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卡那卡那富語焦點系統之語意及言談功能

A Semantic and Discourse Study on the Voice System in Kanakanavu

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本論文係劉星辰君（R00142009）在國立臺灣大學語言學研究所完成之碩士學位論文，於民國 103 年 07 月 01 日承下列考試委員審查通過及口試及格，特此證明

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（指導教授）

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很開心加入了語言所這個大家庭。不管是學長姊、學弟妹或同屆的同學，每一位都很優秀，給了我許多啟發。當然，我也很慶幸曾修過所上的每一位老師開授的課程，因為來自不同領域的老師們在課堂上或私底下給了我許多寶貴的意見。其中，很感謝黃宣範老師在我論文研究中帶來的激盪，更謝謝我的指導教授宋麗梅老師，很細心地和我討論每個環節，給我很多建議。

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Abstract in English

This study investigates the voice system in Kanakanavu, a Formosan language spoken in southern Taiwan, primarily from three perspectives—morphosyntax, semantic role, and discourse functions. On the one hand, our analysis reveals that Kanakanavu has three indicative voice types, namely Agent voice, Patient voice, and Instrumental voice, whereas the assumed locative marker occurs only in nominalized structure. The semantic roles triggered in a clause also vary in accordance with each voice type, with Patient voice capable of carrying the largest number of semantics roles on the nominative argument. On the other hand, the quantitative approach proposed by Givón (1983, 2001) is adopted in the analyses in order to access the notion of topicality reflected in the use of Kanakanavu voice system. By examining the statistical results retrieved from our corpus, we found that the Agent argument, whether in Actor- or Non-actor voice clauses, exhibits higher topicality, whereas the Patient argument in NAV clauses is only moderately topical and is even less so in AV ones. The discrepancy of the topicality rendered in the arguments implies that the NAV construction does not function as passive, but rather as a transitive clause with two core-like arguments. This result corroborates the feasibility of analyzing two-argument AV clauses in Kanakanavu, as well as in some other Formosan languages, as Extended Intransitive Constructions (Dixon 1984, Huang and Tanangkingsing 2011). We will finally incorporate the above results with regard to voice morphology, semantics and discourse behavior, and attempt to compare with Tsou on a typological scale. Our findings reveal that in the continuum of the pragmatics of Austronesian languages, Kanakanavu may be positioned between Tsou and Seediq (cf. Huang 2002).

Key words: Kanakanavu, voice, morphosyntax, semantic roles, discourse functions

Chinese Abstract

本論文旨在探究高雄那瑪夏區卡那卡那富語之焦點系統，以構詞句法、語意角色及語用功能三個面向進行分析。研究認為卡語存在三種使用於直述句的焦點類別，即主事焦點、受事焦點和工具焦點，而表示地方的後綴標記僅出現在名物化結構裡。各焦點句型所引發的語意角色亦不同，其中受事焦點主格論元的種類最為豐富。另外本文也採用 Givón (1983, 2001)將文本主題性量化的研究方法，嘗試一窺卡語焦點系統是否與主題性產生互動。語料庫統計結果使我們發現，無論在主事或受事焦點句型中，主事者論元的主題性皆較受事論元高。受事者論元則主題性中等，在主事焦點句型中甚至更低。如此的語用歧異顯示非主事焦點句型並非被動句，而是句法上擁有兩個論元的及物句。具有雙論元的主事焦點句型則與所謂的延伸性不及物結構(Dixon 1984, Huang and Tanangkingsing 2011)相呼應。最後本研究將納入構句、語意角色及語用功能所得出的結果和鄒語作類型上的比較，進一步檢視鄒語系分支假設。以 Huang (2002)提出的南島語言連續性來說，卡語應落於鄒語和賽德克語之間。

關鍵字: 卡那卡那富語、焦點系統、構詞句法、語意角色、語用功能

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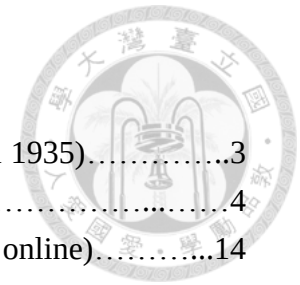

Maps:

Figures:

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List of abbreviations

1	first person
2	second person
3	third person
A	agent
AN	Austronesian
CAUS	causative
EXCL	exclusive
EXIST	existential
FIL	filler
FS	false start
FUT	future
GEN	genitive
HUM	human
IMP	imperative
INCL	inclusive
IRR	irrealis
LOC	locative
LP	lexical prefix
NEG	negative
NMLZ	nominalizer
NOM	nominative
NP	noun phrase
O	object
OBL	oblique
P	patient
PAn	Proto-Austronesian
PFV	perfective
PN	proper noun
POSS	possessive
PROG	progressive
PST	past
PTC	particle
PV	patient voice
PL	plural
Q	question particle/marker
RED	reduplication

REL	relative
SG	singular
TOP	topic

Chapter 1

Introduction[1]

1.1 Preamble

The present thesis aims to explore the voice system in one Formosan language spoken in southern Taiwan—Kanakanavu (or alternatively, Kanakanabu[2]). Since Kanakanavu is one of the lesser-known languages in Taiwan (Li 2007), coupled with the fact that the United Nations Educational, Scientific and Cultural Organization (UNESCO) has labeled it as 'critically endangered',[3] it becomes urgent that more research be devoted to the documentation of this invaluable language (and others as well).

Over the past few decades, there have been a few documentation works and research on the language structure of Kanakanavu (cf. Tsuchida 1976, 2003, Mei 1982, Ho 1997, Li et al. 1997, etc.). One of the first studies on this language perhaps dates back to the Japanese colonial period, when Ogawa and Asai (1935) endeavored to collect and document 12 aboriginal languages distributed on plains and mountainous areas in Taiwan, including Kanakanavu. They recorded hundreds of myths and stories, transcribing in International Phonetic Alphabet style, and their work also contains a sketch on the essential grammar, which is a laudable effort that should be continued by linguists from younger generations. Fortunately, these decades have witnessed a

[1] This study was financially supported by two research projects (Formation and Fluidity of the Island World, National Taiwan University [NTU 101-102R3108]; A Typological Study of Austronesian Languages in Taiwan and Their Revitalization, National Science Council [NSC 100-2420-H-002-035-MY3]), both granted to Dr. Li-May Sung. The field work was conducted during 2012-2014 in Takanua, Namasia District, Kaohsiung.

[2] The letter *b* in the spelling 'Kanakanabu' is adopted in some research to reflect the archaic voiced bilabial fricative sound, [β], which is not retained in the present-day speech. We will use 'Kanakanavu' as the orthographic form throughout the thesis. This ethnic group, however, is sometimes referred to as 'Kanavu', 'Kankanavu' in Roman alphabet, and '簡仔霧', '干仔霧', '卡那卡那富', '堪卡那富(福)' etc., in Chinese translation.

[3] UNESCO categorizes languages as critically endangered if 'the youngest speakers are grandparents and older, and they speak the language partially and infrequently.'

growing awareness that induces more discussions and research on this endangered language. However, these studies are only a drop in the ocean comparing with those done on other Formosan languages. Besides, few of the previous studies have touched on the morphosyntactic features of Kanakanavu's voice system, let alone other further relevant issues like discourse functions of the voice system.[4]

Apart from the inadequate research and the lack of an authoritative reference grammar book of Kanakanavu, the topic in the present study is motivated by another crucial fact. One of the peculiarities of (Philippine-type) Austronesian languages, with Formosan languages as a branch, is that verbs usually occur with a set of affixes that seem to indicate a certain type of semantic role on the part of the grammatical subject. This phenomenon intrigues linguists who are familiar with the well-studied, or dominant, languages (e.g., Indo-European), since such a system does not seem to parallel with, say, the active-passive voice distinction found in numerous languages like English and French. To approach a Formosan language, one first step thus involves a clarification of the morphosyntax of the voice system, which underlies an essential structure of syntax, semantics, and possibly pragmatics of the target language.

As a consequence, our humble wish is to sort out the morphosyntactic behavior and the semantic role structure of the voice system in Kanakanavu on the one hand, and to understand whether this system is intertwined with any pragmatic functions on the other. To better appreciate the data presented afterwards, it should be advantageous to provide a brief introduction to and some discussions of the geographical, genealogical and cultural background prior to our core analyses on Kanakanavu.

Section 1.2 consists of three subsections, each dealing with the geography,

[4] More discussions on the literature will be provided in Chapter 2.

genealogy and society of Kanakanavu people, respectively. Following that, the sources on which our linguistic data are based will be considered in Section 1.3. Finally, the general organization of this thesis will be sketched in Section 1.4.

1.2 General background

Every ethnic group has its own uniqueness in terms of linguistic, cultural and many other aspects, and Kanakanavu is by no means an exception. In fact, in this section we will pay particular attention to its geography, genealogy and the society, all of which, especially Kanakanavu's genetic relationship with other languages, seem to exhibit complicated issues, as will be demonstrated below.

1.2.1 Geography

Kanakanavu people are believed by some to originate from the Tsou tribe in Ali Mountain, in Nantou,[5] and then they came to settle down primarily in Takanuwa and Maya, in Namasia District[6] in northeastern Kaohsiung City. The map below is the language distribution given in Ogawa and Asai (1935).

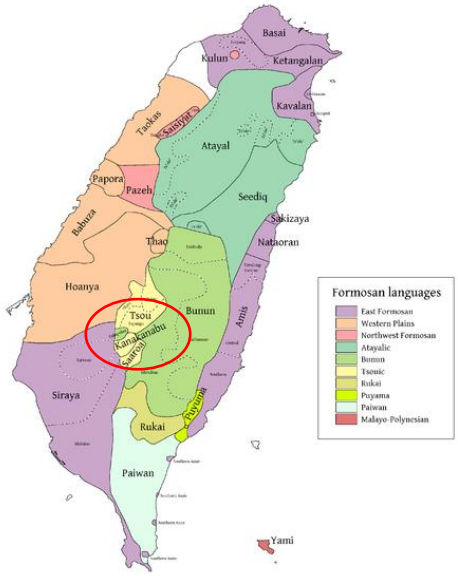
Map 1.1 Residence of Kananakanavu people (from Ogawa and Asai 1935)

[5] It seems less likely that Kanakanavu people migrated across Ali Mountain and reached Namasia. There are in fact two plausible hypotheses on their origin. See Section 1.2.2.

[6] Since 2008, the town was renamed from Sanmin (三民) to Namasia, which is divided into three villages: Nangisalu (南沙魯/民族村), Maya (瑪雅/民權村), and Takanua/Tanganua (達卡努瓦/民生村).

According to Ogawa and Asai's map, the geographical position of these people (marked in the red circle) at the time quite matches the areas where they reside today. Compare Figure 1.2 below.

Map 1.2 Residence of Kananakanavu people (from Blust 1999)



Namasia is roughly surrounded by mountains,[7] Ali Mountain on the west and Jade Mountain on the east, with Nanzixian River flowing through in-between. The area reserves plentiful spectacular natural resources, including multi-level geological faults, valleys, waters and a unique botanic landscape. Agricultural products such as millet, taros and corn prevail in the local region, and there are also extended acres of bamboo woods. In general, Kanakanavu people have lived a life that is centered on farming, fishing, and hunting.

Despite the geographical closeness with Tsou, however, it is less clear as to whether all of these aboriginal people came directly from Ali Mountain and became

[7] To reach Namasia District, we drove for more than two hours from Zuoying HSR station, all the way through Tai 21 Expressway and winding mountainous roads to our destination. Sometimes heavy rains might paralyze and block the traffic. Luckily, we did not encounter any treacherous circumstances like that while doing the field work. I'd like to express my full gratitude to my advisor, Professor Li-May Sung, Pani Kanpanena, and everyone who have provided much assistance and warm hospitality for us.

what is known as Kanakanavu today. We will now turn to this question in the next section.

1.2.2 Genealogy

The genetic status of Kanakanavu language has been an important topic in the literature. As a matter of fact, there may be at least two perspectives from which one can address this issue. On the one hand, the documents and ethnological studies may reveal how the ethnic group migrated from their homeland to present-day Namasia. On the other, the language itself may provide significant implications that shed light on the origin of Kanakanavu. In this subsection, we will briefly introduce the two viewpoints regarding Kanakanavu's position in the Austronesian language family.

During the Japanese colonial period, Kanakanavu, as well as Saaroa,[8] another Formosan language, were considered by some scholars, for instance, Ino Kanori (1867-1925), to be part of the Tsouic group, since they held that there were no significant differences in culture and language. Generally speaking, there are two hypotheses on Kanakanavu's root. One is the From-the-East hypothesis, and it claims that the ancestors of Kanakanavu might have stemmed from *nacunga*, an area believed to be located in Taitung City now (Lin 2007). The other is the From-the-West hypothesis, proposed by Yu (1997) and Lin (2007) according to the oral narration of the elderly Kanakanavu people. It is postulated that this ethnicity came from Jianan Plain, in the central-southern region of western Taiwan, and they moved to their current residence possibly due to the invasion of Dutch people and/or Han Chinese.

On a different track, some other Japanese researchers focus more on the

[8] Saaroa, or alternatively, Hla'alua, is also a critically endangered language and is generally spoken in Taoyuan District, Kaohsiung City. Although the name Hla'alua is closer to the actual native pronunciation, we will adopt the spelling Saaroa for conveniences.

linguistic structures and separate Kanakanavu, Saaroa and Tsou apart, treating each seemingly as an individual language in their documentation. The aforementioned Japanese linguist Erin Asai (1895-1969), for instance, studied Kanakanavu and provided numerous linguistic characteristics of the language in a single section (Ogawa and Asai 1935). The linguistic division as implied in their work is in effect what we believe to be a vital classification for the sake of Kanakanavu people (since they wanted to be individuated from Tsou). We will have more to say on the identity of Kanakanavu people in Section 1.2.3.

Nowadays, Formosan linguists often discuss the genealogical relationship among the languages on a basis of certain linguistic aspects. Kanakanavu used to be investigated as a 'dialect' of Tsou, but under this premise, an underlying question arises: Is it in every way legitimate to call these people 'Southern Tsou'? With more and more research both on Kanakanavu and Tsou, it should also be feasible to consider them as different languages, although whether or not they belong to the Tsouic group (cf. Chang 2006) still requires more evidence to justify.

Various versions of the internal genetic relationship of Formosan languages have been proposed in recent decades. Figures 1.3-1.5 clearly show how Kanakanavu language may be genetically related to the other languages.

Figure 1.1 The genetic relationship of Formosan languages (Starosta 1995)

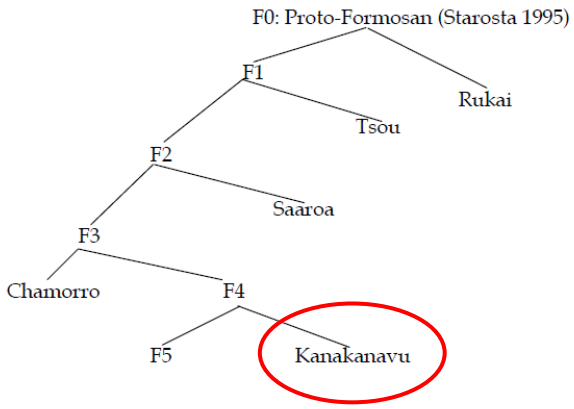


Figure 1.2 The genetic relationship of Formosan languages (based on Blust 1999)

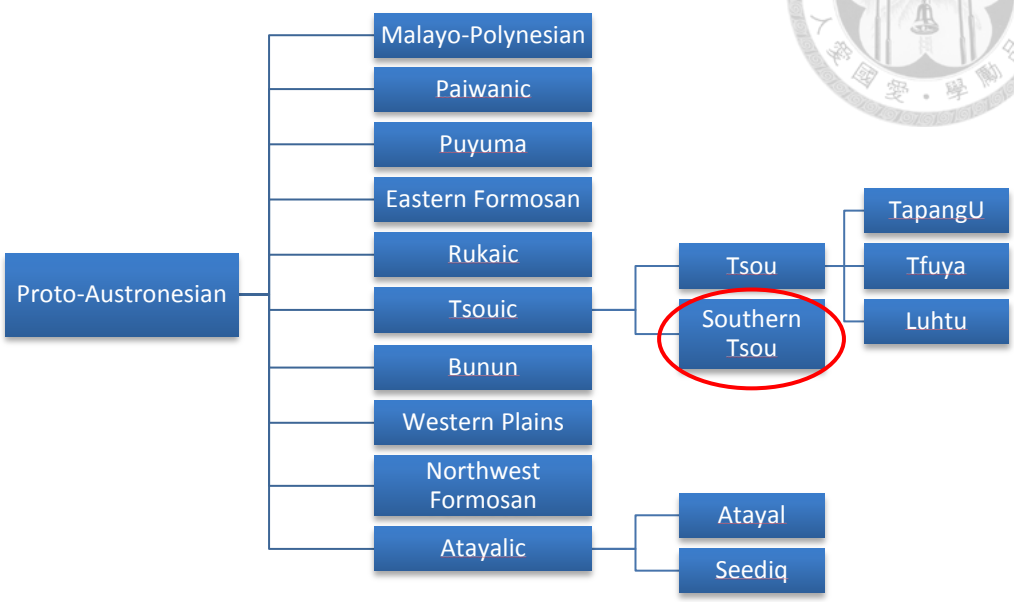


Figure 1.3 The genetic relationship of Formosan languages (Ross 2009)

PAn	Puyuma	
	Rukai	
	Tsou	
	Nuclear Austronesian	**Kanakanavu** and Saaroa
		Northwest Formosan: Saisiyat, Kulon-Pazih
		Atayalic: dialects of Atayal and Seediq
		Western Plains: Thao, Taokas, Favorlang-Babuza, Papora, Hoanya
		Bunun
		Paiwan
		East-Formosan: Basay-Trobiawan, Kavalan, Amis, Siraya
		Malayo-Polynesian: all extra Formosan

		Austronesian languages (including Yami)

In the present thesis, however, based on our findings that the voice systems in Kanakanavu and Tsou differ significantly in terms of voice types, semantic role and discourse functions[9],we will adopt the view of Ross (2009) and consider Kanakanavu as part of the Nuclear Austronesian group, as opposed to the hypothesis that places it immediately under Tsou in the family tree.

1.2.3 Language and society

As mentioned in Section 1.2.1, most Kanakanavu speakers reside in the mountainous areas in Namasia District, specifically in Maya and Takanua[10]. These aborigines are scattered over the area and they essentially make a living by fishing, hunting, and perhaps more importantly, farming. The number of descendants of the ethnicity is said to be approximately five hundred, albeit the fact that there are only an estimated (perhaps even less than) 20 fluent speakers[11]. Most fluent speakers are aged seniors and agreeable to talk with, on varying levels of proficiency, in Mandarin Chinese, Bunun, and Japanese as well.

