 'I cause Avia to look toward the east.'
- c. pa-si-kus-o
 Cau-toward-go-IMP
 'Turn around!'
- (37) a. ni-aranai=ku (na) 'uma pu'ei
 PERF-be.from=1S.NOM LOC field come.back
 'I have come back from the field.'
- b. aranai-a nesi
 be.from-IMP here
 'Be/start from here!'

3.2.6. Ability

The ability verb *tavaru'ʔ* is polysemous in Kananavu. When it is used in AF form, syntactically it may be involved in verb serialization and semantically it is interpreted as an ability verb, as in (38a). But if it is used in NAF/IMP form, it is interpreted as a factive/cognition verb translating as 'know/be aware of' in English, as in (38b, c). Its syntactic behaviors will be discussed in the following section.

- (38) a. tavaru'ʔ=cu=ku (*tia) pu'ei ta-nas-a
 Be.able.to (AF)=COS=1S.NOM IRR return (AF) home
 'I am able to go home now.'
- b. tavaru-a
 be.able.to-IMP
 'Be smart (be aware of something)!'

=b'. mangtjez=aken a kasi-gaku
 Come.back=1S.NOM LNK come.back-school

- c. tavaru²-n=maku avia
 be.aware.of-PF=1S.GEN Avia
 ‘I know Avia.’

3.2.7. Frequency

Chang (2005) points out that in Kavalan frequency modification is expressed by SVC. In Kanakanavu, frequency adverbials syntactically behave nearly in the same way. Frequency adverbials occur as matrix verbs that are eligible for full inflection, and the lexical verbs occur as the complement with AF-only restriction. The frequency adverbial and the lexical verb may jointly license a non-categorized subject, as in (39b-b’, 40b-b’). Frequency adverbials belong to verbal category because they can be imperativized, as in (39c, 40c). Unlike Kavalan, the shifting alternation⁶ of clitics or aspect markers between V1 and V2 is not attested in Kanakanavu, as in (39b, b’’).

- (39) a. ni-paira=ku (*tia) mu-pana# vavuru miana
 ASP-often (AF)=1S.NOM IRR AF-shoot wild pig beforetime
 ‘I often went shooting wild pigs in the past.’
- b. pair-#n=maku (*tia) mu-pana# vavuru
 often-PF=1S.GEN IRR AF-shoot wild pig
 ‘I will go shooting the wild pigs often.’
- b’. vavuru ya, [pair-#n=maku mu-pana#]
 wild pig TOP often-PF=1S.GEN AF-shoot
 ‘Wild pigs are the animals that I hunted often.’
- b’’. *paira pana#-n=maku vavuru
 often shoot-PF=1S.GEN wild pig

⁶ According to Chang (2005), in Kavalan both the frequency verbs and the complement of frequency verbs are able to bear aspectual/pronominal markers, as in (3).

(3) Kavalan (Chang 2005:21)

- a. pataz supas-**ti-iku** tu qRitum
 often (AF) buff<AF>-ASP-1S.NOM OBL car
 ‘I often buffed a car.’

=a’. pataz-**ti-iku** supas tu qRitum
 often-ASP-1S.NOM buff<AF> OBL car

- b. pataz supas-**an-ku-ti** ya qRitum
 often buff-PF-1S.GEN-ASP NOM car
 ‘I often buffed my car.’

=b’. pataz-**an-ku-ti** supas ya qRitum
 Often-PF-1S.GEN-ASP buff<AF> NOM car

- c. pair-o a-p-ukusa avia
often-IMP FUT-CAU-go (AF) Avia
'You must often encourage Avia to go!'
- (40) a. maka-tun=cu=ku (*tia) s<um>a-s~~up~~u~~lu~~ sinat~~u~~ isi
Be.via-three=COS=1S.NOM IRR RED<AF>-read book this
'I have read this book for three times.'
- b. (a)-pa-ka-tun-~~un~~=maku s<um>a-s~~up~~u~~lu~~ sinat~~u~~ isi
FUT-CAU-be.via-three-PF=1S.GEN RED<AF>-read book this
'I will read this book three times.'
- b'. sinat~~u~~ isi ya, [(a)-pa-ka-tun-~~un~~=maku
book this TOP FUT-CAU-be.via-three-PF=1S.GEN
s<um>a-s~~up~~u~~lu~~
RED<AF>- read
'It is this book that I have read for three times.'
- c. pa-ka-tun-o
CAU-be.via-three-IMP
'Do it three times!'

