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## East-West Cultural Exchanges in the Western Carolines

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Although the languages of present day Micronesia comprises what can be termed a closed world within the Austronesian linguistic family, evidence uncovered by comparative linguistic and cultural studies definitely points to the former existence of an open, expansive world centered on Micronesia. In particular, while the languages of the Western Carolines share many common features with those of the Philippines and Eastern Indonesia to the west, certain linguistic elements were introduced from the south via Melanesia, especially also the area of the New Hebrides. The Western Carolines display the characteristics of a linguistic boundary zone. That is, the language in this area are composed of several strata. Thus, when one-dimensional analyses, such as Dyen's studies, are attempted, the resultant phonemic comparison becomes an infinite listing of correspondences. This paper reconstructs a secondary (regional) protolanguage (\*\*), differentiated from the Proto-Austronesian linguistic forms (\*), on the basis of an ethnic lexicon of culturally significant words.

**Keywords:** language contact, borrowed word, semantic change, linguistic stratum, Micronesian languages.

### THE MULTI-LAYERED AND REGIONAL CHARACTER OF THE LANGUAGES OF THE CAROLINES

While belonging to large linguistic families such as the Austronesian or Malayo-Polynesian family of languages, the Micronesian languages have been further divided into subgroups. In synchronic classification, the Chamorro (Cha.) language in the Mariana Islands and Palauan (Pal.) in the Western Carolines belong to the Hesperonesian subgroup; Kapingamarangi (Kap.) and Nukuoro (Nuk.) belong to the Polynesian subgroup; while the rest are classified as belonging to the Melanesian subgroup. A closer look at these languages reveals the peculiar process by which they were formed, repeatedly influenced by wave of culture from both the east and west. Take, for instance, the example of phonemic change. In Cha. \**d* in the reconstructed form of the Proto-Austronesian \*(*dd*)*aɣah* "blood" appears in the three forms of *h*, *d* and *g*, respectively, in *haga*' "blood", *dagga*' "inflammation" and *agaga*' "red". In Pal. \**t*' appears at *t*, as in \**talət*' > *dait* "taro (generic)", and as *s*,

as in \**kəlit'* > *oles* "knife". The same holds true for Yapese (Yap.) [SAKIYAMA 1982b].

Such phonemic differences should be regarded as differences in the linguistic stratum and not, as in the analysis of American scholar I. Dyen, as merely synchronic differences, since this would lead to an infinite series of corresponding protophonemes. When one looks at the stars and constellations from the ground, they look as if scattered on a single plane. Yet, needless to say, mythical stories of stars do not constitute astronomy. Similarly, the present pronunciation of *kanji* (Chinese characters) adopted by the Japanese, such as 修行, 頭痛 (*Go-on*); 行動, 筆頭 (*Kan-on*); 行脚, 饅頭 (*To-on*), reflects the phonological innovation occurred in Chinese.

Synchronically classified, Micronesian languages fall into three subgroups. Yet it is probable that at some time in the past, there was a period of ethnic unity in which culture flourished to the extent that opposition likely arose to the Southern and the Western regions. Such a development would not be impossible for an ethnic group such as the Micronesians, expert sailors who had highly-developed knowledge of astronomy and navigation. In terms of present day linguistic distribution, the areas of the Trukic languages constitute a fairly large grouping that includes Trukese (Tru.) westward to the Puluwat (Pul.), the Satawal (Sat.), the Uliian (Uli.), the Sonsorol (Son.) and the Tobi (Tob.). Even beyond the boundaries of this group a basic lexicon common to all of Micronesia can be detected. For example:

1. "Rainbow" is *isa* in Cha., *iia* in Marshallese (Mar.) and *iahia* or *ahia* in Ponapean (Pon.), apparently common to these areas which are located at the two extreme ends of Micronesia. Between these localities, "rainbow" is (*or*)*rekim* in Pal., *regim* in Yap. and among the Trukic languages, *laxiim* in Son., *raxum* in Uli. and *resiim* in Tru. These words appear to come from the same root word. To give a few further examples:

2. "Squid" is *nosnos* in Cha., *nət* in Mar. and *nuhd* in Pon.,
3. "Rudderfish sp. (*Kyphosus cinerascens*)", is *quili* in Cha. and *keriker* in Pon.,
4. "Tuna fish" is *kərangáb* in Pal., *garngab* in Yap. and *karangahp* in Pon.,
5. "Banyan (*Ficus carolinensis*)" is *aaw* in Yap., *aaw* in Tru. and *aiau* in Pon.,

The above holds true not only for names of living things but also for names of stars:

6. "Hercules" is *mathisixi* "April" in Son., *maichix* "January" in Uli., *mááchik* in Tru. and *maidigi* "August" in Nuk.,

7. "B Pegasi" is *raaxa* "July" in Son., *laax* "April" in Uli., *naa* in Tru. and *laaga* "October" in Nuk.

