The Diagnosis of Disease among the Subanun of Mindanao

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ALTHOUGH my original field work among the Eastern Subanun, a pagan people of the southern Philippines, was focused on a study of social structure, I found it exceedingly difficult to participate in ordinary conversations, or even elicit information within the setting of such conversations, without having mastered the use of terminologies in several fields, notably folk botany and folk medicine, in which I initially had only marginal interest. Effective use of Subanun botanical and medical terminologies required more knowledge of verbal behavior than linguists typically include in their conception of a structural description. To generate utterances which were grammatical (Chomsky 1957:13–17) but not necessarily meaningful or congruent (Joos 1958) did not suffice. Yet descriptive linguistics provides no methods for deriving rules that generate statements which are semantically as well as grammatically acceptable. Having acquired only an unsystematic and intuitive "feel" for the use of certain portions of the Subanun lexicon during a first field study, I attempted during a second study a more rigorous search for meanings. This investigation became a major focus of my field work. Presented here is a partial analysis of one of the less numerous terminologies: 186 'disease names.' (Single quotation marks enclose *glosses*, English labels which substitute for, *but do not define*, Subanun terms.)[1]

The Subanun

Some 50,000 Eastern Subanun inhabit the eastern portion of Zamboanga Peninsula, a 130 mile-long extension of the island of Mindanao in the Philippines. Most of this population practices swidden farming in the mountainous interior of the peninsula, leaving the coasts to Christian immigrants of recent decades from the Bisayan Islands to the north. Prior to this century the coasts were controlled, and sporadically occupied, by Philippine Moslems, who established an exploitative hegemony over the pagan Subanun in certain locales (Christie 1909; Frake 1957b).

In terms of segmentation and stratification, Subanun society displays remarkable simplicity. Each nuclear family is the focus of a partially unique and variable network of social ties with kin and neighbors which constitutes, for that family, the "total society." This maximal, nondiscrete, sphere of social relationships has no corporate organization and is not segmented into lineages, age-sets, secret societies, territorial districts, political factions, or the like. Despite this simplicity of their social structure, the Subanun carry on constant and elaborate interfamily social activities: litigation, offerings, feasts—all well

lubricated with ample quantities of rice wine. Warfare is lacking (Frake 1961).

All Subanun are full-time farmers. Special statuses are few in number, filled by achievement rather than ascription, restricted in domain, and limited in economic rewards. The status of legal authority has been discussed elsewhere (Frake 1957a). In the sphere of making decisions about disease, differences in individual skill and knowledge receive recognition, but there is no formal status of diagnostician or even, by Subanun conception, of curer. Everyone is his own 'herbalist' (*memuluŋ*). There are religious specialists, 'mediums' (*belian*), whose job it is to maintain communications with the very important supernatural constituents of the Subanun universe. Mediums hold curing ceremonies, but the gods effect the cure. They make possible verbal communication with the supernaturals, but again the information received comes from the gods. The medium is but a channel for the divine message.

A consideration of disease etiology, together with etiologically derived therapy, would require extended discussion of Subanun relations with the supernatural world. In limiting ourselves to diagnosis, on the other hand, we can largely ignore information derived from very noisy, supernaturally-produced signals.

Disease concepts

"Am I sick?" "What kind of disease do I have?" "What are my chances?" "What caused this disease?" "Why did it happen to me (of all people)?" Illness evokes questions such as these among patients the world over. Every culture provides a set of significant questions, potential answers, and procedures for arriving at answers. The cultural answers to these questions are *concepts* of disease. The information necessary to arrive at a specific answer and eliminate others is the *meaning* of a disease concept.

The Subanun patient, no matter how minor his illness, rarely depends upon introspection to answer these questions. He solicits the readily proffered judgment and advice of kin, neighbors, friends, specialists, deities, and ethnographers. Sickness comprises the third most frequent topic of casual conversation (after litigation and folk botany) among Subanun of my acquaintance, and it furnishes the overwhelmingly predominant subject of formal interviews with the supernaturals.

Because disease is not only suffered and treated, but also talked about, disease concepts are verbally labelled and readily communicable. Their continual exposure to discussions of sickness facilitates the learning of disease concepts by all Subanun. Subanun medical lore and medical jargon are not esoteric subjects; even a child can distinguish *buni* from *buyayag*—two fungous skin infections not, to my knowledge, differentiated by Western medical science—and state the reasons for his decision.

This corpus of continually emitted and readily elicitable verbal behavior about disease provides our evidence for the existence and meaning of culturally defined disease concepts. We begin with actual disease cases—instances

of 'being sick' (*miglaru*) by Subanun identification. We note the kinds of questions *the Subanun ask* about these cases, we record the alternative (or *contrasting*) replies to each kind of question, and then we seek to differentiate the factors by which a Subanun decides one reply, rather than an alternative, applies in a particular situation.

Among the questions evoked by a disease case, there invariably appears one of a set of utterances which demands a 'disease name' (*ŋalan mesait en*) in response. Answering a question with a 'disease name' is *diagnosis*. Subanun diagnosis is the procedure of judging similarities and differences among instances of 'being sick,' placing new instances into culturally defined and linguistically labelled categories. Diagnostic decisions pertain to the selection of 'medicinal' (*kebuluŋan*) therapy, to prognosis, and to the assumption of an appropriate sick role by the patient. They do not answer, nor depend upon, the crucial etiological questions that guide the search for 'ritual' (*kanu*) therapy in severe and refractory cases. The Subanun thus discriminate among the various constellations of disease symptoms and react differentially to them. They diagnose *kinds* of disease.

