

SWEET POTATO NOTES AND LEXICAL QUERIES, OR,
THE PROBLEM OF ALL THOSE NAMES FOR SWEET POTATOES
IN THE NEW GUINEA HIGHLANDS¹

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"The Dani have 70 names for sweet potato varieties."²

With this statement I would win the New Guinea Highlands sweet potato naming sweepstakes. Marie Reay had held the previous record since 1959 by reporting 65 names from the Kuma (1959:10). Other ethnographers lagged far behind, usually in the 30-40 name range.

Not at all surprising. After all, the sweet potato is the New Guinea Highland staple food, and for most groups in the Highlands it accounts for some 80%-90% of the diet. In the facile anecdotage of undergraduate teaching we point out that a culture elaborates its lexicon in areas of cultural concern, and so Eskimos (and skiers) have many words for snow.

But 70 words for sweet potato seems a bit much.

In this paper I would like to explore the implications and question the fact of the lexical elaboration, describe an experiment, and suggest some explanations. But the main purpose of the paper is to point out a problem which has long been overlooked.

The Problem

The data for sweet potato names are usually little more than the flat statement of the number of named varieties. For example: Brookfield and Brown report 30 varieties for the Chimbu (1963:46); Rappaport reports 24 varieties for the Tsembaga (1967:44); Peters reports 48 varieties for a Grand Valley Dani group (1965:65); and Fischer reports 39 varieties for a Kukukuku group (1968:260, 261).

This proliferation of names is by no means limited to the sweet potatoes of the New Guinea Highlands. Conklin reported 92 names for rice in Hanunóo (Philippines) (1957:30); Hogbin reported "dozens of different kinds of taro" and "more than 50 varieties of bananas" from Wogeo, off the New Guinea coast (1938:128, 129); La Barre refers to "several hundred varieties of potatoes known" and lists some 200 names from the Aymara region of highland Bolivia (1947:84, 100).

I believe that there is more to these reports than meets the eye. The Eskimo anecdote seems to have entered the anthropological tradition via a remark of Boas' that there are separate words for "snow on the ground," "falling snow," "drifting snow," and a "snow drift" (1911:25, 26). This sort of lexical specialization is quite reasonable, but it does not seem likely that any one person could manage with any consistency a set of 30 or 50 or more complementary categories in a realm like sweet potatoes, rice, taro, or bananas.

We have here two interrelated problems. First, there is the question of the lexicon itself. How many names does any individual control? Is it possible that in most reported cases, several botanical micro-dialects are being inadvertently lumped together to produce a large total of names?

Secondly, what is the explanation for the proliferation of names? Are they serving to differentiate tubers on the basis of any ecological, gustatoriological, or ritual functions? Or, perhaps, is this a purely intellectual elaboration?

To return to the New Guinea Highlands, M. Strathern mentions 90 terms for sweet potatoes (1959:193). However, she says that they came from the Melpa region as a whole, so it may well be that they do represent different micro-dialects--or, put another way, some of the 90 terms may be synonyms for the same variety of sweet potato. She does say that one Melpa couple between them produced about 70 names, but here her informants may have been producing the synonyms themselves.

Fischer seems to be the only Highland ethnographer who tried to describe the attributes which define the different varieties (1968: 260, 261). He used the attributes of form of tuber; color of skin; color of meat; consistency of meat; and shape and/or color of leaves. But in fact, in his list there are three pairs of sweet potatoes which have different names but exactly the same attributes, and so are apparently synonyms.

I can find no account of the New Guinea Highland sweet potatoes which squarely faces this problem. However, the descriptions of Hanunóo rice by Conklin (1957:112) and Thai rice by Moerman (1968:150) give some idea of the sorts of physical attributes used to distinguish the varieties and, more important, of the reasons for distinguishing 92 and 30 types of rice, respectively. The critical performance attributes are length of growing time, grain type (glutinous vs. non-glutinous), and whether the variety grows best in wet or dry conditions. Actually, from the descriptions it is not clear that the total numbers of varieties claimed, 92 or 30, do not contain synonymous names. But the important thing is that both Conklin and Moerman have shown a general pattern for named varieties which is quite reasonable. The practical advantages to the Hanunóo or the Thai of distinguishing these varieties are obvious. The opposite situation exists for the New Guinea Highland sweet potato data. The multitude of names in the absence of any apparent necessity to distinguish varieties leads one to inquire further.