In addition to Kanakanavu, there are also a large number of Bunun aborigines in Namasia, who immigrated from Xinyi, Nantou (Li 2011:78-79). These immigrants are genetically labelled as the Southern Bunun—Isbukun,[12] a branch found in Nantou, Pintung, and Taitung as well. According to the documentation (Yu 1997), Namasia is now populated by not only Kanakanavu and Bunun people, but some other groups

[9] More discussions concerning the position of Kanakanavu will be presented in Chapter 5.
[10] There are few, linguistic differences among the speech communities. One phonetic difference is noticed, that is, the /*ai*, *ia*/-/*e*/ variation. For instance, *siak~~uu~~n* 'IV.eat' may be pronounced as *sek~~uu~~n*.
[11] In fact, Li (2007) claims that there are only 7 competent speakers of Kanakanavu.
[12] Kanakanavu people call these Bunun aborigines 'Sumukun', a pronunciation that is adjusted to conform to Kanakanavu's phonological system.

including Saaroa, Paiwan, Atayal, Han, and Hakka as well.[13]

Owing to the impact of Japanese colonization and the immigration of Bunun, Kanakanavu has inevitably become the minority group in the region, and the daily use of their own language decreases substantially in frequency as a result. Among all ethnic groups, Bunun has probably exerted the greatest influence on Kanakanavu, since the intermarriage between the two tribes is not uncommon. Gradually, the prevalence of Mandarin Chinese and Bunun, which are considered more dominant than Kanakanavu, has led to a situation where the younger generations basically do not speak Kanakanavu with the seniors anymore. The disappearance of Kanakanavu language might eventually come true if the problem is not taken care of.

In response to the potential fate of extinction, the government has put more and more effort to preserve and document Kanakanavu's culture and language, including language teaching in the school curriculum and the practice of aboriginal language proficiency test. On the other hand, Kanakanavu people themselves have spent many years striving to be officially recognized as the next indigenous tribe of Taiwan, and this year (2014), their petition has finally been accepted. This is absolutely a milestone in the history of the Kanakanavu people.

Anyhow, since there are few linguistic studies on Kanakanavu, we cordially wish that the present thesis may contribute to a better understanding and a part of the foundation of a reference grammar book of this language in the near future.

Now that we have walked through some background knowledge about Kanakanavu tribe, it is time to get back to our main topic—Kanakanavu's voice system, an issue believed to be extremely vital in approaching any Formosan language. The next section will introduce the sources of the relevant linguistic data

[13] There are, however, other ethnic groups like Rukai living sporadically in Namasia. See the official website of the Household Registration Office, Namasia District, Kaohsiung City for the updated statistics. (http://www.namasia-house.gov.tw/)

given throughout the thesis.

1.3 Database

The Kanakanavu data demonstrated in Chapter 3 are taken from first-hand collection in the field work, with sporadic citations of sentences from other works. To confirm the grammaticality (and ungrammaticality), all data presented in the chapter have been double-checked with our informants.

In Chapter 4, on the other hand, the data mostly come from NTU Corpus of Formosan Languages (Sung et al. 2008). Eight narrative stories are especially extracted therein for purposes of the analyses, as will be mentioned later in the chapter.

The Corpus is advantageous for many reasons. First, it includes a variety of Formosan languages, 11 in total, both in narrative and conversational styles. Secondly, there are audio clips of all segments readily accessible to everyone. That is, it is made possible to actually listen to the authentic speech sound with only a click. Last but definitely not the least, texts of variegated topics ranging from Pear Story, Frog Story, to ordinary themes like fishing and hunting are covered. Not only can we understand and help preserve these languages, but the wisdom and the culture of the language community may be gleaned from the oral stories and the way the speakers narrate.

By using the corpus and our own field notes, we are able to dwell on the language structure of Kanakanavu, specifically the voice system and also how the voice system reflects certain discourse aspects like topicality. To close out the present chapter, we will lay out the general organization of the thesis in Section 1.4 as follows.

1.4 Organization

The present thesis includes five chapters, each dealing with different topics that are all related to our central subject matter: the many aspects of Kanakanavu's voice system. We will address these issues in an organization as shown below.

A brief introduction to our research study, as well as the background knowledge about Kanakanavu tribe, has been discussed hitherto in Chapter 1. It should be helpful to firstly get a big picture of the several facets of the ethnicity before moving on to the language structure.

Then, in Chapter 2, we will present the major linguistic studies in the literature. A review of the literature turns out highly profitable mainly for one reason—to walk us through the flow and the history of the studies of Kanakanavu language. It is important in that one gets to verify, or disapprove of, the descriptions or analyses on the language, in which case we may gradually obtain a better understanding of the structure.

In Chapter 3, we move further into a sketch of Kanakanavu's basic grammar, followed by our analyses of the morphosyntax of the voice system. In addition to the morphosyntactic descriptions of the voice system, we will seek for a corresponding relationship between each voice type and the semantic roles assigned to the nominative argument. This particular theta-role analysis is included in Chapter 3, since it may reveal the semantic event structure of the voice system.

After examining the morphosyntactic and semantic(-role) aspects, a somewhat more important approach—discourse functions—is adopted in Chapter 4. It is reasoned that the emergence of Philippine-type voice system may correlate to how speakers use it. That is, there may be significant implications on certain discoursal properties when speakers use actor voice or non-actor voice. By doing so, not only are

we able to realize the pragmatic nature of the voice system in Kanakanavu, but we can further relate our results to Tsou to see if this language exhibits a similar, or different, pattern in a typological framework.

The conclusion of the present study will be given in the last chapter, Chapter 5. Also, we will recapitulate on the major findings to be discussed along the way. The implications of our results regarding the genealogical position of Kanakanavu and some final remarks are included as well.

Chapter 2

Literature Review

2.1 Preliminary

The preceding chapter has acquainted us with the general knowledge about Kanakanavu tribe, and it serves as a good initial entry to our linguistic study that follows. However, in order to further establish a research foundation for the following analyses and then to explore the voice system in nature, which is the main topic of this thesis, it is a prerequisite to go through some major works available in the literature. With the help of these previous studies, we are entitled to make a more plausible judgment as to the validity of any conclusions.

Here in this chapter, we generally wish to focus on two series of discussions. One concerns the important features characteristic of Formosan languages, specifically the areal distribution and typological peculiarities. The internal genetic relationship of Formosan languages, as has been mentioned in Section 1.2.2, will be surveyed here once again, but in more details. The other discussion is pivoted on the linguistic studies on Kanakanavu that have been brought forward in the course of history.

2.2 Some issues about Formosan languages

There are several linguistic features shared basically in most Formosan languages, or put it in another way, in western Austronesian, and without realizing how different they are as compared with well-studied languages like English or Chinese, we may not obtain an authentic and thorough description. For instance, the verb-initial basic word order, the four-way distinction of voice system, and ergativity

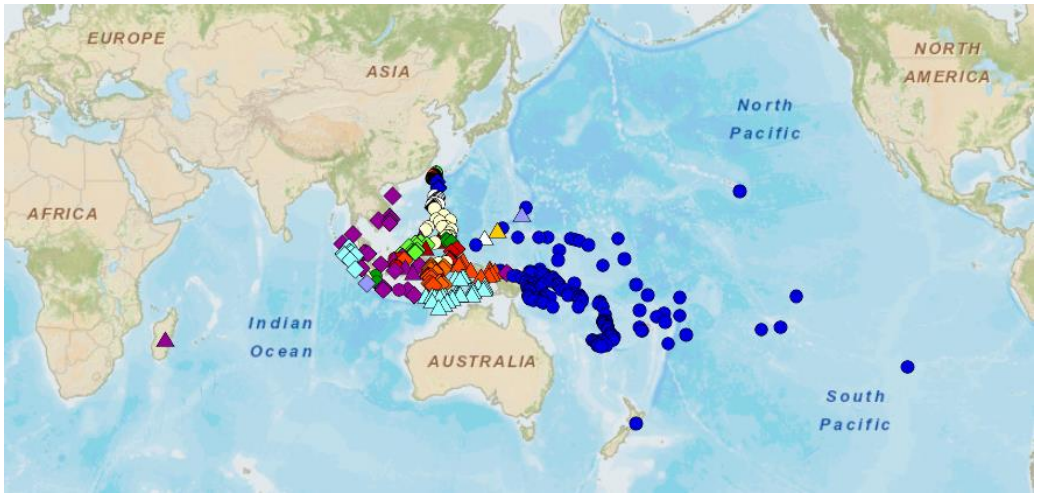
in one way or another, are all typologically attested in Formosan languages (Ho and Yang 2000). Therefore, by familiarizing ourselves with some essential knowledge, we should have more solid claims supported by previous researches.

We will first single out the areal distribution of Formosan languages to be treated in the upcoming subsection. Shortly after that, we will go back to the hypotheses of the internal relationship in Section 2.2.2, the Tsouic subgrouping in particular. On an equal level of importance, in Section 2.2.3, the major structural properties of Formosan languages in general will be addressed, with examples that help illustrate each specification.

2.2.1 Areal distribution

Formosan languages are classified as a language phylum of Austronesian distributed in Taiwan. Austronesian family turns out to be the most widespread language family around the world, covering from New Zealand to the south, the Easter Island to the east, Taiwan to the north, all the way to Madagascar to the west. Below is a map taken from WALS (The World Atlas of Language Structures Online).

Map 2.1 Distribution of Austronesian languages (from WALS Online)[14]



[14] Different icons represent different language subgroups of the Austronesian language family.

All indigenous languages that fall on the island of Taiwan are dubbed Formosan languages, except Yami, which belongs in the Malayo-Polynesian family (Ross 2009).

The language under the present study, Kanakanavu, is located near the central part of Taiwan, with Saaroa and Tsou being in vicinity. Besides, It is noteworthy that in Taiwan alone, there are surprisingly more than 20 Austronesian languages (some are not shown in Map 2.2). This linguistic co-existence is believed to show an implication with regard to the position of Formosan languages, a topic to be addressed next.

2.2.2 Genetic relationship

A well-adopted hypothesis in recent years is that Taiwan is most likely the homeland of Austronesian languages (cf. Dyen 1965, Blust 1999, Li 2008, etc.). That is, the dispersal of Austronesian ancestors may have departed from Taiwan across the oceans, and these people eventually settled in different parts of the world (remember Map 2.1). This version of dispersal origin involves two assumptions: a) the more diverse the languages are in an area, the more likely this area is to be the homeland for the language family; b) The more proto characteristics reserved in the languages, the more likely the area is to be the homeland.

The subgrouping based on Ross (2009), as shown previously in Figure 1.3 in Chapter 1, added a whole-new layer for the Formosan languages—*Nuclear Austronesian*, to which Kanakanavu belongs.

However, what concerns us in the present thesis is the subgrouping of Kanakanavu, which is grouped within the Tsouic family. The question to be asked is: Is it substantially and adequately proven? As discussed in the literature, the answer is positive to some researchers while to others, it is not (cf. Chang 2006). We will briefly

address this issue in Chapter 5.

2.2.3 Typological characteristics

Formosan family exhibit several unique properties that are not shared in other languages. Two major characteristics are demonstrated as follows.

One peculiarity is the word order. Generally, the basic word order in Formosan languages is verb-initial, or predicate-initial (Li 2008:524). For instance, it is Verb-Theme-Agent in Tsou[15], as shown in (1).

(1) Tsou (Li 2008:527)[16, 17]

pei'i	ta	ucey	'e	ino.
AV.cook	OBL	taro	NOM	mother

'The mother cooked taros.' (glossing mine)

On the other hand, Kanakanavu, our target language in this thesis, is verb-initial as well, but the word order shows a Verb-Agent-Theme pattern, no matter the voice type. See Data (2).

(2) Kanakanavu

tia	miapacai	Pi'i	tutui	iisua
FUT	AV.kill	PN	pig	that

'Pi'i is going to kill that pig.'

The other important feature in Formosan languages to be discussed here—voice

[15] As Huang (2002:669) states, the predominant word order is AUX-V-O-A, or A-AUX-V-O, in AV clauses, but AUX-V-A-O in NAV clauses.

[16] In the present thesis, we will adopt the following glossing abbreviations, in alignment with the corpus under study: AV=agent voice/actor voice, BV=benefactive voice, Ca=Ca-reduplication, COS=change of state, CV=circumstantial voice, IV=instrumental voice, LV=locative voice, NAV=non-actor voice. Other abbreviations will be mentioned in particular when needed.

[17] Usually a Tsou clause will require the existence of an auxiliary preceding the verb.

system, has been a center of research in the literature since it displays highly complicated aspects in nature. The PAn voice system so far has not undergone dramatic development in terms of formal change[18]. That is, each voice type shares a similar form among the majority of Formosan languages. Below is a table showing the four morphemes in PAn.

Table 2.1 The voice system in PAn[19] (Ross 2009)

Voice type	Actor voice	Undergoer voice		
	actor	patient	location	circumstance
Proto form	*M-/-um-*	*-en*	*-an*	*Sa-/Si-*

What's more interesting is the fact that the voice system may indicate certain syntactic, semantic, and even pragmatic traits, which happen to be our research goal in the present thesis.

Other characteristics, such as exclusive-inclusive 1st person plural pronouns, affixation of bound morphemes, and ergative alignment, are prominent in Formosan languages, though they do not concern us here.

With the general properties about Formosan family as the background knowledge, we may now turn in the next section to the previous Kanakanavu studies that we consider significant.

2.3 Linguistic studies on Kanakanavu

There are unfortunately very few studies on Kanakanavu language, partly

[18] As a matter of fact, with that said, there are some complications concerning the development of PAn voice system. Some Formosan languages, such as Tsou, do not show similar morphological pattern with the one presented in Table 2.1. Is it that the languages (like Tsou) preserve the more ancient forms, or that the languages themselves have gone through certain innovative changes? Since it is not our focus here, suffice it to say for the moment that the generally reconstructed PAn voice morphology is basically retained in most Formosan languages.

[19] These are in fact the forms in realis perfective.

because of the scarcity of native speakers and the fact that the tribe is located in a remote mountainous area, as have been mentioned in Chapter 1. Despite the adversity, we are still very lucky to have some a few pioneer researches, and based on these works, we may further examine and confirm what we know of so far, or adopt a new line of thinking which is more appropriate in pursuit of an integral description of the voice system.

Among all studies on Kanakanavu language, some are not published, while others are fortunately accessible to the public. These publications include Ogawa and Asai (1935:723-739), Tsuchida (1976:26-58), Mei (1982), Ho (1997), and miscellaneous works such as Szakos's (2001) compilation on Kanakanavu stories and Kanakanavu folk songs in CDs (Li 2001), etc. We will now turn to each of the major works which pertain to the present study and some discussions are carried out below.

2.3.1 Ogawa and Asai[20] (1935)

Ogawa and Asai's (1935) *The Myths and Traditions of the Formosan Native Tribes* (in Japanese) is perhaps one of the first pioneer studies in which a sketch of Kanakanavu's grammar is provided. As a matter of fact, the section on Kanakanavu in this compilation work is offered by Erin Asai (1894-1969). He described a great deal of the phonological system in this language, as well as a variety of morphological affixes and other parts of speech. Furthermore, a total of 7 texts are recorded, with rudimentary glossing and a general translation.

Although Asai did not mention anything about the voice system, he did list several bound morphemes which happen to include what we call the voice markers. See below.

[20] Japanese scholars like Ogawa, Asai, and Tsuchida have made tremendous contributions to the studies and documentation of Formosan languages. See Li 2010 for a thorough discussion.

⊙ Ogawa and Asai (1935:724-727)

(a) [um-, -um-]: prefixes of a verb, e.g., *um-aɭa* ‘take’

(b) [-ʉnʉ]: denoting a passive meaning, e.g., *tsʉʉɭa* ‘see’>*tsʉʉɭa-ʉnʉ* ‘be seen’

(c) [-a, -ana]: denoting a place, e.g., *tsau* ‘person’>*tsatsauwana* ‘village’

(d) [si-]: denoting a tool, e.g., *kəunʉ* ‘food’>*si-jakəʉnu* ‘utensils’

The four affixes as analyzed above seem to match the core semantic instantiation of Austronesian voice system. However, types (c) and (d) were claimed to be more like a derivational affix that turns a nominal into another nominal on which the particular semantic meaning, place or tool, is imposed. That is to say, Asai did not deal with cases where a verb involves an additional core argument due to the affixation of *-a/-ana* or *si-*.

Despite the inadequacy of in-depth discussions of Kanakanavu’s voice system, Ogawa and Asai’s (1935) is still considered significant in that it contains a collection of texts from 12 Formosan languages with a brief description of grammar for each.

2.3.2 Tsuchida (1976, 2003)

Another Japanese linguist has been dedicating himself to Formosan studies for decades. Tsuchida Shigeru, born in 1934 in Tokyo, is well-known for his fruitful researches on the aboriginal languages spoken in Taiwan. His dissertation, entitled *Reconstruction of Proto-Tsouic Phonology* and completed at Yale University in 1976, undoubtedly sets a landmark in Formosan literature as it provides rich documentation of lexical items and phonological rules of the three ‘Tsouic’languages—Tsou, Saaroa, and, to our benefit, Kanakanavu. It is often cited by linguists working on these languages and/or the reconstruction of proto-forms.

Tsuchida (1976) analyzes quite a few aspects of Kanakanavu grammar, ranging

from pronominal system, case markers,[21] to perfective/imperfective/future markers. What's more important is that he tackles the issue of 'focus system' (in his terminology) and discovers four different types: agent focus, goal focus, location focus, and special focus.

Table 2.2 Kanakanavu's focus system in Tsuchida (1976)

Focus type	Form	Role of the syntactic subject
Agent focus	*um-, -um-*, etc.	agent
Goal focus	*-ini, -unu, -ənə*	affected object
Location focus	*-a, -an, -anə*	location
Special focus	*-ai, -i*	goal/object of an action

The above table shows an important piece of information about the voice system in Kanakanavu. Tsuchida discovers four different voice types, the first two of which, agent and patient (goal) voice, are generally uncontroversial. What's actually more interesting is that LF, which corresponds to locative voice, is not as productive as AV and PV, since not every verb is capable of occurring with *-a*[22], *-an*, or *-anə*. Another voice type, realized as *-ai/-i*, is proposed in his analysis. Although Tsuchida cannot but temporarily term this type 'special focus', he describes several properties that are not shared with PV. We will address this special voice type in Chapter 3.

In addition to his dissertation, Tsuchida also collects a total of 10 texts from four speakers, transcribing each story with glossing, and this compilation work *Kanakanavu Texts* is published in 2003. He focuses more on the phonology of this language in the beginning part, yet not much about the voice system is discussed.

In fact, one more voice type, be it circumstantial, benefactive or instrumental, is

[21] Tsuchida (1976:36) actually uses the term 'relation markers' for reference.
[22] The suffix *-a* behaves more like relativizer. We will give some examples in Section 3.3.1.

expected to exist in the Philippine-type voice system, but it is not mentioned in Tsuchida (1976, 2003). We will bridge the gap of this missing type in Section 2.3.5 and in Chapter 3.

2.3.3 Mei (1982)

In his paper dealing with Kanakanavu's pronouns and verbal inflection, Mei (1982) raises several in-depth issues concerning the voice system. The following table illustrates the different voice types.

