PRACTICAL CONSIDERATIONS OF FOLK TAXONOMIES

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1. Introduction. A folk taxonomy may be described as the grouping of related items within a particular set according to internal, culturally defined principles.[1] Although most often scientific taxonomies are exemplified by classifications of flora or fauna, there are a wide variety of such areas or domains within a given culture which may be labelled, abstracted, and presented as a system or whole. The linguistic labels which designate given items within a taxonomy include classification by class-inclusion labels where, in English for example, man includes all representatives belonging to the taxonomical level of human beings. Other labels show either a part-whole or a kind-of relationship of the item under focus in a given taxonomy. Thus post is a part of house, but wooden may be a kind of house or post. Very often the latter type of taxonomical distinctions are reflected formally in the grammar of the language.

In this article I would like to demonstrate both the importance of and the technique for investigating folk taxonomies and relate certain observations to practical considerations of cross-cultural understanding. The materials presented in the article are from English and from Kewa, a language spoken in the Southern Highlands District of Papua.[2]

2. Modes of Transportation. In this section I will contrast the folk classification of transportation elicited from my eleven year old son with that elicited from typical Kewa informants.[3] From this comparison the axiom that cultural focus corresponds to label proliferation can also be easily demonstrated.[4]

The questions which were asked of the English and both Kewa informants were basically the same. First of all, a general list-type of question was given: What are the names of all the kinds of transportation that you can think of? As we would expect, the list is shallow from the Kewa informants and all of the main labels are borrowed from Pidgin English. This is an aspect of culture contact and does not mean that Kewa people cannot coin new terms. The first airplanes observed by the Kewa were known as yaa-para bararara (sky-in, brrr), that is the things which made the noise 'brrr' in the sky. The first vehicles, by analogy, were the things which made the noise 'brrr' on the ground. Later other terms were borrowed, but the original coinages were equally valid. The primary list of labels for transportation in Kewa is : kara 'car', tipi 'jeep', balusi 'airplane', wilikara 'wheel-

barrow', sipi 'boat; ship', and possibly masini. The gloss given in English corresponds to the source term, and not necessarily the referent.

After further questioning about the items the component of 'noise' may be used to divide the taxonomy; certain vehicles make a noise or sound when they move and others do not. Bicycles, the wheelbarrow, and some boats do not make any noise. Those that do make a noise divide according to space: airplanes move mainly in the air, ships or boats move on the water, and everything else moves on the land. The Kewa divide those which move on the land according to how many wheels thay have: generally two versus more than two. The wheelbarrow, with one wheel, is often thought of as the precursor to all other froms of transport.

New modes of transport are generally some modification of the main names already given: a road grader is called a sapepora tarake (shovel road, tractor), a front-end loader is called a su musa tarake (ground, lift, tractor), while a bulldozer is called either a su kele tarake (ground, smooth off, tractor) or simply, in some areas, a masini (machine). Usually this latter term is generic and contrastive, including such things as light plants, sawmills, and other stationary machines. A helicopter is called a waya balusi (wire, airplane), while the name for a DC-3 is kundisi, derived from the Pidgin English form as pronounced by Kewas (ndisitari). The generic term for the category 'car' appears to be either kara or tipi. At times lengthy extensions of such primary terms occur: pakira kuburame ade tipi (rat, collection of, looking, jeep) is a 'jeep which looks like a pile of rat things', referring to' certain imported cars which it might be best not to name. Such extensions illustrate the "kind-of" labels mentioned earlier. On the other hand, parts of cars and other forms of transport are often referred to in Kewa by the use of body parts, a fact that has been noted in other areas of the world.[5]

