Trees of Santa Cruz Island and their Metaphors[1]

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1 Introduction

Recently linguists and anthropologists have shown an increased interest in documenting endangered languages. Reasons include preserving language data for future analysis and to help descendants of today's speakers who at some point in the future may no longer speak their language well or at all. The metaphors discussed here illustrate the importance of documenting cultural information along with any linguistic data collected.

The Solomon Islands belong to a Melanesian cultural area, which includes Polynesian outliers. The tree metaphors discussed here are taken from a lexical database (Boerger, unpublished field notes) collected for Natqgu,[2] the largest of the three indigenous Oceanic languages of Santa Cruz (Nedr), in the Temotu Province. The study extracts data from the corpus of forty-three trees collected to date, building on Davenport's anthropological work on Santa Cruz (Davenport, 1962, 1964, 2005) and integrating Yen's observations about cultivated trees (Yen, 1974) on the island. From 1988 to 2006 I resided in Bznwz, Santa Cruz, the same village where Davenport conducted his anthropological field studies, making it possible to observe how the culture has changed and where his analysis warrants revision.

In section 2, I examine and illustrate the wealth of data I have found on two of the most useful trees. Then in section 3, I discuss two additional trees whose associated symbolic meanings were overlooked by Davenport in spite of his in depth discussions of red feather money (1962) and social structure (1965). Even though his focus was cultural, apparently he did not learn the language and thereby missed some of these metaphorical

[1] I would like to thank Joseph Kennedy Clq and Alex Boerger for helping identify correspondences between Natqgu tree names and their English and Latin names, as well as for supplementary details about a number of Santa Cruz trees. I would further thank Karl Franklin for comments on an earlier draft of this paper. Any errors or misinterpretations remain my responsibility.

[2] The Natqgu orthography is used in this paper. Nasalization is represented by a straight apostrophe following the vowel. Voiced stops are prenasalized. The velar nasal is written with the digraph *ng*. Five English consonant symbols represent vowels: *c* = open o, *q* = [ü] , *r* = [ö], *x* = [æ], and *z* = [ə].

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references to trees that are necessary clues to understanding their place in the culture. [3] In section 4, I conclude that it is critical to know the trees on Santa Cruz in order to understand its culture and people. This has implications for the importance of language learning when doing anthropological and/or linguistic fieldwork. I demonstrate that a lexical database with sufficient depth not only gives the referent of a word, but also its associated lexemes and interrelationships, thereby revealing significant cultural attributes which should also be included in the linguistic and cultural documentation processes.

2 Trees of Santa Cruz Island

Brown (1984:118) proposes five botanical terms which can be used to identify stages of development in languages. The five terms are *tree, grerb* (grass and/or herb), *bush, vine,* and *grass*. In his system Stage 1 languages have no vocabulary for categorizing plants. Stage 2 languages put only *trees* in to a general category, while Stage 3 sees the development of either a *grerb* or *grass* term. The stages from 4 to 6 exhibit the addition of the remaining three terms in no particular order.[4]

On Brown's scale, then, Natqgu is a Stage 4 language, in that it encodes three of the five generalized categories of botanical life: *nounc* 'tree,' *nabr* 'grass,' and *nqvi* 'vine.' The Natqgu form *nounc* is the full form for any unspecified tree, while *nc* is a shortened form used for talking about sticks, wood, and for naming trees, as seen in sections two and three below. The actual plants assigned to these categories differ from language to language. For example, Natqgu's tree category encompasses trees, bushes, banana, bamboo, and all palms. But the tree category differs in Bonggi, a Western Austronesian language spoken in Sabah, Malaysia which is also a Stage 4 language.[5] In Bonggi palms, including the coconut palm, banana trees, and bamboo are not considered trees, because they have fronds which unlike tree branches, naturally fall off during the plant's life cycle (Michael Boutin, personal communication).

Santa Cruz islanders know each tree by name, including the practical uses of its bark, trunk, branches, leaves, flowers, and whether it has edible fruit or nuts. On an island where each plot of ground has a name, people navigate through the bush by recognition of distinctive trees. I became particularly aware of the significance of the trees in Santa Cruz culture during a trip back to the US when our older son, Alex, was ten years old. In order to get him to discuss any culture shock he was experiencing, I read aloud an essay about children's readjustment to the parents' home culture. At one point he stopped me and vehemently said something like,

> Yes, that's right! I don't feel at home here. On Santa Cruz when I walk down the road I know every tree and what it is good for, but here I don't know what kinds of fruit or nuts the trees have; I don't know what they're good for; and I don't even know their names!