However, in Cha., Yap. and Pal., it seems that the people stopped navigation by canoes at an early stage. Although F. Magellan recorded the sighting of canoes with outriggers in Guam in March 1521, the word *meesixs* "Pleiades", included in the lexicon gathered by G. Keate in 1783 in his *An Account of the Pelew Islands*, is probably best explained as a confusion with "Hercules". By that time, the Palauan people had already embarked on a life whose central concerns were unrelated to

stars and canoe navigation. The root word for the modern *rak* "year, age" in Pal. can be related to "B Pegasi".

This becomes clear when a comparison is made with other Micronesian languages. Also, as shown in examples 6. and 7., former names of stars have apparently been retained as the names of sidereal months. The difference in the names of months on different islands can be accounted for by the difference in longitude of their various geographical locations.

The principles of comparative Austronesian language study were originated by the German scholar O. Dempwolff. Since he considered only the Hesperonesian languages as the source of Proto-Austronesian, his reconstruction overlooked the influence of the Oceanic languages. That is, he failed to detect the common derivative lexicon occurring locally in the Melanesian and the Polynesian languages. This is a very serious problem. Dempwolff's principles were based on the premise that the Austronesian ethnic groups during their thousands of years of migration from the southern part of the Asian continent remained wanderers, and did not form unified communities in various areas. Thus, when we reconstruct the regional protoforms (denoted by double-asterisks) from the previously mentioned examples, which are different from Dempwolff's Proto-Austronesian forms, the results would be as shown below. (Note that the reconstruction method is omitted here.)

1. **\*\*rakam**, 2. **\*\*nuto**, 3. **\*\*(k)eri**, 4. **\*\*karanap**, 5. **\*\*ayaw**, 6. **\*\*maicik**, 7. **\*\*lak**. The **\*\*nuto** in 2. is apparently connected to **\*\*nuto** in Proto-Malaitan in the Solomon Islands, i.d., such as *nuto* "squid, octopus" in Arosi. Thus, in terms of common protolanguage, this derivative form embraces a broad area which includes Melanesia.

## CULTURE FROM THE WEST AND EAST

The Western Caroline Islands and the Mariana Islands are located near the boundary of Hesperonesia (the Philippines and Eastern Indonesia) and Micronesia. This area provided the shortest route for migration from the west. There was also the great semicircular route from the south through Melanesia, and in particular the New Hebrides. There are linguistic data which substantiate this. The close links between Micronesia and the New Hebrides were discussed in G. W. Grace's [1955] short report on the groupings of the Malayo-Polynesian languages. This relationship undoubtedly existed. For instance:

8. "Back (of the human body)" is *talüxü* in Son., *taxur* in Uli., *sékür* in Tru. and *sowe* in Pon., and its root can be found in **\*\*taku**[ ] in Proto-Oceanic, *daku* in Fijian and *taku-k*, *n-taku-k* or *takuta-k* in various areas in the New Hebrides.

9. Furthermore, there are very interesting examples such as, the word for "meat", which is *fitixo* in Son., *fethëx* in Uli., *futuk* in Tru. and *uduk* in Pon., all apparently related to **\*\*vidigo** in Proto-Central Papuan of the Melanesian subgroup of the Austronesian languages, *viro* in Hula, *hidio* in Motu and *virigo* in Sinagoro

[Pawley 1969]. In the New Hebrides, words like *bisixo-* (Santo Island) and *hisi* (Ambrym Island) have also been widely observed.

10. Another example is "voice, word", which is *laam* in Yap., *raama* in Son., *lamalam* in Pul. and *nam* "heart, thought" in Tru. This is related to the word "tongue" in the New Hebrides, which is *na-lama-na* on Malekula Island and *na-ramo-k* on Tanna Island. The protoform of this word would be *\*\*lama*.

Glottochronological computations have been performed which date the separation of the Micronesian mother language from the New Hebrides and its spread northward from about B.C. 2000 (S. A. Wurm) or B.C. 1000 (R. Shutler and J. C. Marck) [WURM 1975, SHUTLER and MARK 1975]. Both theories date the separation prior to the birth of Christ, the 1000 year discrepancy between the two probably is accounted for by the method used to select the lexical items. Nevertheless one cannot help but observe that this discrepancy in results is still too large.