Table 2.3 Kanakanavu's focus system in Mei (1982)

Focus type	Form
Actor focus	*um-, -um-, mu-*
Object focus 1	*-ini, -unu, -ʉnʉ*
Object focus 2	*-ai*
Time/Location focus	*-a, -an, -anʉ*

As with Tsuchida (1976), Mei also distinguishes two types of patient voice, hence OF1 and OF2. He claims that OF2 is restricted to neutral aspectuality only. Since verbs are often assumed to be neutral in subordinate clauses headed by *if* or *when*, both OF1 and OF2 might be possible at a first glance. However, it is stated that one major difference between the two types is that OF1 may only occur in *if/when* clauses, while OF2 is confined to main clauses. This statement may not seem to work with the data we have, but it is true that they both serve as a marker that selects a patient/theme to be the syntactic subject.

Another crucial element discussed in this paper is the pragmatic factor in choosing AV and NAV (Mei 1982:221). Mei's point of view opens a window that we

wish to see through in this paper. We will examine to what extent pragmatic factors like definiteness may play a role in the voice system in Chapter 4.

2.3.4 Ho (1997)

In a section of *The Formosan Languages in Kaohsiung* (in Chinese), Ho (1997) provides an organizational description of Kanakanavu's basic structure. He also maintains that there are four voice types, similar to Tsuchida (1976) and Mei (1982).

Ho does mention a prefix, *si-*, which corresponds to the instrumental voice marker, but he does not include it in his discussion of the voice system nor does he give further examples that illustrate this specific construction in a clause (Ho 1997:241).

Nevertheless, three Kanakanavu texts, including one conversation, are transcribed in this book. Without assuming a professional knowledge background, this is certainly a good material from which one may start learning about this language.

2.3.5 Wu (2006)

Published in the journal *University System of Taiwan Working Papers in Linguistics*, Wu (2006) marks a significant study in Kanakanavu literature as well. He firstly proposes the existence of benefactive/instrumental voice in this language, in the form of *se-*, although the labelling *benefactive* is somewhat problematic. This problem will be addressed in Section 3.3.1.3, in Chapter 3.

The issue Wu puts forward in his paper primarily deals with serial verb constructions, and the SVC constraint in Kanakanavu is claimed to differ from that in Tsou. In other words, Wu implies that the hypothesis that Kanakanavu and Tsou might have descended from the same ancestor language may not be as evident as they seem.

2.3.6 Other studies

Besides the above studies, other linguists have also attempted to figure out particular aspects in Kanakanavu. We will briefly discuss some of them as follows.

From a mophosyntactic point of view, Chang (2006) proposes six innovative characteristics, which seem to differentiate Tsou from the so-called Southern Tsouic languages[23]. It has been recognized as a crucial question as to whether the subgrouping is validated. We wish get back to this issue in Chapter 5.

Lan (2012) is the first M.A thesis working on Kanakanavu language. Her study probes the negative constructions and provides a large number of elicited sentences. Another M.A thesis, Cheng (2013), investigates the modality in Marinax Atayal, with a typological comparison with three Formosan languages, including Kanakanavu. Cheng and Sung (to appear) also discuss more extensively the expression of modality in Kanakanavu. Lan (2012), Cheng (2013) and Cheng and Sung (to appear) do not further elaborate on the voice system (since it is not their main topic), but they are without a doubt significant studies that help us understand the various structures and linguistic phenomena in Kanakanavu.

There are also efforts made to document the language in a descriptive fashion. Szakos (2001) recorded and compiled dozens of Kanakanavu texts with several native speakers, though with a rather brief glossing. Last but not the least, CDs of Kanakanavu's folk songs (Li 2001) are available for the public to appreciate their indigenous tribe.

Bearing these previous studies in mind, we will now review some relevant

[23] Chang (2006) states that the innovative focus morphology, the loss of PAn perfective marker, the Focus Harmony Constraint on SVCs, the NAF-only causatives, the obligatory auxiliary constraint, and the emergence of 3rd singular nominative bound pronoun may constitute evidence against the traditional Tsouic Subgrouping Hypothesis.

studies that investigate the relationship between Formosan voice system and discourse in the next section, since it constitutes our main topic in Chapter 4.

2.4 Formosan voice system and discourse

The Philippine-type voice system has long been studied in a discourse framework (Wouk 1999, Huang 2002, to name a few). The voice system in some languages is subject to factors like transitivity and topicality. Huang (2002), for example, explores Tsou and Seediq in terms of the use of voice both in narrative and conversational styles. It is found that AV clauses in Tsou exhibit a lower transitivity while NAV clauses suggest a higher one. In fact, Huang and Tanangkingsing (2011) analyze AV clauses with the (semantic) patient argument as Extended Intransitive Clauses (EICs), in which the patient argument receives an oblique case due to its inability to be tracked in the discourse. Therefore, by means of calculating the frequency rate of certain structures with the help of the corpus, it is made possible to understand how sensitive the voice system is in relation to pragmatics.

Other relations with grounding (Hopper 1982, 1986), individuation of patients (Hopper and Thompson 1980), and topicality (Givón1983, Cooreman et al. 1984) also indicate the nature of voice system in a language. In fact, we will see that the grammatical subject of a Kanakanavu clause indeed has a higher topicality, but only in certain aspects. Therefore, to examine any pragmatic implication in the use of the voice system, we will take advantage of the current theoretical discourse approach and present our results in Chapter 4.

2.5 Summary

Despite the fact that there are few studies on Kanakanavu, all the aforementioned

works will adequately serve a useful purpose in the analyses in Chapter 3, since we may further compare and examine the actual morphological realization of each voice, and then to look at the voice system from a multi-dimensional perspective. The next chapter will first give a morphosyntactic description of Kanakanavu's voice system, with a small discussion of semantic roles. In Chapter 4, we will move further to the discourse aspects of the voice system.

Chapter 3

Voice Constructions in Kanakanavu

3.1 Introduction

The voice system in Kanakanavu generally exhibits a similar pattern as seen in many other Formosan languages. There have already been several discussions concerning this issue (cf. Tsuchida 1976, Mei 1982, Chang 2006, Wu 2006, etc.). However, as mentioned in Chapter 2, none of these works has succeeded in presenting a clearer picture of the variant morphological forms and the syntactic structure of each voice construction. Therefore, one of the primary goals of the present chapter is to firstly lay out the morphosyntactic features of the voice system in this language, and then in Chapter 4, we will aim for the discourse implications of how people employ the voice.

A complication regarding this issue is perhaps the case of locative constructions, since the expected form, *-an*, turns out to be relatively unproductive comparing with the other voice types. Hence, we will look at this particular voice construction with special attention in this chapter, too.

We will first provide a sketch of Kanakanavu's grammar in Section 3.2, and then we examine each voice construction in more details in Section 3.3. Section 3.4 offers an overview of the voice markers and those in non-indicative structures. The interaction of voice and tense, aspect, and modality markers will be presented in Section 3.5. Finally, an interim summary will be given in Section 3.6.

3.2 A sketch of Kanakanavu's grammar

Before turning to Kanakanavu's voice constructions, we will first provide a brief

introduction to the basic grammatical characteristics of Kanakanavu. Aspects such as phonology, word order, pronominal system, and discourse/case markers will be briefly discussed, most of which are based on previous literature.

3.2.1 Phonological inventory

There are at least eleven to twelve consonant phonemes in Kanakanavu. See Table 3.1. The consonant inventory generally reflects the typological tendency that a voiceless plosive/fricative phoneme is often predicted when the voiced counterpart exists, but not vice versa (Croft 2002:165). Note, however, that the phoneme /v/, for some reason, is an exception.[24]

Table 3.1 Consonants in Kanakanavu[25] (cf. Tsuchida 2003)

position / manner		Labial	Dental/alveolar	Velar	Glottal
Plosive	Voiceless	p	t	k	ʔ
Affricate			ts		
Fricative	Voiceless		s		
	Voiced	v(β)			
Nasal		m	n	ŋ	
Tap			ɾ		
Lateral			l		

According to Tsuchida (2003), /v/ was pronounced as a voiced bilabial fricative /β/ several decades ago. However, the voiced bilabial fricative is not retained anymore,

[24] One possible explanation for the exception is that the phoneme /v/, which developed from /β/, was reconstructed as /b/ in PAn (Wolff 2010:149). Since the voiceless counterpart /p/ already exists in contemporary speech, the universal implication still holds.

[25] The present paper will adopt the traditional transcription in Formosan literature, as shown below.

IPA	Symbols adopted in this paper
ʔ	’
ts	c
ŋ	ng
ɾ	r

since it is replaced with the labio-dental fricative /v/ in the present day, at least in the speech community of our informants[26].

Affricate /ts/ and fricative /s/ are palatalized if they are followed by high front vowel /i/, as seen in examples given below.

cina 'mother' /tsina/→ [tɕina]

sii 'because' [si:] → [ɕi:]

We should also note that the /r-l/ distinction is documented in Tsuchida's transcription, although they may not cause any distinctive meanings when one is substituted for another. Therefore, only the phoneme /r/ will be employed throughout the present study, unless a particular reference to the two phonemes is intended.

The vowels in Kanakanavu, on the other hand, are not as numerous as many other languages, since it has a basic vowel inventory of six.

Table 3.2 Vowels in Kanakanavu

frontness / height	Front	Central	Back
High	i	~~ɯ~~	u
Mid		e	o
Low		a	

Finally, Kanakanavu's syllable structure, based on the Tsuchida (1976, 2003), is basically (C)V, but there are also instances where nasal sounds occur as a coda. Hence, the syllabic structure of Kanakanavu may be refined as follows:

Kanakanavu's syllable structure: (C)V(Nasal)[27]

[26] Our informants are: Mu'u (翁坤), male, aged 80; 'angai (蕭能吉), male, aged 78; Paic~~ɯ~~ (翁范秀香), female, aged 73; Pani (孔岳中), male, aged 60; 'angai (翁博學), male, aged 65 (at the time of elicitation).

[27] There is, however, one exception to this proposed structure in our data, namely *tassa* 'two'. We

Table 3.3 gives examples of different syllabic types. The stress is usually placed on the penultimate syllable.

Table 3.3 Syllable structure in Kanakanavu

Type	Example	Meaning
(C)V[28]	va**tu**	stone
(C)VV[29]	ma**taa**	and
(C)VNasal	**man**maan	like
(C)GlideV	t**ia**	(irrealis/future marker)
(C)VGlide	c**au**	person

It has been stated that Kanakanavu's independent free morphemes mostly have three or more syllables (Sung 1966, Tsuchida 1976, 2003, Ho 1997:232). However, it is also likely that, due to a simplification taking place among the younger generations and the speech rate in conversations, words containing less than three syllables are emerging. For those who are interested in the phonological development of Kanakanavu language, see Tsuchida (1976, 2003), and Wolff (2010:141-154) for more details.

3.2.2 Word order

Kanakanavu generally follows a Verb-Agent-Theme word order. Consider the following data first.

(3)a. ~~usu~~'~~u~~ **~~un~~** cuma paici na takuacapa

put-PV father wine LOC shelf

'Father put the wine on the shelf.'

---

speculate that it might be a result of vowel reduction and consonant assimilation.
/tacusa/→*(tacsa)*→[*tassa*]

[28] A single vowel is generally scarce in Kanakanavu, since there is always a glottal stop preceding a vowel without any consonant preceding it.

[29] Here the symbol VV does not imply two separate syllables, but a lengthening vowel.

b. *~~us~~u'~~u~~ ~~un~~ paici cuma na takuacapa

put-PV wine father LOC shelf

The ungrammaticality in (3) reveals that the word order in this language is canonically VSO. Since in both AV and PV constructions, the agent or the one who carries out the action directly follows the verb, and then the patient (or possibly other) argument comes later in a neutral and non-topicalized clause. Below are more examples.

Intransitive

(4) acee=cu tacau iisua

AV.leave=COS dog that

'The dog went away.'

Transitive

(5) tia miapacai Pi'i tutui iisua

FUT AV.kill PN pig that

'Pi'i is going to kill that pig.'

Prepositional predicate (Location)

(6) 'esi=ku na tanasa

EXIST=1SG.NOM LOC house

'I'm at home.'

Nominal predicate

(7) seeto sua iiku

student NOM 1SG.NOM

'I am a student.'

(8) sua iiku ia, seeto

NOM 1SG.NOM TOP student

‘I am a student.’

(9) *seeto iiku

student 1SG.NOM

However, nominal predicates, as in (7)-(9), require a nominative marker *sua* if not in a topicalized structure. Therefore, sentences like (9) are not acceptable.

Although the canonical word order is Verb-Agent-Theme, there are occasional instances where the Theme precedes the Agent. In such cases, the interpretation will often depend on animacy. Consider first the sentences (10)-(11) below, in which the word order determines the relations, whether in AV or NAV clauses.

(10) a. tia marivura’~~u~~ Pani Pi’i

FUT AV.beat PN PN

‘Pani is going to beat Pi’i.’ (Not ‘Pi’i is going to beat Pani.’)

b. tia marivura’~~u~~ Pi’i Pani

FUT AV.beat PN PN

‘Pi’i is going to beat Pani.’ (Not ‘Pani is going to beat Pi’i.’)

(11)a. tia arivura-’~~u~~n Pani tacau

FUT beat-PV PN dog

‘Pani is going to beat the dog.’ (Not ‘The dog is going to beat Pani.’)

b. tia arivura-’~~u~~n tacau Pani

FUT beat-PV dog PN

‘The dog is going to beat Pani.’ (Not ‘Pani is going to beat the dog.’)

The above sentences clearly show that, when both nominal arguments are equally animate (as in (10)), or similarly animate (as in (11)), the interpretation selects the noun that follows directly the verb as the Agent. However, if the animacy level

apparently differs, the meaning of the clause will match that of a common sense, which dictates that the more animate argument carries out the action on the inanimate argument. See the AV sentence below for an illustration.

(12)a. tia k<um>a-k~~uu~~n Pani vakat~~u~~

FUT Ca<AV>-eat PN watermelon

'Pani is going to eat watermelon.'

b. tia k<um>a-k~~uu~~n vakat~~u~~ Pani

FUT Ca<AV> -eat watermelon PN

'Pani is going to eat watermelon.'

Nevertheless, in NAV sentences, the canonical word order is still the norm if the nominative case marker is present, hence the semantic anomaly in (13b) below.

(13)a. tia k~~uu~~n-~~u~~n Pani sua vakat~~u~~

FUT eat-PV PN NOM watermelon

'Pani is going to eat the watermelon.'

b. ?tia k~~uu~~n-~~u~~n vakat~~u~~ sua Pani

FUT eat-PV watermelon NOM Pani

'The watermelon is going to eat Pani.'

Therefore, the basic word order in Kanakanavu is Verb-Agent-Theme, although speakers may occasionally produce sentences with the Agent preceding the verb with a topicalizer, possibly due to the influence of Mandarin Chinese.

3.2.3 Pronominal system

The pronominal system in Kanakanavu has been discussed in Mei (1982). The following table is adapted from Lan (2012). However, the independent focused

pronoun for the third person singular and plural should not be a zero form (as they lack an overt morpheme in Mei's account), since the pronouns *nguain* and *nguani* are found in our data.

Table 3.4 Pronominal system in Kanakanavu. (cf. Mei 1982)

		Independent		Bound	
		Focused	Unfocused/OBL	NOM	GEN
1SG		iiku/iikia	'ikua	=ku/=kia	=(m)aku
1PL	INCL	iikita	kitana	=kita	=(mi)ta
	EXCL	iikim(i)	kimia	=kim(i)	=mia
2SG		iikasu	kasua	=kasu	=(mu)su
2PL		iikamu	kamua	=kamu	=mu
3SG		**nguain**	'inia	=in(i)	=kee/=in(i)
3PL		**nguani**	'inia	=in(i)	=kee/=in(i)

It is stated in the literature that 3rd person personal pronouns in Formosan languages are often derived from demonstrative pronouns (Ross 2006:536), but in Kanakanavu, *nguain* and *nguani* do not have demonstrative uses. However, demonstratives like *iisua* 'that' may mean 'he/she'.

It is noticeable that the unfocused and oblique independent pronouns all appear with an *–a* suffix at the end. Although we are not able to identify the origin of the oblique forms, the *–a* suffix might have something to do with PAn reflexes[30].

3.2.4 Markers *sua, na* and *ia*

The case system in Kanakanavu does not seem to be frequent in use.

[30]Ross (2006:15-16) states that the oblique pronouns in Kanakanavu are attached with PAn suffix *–an*, but the final nasal sound is absent in the present-day speech.

Alternatively speaking, when the word order is Verb-Agent-Theme, the nominative and oblique case markers do not surface on many occasions. The addition of markers like *sua* would result in a discoursal emphasis on the argument, although speakers often use topicalized structure with *ia* to yield a similar effect. Yet another marker, *na*, is more like a locative preposition, but indeed it shows an oblique case use in a few cases of transitive sentences. Below are a list of the markers and some examples.

Table 3.5 Discourse and case markers in Kanakanavu

Marker	**Functions**
ia	Topic
na	Locative Goal (Oblique)
sua	Nominative Oblique Discourse deictic [+referential, +definite]

(14) ’arating iisi **ia**, koo=pa=maku urupacai k<~~u~~m>~~uu~~n ’uru
chopsticks this TOP NEG=yet=1SG.GEN use.PV Ca<AV>eat rice
‘As for these chopsticks, I haven’t used (them) to eat rice.’

(15) a. ’esi=ku **na** tanasa
EXIST=1SG.NOM LOC house
‘I’m at home.’

b. see-vua=maku (sua) vantuku iisi **na** Pani
IV-give=1SG.GEN NOM money this LOC PN
‘I (always) give this money to Pani.’

c. tia miapacai Pani (**na**) Pi’i

FUT AV.kill PN LOC PN

'Pani will kill Pi'i.'

(16) a. na-te=maku k~~uu~~n-~~u~~n **sua** tammi, nakai

NA-FUT=1SG.GEN eat-PV NOM sweet.potato but

nerisuac~~u~~ tacau

PFV.PV-eat.up dog

'I was going to eat the sweet potatoes, but the dog ate them all.'

b. aririan=ku **sua** sisiin tamna riang

listen.secretly=1SG.NOM OBL bird.type POSS sound

'I would listen to sound of the (kind of) bird.'

c. **sua** iiku ia, te=maku vura'~~u-u~~nmanu=maku

NOM 1SG.NOM TOP FUT=1SG.GEN hit-PV child=1SG.GEN

'As for me, I'm going to hit my child.'

In (15a), the marker *na* has a clear locative interpretation. Sentence (15b), on the other hand, also imply a location but is more of an allative use. This marker may have an oblique-like function, indicating an action performed on this argument, as seen in (15c).

The nominative marker *sua* more often than not results in an emphasis on the following argument.[31] Hence, example (16c) shows that the argument *iiku* is not part of the core arguments of *vura'~~uu~~n* 'hit' in the syntax, but is merely what the speaker employs to emphasize which individual would carry out the action.

