CONTRIBUTIONS ON SOME REMAINING PHONOLOGCAL ISSUES IN AUSTRONESIAN

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0 Introduction[1]

In this concluding study I'll review some concepts I've developed over the years, related to phonology, in the AN languages. The languages that I studied most intensively (Nanumanga, Tuvalu, Finney, 1983) was of more interest for its syntax than phonology.

In the first major section of this paper, we'll examine some of the processes of decision-making by the missionaries in selecting which letters of our alphabet to use in their planned translation of the Bible into the Hawaiian language, and we'll analyze why the decisions were made as they were made.

In the second major section of this paper, we'll reexamine some of the reconstructions that have been made of the phonemes of the hypothetical ancestral language, Proto-Austronesian; and suggest some improvements.

In the third section we'll review certain phonological changes noted in a previous SEALS paper, and comment on the complex diachronics of the phonology, the morphology, and the syntax.

1 Issues within Polynesian

1.1 *Ambiguous Phonemes in Hawaiian*

It has long been known, from the accounts by Fornander (cited in Bernice P. Bishop Museum Memoirs, 1917, 1918, which in turn is cited in Puku'i and Elbert, 1971), that the missionaries in the second decade of the Nineteenth Century, on the Big Island of Hawaii, had difficulties in choosing the alphabetical letters for three of the phonemes in the Hawaiian language.

The three questions were: W or V?   L or R?   T or K?

According to Fornander's study reported in Hawaiian Antiquities (available only at the University of Hawai'i library) the matters were decided by a committee of seven missionaries, and in all three instances the vote was four to three. Not having Fornander available now, I don't know whether it was the same four each time or not.

Each of the choices involved its own problems, its own issues. Not two involved the same questions.

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[1] Abbreviations used in this paper: Pan = Proto-Austronesian, MP = Malayo-Polynesian, EMP = Eastern MP, CP = Central Pacific, PN = Polynesian, EPN = East PN; all prefixable with P for Proto-.

1.2 *By Good Luck, A Helpful Source*

In the spring of 1961, I was employed as Director of Research for the State Mental Health System of Hawaiʻi, a job that I began in January, 1960. With permission of the State Health Department, I took two courses in the Hawaiian language at the University of Hawaiʻi (and as I had been appointed an Adjunct Assistant Professor of Psychology there, I was not charged a tuition fee). The teacher, Professor Samuel H. Elbert, had done research on the tiny isolated island of Niʻihau, the only place where the public school was still taught in the Hawaiian language, not in English. Sam had mentioned the name of a woman who taught school there, Tini Teale (Jean Kelly). One day as I browsed in the Hawaiian language section of the University Library, reading Fornander, I encountered a Hawaiian-looking woman who turned out to be Tini, and we talked a while. I paid careful heed to the phonemes as she uttered them in conversation, and I had her repeat some words and phrases so that I could carefully record exactly how she said them. This is as close as we'll ever get to hearing how the language was said by Hawaiians known to the missionaries on the Big Island in the 1810-1820 era.

Later, in 1963, I traveled to other Polynesian Islands, including Tahiti, the Tuamotus, the Samoas, New Zealand, and other Austronesian Islands, before moving to the University of Kentucky. In 1970-1971, on sabbatical leave, I did research in linguistics and cultural anthropology, including places such as Tonga, and spent more than half that year on Nanumanga, an isolated Polynesian island in what is now Tuvalu, where I was the only outsider living; and revisited Hawaiʻi and Samoa. So my observation of the phonology of Tini and other Hawaiians in the 1960s was supplemented by observations of speakers of other Polynesian and other Austronesian languages, as well as by studying the scientific literature.

1.3 *The W or V Issue*

Both W and V are common phonemes, though not all languages have both. In English, W is a semivowel, which means that it can be considered to be a glide in the position of the vowel U (as in "food" [fud or fuwd] or as in "rule" [rul or ruwl]). The latter renderings of the long close (tense) vowels are in the system in which the Bloomfieldians had converged. In it, the English word "put" is rendered "put," and the English words "rude" and "spoon" are rendered "ruwd" and "spuwn."   In that system the word "fit" is so spelt, but "feet" is spelt "fiyt." Not all languages have such a distinction. Spanish speakers often say "feet" for English "fit." Classical Latin (or certainly pre-Classical) had long vowels that were prolongations of the short ones. Later in Latin, the short vowel became more open (lax), less close (tense), in a complex process toward the development of the Romance languages. A diachronic principle of universal grammar is that "w" often changes to "v" through an intervening bilabial voiced spirant, while "v" never changes to "w."