I didn't know the names and uses of all the US trees either, but it didn't bother me, since that knowledge was not critical. However, we did buy an educational sticker book with US trees, fruits, nuts, and leaves for Alex to study, so that he would feel less alien.

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[3] A number of speakers who lived during the time of Davenport's residence reported to me that he never learned Natqgu, although I cannot attest to the accuracy of this statement. I can say that the language data in his published work is inadequately transcribed, leading me to wonder how well he actually communicated with the speakers and the accuracy of some of his cultural observations.

[4] While Brown's evolutionary assumptions as well as aspects of his methodology have been questioned (Blust 1985), the botanical stages he proposes are useful for comparative purposes, and that is the intention here.

[5] Boutin reports that the Bonggi language encodes *kiou* 'tree', *rihut* 'grass' and *beraadn* 'vine.'

His response was one clue that further study of Santa Cruz trees might be fruitful (pun intended). In pursuing that, I discovered that trees and tree parts have a wide range of uses, as listed in Table 1, below.

food & drink	baskets & containers	rust removal
house & boat building	personal grooming	weaponry
fuel & lighting	fishing & hunting	glue & rope
clothing & mats	musical instruments	resin & incense
medicine	decoration & scent	toys

Table 1. Uses of Santa Cruz trees

In fact, the natural resources of the land and sea supply all that Santa Cruz people need to live on and thrive, even though there is an understandable preference for access to some western goods. During my twenty years of residence and contact with the island, I saw it change from relative geographical isolation to connection with the rest of the world through high speed satellite internet on six public computers at the local primary school and the very recent arrival of cell phones.

Yen (1974, p. 249) reports that Santa Cruz differs in tree cultivation from the rest of Oceania in two ways. First, it surpasses other Melanesian areas by cultivating trees that are merely gathered elsewhere in Melanesia. And second, it surpasses both Polynesia and Micronesia by planting more species than is common in those regions of Oceania. A discussion of two of the most useful trees—the coconut and the bamboo—shows their multiple uses and how integral trees are to life on Santa Cruz.

2.1 Coconut – Nc Nzlu – Cocos nucifera L. ARECACEAE/PALMAE

The coconut tree, or *nc nzlu* is claimed to be very useful because it grows in many kinds of soils and with varying amounts of rainfall, making it a reliable year-round source of food and materials. In fact, Chan and Elevitch (2006, p. 2) say,

> The coconut palm ...provides almost all the necessities of life—food, drink, oil, medicine, fiber, timber, thatch, mats, fuel, and domestic utensils. For good reason, it has been called 'the tree of heaven' and 'the tree of life.'

We will now examine some of these functions in more detail. The coconut is consumed at two different points in the growth cycle. When the coconut matures, it is called a "dry coconut." Such coconuts are split, the liquid disposed of, and the meat eaten as a snack. Alternatively the dry coconut can be grated and used for cooking or baking. In such cases, the people immerse the grated coconut in water and then squeeze it into a strainer with the coconut cream caught in a bowl below. The cream is then used to thicken baked puddings or to flavor soups or greens. As a beverage, the young or green coconut is husked and a hole poked in the top for drinking. Depending on the stage of greenness, it can also be split open and the meat which is still soft can be scraped out with a spoon.

Coconut oil is produced by drying and then pressing the coconut meat. The oil can then be burned for light in lanterns, perfumed and used for body oil and hair scent. Another use is as a diesel fuel substitute for both tractor engines and the main generator in Lata, the capital of Temotu Province. Since Temotu is over 300 miles from the national capital and shipping can be infrequent and unreliable, there was a period during my residence on Santa Cruz when the Temotu Development Authority (TDA) oil press started producing coconut oil fuel for immediate local consumption, rather then for export. One of the two Lata generators was converted to run on coconut oil and the other left to run on diesel fuel. People also started using coconut oil fuel in vehicles during this period.