The languages in the Western Carolines can be conceived of as a boundary zone where east and west met and linguistic elements mingled.

11. "House" is *b(l)ái* in Pal. and *(p'e)bäy* or *l'aay* "men's house" in Yap. which superceded *\*balay*, while *fäluw* "men's house (on the seashore)" in Yap. was a word from the east, as pointed out by W. Müller [MÜLLER 1917-1918]. The word *\*balay* made a great detour through Melanesia, becoming *\*\*fale*, which appears as *fáán* in Tru., *faal* in Uli. and *faare* in Son.

Let us next examine three representative species of *Araceae*.

12. *\*talət'* (*Cyrtosperma chamissonis*) has survived only as *dáit* "taro" in Pal. Palauan *brak* "giant swamp taro" corresponds to *láák* in Yap., *pula* (<*\*\*pura*) in Son., *bwolox* in Uli., *pwuna* in Tru. and *bulaga* in Nuk. Their roots can be found in the Proto-Micronesian *\*\*pwulak*, "*Cyrtosperma* spp."

13. The forms for *Colocasia esculenta* phonemically correspond to *wət* "inedible taro (*Alocasia macrorrhiza*)" in Mar. to the east of Micronesia and appear as *ohd* "wild taro" in Pon. (cf. *sawa* "*Colocasia* spp."), *woot* "*Colocasia* spp." in Tru. (cf. *kká* "*Alocasia* spp."), *yöth* "*Colocasia* spp." in Uli. and *wota* "*Colocasia* spp." in Son. As the term goes westward, the meaning becomes "edible taro". In Mar. *wət* also means "rain", since the leaf of the *Alocasia* spp. is large enough to be used as an umbrella. This may possibly be a case where originally different words were joined through a process of folk etymology. The occurrence of *mal* "*Colocasia* spp." in Yap. seems unparalleled and its root is unclear. The same goes for *kukau* "*Colocasia* spp." in Pal. Palauans seem to think that this type of taro was brought by drifters from the south. Interestingly, this word is very similar to *kuku* or *kukun* "*Colocasia* spp." in the Ninigo language, which belongs to the Melanesian linguistic family on the Admiralty Islands of Papua New Guinea. More detailed data on this area are most desirable.

14. The word for *Alocasia macrorrhiza*, *bise?* in Pal., is taken directly from the Proto-Austronesian *\*biḡah*, and the same can be said of *piga'* in Cha. The occurrence of *laḡiy* in Yap. is unique, while *fèle* in Uli. and *fine* in Pul. are derivatives of *\*biḡah* > *\*\*fine*. *\*\*mwu(ln)u* is regarded as the origin of *mwúnú* in Tru. and *morü* in

Son. In any case, it is obvious that there are discrepancies among the various islands. This is because the introduction of taro was carried out in each island in different ways.

The form \**ubi* “yam (*Dioscorea*)” have been observed in an extremely large area, nearly encompassing the entire Austronesian linguistic family region; i.e., *ubi* in Malay (Mal.), *uhi* in Hawaiian and *óvy* in Malagasy. According to S. Nakao, the spread of yam occurred around the time of the birth of Christ [NAKAO 1966]. However, in Micronesia, although the yam seems to have been cultivated in Yap since ancient times, as evidenced by its use in rituals, there is no trace of this word. *Colocasia* spp. is now the major crop in Yap, yam being only secondary. Representative species of yam are:

15. *thëp* “*Dioscorea nummularia*” grown on vines with few thorns and is usually planted in the forest.

16. *dääl* “*Dioscorea esculenta*” has vines which coil counter-clockwise and is covered with thorns.

17. *duqög* “*Dioscorea alata*” has vines which coil clockwise and no thorns.

Among the above terms for yam, *dääl* came from the previously cited \**talət*’ through phonemic change with substantial semantic change. The semantic change in the names of living things is not an uncommon phenomenon. It is also said that the yam was brought into Palau during the German period. At any rate, *dal* and *de?ok* in Pal. are borrowings from *dääl* and *duqög* in Yap. The generic term for yam in Pal., *təlngót*, is a derivative of *məlngót*, “to seek food”.

Moving eastward from the Western Carolines, breadfruit gradually increases in importance and replaces *Colocasia* spp. and *Dioscorea* spp. as the main crop.