3.3. Non-serializing categories

Non-serializing categories syntactically involve complementation, but they are excluded from serializing categories due to the fact that V2 not necessarily surfaces as AF-only. Rather, they can be realized as a 'V (P) + IP (TP)' combination.

3.3.1. Aspectual

In Kanakanavu, phrasal expressions behave like SVC-like construction. As in (41), the 2nd verb cannot co-occur with pronominal clitics and are subject to AF restriction. However, the irrealis auxiliary *tia* is allowed to precede the complement verb as in (41a', 41b). The occurrence of irrealis *tia* represents that V2 can be projected to IP rather than VP. That means that phrasal expression like *begin* in Kanakanavu involves finite complementation rather than SVC. But note that the PAST/PERF aspect maker like *ni-/cu-* cannot appear on the 2nd verb, as in (41c).

- (41) a. te=ku matianai s<um>a-s~~up~~u~~lu~~ sinat~~u~~ isi
IRR=1S.NOM begin (AF) RED<AF>-read book this
'I begin to read this book.'
- =a'. matianai-ku (tia) s<um>a-s~~up~~u~~lu~~/*NAF*PRO sinat~~u~~
begin (AF)-1S.NOM IRR CA-RED<AF>-read book (OBL)
isi
this
'I begin to read this book.'
- b. patianai-n-maku (tia) s<um>a-s~~up~~u~~lu~~/*NAF*PRO sinat~~u~~ isi
begin-PF-1S.GEN IRR CA-RED<AF>-read book (OBL) this
'I begin to read this book.'

- c. *matianai=ku ni-s<um>a-s~~upa~~=cu sinat~~u~~
 begin (AF)-1S.NOM PERF-CA-RED<AF>-read=COS book (OBL)
 isi
 this

3.3.2. Purposive

Purposive clauses with the verbs *mala/alam* ‘take’ and *pu’a* ‘buy’ seem to have SVC appearance, as in (42a, 43a). But after taking a closer look at their structures, it is found that V2 may not be morphosyntactically defective like that in SVC. As in (42b-c, 43b), V2 can bypass AF-only restriction when the irrealis marker *tia* appears.

- (42) a. te=ku m-ala’ tapiling um-a-ula alam
 IRR=1S.NOM AF-take knife AF-RED-cut meat
 ‘I will take a knife to cut meat.’
 b. te=ku m-ala’ tapiling tia se-rupaca se-ula alam
 IRR=1S.NOM AF-take knife IRR BF-use BF-cut meat
 ‘I will take a knife to cut meat.’
 c. te=maku al-~~an~~ tapiling tia se-rupaca se-ula alam
 IRR=1S.GEN take-PF knife IRR BF-use BF-cut meat
 ‘I will take the knife to cut meat.’
- (43) a. te=ku pu’a (AF) camai po’ocipi
 IRR=1S.NOM buy (AF) food cook
 ‘I will buy some food to cook.’
 b. pu’a=~~cu~~=ku camai **tia** po’ocipi-n
 buy (AF)=COS=1S.NOM food IRR cook-PF
 ‘I have already bought some food (to prepare) to cook.’

3.3.3. Control

At first glance, control construction might look like SVC in Kanakanavu.

(44) Kanakanavu

- a. tarakari-ku manu [pi’inəvə sinəva]
 order (AF)-1S.NOM child (OBL) open (AF) door
 ‘I order one child to open the door.’
 a’. tarakarin-maku manu (NOM) [pi’inəvə sinəva]
 order (PF)-1S.GEN child open (AF) door
 ‘I order the child to open the door.’
- b. malimali-ku cuma [m-okusa talisinata]
 promise (AF)-1S.NOM father (OBL) AF-go school
 ‘I promise Father to go to school.’

In (44), the complement verbs seem to follow AF-only restriction like SVCs and control constructions also exhibit argument sharing. However, the following examples may provide evidence which claims that control constructions behave

According to Foley and Olson (1985), the stance or postural verb is one of the most favored serializing categories cross-linguistically. However, it is not the case in Kanakanavu. The stance and postural expressions might have SVC appearance, but they are not actually SVCs. As in (49), the V2 can bear the Irrealis marker *tia*, and can be inflected for NAF form.