In languages like English, the W is a bilabial glide (or semi-vowel), with visible protrusion of the lips. In sharp contrast, the V is a labiodental spirant (fricative), made with the lips of the upper central incisor teeth against the lower lip.

In our language, V is a voiced spirant (fricative) contrasting with F, the "same" sound but voiceless. In English, the voiceless fricatives (and voiceless stops, too) are not only voiceless but also aspirated. Likewise, the English labial stops, as we hear them, distinguish between voiceless P and voiced B. English speakers are seldom aware that the P is aspirated and the B is not. Likewise for F/V, thin/then, T/D and K/G.

That's in contrast with Mandarin Chinese, where both bilabial stops are voiceless, differing only in aspiration. Till recently the pair was distinguished only by a diacritical mark, resembling an apostrophe, for the aspirated phoneme. So, English speakers said them the same, creating a host of false homonyms. In the recent official change of spelling, to force English speakers to make a difference, the aspirated form is written "P" and the non-aspirated form "B". Thus the name of the capital city, formally Peking, is now Beijing. That makes the English speakers sound odd (voiced stop), but no longer ambiguous.

Now, back to the Austronesian. The Hawaiian W or V sound was ancestrally a W, and very likely so in Proto-Polynesian. Early on, it probably became the ambiguous W/V. By that I mean a bilabial spirant, a fricative, made with both lips. The bilabial spirant is still heard in some Polynesian languages today.

What Tini spoke in 1961 was the old bilabial spirant, the intermediate sound, spoken in other Polynesian islands, neither a standard W nor a standard V.

In some work on East Polynesian languages, including that published by Steven Fischer, a change is asserted from F to W. If that assertion were intended to mean a change from F as in English to W as in English, it would be an impossible change. F could become voiced, to V. But the further change from V (as in English) to W (as in English) is not possible. If any change occurs it must be from V to W.

So what is the likely explanation of the changes of the voiced and the voiceless sounds in question: both in the sound that began as W and in the sound that had become something like F?

At an early stage in the development of Polynesian, a [p] had become a bilabial spirant on its way to [f]. The f-like sound (voiceless bilabial spirant) is spelt "wh" in Maori. That is no doubt the "f" that Fischer reported to change to "w" (no doubt bilabial voiced spirant) in Fischer's SouthEast Polynesian. A change from a true "f" to a true "w" is not possible, but a voicing of a voiceless bilabial spirant is undoubtedly what happened. It's interesting that what Tini spoke in 1961 was the same bilabial spirant (between a W and V) that must have been spoken in the days when the missionaries disagreed on whether to spell "w" or "v".

As we see, problems that are synchronically puzzling are often easy to understand in diachronic context.

Puku'i and Elbert (1971 printing), p. xxxvii, "pronunciation of Hawaiian," gives the sound of "w" as:

w after "i" and "e," usually like V; after "u" and "o" usually like W; initially and after "a" like V or W.

1.4 *The L or R Issue*

As said by Tini, the informant from Ni'ihau in 1961, the sound was neither a simple L nor a simple R. It could be replicated only by an L followed by an R. In other words, the tip of the tongue had to move posteriorly along the hard palate (roof of the mouth cavity) while detaching itself from contact with the hard palate.

The best guess is that this 1961 Ni'ihau pronunciation was also what was used by the inhabitants of the Big Island of Hawai'i in the early Nineteenth Century. Be that as it may, the missionaries, by the narrow vote of 4 to 3, chose the L spelling. By the 1957-1971 period, Mary Puku'i's pronunciation of that phoneme seems to have shifted in the L direction, as shown by Puku'i and Elbert's instruction:

h, l, m, n   about as in English

1.5 *The T or K Issue*

Between these two sounds, there is no intermediate position. The sound must be either one or the other.

As we know now, the T was the Proto-Polynesian sound, and the K was the innovation. The change in Hawai'i began on the Big Island, the most Southeastern of the archipelago, and spread progressively Northwest to Ni'ihau and Kaua'i, at the opposite end of Hawai'i.

Again, it was only by a 4 to 3 vote of the missionary committee that the choice was made.

A reasonable surmise is that the four in the majority recognized that K was the wave of the future, and for that reason chose to go along with it, fearing to be stuck with a representation soon to go out of use.