The folk taxonomy of transportation for my eleven year old son is, not too surprisingly, more involved. Although some of the semantic components which can be extracted to separate the categories of transport are the same as those given by the Kewa men, the number of labels elicited from my son is much greater. As separate categories, i.e. those which have contrastive semantic features, there are scooters, motorbikes, bicycles, cars, trucks, airplanes, trains, and ships. According to his classification there are certain vehicles which cannot be placed simply within one category or another. Thus landrovers and jeeps are thought of as part car and part truck, which verbalizes the function of the vehicles quite well. They fulfill the functions of each and are connectives between or within taxonomical levels.[6]

Discovering the semantic contrastive components involves several types of question frames: those which distinguish sameness (Which of these vehicles are most alike in appearance and in function?); those which distinguish sub-categories (What are all of the kinds of cars?); and so on. Other questions can be framed which reveal something of the cultural prestige of the items, the supposed history of the items, and other factors. For my son the "kind-of" frame produces a great array of labels in virtually every contrastive level: the names of eight kinds of motorbikes, four kinds of bicycles, many kinds of cars, trucks, and airplanes. Certain labels are elicited which are not clearly placed in the informant's folk classification: Is a sedan a "kind-of" car? Into what category should he place a station wagon or a diesel truck? Where do electric trains or buses of any sort fit in the overall classification?

The main semantic components extracted which allow the placement of items in a given relationship in the transportation taxonomy include the number of wheels that an item has, whether the vehicle has handlebars or steering wheels, whether there are fixed tracks, and the number of people who ride in the item.

An investigation of this sort, although elementary, can teach us several things. First of all, culture contact brings borrowing only at points within the taxonomy where there is contrast. The remainder, in Kewa, follow the pattern of modification by grammatical arrangement and folk semantics. For example, it is most often possible to tell if the item under focus is conceived of as a "kind-of" or "part-whole" relationship by noting the grammatical arrangement: ada 'house' to be modified as a "kind-of" takes the modifier to the left: kabe ada is a 'pitpit house'; a "part-whole" relationship has the modifier to the right; ada polo is the 'front of the house'. Borrowings can be expected to follow the grammatical pattern and can therefore only be understood correctly in the light of their structure. It follows that the process of adopting non-cultural terms builds upon the indigenous system and not vice versa. In the same way, and as will be mentioned in more detail at the conclusion of the article, the process of 'education' should also follow and build upon the idigenous system of classification. This is even more clear when we turn to an area of New Guinea culture that we as outsiders generally know little about, for example cordyline leaves.

3. Cordyline Leaves. It is not toosurprising that my son has no generic term and that for him cordyline leaves are simply 'some kind of leaves' with no special importance. On the other hand, the use of such leaves has often been mentioned in the ethnographic literature of New Guinea people.[7] In this section I will describe some of the salient aspects of 'tanget' leaves as described by the Kewa and also outline some of the procedures which I

used to elicit the materials.

In Kewa the generic term aapu 'tanget' includes all of the following kinds: aakoa, otaa-kula, nekea-royo, nupiti, modaa, karubi, beamu, asala, kala-kawa, baako, yapi, ruba, agaa-popano, masaa-tala, abanome, pora, melepa-abanome, and yakora. The taxonomy is thus a very shallow one in that all of the varieties are contrastive on the same level.

For linguists (especially) the tendency is to now analyse each name: does the leaf nupiti refer to the fact that this type are carried in the women's net bags underneath the children? (from nu 'net bag' + piti 'you will sit'); does the name agaa-popano indicate that such leaves may look something like the leaves of the pandanus palm? (from agaa 'pandanus palm' + popano 'I should move'); does melepa-banome suggest that this is a new type of tanget which was introduced from the north? (where melepa refers to a language group in that direction); and so on. Although this may reveal some clues to the nomenclature it is unlikely to reveal anything about the folk taxonomy.

The next questions may quite naturally centre about the physical properties of the cordyline leaves: their size, colour, and function. Such questions allow the sub-classification of the leaves but are not the most important questions in terms of the semantic features. The main questions are those which can be framed as a result of participating in informal discussion on the nature and function of cordyline leaves and are therefore questions which are suggested by cultural participants. The five main questions framed as a result of the discussion and their answers are now given:

(1) What leaves are used for dances? (yamoa mata pabe aapu = putting on and dancing tanget): modaa, karubi, asala, agaa-popano, and kiyapi*, where an asterisk indicates a new name that had not been elicited before.