Some Preliminary Inquiries and a Pre-Test

My first experiment with Dani sweet potato names was carried out in 1963, during my second stay with the Dani. I asked a man to tell me the names of the sweet potatoes in a single bed. There were about 50 mounds, each with two newly-planted leafy vines. As he named them, I entered the names on a sketch map of the plot. When he finished, I had him begin again, and found to my annoyance that the second batch of names disagreed with the first. I wrote this off as a bad session with

an unwilling informant, and, unaccountably, didn't pursue the matter.

At the same time I had been trying to establish Dani names for adze stones. The Dani have two major types, a soft black stone called jaka gu, and a harder stone called ebe jaka. The second type shows an obvious range in color, from blue to green, and in consistency, from solid, to streaked or speckled. Casual questioning about names for the subtypes had only confused me, so I prepared a set of a dozen adze stones, each with a number, and asked several men to name them. Although none showed any hesitation in producing a name, there was considerable inconsistency between informants, and even, when I had some informants repeat the naming a second time, inconsistency from the same informant. Again, I concluded that the Dani were inconsistent and let it go at that (I relate this appalling negligence in the hope that it may encourage others to avoid it).

In 1968, during a brief return visit to the Dani, we were staying at a Franciscan mission station as guests of Father Frans Verheijen. Every Sunday after Mass he bought a large supply of sweet potatoes for his household. The piles of large tubers stimulated another investigation into the problem of the names.

A woman and two girls were asked to name tubers, and I presented them with a set of 28 to each of which they gave a different name. Then I stapled a number on each tuber and asked other women to name them. This was done five times: three times by single women, once by two women, and once by three women and a girl. Women were chosen as subjects because they do most of the planting, harvesting, washing and cooking of sweet potatoes and thus qualify as the sweet potato experts in Dani culture. All the subjects were living in one neighborhood, but unfortunately I did not record where they had lived as girls, which is presumably when they would have learned their sweet potato vocabulary.

The results were somewhat surprising. All six sets of subjects agreed on names for only five of the 28 tubers. Five of the six agreed

on names for another five tubers (three of these disagreements, however, were by the same woman). The other 18 tubers elicited even more disagreement.

After the naming task, I asked the pair of women and one of the single women to name as many other kinds of sweet potatoes as they could think of. This mixture of passive recognition and active naming produced totals of 46 and 53 names, which may be some approximation of the number of names any one woman commands. I did not, however, ask any sets to do the naming a second time, and so have to measure for internal consistency.

This experiment was too limited to yield conclusive information. However, there is some evidence for different micro-dialects. In one instance, three tubers which had been given three different names by the first subject set were all given the same name by the other five sets. However, two of the sets gave them one name, and three gave them another name. The two names are clearly synonyms, but I cannot say whether the micro-dialects represented are regional or perhaps familial. Another pair of names also seem to be synonyms, but the responses did not separate the subjects in the same manner (I hesitate to propose cross-cutting micro-dialects to account for this).

The pattern of mistakes, or synonyms (i.e., different names for the same tuber) shows that there are four groups of names, with the largest group of names forming three strong sub-groups. So it looks as if there may be six groups of names, with disagreements occurring within groups but generally not between groups.

There is no lexical basis for these groups, and I am unable to account for them at this time. The Dani have a term hipiti, for sweet potatoes in general, and this term includes all the names for specific varieties. A few of the specific varieties are classified under a middle-level term, hipiti modla (light-colored sweet potato). These are easily distinguished by their bright yellow-orange flesh. (Interestingly, at

this middle level there is no comparable term for the vast majority of sweet potato varieties, which have grey to white flesh. The usual opposite of modla is mili, dark, but informants invariably resisted my suggestions that this might be an appropriate term.) The two strongest synonyms, mentioned above, are both in fact hipiti modla, but two other hipiti modla types were in two different groups, and were never confused with each other, but confused (or synonyms) with tubers of the non-hipiti modla sort. This may be explained in part by the fact that the subjects all made their judgments on the basis of the skin of the tuber, and only in a few instances where the skin had been broken in harvesting did they see the fleshy inside of a tuber.

Rather casual questioning gave no further clues to the reasons for the different names for sweet potato varieties. Informants were willing to say that 8 varieties were especially good-tasting, and 6 were considered only fit for pigs, but the gastronomically-neutral middle ground holds the vast majority of varieties. I had hypothesized that there might be variations in susceptibility to drought or flood or diseases. If this were so, then the Dani could plant each bed with a selection of varieties to insure a crop even should unexpected conditions destroy some vines.