The language at the time had a vacancy for a K, because the PPN *K had become a glottal stop.

The loss of K to glottal (often later zero) happened independently in many Polynesian languages. And later, independently, many other such languages changed the T sound to a new K, just as Hawaiian did.

In Samoa, on the other hand, when the missionaries created a written language, the change from T to K had not yet taken place. So, the T spelling was used in the Bible and is still used there and in dictionaries and in the written languages.

When the change to [K] took place in the spoken language, the T spelling continued. Even today, the phoneme is written T in Samoan, though pronounced K by the native speakers.

When Margaret Mead worked in Samoa in 1925, the Samoans required her to use the "correct" pronunciation (T), though they themselves, of course, used the K sound. The reason for regarding the [t] sound as correct was that the "t" spelling had been used in the Bible translation.

Likewise, though the Samoans had merged the N sound into that of the velar nasal, they required Mead to distinguish between the two. A Samoan woman called herself "Anga" though spelling it "Ana" (Ann in English). She explained that she was too "lazy" to say [ana].

When I visited Mead's island, Ta'ū, in 1970, the K sound was used in Ta'u village, but in Fitiuta (another village on the same tiny island), the T sound was still in use by the native speakers. In the rest of Samoa the native speakers always used the K sound, though they said that the T sound was correct. Likewise in their shift of N to a velar nasal, they agreed that the true [n] sound was theoretically correct. The spelling, and its use in the Bible, maintain the view that the older form is still correct, and should be spoken by foreigners, though the native people use the newer sound.

The missionaries' choosing the innovation K over the ancestral T is not necessarily the better choice from every point of view. If we were interested in allowing the native speakers, of a broader range of Austronesian languages, to read one another's writings, with some comprehension, a writing closer to the ancestral would be more helpful.

2   Phonemes in Proto-Austronesian

Reconstruction of phonemes for Proto-Austronesian (henceforth PAn) has had a long history.

One early position was that of John Wolff, who proposed a theory, like that of Verner's Law for Proto-Germanic, in which certain very early sound changes were attributed to the ancient (PIE) position of stress.

The currently accepted reconstruction of PAn phonemes is that of Robert Blust (1999), and with good reason, as Blust supports it with good evidence. I suggest some revision, though it is minor. Blust's reconstruction of the PAn consonant system is Table 2 on page 43. The Malayo-Polynesian primary division, to which more than 99 per cent of the Austronesian languages belong, is not shown on that page, though his MP data are on pages 82-87.

For Blust's capital "**S**," my "**s**," fifteen groups show "s," one (Puyuma) shows both "s" and zero, one shows both "s" and "h," two show "sh," and one (Siraya) shows "g." So I'll assert "s" as the better spelling.

For his "**s**," my "**ts**," only six groups show "**s**," while another six show "t," two show "**ts**," one shows "**c**" [presumably the "church" affricative], one shows both "**s**" and "h," and one shows zero. As change from "ts" to "s" is common and the reverse not common, it's clear that "**ts**" is the better choice.

So I suggest that my assignment of symbols better represents the ancestral phonology than Blust's (even though Blust is the ablest phonologist dealing with the AN languages.)

Those figures are for the nine primary groups of Formosa (Tai Wan).

It's too bad that Blust failed to include the MP primary division in that table.

In Appendix 2, pp.82-86, Blust lists a reconstructed basic vocabulary for PAn and for PMP.

He shows only seven PMP reconstructions with "**s**" with homologs in PAn. All six show "**s**" in PAn. They are (in his PMP) "suru" (breast), "tangis" (cry), "asu" (dog), "manipis" (thin), "si-ia" (he, she); and "isa" (one).

Nearly all the examples he gives of PAn capital "**S**" are given in his table as PMP "**h**." That's not too surprising, as "s" to "h" is an extremely common phonological change. So perhaps that selection of his also supports my proposal that what he reconstructs as PAn "S" was phonologically ["s"]. His table 2 shows twelve (non-MP) primary divisions of MP showing "s," none "h" alone, and one with both "s" and "h."

3   Some Remaining Problems for PAn

A minor comment is that the use of capital C for one PAn phoneme is unfortunate, in that it can be confused with the use of capitals C and V for generalized consonant and generalized vowel. The unfortunate use came about because the small **c** had been already used for another proposed PAn consonant, a reconstruction no longer accepted by most. So I propose using the small **c** for the PAn phoneme that has generally been designated as capital **C**.