Up to this point, we have demonstrated the essential characteristics of Kanakanavu, and these features are more or less typical of Formosan languages. With the understanding of Kanakanavu's basic grammar, we may now turn to the voice

[31] Alternatively, *sua* serves as a pragmatic marker, resulting in high referentiality and definiteness of the following argument. This marker is likely to be originated from the demonstrative *iisua* 'that'.

system in the next section.

3.3 Morphology and syntax of the voice construction

As the previous discussions serve as the background knowledge, this section gives a descriptive analysis of each voice construction, along with a brief reference to how the system works in structures like imperative and narrative constructions. For purposes of the paper, we will adopt a four-way distinction of the voice system in our discussions, rather than the Actor-Undergoer dichotomy (cf. Ross 2009), due to the fact that the four voice types yield semantically different interpretations.[32] The case with indicative modality will be dealt with next.

3.3.1 Voice in indicative mood

The voice paradigm in indicative constructions in Kanakanavu corresponds to PAn forms. One particular voice type indicates that, prototypically speaking, a specific semantic role is instantiated as the grammatical subject of the clause. Therefore, the use of PV construction, for example, introduces a patient grammatical subject.

In the following sections, each voice construction will be surveyed with respect to argument structure.

3.3.1.1 Agent voice

Not surprisingly, the element *m* is a distinctive AV morpheme in Kanakanavu language, although there are several variants, ranging from prefixes, infixes, to zero

[32] We will show in Section 3.3.1.4 that there are only three major voice types in Kanakanavu in the present day.

form. This type of morpheme prototypically denotes an actor as the grammatical subject. However, AV construction is definitely not restricted to one semantic role as the subject, since it is, as in other voice constructions, a one-to-many correspondence. See the following data (17)-(18) for some possibilities (grammatical subject in boldface).

(17) NOM: Agent

k<um>a-k~~uun~~=**ku** vutukuru.

Ca<AV>-eat=1SG.NOM fish

'I eat fish.'

(18) NOM: Agent

ø.tantania~~r~~=**ku** c<um>a-c~~ɨ~~'~~ɨ~~ra sinat~~ɨ~~

AV.every.day=1SG.NOM Ca<AV>-see book

'I read books every day.'

(19) NOM: Theme

ø.acee=cu **nguain**

AV.leave=COS 3SG.NOM

'He/She has left.'

(20) NOM: Experiencer

t<um>a-tang **manu**

Ca<AV>-cry child

'The child is crying.'

In (17) and (18), the grammatical subjects both refer to actors of the actions denoted by the verbs. Sentence (19) is an entity that has moved from one place to another, hence the theme. The AV construction may introduce a role of experiencer, since the verb *tang*, meaning 'to cry', requires an individual experiencing an emotion

as the subject, as in (20).

To summarize up to this point, the possible semantic roles that may be introduced by an AV marker are at least Agent, Theme, and Experiencer. In the next subsection, we will turn to the case of patient voice.

3.3.1.2 Patient voice

When PV construction is used, the agent of the action does not receive nominative case anymore. Instead, what is in nominative position often refers to the entity being affected.

The patient voice marker in Kanakanavu seems to be highly predictable in terms of its phonetic realization. When the preceding vowel[33]is ~~*ɨ*~~ or *a*, the PV form *-~~ɨ~~un* is attached. The first preceding vowel *a* will be deleted during the affixation, and the vowel preceding *a*, if any, is likely to be assimilated. Examples are 'give' *vua* > *v~~ɨɨ~~un*, 'look after' *eecara* > *eecar~~ɨɨ~~un*, and 'get angry' *arakurac~~ɨ~~* > *arakurac~~ɨɨ~~n*, etc. If it is *u* that precedes the PV marker, the affix becomes *-un*, as in 'tell' *tuturu* > *tuturuun*. The PV form turns into *-en* when following *e* ('throw' *teen* > *teenen*),[34] and into *-in* when following *i* ('sing' *aracani* > *aracaniin*).

The patient voice marker indicates that the grammatical subject is canonically given the semantic role Patient. However, this marker may instantiate various thematic roles other than Patient. In fact, PV constructions involve the most semantic roles assigned to the grammatical subject of a clause, if comparing with the other voice types. Below are the data collected so far (grammatical subject in boldface).

(21) NOM: Patient

[33]Theprecedingis never a(non-nasal)consonant, sincenon-nasal consonantsare not allowed in the codaposition of asyllable, unless theword is borroweddueto language contact.

[34] When the preceding element is a consonant, the PV form agrees with the vowel that precedes the stem-final consonant.

k~~uu~~n-~~u~~n=cu=maku **tammi**

eat-PV=COS=1SG.NOM sweet.potato

'I already ate the sweet potatoes.'

(22) NOM: Recipient/Goal

iikasu ia v~~u-u~~n=maku sinat~~u~~

2SG.NOM TOP give-PV=1SG.GEN book

'You are the one whom I give the book.'

(23) NOM: Transported theme

~~usu~~'~~u-u~~n cuma **paici** na takuacapa

put-PV father wine LOC shelf

'Father put the win on the shelf.'

(24) NOM: Theme

matapari-in **tanuku**

fall-PV cup

'The cup fell.'

(25) NOM: Perceived stimulus

c~~u~~'~~uru-u~~n=maku **manu**

see-PV=1SG.GEN child

'I saw the child.'

(26) NOM: Content

sua **Pani** ia tavar~~u~~'~~u-u~~n=maku

NOM PN TOP know-PV=1SG.GEN

'Pani is the person I know.'

(27) NOM: Location

sua **tanasa** iisi ia ~~usu~~'~~u-u~~n=maku sien sinat~~u~~

NOM house this TOP put-PV=1SG.GEN there book

‘This house is where I put the book.’

The above examples have shown that the use of PV construction involves semantic roles such as Patient, Theme, Stimulus, and Content, etc., assigned to the nominative argument of the clause. As illustrated in (27), PV constructions may be employed to mark an argument of location as the clausal subject. Note, however, that when such constructions (with a location) occur in a topicalized structure, a deictic expression like *sien* ‘there’ or ‘*inia* ‘there’ will likely be added. Sentence (28) below is another example.

(28) (sua) tak~~uu~~na iisi ia t<in>een=maku **’inia** sinat~~u~~
NOM shelf this TOP <PFV.PV>throw=1SG.GEN there book
‘The shelf is where I threw the book.’

Finally, we have found in our data that intransitive verbs like *ukusa* ‘go’ are capable of bearing a PV marker. One question thus arises: What does such a verb denote in a PV construction? To answer this question, we need to first examine the data (29).

(29)a. ukus~~u~~ **~~un~~**=maku m-ara tikuru iisi
go-PV=1SG.GEN AV-take clothes this
‘I will go bring the clothes back.’

b. ukus~~u~~ **~~un~~**=maku m-arivura’~~u~~ (sua/*na) kavangvang mamanu
go-PV=1SG.GEN AV-hit NOM/OBL all children
‘I (instead of the others) will go hit all the children.’

The semantics of (29a) and (29b) imply that *maku* ‘I’ will go somewhere and perform the action denoted by the following verb. As a matter of fact, the sentence turns out to be unacceptable when *ukusa* ‘go’ is attached with the AV marker (see

(30)), when the second verb is PV-marked (see (31)), or when the motion verb is replaced by another similar verb *iovatu* ‘come’ (see (32)).

(30) *mokusa=ku m-arivura’~~u~~ kavangvang mamanu
AV.go=1SG.NOM AV-hit all children

(31) *ukus~~u-un~~=maku arivura’~~u-un~~ kavangvang mamanu
go-AV=1SG.GEN hit-PV all children

(32) *iovatu-un=maku m-ara tikuru
come-PV=1SG.GEN AV-take clothes

These sentences (30)-(32) are indicative of three phenomena: a) The verb *go*, when PV-marked, always occurs in verb serialization and is grammaticalized into an auxiliary-like element; b) Kanakanavu has an AV constraint effect on V2, as evidenced in Wu (2006); c) Only the verb *go*, not *come*, has this grammaticalized usage, which shows a lexically idiosyncratic development.

The use of AV-marked *ukusa* ‘go’ is, however, possible if the clause appears with the addition of future marker *te* and the locative demonstrative ’*inia*. See (33).

(33) te=ku mokusa ’inia, m-arivura’~~u~~ kavangvang mamanu
FUT=1SG.NOM AV.go there AV-hit all children
‘I’ll go there and hit all the children.’

The difference between (29b) and (33), then, resides in the degree of grammaticalization of the verb *ukusa*. Sentence (33) clearly exhibits a motion on the part of the grammatical subject and the subsequent action of that subject, hence a parallel between the two verbs. Sentence (29b), on the other hand, reveals that the meaning ‘go’ has weakened and that the subsequent action has the core semantics. This is evident when the following verb complement does not appear on the surface.

Consider (34), which is judged to be incomplete.

(34) ?ukus~~u-u~~n=maku

go-PV=1SG.GEN

We thus conclude that the verb *ukusa* ‘go’ has somewhat lexicalized since another common motion verb *iovatu* ‘come’ does not occur with the PV marker, and that it has grammaticalized when bearing a PV marker to indicate a weakened motion and the realization of the following action.

However, another aspect worthy of looking is the V2 restriction in (29a). As discussed in Wu (2006), the secondary verb in a serial verb construction is restricted to agent voice marking in Kanakanavu. It is no wonder that sentences like (31) would become unacceptable.

In addition to the suffix *–un*, Kanakanavu speakers may employ a different form when it comes to a different linguistic context. In ‘narrative’ style (cf. Ross 2009), for example, the patient voice is*–ee*in (35) below.

(35) k~~uu~~n-ee=maku (sua) tammi

eat-PV=1SG.GEN NOM sweet.potato

‘I ate the sweet potatoes (and I won’t let the others to have them).’

Compare (36) and (37) below.

(36) k~~uu~~n-~~u~~n=maku (sua) tammi

eat-PV=1SG.GEN NOM sweet.potato

‘I’ll eat the sweet potatoes.’

(37) ni-k~~uu~~n=maku tammi

PFV.PV-eat=1SG.GEN sweet.potato

‘I already ate the sweet potatoes.’

The use of *–ee* clearly requires the patient, in the case of a transitive predicate, to be the grammatical subject, and this marker further implicates a somewhat negative emotion on the part of the agent. Sentence (38) is another example.

(38) ~~usu~~-'ee=maku vantuku na tanasa
put-PV=1SG.GEN money LOC house
'I just put the money in the house (and I don't care).'

Besides, *–ee*, when standing alone, usually has a past interpretation, unlike *–~~u~~n*, which may be either a past, present, or future event, depending on the context.

Although this marker tags along with a past event, there is some restriction. That is, it does not occur with particles *cu* or *ci*, which indicate a change of state. See the ungrammaticality of (39).

(39) arivur-ee(*=cu/ci)=maku (sua) Pani sii ka'aan
hit-PV(=COS/COS)=1SG.GEN NOM PN because NEG
t<um>a-timana
Ca<AV> -listen
'I hit Pani because he does not listen (to me).'

The label 'narrative' in Ross (2009) is not given a clear definition. Although it looks apparent speakers usually utilize the marker *–ee* in an attempt to narrate a past event, the term may be confusing since in a question-answer conversation like (40) this marker may occur.

(40) A: ni-k<~~u~~m>~~uu~~n=cu=kara=kasu 'uru
PFV-<AV>eat=COS=Q=2SG.NOM rice
'Did you eat rice?'
B: koo=pa=maku k~~uu~~n-ee

NEG=yet=1SG.GEN eat-PV

'I haven't eaten yet.'

Perhaps it would be better to call it a perfective PV voice marker, and such a term might explain why it cannot be followed with COS particles *cu*/*ci*, due to its redundancy as we speculate.

3.3.1.3 Instrumental voice (PV-Instrumental Applicative)

It is firstly observed in Wu 2006 that the IV marker exists in Kanakanavu, in the form of *se*-. However, there are several variants of this voice type not mentioned in his work. It is found in our data that IV marker can be realized phonetically as *sia*-, *sii*-, *si*-, or *see*-. Note the vowel *e* in *se*-is repeated purposefully in order to show its lengthened duration in the speakers' production. Examples (41)-(43) show sentences in which the nominative argument often refers to an instrument or a tool used to carry out an action.

(41) NOM: Instrument

sia-k~~uu~~n=kee 'uru (sua) **'arating**

IV-eat=3SG.GEN rice NOM chopsticks

'He uses the chopsticks to eat rice.'

(42) NOM: Instrument

tarisi **iisi** ia, si-opara=maku karu

rope this TOP IV-climb=1SG.GEN tree

'The rope is what I use to climb trees.'

(43) NOM: Instrument

sua **tuku** ia, see-ravisi=maku c~~t~~n

NOM sickle TOP IV-remove=1SG.GEN weed

‘This sickle is what I use to remove weed.’

There is no difference between *sia*- and *see*-, but the former reflects a more complete, if not archaic, pronunciation. It stands to reason since *see*- can be considered as a neutralized output when *i* and *a* affect each other. The variant *sii*- can replace *sia*-and does not cause any semantic difference (*siak~~uu~~n*/*siik~~uu~~n* ‘eat’).

Even though Wu (2006) mentions that *see*- is beneficiary or instrumental voice marker, he does not provide any relevant examples showing how it can introduce a beneficiary role. In fact, based on (44) and (45), it is doubtful that *see*- can be considered BV.

(44) *si-putunuuvu=maku manu[35]

IV-open.door=1SG.GEN child

‘I open the door for the child.’

(45) a. *si-oprara=maku Pani karu

IV-climb=1SG.GEN PN tree

‘I climb the tree for Pani.’

b. *si-opara=maku karu Pani

IV-climb=1SG.GEN tree PN

‘I climb the tree for Pani.’

Nevertheless, IV constructions may encapsulate a role of Transported theme as the grammatical subject, as in (46).

(46) **sinat~~u~~** ia see-vua=maku kasua

book TOP IV-give=1SG.GEN 2SG.OBL

‘The book is what I will give to you’(NOM: Transported theme)

[35] Even in the topicalized structure, the semantic anomaly still remains.

The use of IV construction to express a transported theme leads to the question as to how it differs from the transported object in the PV construction. See example (47) below for a comparison.

(47) sinat~~u~~ ia v~~u-u~~n=maku kasua
book TOP give-PV=1SG.GEN 2SG.OBL
'The book is what I will give to you.'

Sentence (47) merely refers to an event where the object is transported from the original possessor to the other argument, while (47), with the IV marker, singles out the object as something intended specially to someone. Simply put, the object in IV construction is seen as a gift, or something that is specifically (or usually) for someone else. The PV construction lacks this implication.

Interestingly, the instrumental voice marker in Kanakanavu is a lot less frequently used in view of our corpus[36], and it behaves more like an applicative. Not only does it promote a peripheral argument to a core argument, this morpheme may also occur along with a PV marker. Consider (48).

(48) **sia**-s~~u~~'~~u~~ **~~un~~**=kee paici tanuku iisi
IV-put-PV=3SG.GEN wine cup this
'This cup is what he uses to fill wine.'

Sentence (48) shows that IV and PV markers may co-occur without causing ungrammaticality. Although the average usage of IV constructions does not come with a PV marker, this particular instance of (48) reveals that the instrumental marker is unlike the traditional voice marker that excludes any of the other voice markers, and that it shows more applicative characteristics.

[36] In addition to the low frequency of IV markers, most of the tokens are relativized or nominalized.

3.3.1.4 The status of locative voice

Little is known about Kanakanavu's locative voice in view of the data in Formosan literature. As mentioned in Chapter 2, Mei (1982) and Wu (2006) propose that the locative voice marker has two allomorphs, namely *-an* and *-a* (Mei also mentions a third variant *-anu*). Below are the examples given in Wu (2006).

(49) ni-s~~u~~-an=kee paici na takuacapa[37]

PFV-put-AN=3SG.GEN wine LOC shelf

'He put the wine on the shelf.'(Wu 2006:112)

(50) takuacapa ia, ni-s~~u~~-an=cu cuma paici

shelf TOP PFV-put-AN=COS father wine

'The shelf is where Father put the wine.' (Wu 2006:112)

Several instances of LV are found in our data, though none of them displays a typical LV construction in which the nominative argument is optionally preceded by *sua*.

(51) ni-pa-p~~uu~~n-an=cu (sua) cuma Mu'u (sua)

PFV-PA-hang-AN=COS NOM father PN NOM

ngica'~~u~~ (na) narupu

earthworm LOC hook

'Uncle Mu'u already hung the earthworm on the hook.'

The data above shows that the grammatical subject is either the agent (*cuma Mu'u*) or the earthworm (*ngica'~~u~~*), but not the expected location (*narupu* 'hook'). As a matter of fact, we would like to claim that this formative *–an* is likely a

[37] The Kanakanavu data in (39) and (40) are presented with my own glossing.

phonetic equivalence to the PV marker *~~un~~*, since sentences (49)-(51) are judged a lot better than pronouncing them with a clear *–an* sound.

In fact, the form *–an* is in many cases an imperative marker, as in (52).

(52) tanama-an macaca ('ikua)

try-AV.IMP AV.laugh 1SG.OBL

'Try to laugh at me (and see what will happen)!'

The other potential LV suffix, *-a*[38], on the other hand, functions like a relativizer in many instances, and it indeed assumes a clear locative interpretation only if occurring with the locative prefix *ta-*. See Data (53)-(55) for examples.

(53) ta-k~~uu~~n-a=musu tammi (sua) to'onaa iisi

PLACE-eat-NMLZ=2SG.GEN sweet.potato NOM place this

'This place is where you eat sweet potatoes.'

(54) cak~~u~~ran ia ta-pinarupu-a=maku

river TOP PLACE-go.fishing-NMLZ=1SG.GEN

'The river is where I go fishing.'

(55) miana ta-k~~uu~~n-a=maku tammi tak~~uu~~na iisi

in.the.past PLACE-eat-NMLZ=1SG.GEN sweet.potato table this

'This table used to be the place of my eating sweet potatoes.'

However, the circumfix *ta-…-a* should be analyzed as a nominalizer, deriving a meaning that refers to the particular location in which the event denoted by the verb root takes place. There is in effect an array of nominal elements with this circumfix. See below.

[38] This suffix *–a*, or *–an*, is claimed to be a reflex of the PAn nominalizer in some literature. See Ross (2012) for a discussion.

ta-cuvucuvung-a ‘the place where people gather together’

ta-ningning-a ‘plain, wide and flat field’

to-ta’i-a ‘toilet’ (*to-* as a variant of *ta-*)

The usage of *-an* as a locative voice marker does not yield a consistent pattern across different verbs. When asked whether this affix can be attached to verbs like *opara* climb, *ukusa* go, *c~~u~~’~~u~~ra* ‘see’, native speakers often frown upon this type of combination and consider them unnatural.

Therefore, we claim that, at least in the present-day Kanakanavu, independent uses of *-an*/*-a* as a locative voice marker no longer exist. In contrast, these suffixes may yield a locative interpretation when co-occurring with the prefix *ta-*. However, the *ta-…-a* construction derives a nominal phrase rather than a finite verb, since it does not go along with perfective markers like *ni-*, *cu*, or the future marker *tia*.