Figure 1. Coconut

One major medicinal use of the coconut water of the young coconut is as a remedy for diarrhea, and can be easily fed to babies for whom diarrhea is a serious problem. People also weave the fibers of the coconut into rope. The entire husk can serve as mulch around other plants because they hold water and decompose slowly. The dried coconut shells and husks are used as firewood and the shells are stacked in a children's game. The coconut scrapings from which the milk has been extracted are often used as extra feed for chickens or pigs, and is perceptible in the taste of the cooked chicken.

The wood of the coconut tree trunk has a nice looking grain and people carve it into bowls. Women weave the coconut fronds into mats for sleeping and sitting on or baskets for carrying or storing root crops. They also bundle the spines of the fronds and tie them at the top to make a broom about 1.5 to 2 feet long.

Some families plant coconut trees for export. The coconut is harvested and dried into copra, which merchants buy and send overseas for processing into fuels, soaps, and oils.

2.2 Bamboo – Nc Blei – BAMBUSA vulgaris

There are many varieties of bamboo, or *BAMBUSA vulgaris,* also known as common bamboo or feathery bamboo. Bamboo on Santa Cruz has multiple uses, one of which is in house building. Men use larger diameter dry bamboo for roofing purlins, and medium diameter bamboo stalks for can be used to form full or half walls by joining them together in an upright position. Outer walls and roofs are made from the leaf of selected palm varieties which is sewn to a long piece of split bamboo to make a wall or roof panel up to six feet long and 1.5 feet tall. These are overlapped and secured to the wall studs or rafters and purlins.

For interior walls, some of the oldest generation of Santa Cruzians retain the skill of weaving freshly cut bamboo to construct full walls. They split a long stalk of bamboo and then open it flat to make a long strip approximately eight feet long and four inches wide. Then they weave sixteen or more flattened strips together with half running vertically and half horizontally, then leave them outside to dry in the sun. Later, they trim them to fit and attach them to the internal studs by tying or nailing them in place.

People make containers of various sizes by cutting bamboo to take advantage of its natural sectioning. They commonly use the compartments to hold food, liquids, and ground lime which is chewed with betel nut. The bamboo compartments can also be used as a case for carrying arrows. In addition, while working in their gardens in the bush, they cook in containers made from bamboo sections and then throw them away. Bamboo can be quite sharp and is also used for making an arrow head for fishing.

Figure 2. Bamboo

Children make two kinds of toys from the smaller diameter bamboo pieces: a popgun that uses the bud of the Malay apple tree *(nc naq)* as the stopper that makes a popping sound when it is forced out, and a squirt gun with a plunger, which forces water through the tube.

Bamboo pieces of graduated lengths and diameters are also used to make panpipes which musicians play by mouth. Larger diameter pieces, which are part of the bamboo band, are played by hitting the top opening with an old flip-flop. Both types of bamboo instruments and music are indigenous to other islands in the Solomons and are relatively recent imports to the island of Santa Cruz. I discuss the indigenous music of Santa Cruz in section 3.1.

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3 Santa Cruz Tree Metaphors

As noted above, knowledge about the trees and their uses is not the only information about the trees that is necessary for understanding Santa Cruz society. There are at least two trees which have associated metaphorical meanings that are critical for understanding the culture and people of Santa Cruz.

3.1 Rooster Tail - Nc Nqngq - Cordyline fruticosa

The *nc nqngq* or 'rooster tail' is a waist high bush with long, narrow reddish leaves, whose branches are fibrous and non-woody. People habitually use the leaves for decorative purposes, but I was initially unaware of any cultural significance for this vegetation.

However, while working on translating a battle text, we were looking for an equivalent to '*banner'* or '*standard*.' Mr. Simon Meabr, my co-worker, and a native speaker of Natqgu, told me that previously men cut branches with the salient red leaves from this bush and put them in the back waistband of the loincloth of a *ngrlr vea* 'war leader.' The color of the leaves identified him as the person warriors should follow in battle. The war leader could also remove the leaves from his waistband and wave them in the air to rally his men to him. Alternatively he could tie the branches to a stick and fly them as a battle standard. These two latter actions were what gave the secondary meaning of '*banner'* or '*standard*.'