Blust (1997) also implicitly rejects the older use of the small **c** by ignoring it. His list (pp.82-87) of 200 basic words of PAN (for which he also gives PMP forms) has not one example with a small **c**. He continues the capital C spelling for the true **c** phoneme. I suggest the replacement of the old capital C spelling with a small **c**, which won't be confused with the use of C for a generalized consonant.

It is somewhat troubling that some writers use the term "palatal" supposedly for a position farther back than dental or postdental (alveolar) but forward from a normal hard palate sound (K) and of course far forward from a soft palate sound (which in some languages is written Q). The problem is that for some the term "palatal" is used (unfortunately, I think) to indicate not so much a position of contact as a type of contact; i.e. to mean an affricative as opposed to a stop. I can't recommend that use. A change of T to a "church" phoneme should be called "affrication" (or perhaps "affricativization"), certainly not "palatalization". The term "palate" properly refers to the hard palate, where a K is articulated and occasionally also to the uvula, which is called the soft palate. Many people today use the term "velar" to mean a hard palate stop, K, because the term "palatal" has come to be misused to mean affricative, and use "palatalization" to mean change to an affricative. The term "velar" was formerly used sometimes for a location either on the hard palate or on the soft palate.

An interesting point is that because PAn phoneme "d" so often becomes "r" in daughter languages, and because PAn may or may not have had a "g" phoneme (voiced form of "k"), it has been proposed that PAn "d" had a point of articulation somewhere back of that of PAn "t." Blust lists "t," "d," and "n" in the same column but notes "the high probability that *t was dental but that *d and *n were alveolar". I agree. The change it suffered in MP languages give evidence of an "r" and not a "d" ancestry.

Blust's table on page 43 is especially interesting. The PAn sound generally represented by "s" comes out as "ts" in two Formosan languages in his table (p.9) and as "t" in some others (in that table and also some MP languages). Also, the PAn sound designated as "S" comes out mostly as "s" with some "sh" or zero. Neither of these facts is newly discovered. Surely those facts suggest that the PAn "s" should be re-designated "ts" and that the "S" should be re-designated as "s." I so propose.

4   Findings

One finding here is that a certain phonological change very early in Austronesian is closely connected with morphological and syntactic change.

The other finding here is that evidence both in Formosan languages and in Malayo-Polynesian languages supports re-designating Blust's PAN *s as *ts.

Cu + a > Ca and Cu + Ci > Ci

This is a revision of an unpublished paper that I gave at the International Conference on Austronesian Languages, in Taiwan, in December, 1997.

As we have noted before, one or two of the casemarkers in archaic AN tongue are former topic markers, but most of them are former prepositions. I use PCM to mean "prepositions and/or casemarkers" or prepositional casemarkers.

In various divisions of AN, especially fairly archaic ones, we have noted a pattern of the PCM having forms Cu, Ca, Ci, Cua, Cui. In some languages, Cui and Ci were variant forms of the same word. In other languages, Cua and Ca were variant forms of the same word.

The consonant determines the syntactic/semantic role.

In the archaic languages, and notably in Mayrinax Atayal, the vowel varies with the type of the substantive. At one pole, with personal pronouns and proper names of persons, the vowel is "**i**." That's the group that Dixon (1994) puts at the far left. At the other pole, with nonspecific common nouns, the vowel is "**a**." That's the other extreme.

Let's advance the following proposals. (1) The basic, unmarked form is vowel "**u**"; (2) The element **a** was a determiner that may have been used at first only for nonspecific common nouns. Call that category A. (3) The element **i** was a determiner that may have been used at first only for individual human beings, designated by name or by personal pronouns. Later, it came to be used also with proper names and places. Call that category I. (4) The unspecialized form **u** could occur with no specialized form following. (5) When both unspecialized forms occurred, the unspecialized **u** was at the left, and the specialized form **a** or **i** was at the right, as a separate word, hence "**u a**" or "**u i**." (6) In some languages, "**u a**" became a single word "**ua**," and/or "**u i**" became a single word, "**ui**." (7) Neighboring fields could be invaded. Category A could expand to include all common nouns not denoting persons; or all nonspecific common nouns, or even all common nouns. Or, Category I could expand to include kinship terms; or to include all nouns denoting persons. Or, any two adjacent categories (**Ca** and **Cu**; or **Ci** and **Cu**) could merge, selecting one of the two applicable vowels.