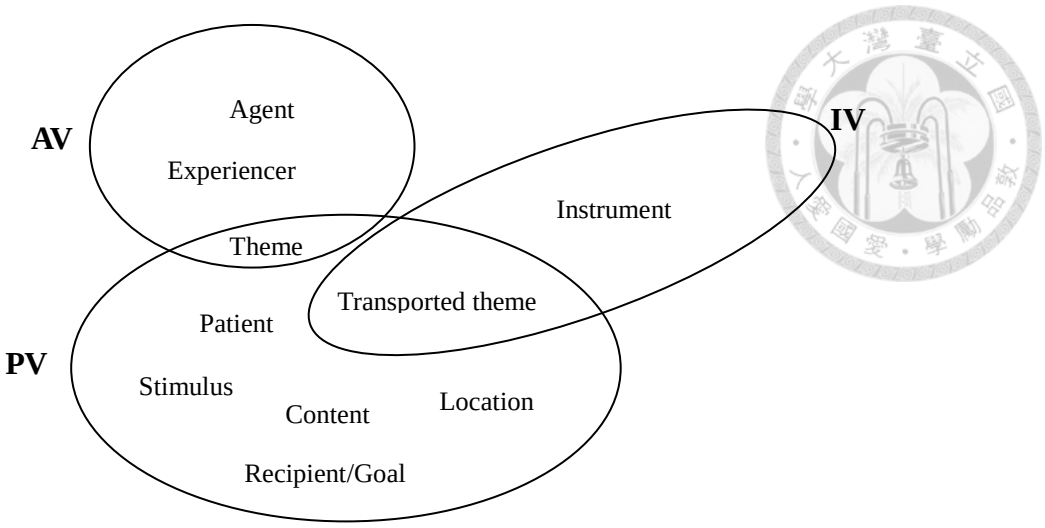
In summary, Kanakanavu has only three major voice types—AV, PV, and IV, while the hypothetical LV marker *–a(n)* does not stand alone and has to be nominalized by adding the prefix *ta-* to arrive at a locative meaning.

3.3.2 Integrating into a semantic map and an interim summary

By resorting to the argument structure in each voice construction in Kanakanavu, we are now able to arrange the possible roles in a geometric fashion and schematize the relationship between the voice types and their correspondent semantic roles in Figure 3.1.

Figure 3.1 Correspondence between Kanakanavu’s voice system and semantic roles[39]

[39] The semantic roles of nominative participants are exhibited here in a semantic map, a notion that is theory-laden as discussed in Haspelmath (1997) and Croft (2001). It should be noted that the position and distance among the semantic roles in this figure do not carry any implications.



Among all the four voice types, PV seems capable of introducing the most semantic roles, including Patient, Theme, Recipient/Goal, and Location, etc. What's more intriguing in this figure is the fact that PV overlaps with AV and IV respectively. Such a phenomenon may indicate that the PV construction, for some unknown reasons, may be competing with the other three voice types.

There are two possible diachronic developments that Kanakanavu might have undergone. One is that, PV used to be able to introduce a lot of semantic roles and the other three gradually came to share some of the roles with PV. In this case, the motivation might be to alleviate the overloaded 'burden' of PV. The other possibility is quite the reverse. Perhaps because PV was gaining more ability to introduce other roles, it began to include other semantic roles. However, this map, one may argue, is open to a third possibility. That is, they shared the roles in the first place, though each voice type might have developed a slight difference in meaning.

No matter how the voice system has come to become what it is in the present day, the mapping relationship should have something to say about the status of each voice type: it manifests a language-specific phenomenon since different languages have their own correspondent patterns. We will try to compare with Tsou in terms of the correspondent relationship in Chapter 5.

3.4 Voice and TAM

Each voice construction may appear with particles that indicate tense, aspect, or mood. In this section, we will discuss the TAM markers and see how they interact with the voice system.

3.4.1 Tense

Broadly speaking, the concept of tense of a language may involve past, present, and future. For the convenience of our analyses, three tenses—present simple, past simple and future— will be examined in order to see whether each voice type has any influences on the temporal semantics.

3.4.1.1 Present simple

To express an event that takes place any moment during the time of speech, a habitual event, or a universal truth, all voice constructions may be used. Data (56)-(58) show that the time concept of the present goes along well with each voice construction.

(56) Pani ia ’aan k<um>a-k~~uu~~n tammi, masiin ia
PN TOP NEG <AV>Ca-eat sweet.potato now TOP
k<um>a-k~~uu~~n=cu
Ca<AV>-eat=COS
‘Pani did not eat sweet potatoes, (but) now he eats (them).’

(57) im~~u u~~n=maku canumu
drink-PV=1SG.GEN water

‘I (will) drink the water.’

(58) masiin ia sia-k~~uu~~n=maku ’arating ’uru

now TOP IV-eat=1SG.GEN chopsticks rice

‘Now I use chopsticks to eat rice.’

The sentences above reveal that the bare use of AV, PV, and IV are capable of implying a present interpretation.

3.4.1.2 Past simple

In Kanakanavu, there are several morphemes that can be employed as our criteria to test the ‘pastness’ on the verb. Below are two such morphemes.

Morphemes that indicate a past event:

ni- ‘(perfective marker)’[40]

cu/*ci* (‘COS particle’)[41]

Consider the following examples first.

(59)a. ni-m-ara=ku tav~~u~~nv~~uu~~n

PFV-AV-take=1SG.NOM banana

‘I took the bananas.’

b. Pani ia ’aan k<um>a-k~~uu~~n tammi, masiin ia

PN TOP NEG Ca<AV>-eat sweet.potato now TOP

k<um>a-k~~uu~~n=cu

Ca<AV>-eat=COS

‘Pani did not eat sweet potatoes, (but) now he eats (them).’

[40] The marker *ni-* is also used as a criterion for perfectivity, as will be discussed in Section 3.4.2.2.

[41] The particle *cu*/*ci* indicates a change of state, and it does not always yield a past interpretation. However, it must involve an action performed in advance, although this action will be repeated afterwards.

(60)a. sinat~~u~~ ia ni-ar~~u-~~ʼ~~u~~n=maku

book TOP PFV-take-PV=1SG.GEN

‘I took the book.’

b. vuraʼ~~u-u~~n=cu=maku tacau iisi

hit-PV=COS=1SG.GEN dog this

‘I already hit this dog.’

(61)a. s<in>i-k~~uu~~n=maku ʼarating ʼuru

IV<PFV>-eat=1SG.GEN chopsticks rice

‘I used the chopsticks to eat rice.’

b. *sia-k~~uu~~n=cu=maku ʼarating ʼuru

IV-eat=COS=1SG.GEN chopsticks rice

c. sia-k~~uu~~n=maku ʼarating ʼuru miana

IV-eat=1SG.GEN chopsticks rice in.the.past

‘I used chopsticks to eat rice in the past.’

AV and PV constructions are generally capable of occurring with *ni-* and *cu*/*ci*, while the IV construction cannot occur with *cu*. However, perfective marker *ni-* may appear as an infix within the IV-marked clause, as (61a) shows. An additional word like *miana* ‘in the past’ may be used to convey the instrumental voice, as in (61c).

3.4.1.3 Future

The future tense generally requires the addition of *te*/*tia*[42], which do not show any verbal inflections but attract pronominals to the right of them. In some cases, however, the bare use of certain voice construction may be interpreted as a future or

[42] The two morphemes are allomorphs with distinct distributions. *te* occurs when immediately followed by pronominal bound morphemes, except third person pronominals, while *tia* appears elsewhere.

upcoming event. See (62)-(64).

(62)a. te=ku k<um>a-k~~uu~~n tammi

FUT=1SG.NOM Ca<AV>-eat sweet.potato

'I will/am going to eat sweet potatoes.'

b. Pani ia tia k<um>a-k~~uu~~n tammi nuura

PN TOP FUT Ca<AV>-eat sweet.potato tomorrow

'Pani will eat sweet potatoes tomorrow.'

c. masiin ia k<um>a-k~~uu~~n tammi, meranau=cu

now TOP Ca<AV>-eat sweet.potato after.a.long.time=COS

'aan k<um>a-k~~uu~~n

NEG Ca<AV>-eat

'Now (Pani) eats sweet potatoes, (but) after a long time (he) won't.'

(63)a. te=maku vura'~~u-u~~n tacau iisi

FUT=1SG.GEN hit-PV dog this

'I will hit this dog.'

b. im~~u-u~~n=maku canumu

drink-PV=1SG.GEN water

'I (will) drink the water.'

(64)a. te=maku sia-k~~uu~~n 'arating 'uru

FUT=1SG.GEN IV-eat chopsticks rice

'I will use chopsticks to eat rice.'

b. nuura ia sia-k~~uu~~n 'arating 'uru

tomorrow TOP IV-eat chopsticks rice

'Tomorrow I will use chopsticks to eat rice.'

The three voice types get along well with the future morphemes. In fact, when a

clear context is given, namely when a temporal deictic expression is present, verbs attached with the bare use of AV, PV, and IV may be interpreted as a future event.

The previous discussions have made it possible to examine the voice system and the compatibility with the three tenses. See Table 3.6 below.

Table 3.6 Voice system and compatibility with tenses

	Present reading	Past marker *ni-*/*cu*	Future marker *te*/*tia*
AV	V	V	V
PV	V	V	V
IV	V	V/X	V

3.4.2 Aspect

Linguistic aspects of one language include continuous/progressive, perfective, and imperfective. In this subsection, we will turn to the question as to whether each voice construction may be compatible with the three aspectual types.

3.4.2.1 Progressive

By adding the progressive morpheme *'esi,* the secondary verb is given an ongoing or continuous interpretation. This word has an original meaning of location, as (65) below exemplifies.

(65) 'esi=ku na tanasa
EXIST=1SG.NOM LOC house
'I'm at home.'

Nevertheless, *'esi* has been broadly employed to mark the progressive meaning on the verb. Consider (66)-(68).

(66) ’e=ku k<um>a-k~~uu~~n masiin[43]

PROG=1SG.NOM Ca<AV>-eat now

‘I’m eating now.’

(67) ’esi=maku vura’~~u-u~~n manu=maku

PROG=1SG.GEN hit-PV child=1SG.GEN

‘I’m hitting my child.’

(68) *’esi=maku sia-k~~uu~~n ’arating ’uru

PROG=1SG.GEN IV-eat chopsticks rice

As with the perfective marker, IV constructions do not tolerate the occurrence of progressive *’esi*. It is, however, perfect for AV- and PV-marked clauses to go along with ’*esi*.

3.4.2.2 Perfective

As already discussed in Section 3.4.1.2, the perfective marker *ni-* occurs with all voice constructions, though the COS marker *cu* does not go with IV type.

3.4.2.3 Imperfective

One type of imperfectivity is expressed by means of particles *koo* and/or *pa* in Kanakanavu language. These particles are clause-initial and they attract pronominal clitics to the right.

We will provide examples of different voice constructions and see if the particles are accepted in each. Consider (69)-(71).

(69) koo=pa=ku k<um>a-k~~uu~~n ’uru

[43] ’*e* is simply a shorter phonetic form of ’*esi*.

NEG=yet=1SG.NOM Ca<AV>-eat rice

'I haven't eaten the rice yet.'

(70) aranee mienaan makasi sooni koo=pa=maku

from past to today NEG=yet=1SG.GEN

vura'~~u-un~~ manu=maku

hit-PV child=1SG.GEN

'Ever since the past, till now, I haven't beaten my child.'

(71) *koo=pa=maku sia-k~~uun~~ 'arating 'uru

NEG=yet=1SG.GEN IV-eat chopsticks rice

AV and PV constructions are harmonious with imperfective *koo=pa*, while IV constructions are not.

3.4.3 Mood

Since there are quite a few categories of linguistic mood, we will use conditional and subjunctive as the testing ground. It turns out that most voice constructions are generally judged to be accepted both when conditional and subjunctive moods are present. Below are some examples (*a* examples are conditional; *b* examples are subjunctive (with *pac~~u~~ris~~u~~ris~~uu~~ng* 'hope')).

(72)a. noo te=ku k<um>a-k~~uu~~n tammi ia

if FUT=1SG.NOM Ca<AV>-eat sweet.potato TOP

te=pa=ku k<um>a-k~~uu~~n 'uru

FUT=still=1SG.NOM Ca<AV>-eat rice

'If I eat sweet potatoes, I will still eat rice.'

b. pac~~u~~ris~~u~~ris~~uu~~ng=ku k<um>a-k~~uu~~n tammi nuura

think=1SG.NOM Ca<AV>-eat sweet.potato tomorrow

‘I hope to eat sweet potatoes tomorrow.’

(73)a. noo vura’u-un=maku tacau ia umori’i

if hit-PV=1SG.GEN dog TOP AV.yell

‘If I beat the dog, it’ll yell.’

b. pacupucupuung=ku ia vura’u-un=musu manu=musu

think=1SG.NOM TOP hit-PV=2SG.GEN child=2SG.GEN

‘I hope that you hit your child.’

(74)a. noo sia-kuun=maku ’arating iisi ’uru ia urupaca=kasu

if IV-eat=1SG.GEN chopsticks this rice TOP use=2SG.NOM

tingsi

spoon

‘It I use these chopsticks to eat rice, you use the spoon’

b. pacupucupuung=ku sia-kuun=maku ’arating iisi ’uru

think=1SG.NOM IV-eat=1SG.GEN chopsticks this rice

‘I hope to use these chopsticks to eat rice.’

3.5 Summary

In this chapter, we have provided abundant examples of each voice construction, and the relationship between the voice system and the argument structure reveals how speakers introduce different semantic roles in this language. In addition, the compatibility with various TAM markers also tell us about how each voice construction may embed an innate temporal preference and how each interacts with temporal concepts. The following table shows the general results given in Section 3.4.

Table 3.7 Compatibility of Voice and TAM in Kanakanavu

	Present reading	**Past marker *ni/cu***	**Future marker *te/tia***	**Progressive *'esi***	**Imperfective *koo=pa***	**Conditional/ subjunctive**
AV	V	V	V	V	V	V
PV	V	V	V	V	V	V
IV	V	V/X	V	X	X	V

Table 3.7 indicates that the instrumental voice is more restricted and is not as compatible with all the TAM markers as the other two voice types.

In addition to the morphosyntactic description of the voice system, we also want to address the question as to whether the voice reflects any pragmatic implications. In the next chapter, we will attempt to examine how Kanakanavu speakers actually use the voice system on the discourse level, based on the data from our corpus.

Chapter 4

Discourse aspects of the voice system

4.1 Introduction

In Chapter 3, the morphosyntax of each voice type in Kanakanavu has been described with examples, but we nevertheless intend to address the question of whether Kanakanavu's voice system reflects, or is even conditioned by, discourse topicality. In fact, more recent studies show that Austronesian voice system is not simply as a syntactic inflection[44], since the system may reveal how discourse aspects play a role in using voice (Wouk 1996, Huang 2002, to name a few). In the present chapter, we hope to find out the relationship between the voice system in Kanakanavu and certain pragmatic factors. More specifically, we will examine the corpus data and see how its voice system may possibly show any correlations to discourse functions such as the individuation of patient argument, grounding, and topicality.

The data analyses in this chapter are established on several pragmatic parameters, e.g., syntactic coding and referential distance, in the case of discourse topicality (cf. Cooreman et al. 1984). By means of examining eight texts included in NTU Corpus of Formosan Languages (Sung et al. 2008), it is made possible to look at how Kanakanavu's voice system interacts with pragmatics, if there is indeed a connection. In fact, we will later discover that Kanakanavu behaves quite differently from highly ergative languages like Tsou, with respect to several discourse properties.

In general, we wish to ask two research questions. First and foremost, does the voice system in Kanakanavu have anything to do with any discourse factors? Several aspects will be investigated in the following sections of this chapter. The results will

[44] Some studies have revealed that the Austronesian voice system is a derivation, which means that the voice forms are actually listed in the lexicon. See Reid 1992:67-68, Starosta 1986, Ross 2002:21, etc. for further discussions.

lead to the other question—if we compare with Tsou, a language which is claimed to belong in the same genealogical group with Kanakanavu, would the two languages exhibit a similar patterns in terms of pragmatics? We will reserve the latter important issue for Chapter 5.

The next section gives a sketch of topics which are often associated with Austronesian voice, namely transitivity, ergativity and discourse functions. After that, the methodology and framework adopted in the analyses, along with our findings will be presented in Section 4.3. We will provide certain discourse aspects to which Kanakanavu's voice system may or may not be sensitive as a whole, and different issues are dealt with in each subsection. Then, we will attempt to put together the results obtained so far and reach an interim conclusion in the last section.

4.2 Austronesian voice, transitivity, ergativity, and discourse

Austronesian voice system is often investigated within various frameworks, and each approach entitles linguists to understand different aspects reflected in the use of voice. We will particularly cover some discussions on transitivity, ergativity, and discourse functions, the last of which will constitute the major topic in this chapter.

One of the fierce debates about Austronesian languages concerns the relationship between voice system and transitivity/ergativity. There are in fact several hypotheses which are assumed by different linguists to be true of the relationship in Philippine-type languages. Some believe that NAV clauses are transitive, while AV clauses are intransitive, hence the ergative hypothesis (Gibson & Starosta 1987, etc.). Other theories, in contrast to the aforementioned one, claim that NAV clauses are intransitive and AV clauses are transitive; that is, the Philippine-type languages are considered to be syntactically accusative. This claim has been gradually discarded,

though. Yet another hypothesis states that both NAV and AV clauses are transitive (Ross 2002:24).

The term *ergativity* itself is problematic in that it may refer to different notions according to the author. In addition to that, ergativity may be studied on various levels, especially on morphological, syntactic, and discourse levels. Despite the complexities involved, we will select morphological ergativity for the sake of discussion here. To determine whether a language is morphologically ergative is a complex decision. Consider the following sentences.

(75) t<um>a-tang manu
Ca<AV>-cry child
'The child is crying.'

(76) k~~uu~~n-~~u~~n=cu=maku tammi
eat-PV=COS=1SG.GEN sweet.potato
'I already ate the sweet potatoes.'

The sentences above may reveal that, as many Austronesian languages, Kanakanavu may be analyzed as ergative at the morphological level, since the S(ubject) in (75) has the same case alignment with the P(atient) in (76), while the A(gent) in (76) receives a genitive marking. As a matter of fact, AV clauses may involve a semantic patient argument as well, as can be seen in (77).

(77) aririan=ku sua sisiin tamna riang
listen.secretly=1SG.NOM OBL bird.type POSS sound
'I would listen to the sound of the (kind of) bird.' (from 'Hunting')

If these AV clauses are to be interpreted as syntactically intransitive, the patient arguments have to be marked as oblique, much like the Extended Intransitive Clause

constructions (EICs).[45] Alternatively, the AV clauses with patient arguments may be analyzed as syntactically transitive, and behave more like accusative languages.