But this insurance hypothesis demands that the actors consciously plant different varieties of sweet potato in the same bed. Their explicit reasons might be ecological or ritual, but they must use the named categories to diversify their garden plots. Otherwise, the same scattering effect could occur by chance if there were many varieties available, even without named categories. Since informants invariably denied any such behavior or knowledge, the insurance hypothesis is not proven.

Another hypothesis would be that different varieties differed in length of maturation time and thus a continual long-term harvest could result from a single planting (cf. Conklin 1957:112). This hypothesis has the same defect as the insurance hypothesis. And, although the Dani

do want a long period of harvesting from each plot, this is accomplished by the naturally-varied pace of maturation of tubers on the same vine, and by the Dani custom of stretching the planting of even a small plot over several days or weeks.

In future research, planned for 1970, it will be possible to map the Dani sweet potato lexicon more accurately by establishing the nature of micro-dialects or synonyms; finding the real size of an individual's sweet potato vocabulary and the effects which variations in sex and age have on this vocabulary; and determining the physical criteria for naming vines, raw tubers, and cooked tubers. It might be possible, through more careful questioning and observation, to show that this lexical differentiation has some definite non-linguistic behavioral correlates. Only if earnest attempts to find a practical reason for all those names fail can we fall back on the idea of a basic human tendency to categorize coupled with a basic tendency towards intellectual play as an explanation.

If it turns out that the Dani sweet potato naming behavior really is just play, it still has intrinsic theoretical implications. If the naming behavior has practical functions, it would be good to know them. At this time, both missionaries and the Indonesian government are introducing new crops, including new strains of sweet potato, into the Grand Valley in an attempt to improve the Dani diet. It is widely recognized that it would be hard to improve the Dani system of sweet potato horticulture which, with its complex ditch system, is ideally suited to Grand Valley conditions. It may well be that Dani sweet potato names are also, if less obviously, functional and they should be understood before replacing the traditional patterns. And finally, I hope that this paper will encourage scepticism when dealing with cultures in the New Guinea Highlands, and elsewhere, which seem to have dozens of names for some important but narrow realms.

NOTES

¹The experiment reported here was carried out in 1968, when Eleanor R. Heider and I were in West Irian, Indonesia (West New Guinea) on a grant from the Ethnocentrism Research Project, administered by Robert Le Vine and Donald T. Campbell. We are grateful to Frans Verheijen, O.F.M., of Jibiga for his hospitality and assistance.

²The Dani referred to here are the Dani of the Grand Valley of the Balim River, in the Central Highlands of West Irian (West New Guinea) at about Latitude 4° South and Longitude 138°50' East. My research focusing on the people of the Dugum Neighborhood (cf. Heider n.d.) was carried out during 1961-1963. In 1968 we stayed at Jibiga, some 5 kilometers northwest of the Dugum Neighborhood, but in the same cultural and linguistic community.

REFERENCES

- Boas, Franz
1911 Introduction. In Handbook of American Indian Languages. Bureau of American Ethnology, Bull. 40, Pt. 1, pp. 5-83. Washington: Government Printing Office.
- Brookfield, H.C. and Paula Brown
1963 Struggle for Land. Melbourne: Oxford University Press.
- Conklin, Harold C.
1957 Hanunóo Agriculture. FAO Forestry Development Paper No. 12. Rome: FAO United Nations.
- Fischer, Hans
1968 Negwa. Eine Papua-Gruppe im Wandel. Munich: Klaus Renner Verlag.
- Heider, Karl G.
n.d. The Dugum Dani. A Papuan Culture in the Highlands of West Irian. Viking Fund Publication in Anthropology. Chicago: Aldine Press, forthcoming.
- Hogbin, H. Ian
1938 Tillage and Collection. A New Guinea Economy. Oceania 9. 2:127-151.
- La Barre, Weston
1947 Potato Taxonomy Among the Aymara Indians of Bolivia. Acta Americana 5.1/2:83-103.

Moerman, Michael

1968 - Agricultural Change and Peasant Choice in a Thai Village.
Berkeley and Los Angeles: University of California Press.

Peters, H.L.

1965 Enkele Hoofdstukken uit het Sociaal-religieuze Leven van een
Dani-Groep. Venlo: Dagblad voor Noord-Limburg N.V.

Rappaport, Roy A.

1967 Pigs for the Ancestors. New Haven: Yale University Press.

Reay, Marie

1959 The Kuma. Melbourne: Melbourne University Press.

Strathern, Marilyn

1969 Why is the Pueraria a Sweet Potato? Ethnology 7.2:189-198.