Three languages show eveidence supporting the hypothesis that **Cu + i > Cui > Ci** and that **Cu + a > Cua > Ca**. The languages are Chamorro, Kanakanavu, and Paiwan. Chamorro is a Malayo-Polynesian language, while Paiwan and Kanakanavu are Formosan languages. Because the languages in Formosa (Taiwan) are so close geographically that borrowing may occur, it is common to require examples both in Malayo-Polynesian and in Formosan (even though Malayo-Polynesian is only one of the ten or so primary divisions of the Austronesian language family).

Chamorro:
In Chamorro, Topping (1973, 135) defines **nu** as an article, noting that another scholar had defined it as a preposition. He states, "**Ni** is probably a contracted form of **nu i**, as is shown in the following examples:

Lini'e'   si   Pete   **ni**   patgon.
Lini'e'   si   Pete   **nu i**   patgon.
"Pete was seen by the child."

(Note that nV's earliest reconstructed in PAn is as a preposition "from," which in universal grammar gives rise to oblique agent phrases, and then on move into ergativity becomes the ergative casemarker, and then on move around the cycle to a new Nom Acc syntax becomes the new nominative marker.)

Kanakanavu:
For Kanakanavu, Li (1997, 353) says:

Kanakanavu has the following two (or three) sets of case markers, as based on Tsuchida (1976:36-37) and Mei (1982):

Nominative: **sua**, **sa**, si
Oblique: **sua**, **sa**
Locative: na

Paiwan:

Paiwan is a language in which "**t**" is the descendant of the hypothetical ancestral PAn phoneme that is commonly written "**s**" (and for which I suggest the designation "**ts**"), and indeed Paiwan is one of the languages in which the reflex supports that designation.

In Ferrel's account of Paiwan (1983, 182) we see:

nu   belonging to, of
nu-a   belonging to, of

and on page 13:

nua   vavvaian   a   alak
CMgen   female   CM=   child
"the woman's child"
"the child who belongs to the woman."

These three languages belong to three different primary divisions of Austronesian. So we are clearly dealing with something that was present in Proto-Austronesian.

Perhaps these findings show that **nV** and **sV** had clear syntactic and semantic uses in earliest PAn. It is possible that some of the other **CV** particles were only later assimilated to the **a/u/i** paradigm by reanalysis.

The conclusion (which, surprisingly, nobody has previously drawn) is that there must have been an ancient form *Cu, a somewhat neutral marker, left of other markers. It must have come to be used with a Determiner at its right (introducing a Det phrase). The Determiner seems to have been "**i**" for a category of NP that included at least personal pronouns and proper names of persons. The Determiner seems to have been "**a**" for a category of NP that included at least nonspecific common nouns. In time, the combination Cu + a came to be contracted into Ca, and the combination Cu + i contracted into Ci. Change in morphology and syntax followed directly from phonological contraction. Syntactic change accompanied phonological change. This hypothesis is strongly confirmed by the fact that, as noted, in some languages Cui and Ci are used interchangeably, and in some languages, Cua and Ca are used interchangeably.

This point illustrates a basic principle of universal diachronic grammar. Phonological lenition, by reducing benevolent redundancy to a minimum, motivates not only morphological reanalysis but also syntactic change.

The basic role of phonological change in morphological and syntactic change is confirmed here.

Blust's PAn *s was in fact *ts

Both in Formosan languages and in Malayo-Polynesian languages, evidence shows

"t" or "ts" in some languages today. Universal diachronic phonology allows "ts" to change to "t" but does not easily allow "s" to change to "ts" and even less often allows change from "s" to "t."

5   Summary

We have explored the three ambiguous letter pairs that so befuddled the first alphabetical writers, Bible-translating missionaries in Hawaii in the early 19th Century, that all three issues were decided by votes of 4 to 3 among the committee members.

Each of the binary choices differed sharply in issues from the other two. Each choice was made on a basis that had no bearing on the other two choices.

For one pair the issue was raised: under what circumstances should the older form be chosen over the innovation, or vice versa. I have suggested that for endangered languages, to preserve continuity with the older cultures, it may be good to use spellings reflecting older stages, hence relevant to a more inclusive group of survivors.

In reviewing the most accepted system of representing the Proto-Austronesian phonemes, reasons are given for writing "s" for what has been written "S," and "ts" for what has been written "s."

Reconstruction of *Cu a > Cua > Ca, and Cu i > > Cui >Ci show the interaction of syntactic change with lenition and morphological change.

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