18. \*\**may* “*Artocarpus altilis*” is *më* in Mar., *mahi* in Pon., *mááy* in Tru., *mäy* in Uli. and *maay* in Son. These are all clearly derived from a common form. However, *thow* in Yap. and *mədiuu* in Pal. are unrelated. The word *made*, phonetically similar to *mədiuu* in Pal., is also found in New Guinea, but its origin is uncertain.

Incidentally, Nguluw Island is bound by a parent-child relationship (termed *sowäy* in Nguluwan [Ngu.]) with Guror village in Southern Yap. The Nguluwan people and the Guror people are kinsmen on the basis of land relationships. The culture of Nguluw Island is mixture of Yapese and Ulithian cultures, and its language forms a peculiar dialect of Yapese. For example, it does not have any of the glottalized consonants characteristic of Yapese. Its vocabulary reveals a strong influence from the east [SAKIYAMA 1982a]. On Nguluw Island, breadfruit with seeds is called *yithaw*, a term originating from Yap, whereas the seedless species is called *mafow*, which comes from *mafoi* in Uli. The cultural peculiarity of Nguluw Island is also indicated by the following:

19. “Alexandrian laurel (*Calophyllum inophyllum*)” is *btá?es* in Pal., *biyqöch* in Yap., whereas in Ngu. it is called *säfäng*, similar to *sepang* in Pingelapese, Ponape and to *sevang* in Ifaluk.

Indian culture had a strong influence on the Austronesian people prior to their migration from the Asian Continent. One example is the use of \**ləŋa* “sesame

(*Sesamum indicum*)” and \**kunig'* “turmeric (*Curcuma longa*)” in incantation. In esoteric Buddhism, sesame is the source of light and is used to ward off misfortune. In Old Javanese, “sesame is the essence (of God); it is a grass of purification” (“*Kakawin Rāmāyana*” Ch.25, written around the 9th century). As regards turmeric, according to 玄奘 (Hsüan Chuang) in *Record of the Western Regions* (mid-7th century) “the Hindus apply perfumes made of sandalwood, turmeric and others on their bodies”. Turmeric was used as a special herb for rituals. In Indonesia, the Minangkabauans chew turmeric and spew the mixture at the sick, and the Balinese rub corpses with turmeric. The yellow rice of the Malays, which is made with turmeric, is quite famous. This is cooked on the occasion of the shaving ritual, which takes place seven days after birth.

In Micronesia, turmeric is used to paint the body for ritual dancing, as a medicine, and as a dye and food seasoning on all the islands. The custom of rubbing corpses with turmeric was also reported on Mortlock Islands, Palau Island and Saipan Island (according to S. Matsuoka) [MATSUOKA 1943]. This cannot be explained simply as an attempt to prevent decay, but also has religious meaning linking death to reincarnation. This custom has its origin as faraway as India. Since turmeric does not grow on atolls, it is said that in the past Truk Islands was the center of turmeric cultivation. In Nguluw Island, turmeric is used as a betrothal gift given by a man to a woman. (The betrothal gift from a woman to a man is *bul*, a belt made of shells.)

Linguistically speaking, an interesting semantic change has occurred here. \**laja* has lost its original meaning of “sesame” (sesame was never brought to Oceania) and acquired the meaning of “turmeric powder” or “yellow”. This change of meaning remains in common in the Oceanic languages.

20. \**laja* > \*\**reja* (Proto-Oceanic) became *lenga* “turmeric” in Nuk., *rangrang* “yellow” in Kusaean, *reng* “yellow” in Tru., *rang* “turmeric” (*rangrang* “yellow”) in Uli., *lang* “turmeric” in Son., *rëng* “turmeric” (*rangrëng* “orange color”) in Yap. and *reng* “turmeric” in Pal.

*reng* in Pal. is not a direct form of \**laja*. The direct form would have been \**iej*. When the Proto-Austronesian \**kunig'* came to Micronesia through Palau, it came to mean “turmeric plant”. \**kunig'* is said to have been introduced through Pal. because the Palauan form came from \*\**kug'in*, the metathesis of \**kunig'*, and the forms found in other languages cannot be explained unless they are seen as having come through the Palauan form.