Figure 3. Rooster Tail

Therefore, we used this concept to translate Psalm 60:4, which reads: *Kxetu, nim Ngrlrvea ngrgr. Glalzm nc nqngq bagr.* 'Bigman, you are our war leader. Lift up the *nc*

nqngq (banner) for us.' But we wondered whether the symbolic meaning *'banner'* was strictly historical or if people would actually understand it in today's context, since intertribal warfare is no longer practiced on Santa Cruz.

It turns out that the *nc nqngq* is integrally related to Santa Cruz's most culturally significant dance, the *nelc* dance. The dancing goes from dusk to dawn. A group of older male costumed dancers are paid by the dance's sponsors to lead the singing and dancing and the sponsors feed them at a long break in the middle of the night. Dancing takes place in a *nrz* dance ring, which has a diameter of about thirty feet and is encircled by a shin level stone wall with two openings opposite each other. The floor of the dance ring is built by digging a circular hole and burying inverted canoes that are no longer sea worthy. The canoes are covered by the dirt that is packed solidly around and on top of them, in effect making a large drum. It sets up a low frequency vibration when beaten by the dancers' feet, as they progress in a counter clockwise direction around the ring, radiating out from the center. The dancers also wear *nrasrpwale* rattles tied just below their knees and pound a stick on the ground, both of which add further percussion. The rattles are made from the dried seed pod of the *nc srpwale* tree, and the inside of the seed is poisonous.

The song form associated with the *nelc* dance has been described elsewhere by Davenport (1975) and Boerger (1998, 2007). I summarize my earlier descriptions here. The form is a quatrain, with verbatim line repetition in the lyrics, but not the music, of the first and last lines. The form requires that the clause of the first line must also be able to function syntactically as a final clause in the fourth line, or as a sentence all by itself. Because the form is so short, it involves a distillation of message into one or two short sentences. The number of syllables in each set of two lines is usually in the 12-15 syllable range, with an optional final *e,* as in line one below, added when necessary to fill out the meter. The song leader introduces the song by singing it all the way through once by himself. Then the following times he and half the paid dancers sing the first two lines, while the rest of the dancers sing the final two lines. Singers transition into their parts by singing along with the last few syllables of the other group's part. Each song is sung up to twenty or thirty times and then one of the lead dancers starts another one.

The example in Table 2 has the repeated lines bolded. Mr. Simon Meabr wrote it for the advent season before I ever started working with him.

Natqgu	English translation of Natqgu	lyric pattern
Nabzm oliqlrpx e	**Your-sg heart must be ready**	**a**
Natakitrde King	To be fitting for the King	b
Kc navzom mz Bongavz.	Who will come from Heaven.	c
Nabzm oliqlrpx.	**Your-sg heart must be ready.**	**a**

Table 2. Natqgu song form

The dancers also wear two additional prominent features of the costume, a *nelc* shell nosepiece, after which the dance is named, and a decorated *temz* moon shell breastplate, reminiscent of the undecorated breastplates previously worn by warriors in times of inter-tribal warfare. The *temz* has become a symbol of Santa Cruz in general and in 2007 a local craftsman started selling small necklace sized *temz*s which have become quite popular. Two further features of the costume are the *nresa'* loincloths made of *nc brpi* banana trunk fibers woven into a geometrical pattern and the red *nc nqngq* branches that the lead dancers wear in the back waistbands of those loincloths. Santa Cruz is the only place in Melanesia that this kind of loom weaving is done, though similar weaving is reportedly done in Micronesia and New Caledonia. It is also a hereditary craft, passed from father to son, with only two men in their thirties currently practicing the art.

The *nelc* dance is participatory, in that anyone from the community is welcome to join one of the rows following behind the paid dancers, singing and dancing along with them as they inch their way around the dance ring. As more and more people follow, the ring can become completely full such that the lead dancers meet the last row of dancers from the community.

Thus, the symbolism of the *nc nqngq* is being maintained even today, in that those who lead the dance wear *nc nqngq* branches just like the war leaders did previously, giving evidence that the people retain knowledge of this aspect of their heritage. The senior translator's test of the passage in several villages confirmed that the meaning is clear, even to the younger speakers who have lost considerable vocabulary that the older generations of speakers still know and use.