(2) What leaves are best for the dry season times, in that they do not wilt? (puri pateaga pane pia yamape aapu = since they are strong, they are tangets for wearing when dry): nupiti, uruba, nekea-royo, melepa-abanome, and masaa-tala.

(3) What leaves are used to line the earth ovens? (ogere yawape yo = mumu cooking leaves): pora, melepa-abanome, and ramu*.

(4) What leaves are put on and worn as every-day types? (pa ama yamape aapu = tangets that are just put on): aakoa, ota-kula, nekea-royo, nupiti, masaa-tala, and sapi-rami*.

(5) What leaves are used when taboo signs are made? (rekena i aapu = tanget which has taboo sign): asala, aako, modaa, karubi, and kiyapi.

It is notsurprising that several of the leaves have more than one function. In a classification according to colour there are always leaves which are difficult to place. The same is true of other physical properties and cross-classification is probably an aspect of any system.

After all of the above information had been elicited I then had an assistant gather one of each type of the cordyline leaves. I then, without aid, attempted to assign each specimen a name. This was, of course, a real problem for me. The function was not associated with the appearance and only the physical properties of the leaves were an aid: colour, width and shape of the leaves and stems. Following my attempt several Kewa men were asked the names of the leaves and they were labelled. With the leaves in plain view I then asked which ones they considered to be similar in appearance. This allowed me to see if what I considered as the same or different corresponded with the view of the cultural insider. It also allows the learner to ask why, for example, the leaves pora and uruba or baako and asala are placed together. It is a gradual process of trial and error learning whereby I become educated into this particular area of Kewa culture. During the periods of discussion I learned many interesting things about other aspects of Kewa culture that I had not known before. The whole process suggested to me some practical considerations for education in New Guinea which I will now give.

4. Practical Considerations. The excitement generated by the men in discussing cordyline leaves was noteworthy. Their immediate concern: Are you going to do this with mushrooms? sweet potato? frogs? and so on? In other words, what about the other areas of our culture that you are so unfamiliar with ? Would you like to learn about them too? I think that it is not only important that we do study and understand these aspects of New Guinea culture but that we also ensure that New Guinea youngsters be taught their own taxonomical systems. These aspects of their culture should be preserved and not simply wiped out by learning the 'correct' Western systems of classification - whether leaves or transport.

If this is not done many of the present generation of New Guinea students will ask why they should bother to learn all the names of their trees and shrubs and other domains. Instead they may feel that the only 'proper' names are those which the white man has formulated in his scientific taxonomies. This may seem to them to be further borne out by the fact that such areas as cordyline leaves would have virtually no space in a botany text-book. Instead, in textbooks currently available eucalyptus trees, as a part of the expat-riate culture, are much more likely to be featured. It seems obvious that a more direct

tie-in between 'scientific' and 'folk' taxonomies is necessary somewhere in the process of eduction.

Acculturation introduces new items which are placed in a folk taxonomical system on the basis of semantic features of classification already present in the language. Such a view may be modified or expanded with education but any new system introduced would build upon the way the people of the culture extract and combine the semantic features they consider valid and helpful. For example, the Kewa people can understand our mode of transportation only as the semantic features which we use to separate vehicles by assigning labels become clear to the Kewa people and as they in turn contrast such features with their present system of classification. Any other attempt to teach an outside viewpoint will have to be done by rote memory and will not necessarily match the cultural view of the people.