21. \**kunig'* > \*\**kug'in* > *késol* “turmeric plant” in Pal. was borrowed as *guchöl* in Yap., *xëchël* in Uli. and *kúchún* in Tru. Incidentally, *xalowa* “turmeric plant” in Son. and Tob. is unique in its occurrence, but is related to *saluwa* “yellow” in Sangirese (San.), Eastern Indonesia and *kelawag* “turmeric, to color with turmeric” in Tiruray (Tir.) on Mindanao Island, the Philippines, which belong to the Hesperonesian subgroup. Considering their proximity, Son. and Tob. must have adopted words from the west into their vocabulary on their own. This provides evidence not only of the existence of drifters but also shows that considerable exchange took place.

Palau held sway over Micronesia in the era of the "Palau Empire." During that time commodities which spread through the region included such things as turtle.

22. \**pən'u* > *uél* in Pal. was borrowed as *wel* in Yap., *worü* in Son., *wool* in Uli., *woong* in Pul. and *wiin* in Tru. At first glance, *uél* seems to be unrelated to the protoform because of the radical change that has occurred, yet it is the result of absolutely principled phonemic change. It is only through this Palauan form that the other forms can be explained. However, the final *-ng* in Pul. is an exception.

The above described mixture of Proto-Austronesian and derivative regional protoforms is seen not only in names of plants, but also in those of animals. Although "barracuda" does not appear in Dempwolff's constructed forms, the following form is attributable to the Proto-Austronesian.

23. \**alu* "*Sphyraena barracuda*" became *alu-alu* in Mal., *alu* in Cha. and *ʔái* in Pal. and *r-alu*, *s-alu* in Langalanga on Malaita Island, the Solomon Islands, and even *alu* in Savo, a Non-Austronesian language, on Savo Island, the Solomon Islands. On the other hand, for the more eastern languages the common form is \*\**taraw*, which changes to *sarau* in Pon., *saraw* in Tru., *taraw* in Uli., *talawa* in Son., *thorow* in Yap. and becomes *solóu* "unidentified" in Pal.

24. \**yuyu* "coconut crab" became *a-yuuy* in Yap. The origin of *kətát* in Pal. is unclear. On the other hand, \*\**yaf* appears as *emp* in Pon., *eef* in Tru., *yaf* in Uli. and *yaafi* in Son. Ngu. also belongs to this group, having the form *yaaf*.

25. Among names for objects, the word for "war spear" is *sines* in Tru. and *hiláh* in Pul., both resembling an western word, which also appears as *dilék* in Yap. These forms also correspond to *dilek* in Tir. It is not clear whether the above weapon was introduced from the Philippines or introduced into the Philippines from Micronesia, and whether the above forms are a borrowing or a protoform common to the region. At present, this term does not exist in the Western Carolines, apart from Yap. According to the wave theory of dialects, the explanation for this is that the Western Carolines was the center from which the term spread to the surrounding areas.

26. In the same sense, the word for "coconut toddy" is interesting. It is *achif* in Yap., *xachi* in Uli., *áchi* in Tru., *xasi* in Son., (*ʔemlól* in Pal. is unrelated.) and even in Subanun on Mindanao Island, "rice wine" is *gasi*. It is said that originally there were no alcoholic drinks in Melanesia [CHOWNING 1973]. But since Yap. retains the old word form, most probably this word was transmitted from the Carolines to the Philippines. This indicates that making wine from coconuts is a part of indigenous culture in Micronesia.

27. Among other words introduced from the Southern Philippines or North-eastern Indonesia (particularly San.) there is the word for "iron or iron products". The Proto-Austronesian form \**bət'i* "iron" changes to the Old Javanese *wəsi*. It is also *uase* in San. From \*\**uasey* in Proto-Minahasan and \*\**wásay* "axe" in the protolanguage of the Southern Philippines (i.e. Proto-Bisayan) [ZORC 1977], it became *uásai* "axe" in Pal., *wasëy* "iron" in Yap., *wathey* "sword" in Son. and *wathi* "knife"



in Uli. Comparatively speaking, this word is distributed only in the western part of Micronesia.

Etymologically, there are clear cases of new borrowed words, most of them through Pal.

28. *baras* "hulled rice" in Mal. was borrowed as *barás* in Pal., which became *përäs* in Uli. However, *pugas* in Cha. is not a borrowed word, but descended from a common protolanguage.

29. *diokáng* "tapioka" in Pal. is the result of metanalyzing the Spanish *mandioca* and adding *-ng* at the end. Yapese *thiyögäng* came from Pal. The final *-ng* is a meaningless nasal sound which appears at the end of phrases only in Pal.

30. The Spanish *fisga* "harpoon, spear" is the origin of *biskäng* in Pal., *piiskäng* in Yap., *piska* in Uli. and *fisika* in Tru.