- (48) a. m-ociri=ku k<um>a-kən
 AF-stand=1S.NOM RED<AF>-eat
 ‘I am eating while standing.’
 b. topuru=ku s<um>a-səpələ
 sit (AF)=1S.NOM RED<AF>-read
 ‘I am reading while sitting.’
- (49) a. m-ociri=ku tia k<um>a-kən
 AF-stand=1S.NOM IRR RED<AF>-eat
 ‘I am eating while standing.’
 b. topuru=ku tia səpələ-n sinatə
 sit (AF)=1S.NOM IRR read-PF book
 ‘I am reading the book while sitting.’

3.3.5. Implicative

Implicative verbs in Kanakanavu may take complements with fully inflected verbs. As in (50a, b), the irrealis marker *tia* cannot be omitted in the sentences. The verbal complement can be realized as an independent proposition that has its own TAM and negation, as in (50b, c). The structure would be ‘V+IP’.

- (50) a. una-cepən=cu=ku *(tia) mu-panə vavuru nura
 Have-plan=COS=1S.NOM IRR AF-shoot wild pig tomorrow
 ‘I managed to shoot wild pigs tomorrow.’
 b. atənəng=ku [* (tia) m-ukusa talisinata avia nura]
 remember=1S.NOM IRR AF-go school Avia tomorrow
 ‘I remember that Avia must go to school tomorrow.’
 c. atənəng=ku ko’o=maku ni-kən vutukuru
 remember=1S.NOM NEG=1S.GEN PERF.PF-eat fish
 ‘I remember that I did not eat the fish.’

3.3.6. Deontic/epistemic

Deontic/epistemic modals behave like auxiliaries in Kanakanavu because usually they only attract clitics in modal constructions, as in (51a, 52a). However, they are characterized by some verbal properties, i.e. they are eligible for imperativization, as in (51b, 53a); they are inflected for AF marker, as in (51a, 52a). Note that the introduction of causative into the verb stems will result in the shift of meanings. In structure, deontic/epistemic verbs occupy the V1 position, and V2 is allowed to be fully inflected. Modal construction allows clitic movement between V1 and V2, as in (51a, 52a). Syntactically the modal verbs may function as a head taking finite complement: the structure can be represented as ‘V+IP’ also.

- (51) a. m-asiraru=**ku** *(tia) m-ukusa talisinata
 AF-should=1S.NOM IRR AF-go school
 'I should go to school'
 =a' m-asiraru *(tia) m-ukusa=**ku** talisinata
 AF-should IRR AF-go=1S.NOM school
- b. p-(a)sirar-o
 CAU-should-IMP
 'You must get used to it!'
- (52) a. m-anasʉ=ku *(tia) m-ukusa umo'ma'
 AF-possible=1S.NOM IRR AF-go field
 'Possibly I will go to the field.'
 =a' m-anasʉ *(tia) m-ukusa=ku umo'ma
 AF-possible IRR AF-go field
- b. m-anasʉ [* (tia) kʌn-ʌn=maku vutukuru]
 AF-possibly IRR eat-PF=1S.GEN fish
 'Maybe I will eat the fish.'
- c. m-anasʉ [ni-pu'ei-cu Cuma]
 AF-possibly ASP-return (AF)-COS Father
 'Maybe father has returned.'
- (53) a. po-(a)nas-o
 CAU-possible-IMP
 'Be sure!'
- b. po-nasʉ=ku [* (tia) pu'ei avia]
 CAU-possible=1S.NOM IRR return (AF) Avia
 'I am sure that Avia will return.'
- c. po-nasʉ-n=maku avia [* (tia) pu'ei]
 CAU-possible=1S.GEN Avia IRR return (AF)
 'I am sure that Avia will return.'

3.3.7. Factive

Factive verb like *tavarʉ'ʉ* 'know' bears the complement which can be syntactically fully independent, as in (54a). According to Givón (1980, 2001), the well-formedness of the complement can be cognitively motivated. The factive verb (Perception-Cognition-Utterance verb) exerts the weakest binding force over its complement and the complement tends not to be restricted. It is more likely to occur as a full (finite) clause.

- (54) a. tavarʉ'ʉ=cu=ku [* (tia) pu'ei cuma nura]
 know (AF)=COS=1S.NOM IRR return (AF) Father tomorrow
 'I knew that Father will come back tomorrow.'
- b. tavarʉ-ʌn=maku Cuma [* (tia) pu'ei]
 know-PF=1S.GEN Father IRR return (AF)
 'I know that Father will come back.'