Transitivity, on the other hand, may also exert a crucial influence in the use of the voice system as well. The approach proposed by Hopper and Thompson (1980)[46] has led to several studies on Philippine-type voice system and case system and comparisons with Indo-European languages. Languages may or may not turn out to be sensitive to the scalar transitivity in terms of the employment of a particular voice type or case marker. As mentioned earlier in the previous chapter, there seem to be some verbs which are expected to be highly semantically intransitive that turn out to be in PV forms. The verb *ukusa* 'go', for instance, may occur with a PV form of a clause, although this PV-marked intransitive verb is required to be followed by another verbal predicate like *mara* 'take', which in effect specifies the primary meaning of the event. See Example (29a) repeated below.

(29)a. ukus~~u-un~~=maku m-ara tikuru iisi
go-PV=1SG.GEN AV-take clothes this
'I will go bring the clothes back.'

Sentences like (29a) might be considered at a first glance an exception to our understanding that PV-marked verbs are usually transitive ones. However, on the discourse level, such a misfit can be explained away by the fact that the doer of the action usually initiates the event somewhat due to an outer force. That is, the agent performs the action because of some reason that drives his/her motivation to do it.

[45] The concept of EICs is extensively surveyed in other Formosan languages as well. See Huang and Tanangkingsing (2011) for reference.

[46] Hopper and Thompson (1980) state that the following 10 parameters show a correlation to transitivity: participants, kinesis, aspect, punctuality, volitionality, affirmation, mode, agency, affectedness of O, and individuation of O. Although the present study will not deal with all of the components, we will investigate the aspect and individuation of O in subsequent sections of this chapter.

Hence, example (29a), again, denotes a scenario where the performer (=*maku* 'I') carries out the act of taking back the clothes since, for instance, someone else expects him/her to do so. However, the term *transitivity* is also notorious for its different uses, and we thus need to clarify on which level, be it semantic or syntactic, the author employs under study.

A calculation of the token occurrence of different voice types may offer a glimpse of the nature of the ergativity of the voice system. In fact, the frequency difference between AV and NAV is significantly huge. To yield the result, we have examined all of the main verbs[47] in eight texts[48], and see if Kanakanavu exhibits a similar tendency. The following table shows the distribution of AV and NAV forms in Kanakanavu.

Table 4.1 Distribution of voice forms in Kanakanavu

	1-argument	2-argument	Number	Total
AV	185	94	279 (88.0%)	317
NAV	0	38	38 (12.0%)	

The table above clearly indicates a tendency in which AV verbs are predominantly in use, whereas NAV ones are a lot lower in frequency and they typically assume a transitive feature since they always involve two or more arguments. Languages that are claimed to be closer to Proto-Austronesian usually show a fairly frequent occurrence of PV clauses in discourse.

[47] Only the main verbs in complete and well-formed clauses are considered. For purposes of simplicity, the following verbal elements are not taken into account in our calculation: predicate-like adjectives, secondary predicates in serial verb constructions, relativized verbs, repeated verbs uttered immediately afterwards/forwards due to speech errors, and auxiliary-like verbs (except *tavaru'u* 'can, may').

[48] The eight texts are of various genres included in NTU Corpus of Formosan Languages; the stories are 'Daily Life', 'Hunting Taboos', 'Family', 'Sowing 1', 'Life', and 'Mikoong', 'Sowing 2, and 'Pear story', all of which constitute a total of 622 IUs involving 438 clauses.

Nevertheless, the issue of whether Kanakanavu should be treated as an ergative or accusative language is beyond the scope of this study, since both analyses may be developed from equally substantial perspectives. Thus, we hope to bring up these important questions but will leave them to the future research.

In addition to transitivity and ergativity, the voice system in some Austronesian languages may also be subject to factors like topicality. Huang (2002), for instance, explores Tsou and Seediq in terms of the use of voice both in narrative and conversational styles. It is found that AV clauses in Tsou indicate a lower transitivity while NAV clauses suggest a higher one. Furthermore, the use of NAV often marks the [+referential, +definite] feature on the nominative case (or grammatical subject), but the use of AV usually signals the [-referential] feature on NOM argument. Properties like these will be scrutinized later in Section 4.3.

As a matter of fact, the voice system may turn out to be associated with the following factors, all of which are adopted as parameters examined in Huang's (2002) work.

a. Discourse ergativity

b. Aspect

c. Topicality

Subsequently, we will base our analyses on the three aspects in Kanakanavu since these may be made attainable by means of certain straightforward strategies, as will be explained in Sections 4.3-4.5.

4.3 Discourse ergativity

In this section, we turn to a first discussion in an attempt to see whether the voice system in Kanakanavu has anything to do with discourse ergativity. A language is

classified as a discourse ergative language if it meets the following three criteria (Hopper 1982, 1986):

a. PV is the most frequent voice type in natural data.

b. PV correlates with high levels of discourse transitivity.

c. PV is a foregrounding indicator.

Therefore, we will inspect the eight texts again, in order to clarify the discourse status of the voice system in Kanakanavu. Each of the three criteria will be demonstrated and elaborated below.

4.3.1 Frequency of each voice type

It turns out that the most frequent voice form in the eight Kanakanavu texts is agent voice, while non-agent voice (PV and IV) occurs at a much lower frequency. See Table 4.2 below for the token numbers of each voice form.

Table 4.2 Token number and percentage of each voice type[49]

No.	Text	AV (%)	PV (%)	IV[50]	Total
1	Daily Life	5 (62.5%)	3 (37.5%)	0	8
2	Hunting Taboos	38 (92.7%)	3 (7.3%)	0	41
3	Family	19 (95%)	1 (5%)	0	20
4	Sowing 1	71 (94.7%)	4 (5.3%)	0	75
5	Life	34 (85%)	6 (15%)	0	40
6	Mikoong	23 (95.8%)	1 (4.2%)	0	24
7	Sowing 2	25 (73.5%)	9 (26.5%)	0	34

[49] Again, only the main verbs in complete and well-formed clauses are counted.
[50] Instrumental voice does appear sporadically in our corpus, but the instances are all relativized and thus are not counted here.

8	Pear story	64 (85.3%)	11 (14.7%)	0	75
Total		279 (88.0%)	38 (12.0%)	0	317

The table clearly displays, without exceptions, a strong tendency of AV uses in all of the narrative stories, which were told by six different native speakers. As a result, unlike discourse ergative languages as discussed in the literature, Kanakanavu shows a decisively dominant use of AV forms (88%), with only around 12% of the occurrence of NAV forms in the texts.

It is somewhat surprising to witness such a low frequency of PV in the statistics since one would probably expect PV to occur equally commonly, or at least not as drastically differently as it appears in Table 4.2. The overwhelming number of AV forms, as opposed to PV, suggests that the two voice types behave distinctly in terms of how speakers use them in natural discourse. The result shown above reflects that Kanakanavu does not satisfy the first criterion of a discourse ergative language. Still, it may be necessary to confirm whether a difference holds in terms of the other two criteria, that is, discourse transitivity and grounding.

4.3.2 NAV and individuation of patients

Hopper and Thompson (1980) hypothesize that the discourse transitivity is manifested largely via the individuation of patients. It is then followed that we may resort to certain properties of the patient argument of a clause in order to investigate the potential relationship between voice and how speakers view this particular argument.

To state more explicitly, the properties that we will look at include referentiality and definiteness, both of which specify how a noun phrase is conceived of and are independent of each other. According to Hopper and Thompson (1980), a noun phrase

is considered referential if the speaker is able to single out a referent denoted by the phrase; however, the noun is considered non-referential if the speaker does not mean to refer to any particular referent in any possible worlds. On the other hand, definiteness can be expressed by means of a definite article that tags along the noun phrase. The following are three combinatory types[51] derived from the two parameters, with English examples.

Type 1: [+referential, +definite], e.g., 'I hit the dog sitting over there with a stick.'

Type 2: [+referential, -definite], e.g., 'I hit a dog with a stick.'

Type 3: [-referential, -definite], e.g., 'I want to marry a girl (*to get married*).'

Unfortunately, the article system in Kanakanavu is not as sophisticated as in English, since few, if any, definite/indefinite articles are found in this language. As a result, here we may only make a judgment of which type the patient argument belongs to with respect to the occurrence of demonstrative words (e.g., *iisi* 'this' and *iisua* 'that') and perhaps in a more roundabout way, to the translation.

Before investigating the Kanakanavu data from our corpus, we may first look at a set of elicited sentences that yield a referential and definite pattern as expected. Below are the examples of each voice type.

(78) Agent voice

a. te=ku k<um>a-k~~uu~~n tammi
FUT=1SG.NOM Ca<AV>-eat sweet.potato
'I will eat sweet potatoes.'

b. k<um>a-k~~uu~~n=ku tammi
Ca<AV>-eat=1SG.NOM sweet.potato
'I eat sweet potatoes. / I am eating sweet potatoes.'

[51] A fourth type, [-referential, +definite], is considered non-existent, and is thus excluded here.

(79) Patient voice

k~~uu~~n-~~u~~n=maku tammi

eat-PV=1SG.GEN sweet.potato

‘I will eat the sweet potatoes. / I am eating the sweet potatoes.’

(80) Instrumental voice

si-k~~uu~~n=maku tammi ’arating iisi

IV-eat=1SG.GEN sweet.potato chopstick this

‘I use these chopsticks to eat sweet potatoes.’

In sentence (78), which is AV-marked, the patient argument is interpreted as having the [-referential, -definite] feature. This sentence indicates that the speaker will perform the action of eating sweet potatoes, without implying any pragmatically salient role of *tammi* ‘sweet potatoes’. What makes the case even clearer is the sentence (78a), which denotes that the speaker is one who eats sweet potatoes (as opposed to those who do not). Example (78b), in contrast, does not place a pragmatic emphasis on the patient argument, but it rather refers to the event as a whole.

On the contrary, the patient argument of a PV clause, as in sentence (79), often shows the [+referential, +definite] feature. To put it simply, the speaker has some specific referent(s) of the patient *tammi* on the mind, and thus, he/she is eating perhaps the sweet potatoes at their sight, or the sweet potatoes which are being talked about. To summarize, the patient argument of a PV clause seems to have a higher referentiality and higher definiteness, since the speaker is talking about some specific referent(s) of the noun phrase.

If we look at other NAV clauses, like the one in (80), it becomes evident that the grammatical subject *’arating* ‘chopsticks’, namely the argument triggered by the voice affix, is high in referentiality and definiteness. Kanakanavu speakers prefer IV

clauses with a demonstrative in the instrumental nominal phrase, and sentence (81) is thus interpreted as more natural with *iisi* 'this' modifying *'arating* 'chopsticks' than the one without a demonstrative. It arouses our interests because the features of high referentiality and high definiteness are no longer retained on the part of the object patient argument, but instead on the applied patient, a.k.a., the grammatical subject. The case of IV clauses, therefore, shows a situation where the grammatical subject—the instrument used to carry out the action—is meant to have a specific referent on the speaker's mind.

Having examined the elicited data, now we may further ask a question: Will a similar pattern prevail in the texts from our corpus? To answer this, we need to turn to the corpus data now and find out a possible connection between voice types and the referentiality/definiteness of the patient argument. Here, the eight texts are chosen for an illustration. See the examples taken from the corpus.

(81) From *Daily Life*

[...]	er	u	masiin	sua	umi	ia	acecu	ni-pu'a-a.
	FIL	FIL	now	NOM	plum	TOP	already	PFV.PV-buy-REL

'Now **the plums** have already been sold out.'

the plums> [+Referential, +Definite]

(82) From *Life*

[…]	u	av~~u u~~n	manu	c<um>a-cancu.
	FIL	carry.on.shoulder-PV	child	Ca<AV>seedling

'(I) transplanted seedlings, **child** being carried on the back.'

children > [+Referential, -Definite]

(83) From *Hunting Taboos*

[…]	aririan	uh	sisiin.

AV.listen FIL type.of.bird

'…(they would) listen to **bird's sound**.'

bird's sound > [-Referential, -Definite]

The grammatical subject in (81), namely *umi* 'plums', refers to the plums that have been mentioned earlier in the discourse, hence [+Referential, +Definite]. Example (82), which is PV-marked, involves a grammatical subject—*manu* 'children', that in fact denotes the child of the speaker, but it is not definite since the noun phrase is not translated with the definite article. The last example in (83), on the contrary, has a patient argument (*sisiin* 'sound of bird') that is neither referential nor definite. This is due to the fact that the noun phrase *sisiin* simply means any sound made by the birds. The result yielded from the corpus is given in Table 4.3.

Table 4.3 Voice types and referentiality/denifiteness of patient in Kanakanavu[52]

R/D type	AV	NAV
[+R, +D]	29 (30.9%)	29 (76.3%)
[+R, -D]	5 (5.3%)	3 (7.9%)
[-R, -D]	60 (63.8%)	6 (15.8%)
Total	94	38

From the table above, we are able to tell that the patient of an AV clause is around 65% probable to be non-referential and indefinite, while the one of a PV clause is more than 75% likely to be referential and definite. This result parallels with the intuitive interpretation of the elicited sentences and with our general understanding of the individuation of the patient argument in AV and NAV types respectively.

[52] To calculate the referentiality and definiteness, we only consider clauses with two arguments, whether either or both arguments have a zero anaphora, since it is the comparison between the agent and the patient that we intend to investigate.

A complication arises when an argument may be interpreted as either definite or indefinite, since, without any overt marking of articles, the interpretation depends largely on the context. Consider the excerpt from our corpus below.

(84) te=ci=kia er er pocu'u kanavunavu

FUT=COS=1SG.NOM FIL FIL clean.out Ma.bamboo

'I'm going to clean the Ma Bamboo.' (from 'Daily Life')

In the above sentence, the patient *kanavunavu* 'Ma bamboo' may refer to some particular bamboos that have come to the speaker's mind, hence definite, though without any definite articles. However, it is possible to interpret this noun phrase as some indefinite entities that the speaker is about to clean.

Despite the ambiguities of the possible interpretations, it is justifiable that speakers intuitively conceive of the patient subject of a NAV clause as an argument which is highly referential and definite. The patient of an AV clause, in contrast, usually does not correlate clearly to referentiality and/or definiteness, since the patient argument may be likely (around 30%) to be referential and definite, too.

Now that we have seen the individuation of patient, in the sense of referentiality and definiteness, is reflected particularly in NAV but not in AV clauses, the next subsection will further examine the last criterion of discourse ergativity.

4.3.3 Grounding

In addition to the frequency of PV forms and the individuation of patient, the voice system has also been discussed extensively with regard to grounding. It is reported that, in classical Malay, a western Malayo-Polynesian language (an Austronesian branch), the use of patient voice forms signals a foregrounding event, while AV clauses must be backgrounded (Cumming 1995). This issue has been dealt

with in Huang (2002) as well, and in this section we wish to briefly survey the potentiality of the role of grounding in Kanakanavu.

According to Hopper and Thompson (1980), clauses that are ordered in a temporal sequence and that usually involve a dynamic event are considered the foreground in the discourse. In contrast, clauses that typically denote a stative, attributive meaning and that generally do not involve change of meaning when the order of clauses changes, are conceived of as the background. We will adopt their definition and examine the data.

In our Kanakanavu narrative texts, it appears that there is no necessary correlation between AV clauses and backgrounding/foregrounding, or between PV clauses and backgrounding/foregrounding. Below is one example excerpted from the text 'Hunting Taboos'.

(85) nuu c<~~um~~>~~u~~re=en sua ramaang vavuru ia, kaman~~uu~~ng-~~u~~n=kee
if <AV>see=if NOM trace boar TOP do-PV=3SG.GEN
m… sua== ringee vavuru.
FS NOM trap boar
'If the boar's trace is seen, he will make the trap for boars.' (from 'Hunting Taboos', IU49-55)

In (85) above, the *if*-clause contains a use of an AV form, and the main clause, on the other, is marked by a PV form. It might seem legitimate to speculate that Kanakanavu would have a similar grounding status with respect to the voice forms. However, it is far from clear that it is indeed the case. Consider the following sentence from the same story as (86).

(86) nuu ni-mu-ri^ngee=ci ia, m-uaca=cu m-osa te ta
if PFV-AV-trap=COS TOP AV-walk=COS AV-go FS FS

tu-tunuvu taru'an=ni.

RED-hunting.shed shed=3PL.POSS

'If (they) have already set up the trap, they would rush to their hunting shed.'

(from 'Hunting Taboos', IU63-68)

The sentence above clearly demonstrates an example where the AV clause serves as the foregrounded event.

We may thus come to a tentative conclusion that AV forms do not occur solely in backgrounded events. The next question to be asked, then, would be whether PV clauses necessarily mark foregrounding. As one may expect, patient voice forms are not restricted to foregrounded clauses. See (87).

(87) tia ma-tapari'i manu sii avu-un, avu-un na kukuca.

FUT AV-fall child because carry-PV carry-PV LOC back

'The child would fall down because it's carried on the back.' (from 'Life', IU29-30)

Sentence (87) would be an exception if we assumed a correlation between patient voice and foregrounding. As such, we may infer that there is not a strong implication of grounding functions concerning voice system.

What the sentence in (87) further interests us is the topic continuity of the argument *manu* 'child'. It is observed that, somehow in order for *manu*—the grammatical subject of the AV clause, to be maintained as the grammatical subject in the following subordinate clause (with *sii* 'because'), the speaker used a PV form in the subordinate clause to single out the patient argument (*manu*) as the syntactic pivot again. It may tell us something about the topicality of a nominative argument. We will return to this issue in Section 4.5.

In fact, the overall statistics of the eight texts, as shown in Table 4.4 below,

indicates that the voice types do not seem to correlate with backgrounding nor foregrounding. Table 4.4 displays all types of subordination sentences. The foregrounded clauses may be AV-marked, NAV-marked, or non-voice-inflected[53], and the foregrounded clauses may also appear with one of the three types. There are as a consequence 8 possibilities in total that concern us here[54]. The first item, for example, in Table 4.4, indicates that there are 16 instances of the sentence type with both foregrounded and backgrounded clauses AV-marked, and the next item shows that there are 5 instances where the foregrounded clause is AV-marked but the backgrounded one is NAV-marked. The overall token number of other types is presented in Table 4.4, and the percentage of AV and NAV distributions can be seen in Table 4.5.

Table 4.4 Voice types and grounding in eight Kanakanavu texts

F(oregrounding)/ B(ackgrounding)	Number
[F:AV, B:AV]	16
[F:AV, B:NAV]	5
[F:NAV, B:AV]	5
[F:NAV, B:NAV]	4
[F:AV, B:ø][55]	2
[F:ø, B:AV]	12
[F:NAV, B:ø]	0
[F:ø, B:NAV]	5

[53] The term non-voice-inflected refers to predicates that do not occur with voice affixes. For instance, existential, nominal, adjectival predicates, etc., are not accounted for.
[54] The final possibility where both clauses do not involve voice-marked verbs is not contemplated here.
[55] The null sign indicates that the clause does not involve a voice-marked verb.