### CONCLUDING REMARKS

Analyzing the above linguistic movements, the image of the Micronesian people skillfully maneuvering their canoes and travelling freely on the high seas from east to west comes alive in the mind. Once they began to fear navigating beyond the reefs, their culture was cut off from the outside world. To use the words of H. Izui [IZUI 1975], in the context of the entire Austronesian linguistic area, Micronesia constitutes only a remote area. It has gradually evolved into a closed world.

Nevertheless, the culture and language of Micronesia is, as stated earlier, multi-layered. It is the lack of historical data which makes comparative study quite difficult. E. M. Quackenbush's doctoral dissertation of 1968, although limited to the Trukic languages, is remarkable in that, in his 568 items of lexical comparison, he has clarified the phonemic correspondences among the languages. Since that time there have unfortunately been few comparative linguistic studies in Micronesia. However, dictionaries and grammars of specific languages have been published by the University of Hawaii, namely: Pal. (E. G. McManus, L. S. Josephs, *et al.*), Yap. (J. T. Jensen), Cha. (D. M. Topping), Woleaian (Ho-min Sohn), Pon. (K. L. Rehg and D. G. Sohl), Mokilese (S. P. Harrison and S. Albert), Kusaiean (Kee-dong Lee); Mar. (T. Abo, B. W. Bender, *et al.*); and by the Australian National University, namely: Pul. (S. H. Elbert) and Uli. (Ho-min Sohn and B. W. Bender). Additionally, Mrs. S. Tanaka presented a doctoral dissertation on the syntax of Pulo-Annian to the University of Hawaii, in 1977. In 1980 the dictionary of Tru. co-authored by H. Sugita and W. H. Goodenough was published by the American Philosophical Society.

### BIBLIOGRAPHY

CHOWNING, A.

1973 *An Introduction to the Peoples and Cultures of Melanesia*. Reading, Mass.: An Addison-Wesley Module in Anthropology No. 38.

GRACE, G. W.

1955 Subgrouping of Malayo-Polynesian: A Report of Tentative Findings. *American Anthropologist* 57(2): 337-339.

IZUI, Hisanosuke (泉井久之助)

1975 『マライ=ポリネシア諸語』弘文堂。(Malayo-Polynesian Languages. Tokyo: Kobundo.)

MATSUOKA, SIZUO (松岡 静雄)

1943 『ミクロネシア民族誌』岩波書店。(Ethnography of Micronesia. Tokyo: Iwanamishoten.)

MÜLLER, W.

1917-1918 *Yap, 2 Vols.* Hamburg: L. Friederichsen & Co..

NAKAO, SASUKE (中尾 佐助)

1966 『栽培植物と農耕の起源』岩波書店。(Horticultural Plants and the Origin of Agriculture. Tokyo: Iwanamishoten.)

PAWLEY, A.

1969 *Reconstructions in Proto-Central Papuan and its Descendants.* Auckland: Department of Anthropology, University of Auckland. (mimeo.)

QUACKENBUSH, E. M.

1968 *From Sonorol to Truk: A Dialect Chain.* Ph. D. dissertation, University of Michigan.

SAKIYAMA, OSAMU (崎山 理)

1982a The Characteristics of Nguluwan from the Viewpoint of Language Contact. M. Aoyagi (ed.), *Islanders and Their Outside World: A Report of the Cultural Anthropological Research in the Caroline Islands of Micronesia in 1980-1981.* Tokyo: St. Paul's (Rikkyo) University, pp. 105-128.

1982b 「ヤップ語の比較と系統」 日下部文夫編『ミクロネシアの文化人類学的研究』国書刊行会 165-206頁。(Comparison and Genealogy of Yapese. F. Kusakabe (ed.), *A Cultural Anthropological Study of Micronesia.* Tokyo: Kokushokankokai, pp. 165-206.)

SHUTLER, R. and J. C. MARCK

1975 On the Dispersal of the Austronesian Horticulturalists. *Archaeology and Physical Anthropology in Oceania* 10(2): 81-113.

WURM, A. S.

1975 *Spreading of Languages in the South-Western Pacific.* Pacific Linguistics D-27. Canberra: Department of Linguistics, Research School of Pacific Studies, Australian National University.

ZORC, R. D. P.

1977 *The Bisayan Dialects of the Philippines: Subgrouping and Reconstruction.* Pacific Linguistics C-44. Canberra: Australian National University.