3.2 Sea trumpet – Nc Niglq – Cordia subcordata Lam. BORAGINACEAE

The sea trumpet or beach cordi tree is called *nc niglq* in Natqgu. It can grow to be very tall, with spreading branches that make it a great climbing tree for children. It grows close to the sea and has a light orange trumpet-shaped flower and edible grape-sized nuts that grow in small clusters of five or less. Its leaves are about seven inches long and four and a half inches wide and have a pointed tear drop shape with no scalloping or branches on the leaf. Men and boys also sometimes use the timber of the this tree for canoes or outriggers.

However, neither the nuts nor the boat building is this tree's primary significance in the culture. Rather, the pale orange flowers of the tree are favorites of the *mzngra* bird, a small red colored honey-eater *(Myzomela cardinalis)*. The preferred habitat of the bird is significant because it is this bird whose feathers are used by craftsmen to make either the *lrdq* coils of red feather money or the *nceapu* red feather money sticks described by Davenport (1962). A brief summary regarding the production of the *lrdq* coils is needed here in order to understand a network of interrelated concepts which have cultural significance.

Production of the *lrdq* coils requires three specialists: one to catch the birds, one to put the feathers on platelets, and one to join the platelets together to form the coil. The value of the coils decreases as the color of the feathers fades. The major function of the coils in the past was as bride price payment but for at least twenty five years this practice has been displaced by payment in Solomon dollars. This change occurred during the past fifty years, since Davenport observed that in spite of other negotiations being made in Australian currency, bride price was still exclusively paid in red feather money (Davenport, 1962, p. 104).

Within Melanesia two forms of local leadership exist. One is the hereditary chieftain system which exists on many islands in the Solomons. Santa Cruz, however, exhibits the second type of leadership, in which the status of *kxetu* 'bigman' is earned rather than inherited. Davenport (1962) says,

> The accumulation of money is the way to prestige. But since the currency itself is perishable, prestige find its tangible expression in spending as well as in accumulation, above all helping to buy brides for members of one's family and friends and in giving feasts. Prestige won in these ways is the source of political power and authority. (p. 97)

Santa Cruz people believe that a man whose house is near a *niglq* tree has a greater chance of acquiring wealth than other people, since the *mzngra* birds particularly like that tree. Therefore, the name of the tree has come to be associated with wealth and prestige and has acquired several extended meanings. One can say that a particular person is a *nc*

niglq, meaning that he is an important person. Similarly, *nc niglq* can refer to such a person's residence, yielding a sentence like, *Sc tqvztr mou nc niglq*. "He went back inside his house, (literally *niglq* tree.)" The third associated meaning is treasure, since people say that if you have a *nc niglq* and it is visited by *mzngra* birds, then the birds can be caught and tree's owner will have the money made from that bird's feathers. Finally, the name of the tree can also have the sense of throne, in that its owner might sit at its base to meet with those who were under his leadership or sought his advice.

Figure 4. Sea Trumpet

The red feather money also comes in a stick form in which the feathers are glued to a stick about 12 to 15 inches long. The stick itself is called *nceapu*, with *nc* meaning tree or stick. The same word *nceapu* also has a metaphorical meaning 'rich, wise man.' In the Natqgu scripture translation King Solomon was called a *nceapu*.

4 Conclusion

In the discussion above, I have demonstrated that two trees on Santa Cruz Island have taken on extended metaphorical meanings. Such meanings are an integral part of adequately describing the Natqgu language and are critical if one is to understand the Santa Cruz culture. Since these metaphorical uses are more difficult to elicit in language documentation sessions than their literal meanings, one of two things must happen: Either the field worker must acquire a level of competence in the field language or elicitation should be based on semantic domains and free association, rather than merely word lists, like the Swadesh (1971) lists.

By doing language learning and/or semantic domain elicitation the fieldworker can attain sufficient depth in the lexical database to not only give the referent of a word, but

also its associated lexemes, metaphors, and interrelationships. For endangered languages which in the future may have no speakers, the preservation of such cultural information is equal in importance to the preservation of linguistic data. It is difficult, if not impossible, to impose a boundary between language knowledge and culture knowledge because they are inherently interwoven. Unless both are documented, a people in the future could end up learning to speak the native language of their ancestors without having access to the cultural meanings it encodes.

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