- c. tavaru^ʔ-u=ku [vutukuru ya, ni-kən avia]
 know (AF)=1S.NOM fish TOP PERF.PF-eat Avia
 ‘I know that Avia have eaten the fish.’

Perception verb like *cumacu^ʔula* ‘see’ behave in nearly the same way. It may take a full clause as its complement.

- (55) c<in><um>a-cu^ʔula=ku [esi arapanu pi’i na
 RED<PERF><AF>-see=1S.NOM PROG run (AF) Pi’i LOC
 talisinata]
 school
 ‘I saw Pi’i’ running at school.’

4. Verb Serialization and Finiteness

Previous analysis has shown that the most salient difference between SVCs and Non-SVCs in Kakanavu lies in the grammatical behaviors of V2 complement. In SVCs, V2 must be morpho-syntactically restricted. In Non-SVCs, V2 is not restricted and can be marked for NAF, TAM, negation and pronominal clitics. The transition from SVC to non-SVC is gradual, as shown in Table 3.

Table 3. SVCs vs. Non-SVCs in finiteness

Verb sequences Category	V1	V2 (complement)						
		Grammatical marking						
		AF	NAF	IRR (<i>tia</i>)	PERF/ COS	NEG	PRO	
SVCs	Motion	√						Infinitival (non-finite)
	manner	√						
	resultative	√						
	Instrumental	√						
	Directional	√						
	Ability	√						
	Frequency	√						
NON-SVCs	Aspectual	√		√				↓ finite
	Purposive (i.e. take)	√	√	√				
	Stance/ postural	√	√	√				
	Control	√	√	√		√	(√)	
	Implicative	√	(√)	√	(√)	√	(√)	
	Deontic/ epistemic	√	√	√	√	√	√	
	Factive	√	√	√	√	√	√	

Note √ : totally apply
(√) : partially apply

The V2 in SVCs is the least marked, but in Non-SVCs, it can be either marked for two or three grammatical categories, i.e. aspectual verb, or fully marked, i.e. factive verb. What does it mean by the gradience? That might imply that the ‘finiteness’ in Kananavu involves the notion of continuum. Givón (1995, 2001) has introduced the notion of continuum to the study of finiteness. He argues that ‘finiteness’ is a matter of degree rather than discrete two-way distinction.

(56) The finiteness scale (Givón 2001:26)

Least finite

- a. Her good *knowledge* of math helped

- b. Her *knowing* math well helped
- c. For her *to know* math so well surly...
- d. She wanted *to know* math well
- e. *Having known* math well since high school, she...
- f. She *should have known* math well.

Most finite

At the top of the scale, (56a) displays the maximal array of non-finite features listed in (57). (56f) is considerably most finite; the verb is fully marked for tense, aspect and modality.

(57) Non-finite features (Givón 2001:25)

- a. verb becoming a head noun
- b. verb acquiring nominalizing morphology
- c. loss of tense-aspect-modal morphology
- d. loss of pronominal agreement morphology
- e. subject and/or object acquiring genitive case-marking
- f. addition of determiner
- g. conversion of adverbs into adjectives.

Along this line of thought, we can treat those grammatical markings on V2 as ‘finite features’ in Kananavu as in Table 3. V2 of serializing categories displays the minimal finite features, and therefore is the least finite. V2 of non-serializing categories like factive verbs displays maximal finite features and therefore are the most finite. Another evidence to support the analysis is that there seems no clear-cut finite-nonfinite distinction in Kananavu. For example, the infinitival verbs (verbs with AF-only restriction) in SVC can also occur in finite clause⁷.

⁷ Similar phenomena can also be observed in other Formosan languages like Paiwan and Mayrinax Atayal:

(4) Paiwan

- a. vaik=aken a '**alju**p
go (AF)=1S.NOM LNK hunt<AF>
'I go hunting'
- b. '**alju**p=aken tua vavui
hunt<AF>=1S.NOM OBL wild pig
'I will shoot some wild pig.'

(5) Mayrinax Atayal

- a. m-usa'=ci' ('i') **k<um>alu**ap
AF-go=1S.NOM LNK hunt<AF>
'I go hunting'
- b. **k<um>alu**ap=cu' cu' vavuwaq
hunt<AF>=1S.NOM OBL wild pig
'I will shoot some wild pig.'