Table 4.5 Voice types and grounding in Kanakanavu

	AV	NAV	Total
Foreground	33 (70.2%)	14 (29.8%)	47
Background	23 (71.9%)	9 (28.1%)	32

(χ^2=0.025, p>.05)

Table 4.5 above shows that neither agent voice nor patient voice is correlated to any grounding type, as the Pearson Chi-Square and *p* (2-sided) value indicate. Either in foregrounded or backgrounded clauses, AV forms appear consistently at approximately 70% while NAV forms occur at roughly 30%. That is, the choice of voice type has little to do with grounding, since it is often AV clauses that stand out as the foreground or the background.

So far, we have carefully examined the narrative stories from the corpus in terms of the three criteria of discourse ergativity in the sense of Hopper (1982, 1986). Our results suggest that Kanakanavu exhibits attributes that are not characteristic of a discourse ergative language. On the one hand, PV forms in main predicates are much less frequent than AV forms, and on the other, the use of voice does not imply any grounding functions. Although the individuation of patient argument is manifested quietly clearly when this argument is the grammatical subject (in PV clauses), Kanakanavu is still far from a typical discourse ergative language since it does not meet the other two criteria.

4.4 Voice and aspect

In addition to discourse ergativity, the use of voice system is sometimes discussed under the premise that different voice types favor certain aspectual properties. If the discourse is high in transitivity, the predicate may be prone to be

expressed with perfective markers. Hopper and Thompson (1980) predict that high transitivity tend to show perfectivity, while low transitivity is more likely to display imperfectivity. Therefore, in this section, we wish to see if discourse transitivity, particularly on the part of perfectivity, should be reflected in using the voice.

One way of looking at how aspect and modality may interact with the voice system is to see whether elements like *cu* (marker of COS) and *ni-* (perfective marker) co-occur with AV or NAV more often. Henceforth, we will limit our discussion to the occurrence of perfective marker *ni-* in Kanakanavu.

As already demonstrated in Chapter 3, the perfective markers *ni-* (or *-in-*) and *cu* (or its variant *ci*) co-occurs with AV and PV, but not with IV. With the overt perfective marking, it is then possible to calculate their occurrences with AV and NAV forms. Table 4.6 below provides the results[56].

Table 4.6 Voice forms and perfective markers *cu*and*ni-*

	cu/ci	*ni-/-in-*
AV	79	19
NAV	11	5
Total	90	24

Table 4.6 shows that the perfective marker *cu*/*ci* occurs mostly with AV forms, and that the other perfective marker *ni*-/-*in*- seems to be distributed more frequently in AV clauses. The result is not clear, however, since the token numbers of NAV clauses may not be sufficient to claim that *cu*/*ci* occurs with AV forms more frequently. Rather, it is more appropriate to say that both perfective markers are not disallowed in either AV or NAV clauses.

In general, it is still doubtful that in Kanakanavu, AV clauses typically portray

[56] The results are obtained by examining the token numbers in the eight texts mentioned earlier.

imperfectivity and that NAV ones signal perfectivity. Therefore, we would like to claim that, regardless of voice types, the correlation between voice system and (im)perfectivity is not robust in this language.

To summarize the issues and the results presented thus far, we can see that Kanakanavu is not typically ergative on the discourse level, and its voice system does not reflect the aspect of perfectivity. In the next section, we will turn to another significant facet of Austronesian voice system—topicality.

4.5 Topicality

The notion of topicality is not easily determined in a way that is self-evident and objective, since languages around the world may encode more or less the role of topicality in one strategy or another. Functional linguist Talmy Givón deals with topicality with extensive discussions, saying that it is 'not a clause-level property of referents, but rather a discourse-dependent one' (2001:254). By examining certain operational features (to be mentioned later) of a particular noun phrase, we are able to get access to the degree of topicality and its potential relationship with the voice system.

Givón (2001) resorts to two aspects of a referent in order to assess its topicality. One is anaphoric referential accessibility, and the other is cataphoric mentioning. However, there is also a third feature—the coding of the referent—under his scrutiny when it comes to topicality. The quantitative methodology Givón proposes, as discussed in Cooreman et al. (1984) too, is employed in several studies on Austronesian languages, including Wouk (1999), Huang (2002)and Quick (2005). The parameters we wish to investigate, accordingly, consist of syntactic coding, referential (anaphoric) distance, and topic (cataphoric) persistence, each of which will be

discussed below.

4.5.1 Syntactic coding

Syntactic coding refers to the way the NP in question is coded by means of various types of linguistic devices. Simply put, more topical arguments usually come with higher continuity devices, while less topical arguments are usually realized as modified nouns. The following table shows devices of each type. These three measurements will be briefly explained with some examples later.

Table 4.7 Measurements of syntactic coding

Syntactic coding	Measurements
High continuity	Zero anaphora Pronouns[57]
Medium continuity	Lexical nouns Noun phrases
Low continuity	Modified nouns

In many cases, the clausal subject is often omitted, due to an earlier mentioning in the context or a mutual understanding of the referent. The reason why such a subject has a zero anaphora is that it is highly topical and that it essentially does not create misinterpretations even if the subject is not spelled out. That is, listeners are expected to understand what the subject is when a highly topical NP is a zero form. For instance, in sentence (88) below, the subject is not uttered in the speech.

(88) Zero anaphora

nuu n… nuura ia, m-uaca=cu r<um>ingee.

if FS tomorroa TOP AV-walk=COS <AV>set.up.traps

'Tomorrow, (the hunters) will go and set up traps.' ('Hunting Taboos', IU43-45)

[57] Since clitics, defined as a short form attached to the main predicate or a verb-initial particle, are pronominal in Kanakanavu, we include them in the category 'pronouns'.

The omission of the subject, *the hunters*, has appeared several times in the previous clauses. As a matter of fact, this narrator was talking about what hunters used to do in the past, thereby assigning the NP (*the hunters*) as a strong topic. Hence, examples like (88) shows that an omitted subject is likely to indicate higher topicality than one which surfaces.

The use of pronouns is of high frequency in our data as well, especially when referring to the narrators themselves. Pronouns in Kanakanavu can be either an independent form (nominative and oblique), or a cliticized form (nominative and genitive), as mentioned in Chapter 3.2.3. Four examples from the texts are given as follows.

Pronoun

(89) **iiku** ia … cuma Mu'u

1SG.NOM TOP father PN

'I am Uncle Mu'u.' (from 'Millet')

(90) te=**ku** po-isua aracakan

FUT=1SG.NOM say-that hunting

'I am going to talk about hunting.' (from 'Hunting Taboos')

(91) […] sii ni-ar~~u~~=cu cau kangvang ma-maan=**maku**

because PFV.PV-take=COS person all RED-child=1SG.GEN

'… because all my children were married.' (from 'Life')

(92) […] iimo makahi **iikua** po-'isua=pa vina'~~u~~

so tell 1SG.OBL say-that=PTC millet

'…so (she) told me to talk about the millet again.' (from 'Millet')

Lexical nouns here are meant to be single lexical items like *tammi* 'sweet potato', *vavuru* 'boar', or *cau* 'person', and these nouns do not come with any adjectives or

modifiers. Noun phrases, on the other hand, refer to nouns that involve more than just a nominal element. In other words, when the noun appears with a demonstrative, genitive, or possessive unit, the whole noun phrase is considered medium in discourse topicality. For instance, *cina=maku* 'my mother' and *nguain tamna carapung* 'his/her hat' are of this type. Below are some examples.

(93) Lexical noun

m-umuku	ma-marang	miana	**tanuku**	(mataa)	**tammi**
AV-grow	RED-old	in.the.past	taro	and	sweet.potato

'(Our) parents used to grow taro and sweet potatoes.'(from 'Family', IU 30-31)

(94) Noun phrase

na-cina=maku	marang
PST-mother=1SG.GEN	old

'My late mother was old.'

Finally, the last syntactic coding type to be considered is modified nouns. If a noun is modified by an (usually attributive) adjective or a relative clause (Givón 1983:360), as in the phrase *tingingai kumarai*'small field' in (95) below, it usually shows lower topicality within the clause. This correlation is legitimate since it is assumed that the more topical a noun is, the better the speaker and the hearer can identify the noun and the less necessary to modify this noun.

(95) Modified noun

kaman~~uu~~ng=kia	**tingingai kumarai**
AV.do=1SG.NOM	small field

'I did (it) on a small field.'

Now we will see whether the voice system is indeed associated with topicality by

examine the syntactic coding status of the agent and patient arguments in the narrative texts. Table 4.8 gives the results.

Table 4.8 Syntactic coding and the voice system[58]

Continuity	AV		NAV	
	Agent[59]	Patient	Agent	Patient
High	88 (92.6%)	14 (14.7%)	31 (83.8%)	16 (43.2%)
Medium	6 (6.3%)	66 (69.5%)	5 (13.5%)	19 (51.4%)
Low	1 (1.1%)	15 (15.8%)	1 (2.7%)	2 (5.4%)
Total	95	95	37	37

(AV group: χ^2=1.159, p<.05; NAV group: χ^2=13.121, p<.05)

It is quite straightforward that in AV clauses, the agent has a much higher continuity to be omitted or to appear as a pronoun (92.6%). The patient argument, on the contrary, exhibits only medium or low topicality and is hardly omitted or pronominalized in AV sentences.

As for the patient subject in NAV clauses, it is true that this argument tend to be more topical, with 94.6% of high and medium continuity devices, as we expect. However, what further intrigues us is the fact that in NAV clauses, the agent argument, too, seems to display a higher topicality as well, with approximately 84% of agents omitted or as a pronoun.

On the one hand, we may conclude that in Kanakanavu, AV forms do instantiate a certain degree of topicality on the agent and patient arguments, more so on the agent. That is, the agent of an AV clause is often more topical than the patient. On the other

[58] Only clauses with both agent and patient arguments are considered here, since the inclusion of monovalent clauses may lead to a biased statistic result.

[59] It should be noted that *Agent* here is a general term for A(subject of a transitive verb) and S(subject of an intransitive verb), and that *Patient* is a term for P(patient of a transitive verb). That is, Agent and Patient here are of a semantic sense. The terms are replicated in Table 4.10 in the next subsection as well.

hand, NAV clauses do not seem to show any correlations between agent/patient and discourse continuity, as indicated in the eight texts. A similar result with regard to NAV clauses is attested in Tsou data as well (Huang 2002:681-682).

4.5.2 Referential distance

In addition to syntactic coding of an NP, referential distance may also provide a glimpse of discourse topicality. Referential distance is calculated by counting back to the nearest previous mention of a referent. In this analysis, we will follow Huang (2002) and select 2 and 10 as the boundary values of distance[60]. Different degrees of topicality may then be derived according the distance value, as demonstrated below.

Table 4.9 Referential distance and topicality

Value of RD	Degree of topicality
<2	Highly topical
2~10	Moderately topical
>10[61]	Low topicality

The eight narrative texts are again selected for purposes of our study, and the referential distance is carefully examined for the agent and patient arguments both in AV and NAV clauses. The results are shown in the table below.

Table 4.10 Referential distance and voice types

	AV		NAV	
	Agent	Patient	Agent	Patient

[60] In fact, Givón (1983:13) selects a value of 20 clauses as the boundary beyond which the referent shows low topicality.

[61] There are cases where the agent of a NAV clause is not mentioned in the whole context at all, since it is not important information. Below is one example.

[…] acecu ni-pu'a kangvang sua... mamiriki ... umi
already PFV.PV-sell all NOM plum plum
'All the plums were sold out.' (from 'Daily Life')

For arguments like this, and also for new mentions, we will assign them with a value of 10.

<2	81 (85.2%)	25 (26.3%)	19 (52.8%)	20 (55.6%)
2~9	7 (7.4%)	27 (28.4%)	10 (27.8%)	9 (25%)
10	7 (7.4%)	43 (45.3%)	7 (19.4%)	7 (19.4%)
Total	95	95	36	36

(AV group: χ^2=66.918, p<.05; NAV group: χ^2=0.056, p>.05)

The results shown above are expected. The actor argument of an AV clause is nearly always a referent that has been mentioned within 10 clauses backward. That is to say, agents of AV clauses have a higher degree of discourse continuity, compared with patients of AV clauses.

In NAV clauses, however, the contrast between agents and patients with respect to referential distance is not obvious, since the statistical test does not yield a significant result (p>.05). It is true that the patient subject argument receives more topicality, since it accounts for 55.6% of a referential distance within 2, and 25% of a distance from 2 to 10 clauses. Nevertheless, the agent argument of an NAV clause is also topically continuous because it is approximately 53% probable to have been mentioned within 2 clauses backward.

To render the referential distance of the arguments more clearly, we calculated the mean of the distance and the results are demonstrated in Table 4.11 as follows.

Table 4.11 Mean of referential distance of arguments

	AV		NAV	
	Agent	Patient	Agent	Patient
Mean (clause)	1.77	5.68	3.25	3.31

Again, AV clauses often have an agent argument which is mentioned 1.77 clauses backward, while they have a patient argument that is co-referenced 5.68 clauses away.

It means that the agent argument in AV clauses is more continuous in the discourse. On the other hand, both agent and patient arguments in NAV clauses generally do not show a significant difference in terms of referential distance, as their co-referents are equally distant at about 3 clauses away.

In sum, the statistic results in Tables4.10and 4.11 may imply that the grammatical subject of an AV, or an NAV clause, typically has a high topicality. In fact, the agent argument, whether in AV or NAV clauses, always exhibits high topic continuity.

4.5.3 Topic persistence

Now that we have seen how the way an NP is packaged linguistically and how far an NP is accessed anaphorically may reveal topicality, yet another quantitative aspect to explore here is (cataphoric) topic persistence. The value of topic persistence Givón (1983) includes in his research measures the number of times a participant is mentioned within 20 clauses following the sentence. For purposes of our study, we will instead set a value of 10 as the range of clauses in our calculation, following Huang's (2002) methodology.

In order to investigate how the arguments persist in the topical flow of discourse, we employ the identical eight texts from our corpus. Table 4.12 shows the results.

Table 4.12 Topical persistence and voice types

	AV		NAV	
	Agent	Patient	Agent	Patient
Token ≥3	60 (74.1%)	27 (33.3%)	20 (69.0%)	14 (48.3%)
Token =2	8 (9.9%)	9 (11.1%)	2 (6.9%)	3 (10.3%)

Token ≤ 1	13 (16.0%)	45 (55.6%)	7 (24.1%)	12 (43.4%)
Total	81	81	29	29

(AV group: χ^2=27.037, p<.05; NAV group: χ^2=2.559, p>.05)

The results given above lead to an indication that the agent argument tends to appear more frequently within the next ten clauses than the patient argument in AV clauses. The patient argument in AV clauses, on the other hand, is less likely to be mentioned in the following ten clauses. Therefore, the agent arguments in AV clauses are usually more continuous, compared with the patient argument, as a topic in the discourse.

Nevertheless, NAV clauses do not exhibit the expected pattern where patient is more topical and agent is less so, as shown in Table 4.12. Somewhat in consonant with the result of NAV clauses displayed in Table 4.10, the agent in an NAV clause appears to be mentioned quite often within its subsequent ten clauses. The percentage indicates that NAV clauses behave differently from AV ones in that the patient arguments in NAV clauses do not necessarily become more topical than the agent arguments.

To recapitulate on the issue of topicality, we have presented how the voice system behaves in Kanakanavu with respect to three aspects. Below is a table showing all the results.

Table 4.13 Overall topicality and the voice system in Kanakanavu

Parameter	Comparison of topicality
Syntactic coding	AV: Ag >> Pt[62]; NAV: Ag > Pt
Referential distance	AV: Ag >> Pt; NAV: Ag = Pt

[62] The double arrow-head signals a great extent of topicality.

Topic persistence	AV: Ag >> Pt; NAV: Ag > Pt

4.6 Summary

In this chapter, we have tried to present how Kanakanavu's voice system may relate to discourse aspects. Up to this point, several different facets have been touched upon with regard to the status of AV and NAV forms.

First of all, by examining the natural data collected in the corpus, it is evident that transitivity may play a role in the use of AV and NAV forms, though it does not concern us in this study and we will leave the issue to the future research on Kanakanavu.

A second perspective from which one may approach the voice system involves discourse ergativity. In Section 4.3, we have demonstrated how possible Kanakanavu's voice system may be a discourse ergative language. It turns out that Kanakanavu is less likely to be so, due to the following three observations. First, the patient voice form is not the most frequent voice type, since it constitutes only about 12% of all instances in the eight narrative texts, as seen in Table 4.2. Next, the tendency that the patient argument of a PV clause typically exhibits the [+referential, +definite] feature indeed holds true in our Kanakanavu data, but the patient argument of an AV clause does not necessarily result in referentiality and definiteness. Lastly, there seems to be no correlation between voice forms and grounding. That is, AV forms, as would be expected to appear in the background, occur both in foregrounded and backgrounded clauses. PV forms, too, do not show any preferences for any grounding type. Thus, Kanakanavu is not a discourse ergative language since it already failed two of the three criteria in the sense of Hopper (1982, 1986).

Another aspect discussed in this chapter is the perfectivity of AV and NAV forms.

In fact, both voice types are capable of taking perfective markers like *cu* and *ni-*. Although our statistics shows that AV affixes occur with the perfective marker *cu* more frequently than NAV ones, we may not conclude any correlation between voice and perfectivity/imperfectivity simply by looking at the token number of their co-occurrence. Rather, it is valid to say that both AV and NAV show certain degree of perfectivity or imperfectivity depending on the context.

Finally, three different methods are utilized as indicators of discourse topicality in our analyses of Kanakanavu data. First, the syntactic coding pattern clearly shows that agent arguments of AV clauses are typically more topical than patients, while NAV clauses do not seem to favor any type of arguments. That is, both agents and patients of NAV clauses are equally accessible to topicality. Secondly, the referential distance for agents and patients differs in AV clauses. AV agents are usually more continuous, comparing with AV patients. In NAV clauses, however, patients are not more continuous than NAV agents, since NAV agents can be fairly topical as well. The last calculation employed in our analyses is topic persistence. As seen in Table 4.12, the AV type usually entitles the agent argument with more topical persistence, hence high topicality, while the patient argument is less topical. In the case of NAV clauses, however, the result yielded in our text reveals that both arguments can be topical. In fact, the agent rather than the patient seems to be more likely to have more topical persistence.

Interestingly, patients in NAV clauses are slightly higher in topicality than patients in AV clauses, if we compare the patients both in AV and NAV clauses in terms of syntactic coding, referential distance and topic persistence. It indicates that NAV patients are more like a core argument in the clause while AV patients are less so.

Overall, AV clauses exhibit a clear pattern in which agents are more topical than

patients, whereas in NAV clauses, not only patients but also agents may have high topicality.[63] In fact, the patient arguments in NAV clauses may have weaker topicality, compared with the agent arguments, especially in the case syntactic coding and topic persistence. The potential 'malfunction' of NAV clauses in terms of discourse topicality might have to do with the much lower frequency of NAV usage, though more studies are required in order to answer the question as to why NAV patients do not show apparent high topicality in Kanakanavu.

[63] This result may well support the idea that the agent and patient arguments in NAV clauses are more like core roles, while in AV clauses, only A, or S, exhibits more topicality and is thus a core argument, meaning that the AV patient indeed shows certain degree of obliqueness.