This is perhaps even more apparent if we consider for the moment the Kewa concepts of compass orientation. These are related as 'where the sun comes up' (=East), 'where the sun goes inside' (=West), while both North and South are what we could translate as 'the left-hand direction'. Such a completely different perspective cannot help but confuse both the Kewa students and their teacher in a geography lesson. If the first lesson on geography dealing with directions explores the Kewa folk system the scientific system is much more likely to make sense. The same principle can be extended to virtually any subject: mathematics, anatomy, or science concepts.[8]

Although there has been a great deal of investigation of vernacular languages in New Guinea,[9] there has been little or no interest in incorporating such studies into current education. It is not merely a matter of preserving the present cultural systems in some form for the sake of preservation. Instead, and as we have attempted to briefly demonstrate, a more careful and sympathetic understanding of the indigenous systems will provide a more adequate and accurate knowledge of the subjects taught in Western education.

FOOTNOTES

1. More precise definitions are given in H.C. Conklin, "Lexicographical Treatment of Folk Taxonomies," International Journal of American Linguistics, 28 (1962, Publication 21), 119-141, and in M. Mathiot, "Noun Classes and Folk Taxonomy in Papago," American Anthropologist, 64, (1962), 340-50. Many articles relating to this field can be found in S.A. Tyler, ed., Cognitive Anthropology, N.Y:

Holt, Rinehart, and Winston (1969).

I would like to thank Rosemary Young and Alan Healey for reading and commenting on this paper.

2. Full details on Kewa, a language of the West-Central Family, can be found in K. J. Franklin, The Dialects of Kewa, Pacific Linguistics, Series B, No. 10 (1968), and in A Grammar of Kewa, New Guinea, Pacific Linguistics, Series C, No. 16 (1970).

3. The fact that vocabulary is proportionate to cultural relevance is pointed out, e.g. in E.A. Nida, "Analysis of Meaning and Dictionary Making," International Journal of American Linguistics, 24, (1958), 279-92.

4. There is some variation between the East and West dialects of Kewa, so a composite view is presented here. I am indebted to Ropasi of Usa hamlet, Yandawae of Muli hamlet, and my son Kirk for their help.

5. K.H. Basso in "Semantic Aspects of Linguistic Acculturation," American Anthropologist, 69 (1967), 471-77, shows how the Western Apache correlate the taxonomy of an automobile with the parts of a man's body.

6. This type of over-lapping phenomena is not clear-cut and is therefore not often commented on in folk taxonomical descriptions. I have mentioned this feature earlier in "Kewa Ethno-linguistic Concepts of Body Parts," Southwestern Journal of Anthropology, 19 (1963), 54-63.

7. Cordyline leaves are called 'tanget' in Pidgin English. H. Aufenanger, "The Cordyline Plant in the Central Highlands of New Guinea," Anthropos, 56 (1961), 394-408, says that the scientific term is Taetsis fructicosa. The name given to my specimens by the Lae Botanical Division is Liliaceae, Cordyline. See also F. Panoff, "A Feminine Costume in New Britain " The Journal of the Polynesian Society," 79 (1970), 99-106 for references to varieties classified according to colour of the leaf, size, length, shape, and presence or absence of a marginal vein.

8. Earlier, for example, we suggested that counting should be introduced to Kewa students by a base four system: K. and J. Franklin, "The Kewa Counting Systems," Journal of Polynesian Society, 71 (1962), 188-91. That Kewa anatomical concepts differ radically from our own can be seen from the article referred to in

footnote 6. For comments on the problem of relating time concepts among New Guinea students see J.R. Prince and A. Balint, "Cultural Conflicts in the Time Concepts of New Guinea Speakers," Kivung 1 (1968), 18-37. The authors give separate eductional and linguistic viewpoints. Prince has also demonstrated how Western education and culture influence our own science concepts and that such concepts are not found naturally among New Guinea students. See "Science Concepts among New Guinea School Children: A Pilot Survey," Journal of the Papua and New Guinea Society, 1 (1967), 119-27.

9. The Summer Institute of Linguistics, Inc. alone has members studying over 90 separate languages in the Territory.