(58) Kananavuvu

- a. m-ukusa=ku **mu-pana'**
AF-go=1S.NOM AF-shoot
'I go shooting.'
- b. **mu-pana'**=ku vavuru
AF-hunt=1S.NOM wild.pig
'I (will) shoot a wild pig.'

In English, non-finite verbs never appear in finite clauses, as in (59).

(59) English

- a. I go shooting.
b. *I shooting

Besides, compared with languages like Chinese, some patterns of SVCs and non-SVCs seem to be the same as those in Kananavuvu. See the following example in (60).

(60) Chinese

- a. wo qu (***yao**) dushu le
1S go IRR study PART
'I go study.'
- b. wo kaishi (**yao**) dushu le
1S begin IRR study PART
'I begin to study.'

In (60a) the irrealis marker *yao* cannot occur between the serial verbs *qu dushu*, while it can optionally occur between verb sequences *kaishi dushu* in (60a). Consider the similar example in Kananavuvu. The irrealis marker *tia* cannot appear inside SVC as in (61a) while it can optionally occur inside non-SVC as in (61b).

(61) Kananavuvu

- a. pu'ei=ku (***tia**) m-ala' tikuru=maku
come (AF)=1S.NOM IRR AF-take clothes=1S.GEN
'I will come and bring my clothes back.'
- b. matianai-ku (**tia**) s<um>a-supu/*NAF*PRO sinat
begin (AF)-1S.NOM IRR CA-RED<AF>-read book (OBL)
is
this
'I begin to read this book.'

These similarities may be due to the facts that (i) both languages are verb-serializing languages; (ii) both languages do not belong to tensed languages like English. However, because of limit of relevant data, we should leave this issue for further investigation and research.

5. Conclusion

In this study, we have demonstrated how SVCs are defined and identified and have exemplified the distinction between SVCs and Non-SVCs in Kakanavu. It is also observed that verb serialization in Kakanavu does not necessarily follow the universal tendency proposed by Foley and Olsen (1985). Stance and postural verbs, which are ranked highly in verb-serializing hierarchy as in (5), do not involve verb serialization in Kakanavu. The most favored serializing categories in Kakanavu would be: motion verbs, manner verbs and resultative (stative) verbs. Although SVC is a syntactic phenomenon involved in various semantic categories, nevertheless in Kakanavu verb serialization seems to be conditioned by the three semantic/cognitive factors: temporal sequence, adverbial specification, and cause-result effect. Motion verbs like *come* and *go* easily evoke two consecutive or continuous events in temporal sequence. Syntactically they are realized as verb serialization. However, some other purposive clauses like *buy* and *take* are exceptions. In Kakanavu, manner and frequency expressions are syntactically manifested as SVC while deontic/epistemic are not. That can be due to a semantics-syntax isomorphism: the manner and frequency adverbials are conceptually closer to the modified lexical verbs than deontic/epistemic adverbials, and structurally manner/frequency adverbials and the lexical verbs are likely to be grouped together as a grammatical unit while deontic/epistemic adverbials and the lexical verbs are not (Cinque 1999, Ernst 2002, Chang 2005)⁸. Resultative expressions

⁸ Chang (2005) indicates that a semantics-syntax isomorphism is observed in adverbial modification in Kavalan.

Weakest bond	intermediate bond	strongest bond
Epistemic expression	frequency expressions	manner expressions
Finite complement	finite/nonfinite complement	nonfinite complement
Non-SVC	SVC II/SVC I	SVC I

Semantically, manner adverbials usually involve agency and apply to activity verbs, while epistemic modifiers are not subject to the restriction (Jackendoff 1972). Frequency adverbials can co-occur with both activity and stative verbs. In the scale, manner expressions occupy the right extreme, exhibiting the highest degree of integration with their lexical verbs, whereas epistemic expressions the left extreme, displaying the lowest degree of integration with their lexical verbs. Frequency expressions stand in between. The scale also accounts for the syntactic realization of adverbial modification in Kavalan. Manner expressions take nonfinite complement and involve SVC I, while epistemic expressions take finite complement and do not involve verb serialization. Frequency expressions involve two subtypes of SVC: AF frequency verbs involve SVC II, and their NAF counterparts SVC I. The analysis also coincides to a large degree with the universal hierarchy of adverbs advocated by Cinque (1999) and Ernst (2002).

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