Chapter 5

Conclusion

5.1 Review of the study

So far in the present thesis, we have primarily investigated three aspects of Kanakanavu's voice system: morphosyntax of each voice type, semantic roles of nominative arguments, and discourse factors. It turns out that Kanakanavu has a voice system that is not too deviated from those observed in many other Formosan languages. First and foremost, in Chapter 4, the voice morphology is dealt with in terms of forms, and sentence structures are illustrated descriptively with the help of examples. Below is a table that shows the voice paradigm in several Formosan languages.

Table 5.1 Formosan voice system (partially adapted from Ross 2009:317-320)

	Actor	Patient	Location	Circumstance*
PAn	*M-/-um-*	*-en*	*-an*	*Sa-/Si-*
Puyuma	*M-*	*-en*	*-an*	*-an*
Tsou	*M-*	*-a*	*-i*	*-(n)eni*
Kanakanavu	***M-***	***-~~un~~***	**-**	***sia-***
Saaroa	*M-*	*-a*	*-ana*	-
Saisiyat	*M-*	*-en*	-	*si-*
Pazih	*M-*	*-en*	*-an*	*saa-*
Atayal	*M-*	*-un*	*-an*	*si-*
Seediq	*M-*	*-un*	*-an*	*se-*
Thao	*M-*	*-in*	*-an*	-
Bunun	*M-*	*-un*	*-an*	*is-*
Paiwan	*M-*	*-en*	*-an*	*si-*
Kavalan	*M-*	-	*-an*[64]	*ti-*
Rukai	Active: *w-*, Passive: *ky-*			

[64] In Kavalan, the locative voice, as in Kanakanavu, is nominalized when prefixed with *ta-*. The form –*an* is included in this table, anyway.

Yami[65]	*M-*	*-en*	*-an*	*i-*

The above table indicates that the voice morphology in Kanakanavu is generally shared in many other Formosan languages. Despite the fact that the locative voice is no longer used frequently among Kanakanavu speakers as a finite verbal element, its correspondent PAn affix *–an* is clearly reflected in the form *–a*, which occurs in the nominalized structure *ta-…-a*. Secondly, the typical semantic role assigned to the grammatical subject of one voice type is typical as in other Formosan languages (Chang 2000, Yeh 2000, etc.), although languages may differ from one another with regard to other potential semantic roles triggered by a certain voice marker. Lastly, Kanakanavu voice system displays certain properties of discourse functions, as just been discussed in the previous chapter.

Subsequently, one crucial question that we wish to address, before we close out our conclusion, is whether Kanakanavu is in anyway different from Tsou. Section 5.2 will provide a brief discussion.

5.2 Typological comparisons: the 'Tsouic' subgrouping revisited

Chang (2006) is considered an excellent examination of the so-called Tsouic subgrouping hypothesis, which claims that Tsou, Kanakanavu, and Saaroa are descended at the same genetic level from the same ancestor language. He carefully establishes his viewpoint by reassessing the possibility of this particular hypothesis, elucidating six distinct linguistic aspects that differ between Tsou, on the one hand, and Kanakanavu and Saaroa on the other. To maintain a similar spirit, we will claim that the results obtained from the previous two chapters further complement Chang's observations.

[65] Yami is an Austronesian language spoken on Orchid Island of Taiwan. However, it is often not categorized as a Formosan language since it has a linguistic affinity to Malayo-Polynesian branch.

To begin with, the forms of the voice differ from one to another, according to the description of Chang (2006) and of the present study. Secondly, the semantic maps of the relationship between voice and nominative theta-role in Kanakanavu and Tsou are only canonically similar, but not identical. As a matter of fact, the repertoires of voice types in Kanakanavu and Tsou are already dissimilar, since the former has only AV, PV, and IV but the latter has additional LV and BV types. The difference of voice types further creates deviations from Kanakanavu from Tsou, in terms of the semantic roles each voice type is capable of introducing. Finally, the discourse aspects of the voice system in the two languages seem to parallel, but with some distinctions.

In the following subsections, each of the above major issues will be discussed as follows. Section 5.2.1 will also include Saaroa for a comparison, while Sections 5.2.2 and 5.2.3 will focus on Kanakanavu and Tsou only[66].

5.2.1 Voice repertoire and morphology

Due to the instability of locative voice, Kanakanavu has only three major voice types—AV, PV and IV, as discussed in Chapter 3. Now we will briefly compare with the other two 'Tsouic' languages, a.k.a. Saaroa and Tsou.

As in most Philippine-type Austronesian languages, verbs in Saaroa, on the one hand, are affixed with different voice markers when different thematic roles of NOM arguments are introduced. The voice system in Saaroa, according to Li's (2010) analysis, makes only a three-way distinction, i.e. actor voice (AV), patient voice (PV), and locative voice (LV). Table 5.2 illustrates the (basic) morpheme of each voice type.

Table 5.2 Voice system in Saaroa (based on Li 2010)

[66] Future studies on Saaroa concerning semantic roles and discourse functions are required so as to facilitate an integral comparison of Kanakanavu, Saaroa and Tsou.

Voice	AV	PV	LV
Form	*um-*	*-a*	*-ana*

Consider the following examples from (96) to (98).

(96) Agent voice

um-au-au=aku vutukuhlu

AV-RED-eat=1SG.NOM fish

'I am eating fish.' (Li C. 2010)

(97) Patient voice

pati-sangal-a=cu a ihlaku[67] a alemehle na

LP{catch}-catch-PV=COS GEN 1SG NOM wild.boar PTC

'I caught the wild boar.'

(98) Locative voice

hli-ala-ana=ku a vahlituku-u na

PFV-take-LV=1SG.GEN NOM money=2SG.GEN PTC

'I took (part of) your money.'

Tsuchida (1976) and Paul Li (1997) state that the prefix *saa-…(-a)* is Instrument/Beneficiary voice marker, or 'special focus' (SF) in Tsuchida's term. However, C.L Li (2010) reasons that this affix should be analyzed as a third genitive bound pronoun, which co-indexes with the Actor argument in NAV constructions. Therefore, example (99) below is grammatical, while (100) is not. Notice that this prefix is transcribed here as *sa-*.

[67] Li (2009) gives a similar example, as shown below.
pa-ngetehl-a a ihlaku a racu'u.
CAUS-half-PV GEN lSG NOM bamboo
'I split the bamboo.' (Li 2009:198)
Li consistently analyzes *a ihlaku* as genitive case, without explaining in detail why the 1SG shares the same form as the independent 1SG.NOM pronoun. Although this sentence may require a deeper examination, we will assume that Li's analysis is valid for now.

(99) sa-anu-a ka ma-maini ka vutukuhlu

3SG.GEN-eat-PV OBL RED-small NOM fish

'The fish was eaten by the child.' (Data from Li J. 1997; glossing mine)

(100) (*sa-)anu-a a ihlaku a vutukuhlu

(3SG.GEN-)eat-PV GEN 1SG NOM fish

'The fish was eaten by me.' (Li C. 2010)

The Tsou language spoken on Ali Mountain, on the other hand, has a voice system that is morphologically different from Kanakanavu and Saaroa, particularly with respect to LV and IV/BV types. Tsou has a complete and robust four-way distinction of voice paradigm, unlike the other two languages. Below are four examples from Chang (2006:566-567) and Zeitoun (2000:95).

(101) Agent voice

mo mo-si ta pangka to emi 'o amo

AV AV-put OBL table OBL wine NOM father

'Father puts wine on a table.' (Chang 2006:566-567)

(102) Patient voice

i-si si-a ta pangka to amo 'o emi

NAV-3S put-PV OBL table OBL father NOM wine

'Father put the wine on a table.' (Chang 2006:566-567)

(103) Locative voice

i-si si-i ta amo ta emi 'o pangka

NAV-3S put-LV OBL father OBL wine NOM table

'Father put wine on the table.' (Chang 2006:566-567)

(104) Beneficiary voice

i-si si-eni ta emi ta amo

NAV-3S put-I/BV OBL wine OBL father

'Father kept wine (for him).' (Zeitoun 2000:95)

The voice system in Kanakanavu, Saaroa and Tsou are organized in Table 5.3 for an illustration.

Table 5.3 A comparison of the voice systems in Kanakanavu, Saaroa, and Tsou.

Language	AV	PV	LV	IV/BV
Kanakanavu	*M-*	*-un*	-	*sia-*
Saaroa	*M-*	*-a*	*-ana*	-
Tsou	*M-*	*-a*	*-i*	*-eni*

The above table shows that the morphological forms are variegated, except AV. In view of the synchronic comparison, such a dramatic variation, especially in the Tsou case, does not support the Tsouic subgrouping hypothesis.

5.2.2 Semantic roles

As in most Philippine-type Austronesian languages, each voice marker typically triggers a different thematic role, be it agent, patient, or others. In Chapter 3, we have already schematized a brief semantic map that indicates the correspondence between voice and possible semantic roles assigned to the nominative NPs in Kanakanavu. We want to see if there are any similarities or discrepancies between Kanakanavu and Tsou.

With Figure 3.1 shown in Chapter 3, we are allowed to compare with the result of Tsou in Huang and Huang (2007). Note that the correspondent relationship in Kanakanavu is rearranged, in Figure 5.1, in order to make it clearer and easier to compare with Tsou's result in Figures 5.2 below.

Figure 5.1 Semantic map of nominative NPs in Kanakanavu[68]

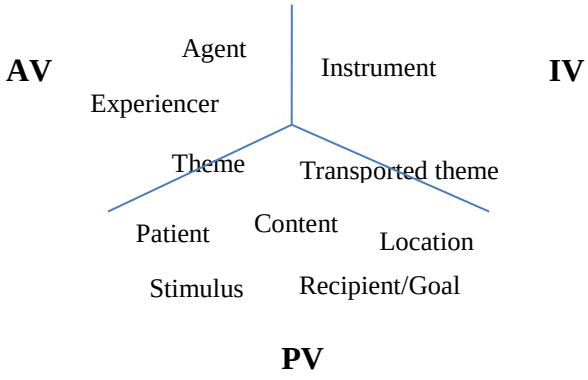
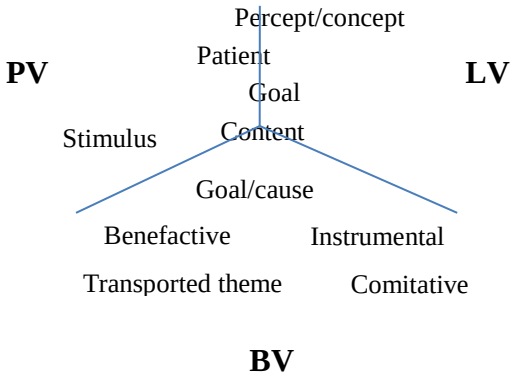


Figure 5.2 Tsou's Semantic map of nominative NPs in NAV (adapted from Huang and Huang 2007:439)



One notable difference between Kanakanavu and Tsou is the fact that there is a benefactive voice marker in Tsou, but not in Kanakanavu. In fact, this BV marker in Tsou may instantiate a role of Transported them, while the same semantic role may be taken on either in PV or IV clauses. Furthermore, the typical semantic role of a BV nominative argument in Tsou—benefactive, is expressed in Kanakanavu via other strategies. That is to say, Kanakanavu does not employ voice system to bring about a benefactive role. In fact, Kanakanavu often uses lexical items like *oraan* 'help' to

[68] Note that the crossing of a semantic role over two voice domains indicates that both voice types are able to introduce the same role. The position of each role and the distance from one to another does not imply any substantial meanings.

convey the benefactive role, as exemplified in (105).

(105) m-oraan Pani cina m-aara tikuru
AV-help PN mother AV-take clothes
'Pani helps mother take clothes.'

Anyway, by examining the two figures above, one is able to see how different Kanakanavu and Tsou are in terms of the connection between voice system and semantic roles. This comparison may be a piece of evidence that further enlarges the genealogical gap between the two languages.

5.2.3 Discourse functions

As seen in Chapter 4, Kanakanavu has exhibited certain voice-related discourse features that are similar to Tsou, although several differencies may be pointed out. We have coped with several topics related to discourse, the first being the notion of discourse ergativity. While Tsou has generally retained the status of a more ergative language, Kanakanavu fails to meet two of the criteria of being discourse ergative. On the one hand, Kanakanavu does not employ PV as the frequent voice type in discourse. On the other, the AV-NAV distinction does not correlate with grounding type at all.

In addition, how the voice system reflects topicality differs slightly between Kanakanavu and Tsou. Below is a table that incorporates the Kanakanavu results yielded in Chapter 4 and the Tsou results presented in Huang (2002).

Table 5.4 Topicality and voice system in Kanakanavu and Tsou (based on Huang 2002)

		Kanakanavu	Tsou
Discourse	frequent PV forms	No	Yes

ergativity	Individuation of O	Relevant	Relevant
	PV as a foreground	No	No?[69]
Degree of topicality	Syntactic coding	AV: Ag >> Pt NAV: Ag > Pt	AV: Ag >> Pt NAV: Ag > Pt
	Referential distance	AV: Ag >> Pt NAV: Ag = Pt	AV: Ag >> Pt NAV: Ag > Pt
	Topic persistence	AV: Ag >> Pt NAV: Ag > Pt	AV: Ag >> Pt NAV: Ag > Pt

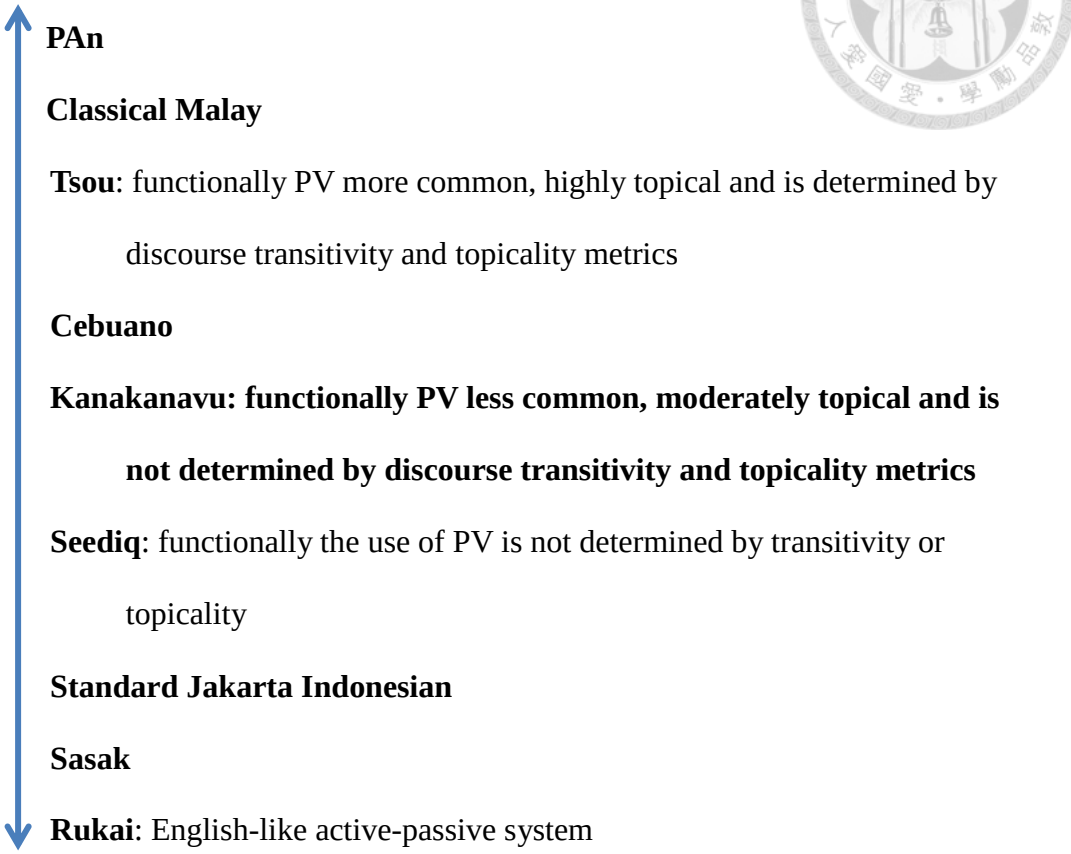
Overall, although in both languages the agent argument often shows high topicality, Kanakanavu and Tsou appear to share most of the properties with regard to the six discourse aspects. Concerning referential distance, Tsou gives the NAV agents more topicality, whereas in Kanakanavu, both arguments share a similar degree. As a matter of fact, the result in Table 4.12 indicates that the topicality may not be a determinant in choosing AV or NAV types since the voice does not influence the general topicality of the patient arguments.

Huang (2002:689) states that Tsou shows innovations in voice morphology and 'functionally PF (PV) far more common, highly topical and is determined by discourse transitivity and topicality metrics'; another Formosan language, Seediq, still keeps the voice morphology, although the use of PV is not determined by transitivity or topicality, highly topical and is determined by discourse transitivity and topicality metrics.

Therefore, in Figure 5.3 below, we may add Kanakanavu in the pragmatics continuum of (some) AN languages, assigning this language somewhere between Tsou and Seediq, according to the results shown in Huang (2002).

[69] Huang (2002) states that Tsou does not seem to show discourse ergativity in the sense of Hopper (1982, 1986), since grounding does not play a role in his statistics.

Figure 5.3 Discourse aspects of Formosan voice system (adapted from Huang 2002)



To summarize, how speakers make use of voice system in the two languages, therefore, is similar, though not identical, in natural discourse.

5.3 Concluding remarks

The present study will hopefully contribute to a better understanding of Kanakanavu language in general. We specifically limit ourselves to the research on the voice system, from different perspectives. First of all, the morphosyntactic structure of each voice type is provided in Chapter 3, with comprehensive examples for illustration. Second, a corresponding relationship between each voice type and the semantic roles triggered on the nominative argument is laid out following the discussion of morphosyntax. We have also analyzed in Chapter 4 a large amount of

corpus data so as to probe into various discourse implications in the use of AV as opposed to NAV clauses. We believe that all the above discussions should serve good purposes for anyone interested in Kanakanavu's voice system.

The implications of our results, as have been addressed in Section 5.2, are significant in that Kanakanavu has some major features that are not shared with Tsou. For instance, the forms of the voice evidently differ to an extent that it is doubtful that the two are derived from the same language, at least based on a synchronic comparison. A comparison of the semantic roles also has divergent phenomena between Kanakanavu and Tsou. Interestingly enough, on discourse level, the two languages exhibit many similarities with respect to topicality.

The literature in the past few decades has seen various methodological developments to reconstruct the internal relationship of the Formosan languages, and evidence from grammatical morphology (Starosta 1995), lexical cognates (Li 1990), phonological change (Blust 1999), or voice morphology (Ross 2009, 2012), etc. have been proposed. In this thesis study, however, we have incorporated a comparison of semantic roles and discourse functions of the voice system. We believe that, due to the major differences in voice repertoire and semantic role triggering, though not in discourse aspects, the validity of the term Tsouic will definitely require more linguistic research, optimally with the help of interdisciplinary evidence, in order to be claimed with more certainty.

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