Disease names

The fundamental unit of Subanun diagnosis is the *diagnostic category* (or "disease") labelled by a 'disease name.' Whereas an *illness* is a single instance of 'being sick,' a diagnostic category is a conceptual entity which classifies particular illnesses, symptomatic or pathogenic components of illness, or stages of illness. The course of an illness through time and its symptomatic components at any one time do not always fit into a single diagnostic category. Consequently, a single illness may successively or simultaneously require designation by several disease names.

Although not all illnesses can be diagnosed by a single disease name, every disease name can diagnose a single illness. Disease names thus differ from designations of kinds of symptoms, such as 'itch' (*matel*), or kinds of pathogenic agents, such as 'plant floss' (*glaŋis*), which do not function as diagnostic labels for illnesses.

The question "What kind of illness is that?" (*dita? gleruun ai run ma iin*) will always elicit a diagnostic description. Actually, however, a Subanun rarely states this question explicitly; rather he implies it when making an assertion such as "I feel sick" (what do you think is wrong with me?); "You look sick" (what is the matter with you?); "I hear he's sick" (do you know what he's got?). When accompanied by the proper intonation and inserted particles to express worried concern, such utterances invariably stimulate diagnostic discussions resulting in a consensual linguistic description of a particular illness.

If none of the linguistic components of a description of an illness can by itself describe a disease case, then the description as a whole constitutes a disease name, labelling a single diagnostic category. Thus the description *mesait gulu* 'headache' labels a single diagnostic category, for neither *mesait*

'pain' nor *gulu* 'head' can alone diagnose an illness. On the other hand, the description *mesait gulu buʔ mesait tian* 'headache and stomach ache' constitutes two diagnostic categories because each component can itself serve as a description of an illness. A single disease name is a *minimal* utterance that can answer the query "What kind of illness is that?"

At the most specific level of contrast (see below), we have recorded 186 human-disease names (apart from referential synonyms), and the productivity of Subanun disease terminology permits the formation of an indefinite number of additional names. For example, we never recorded *mesait kuleŋkay* 'little-finger pain' as a disease name, but should a Subanun find occasion to communicate such a concept he could unambiguously do so by constructing this label.

Standard descriptive phrases of the productive (polylexemic) type, such as *mesait tian* 'stomach ache' and *meŋebag gatay* 'swollen liver,' label a number of common ailments. A few other disease names, which one might call "suggestive" rather than "descriptive," have constitutents not productive in the formation of new disease names: for example, the derivative *penabud* 'splotchy itch' <*sabud* 'to scatter, as chicken feed.' There remain 132 diagnostic categories which possess unique, single-word labels. The Subanun must consequently rote learn unique and distinctive labels for the vast majority of his diseases, a situation paralleled even more markedly in the botanical lexicon of well over one thousand items. The fact that all Subanun do, in fact, learn to use such a copious vocabulary of disease and plant terms with great facility reflects the prominent place of these terminologies in daily conversation.

Levels of contrast

In a given diagnostic situation, a Subanun must select one disease name out of a set of contrasting alternatives as appropriately categorizing a given set of symptoms. Before considering his criteria of selection, we must determine which disease categories, in fact, contrast with each other. Two disease names *contrast* if only one can correctly diagnose a particular set of symptoms. (We consider later the question of disagreement about "correctness.") A particular illness may require the diagnoses of more than one set of symptoms for complete description, as with the case of 'being sick' with both a 'headache' and a 'stomach ache.' In such cases the linguistic construction with 'and' (*buʔ*) makes it clear that the illness comprises a conjunction of two contrasting diagnostic categories. With reference to the set of symptoms of pains in the head, only one of the contrasting responses is applicable. Any difficulties caused by conjunctive descriptions of illnesses can be obviated by taking evidence for contrast only from illnesses described by a single disease name.

When the same set of symptoms elicits different single-disease-name responses, and informants consider each response to be correct, two things may be responsible. The disease names may be referential synonyms; i.e., the categories they designate are mutually inclusive or equivalent. This happens

when, for example, the terms are dialect variants or variants appropriate to different kinds of discourse, such as casual as opposed to formal speech. The second possibility, and the one that concerns us here, is that one category totally includes another; it is superordinate and operates at a less specific *level of contrast.*

An example from English illustrates the meaning of *levels of contrast.* If we confront English-speaking informants with a dog, say a poodle, and collect designations applicable to it, we would eventually have a corpus of words such as poodle, dog, animal, and (from the zoologically sophisticated) canine, mammal, vertebrate. Since all of these words correctly designate the same object, they do not contrast at the same level. Neither are they referential synonyms, for whereas all poodles are dogs, the converse is not true. The category "dog" totally includes the category "poodle." A poodle is a kind of dog, a dog a kind of mammal, a mammal a kind of vertebrate, and so on. Arranging classes by inclusion produces a hierarchy of levels, each ascending level being less specific and including more than its predecessor.

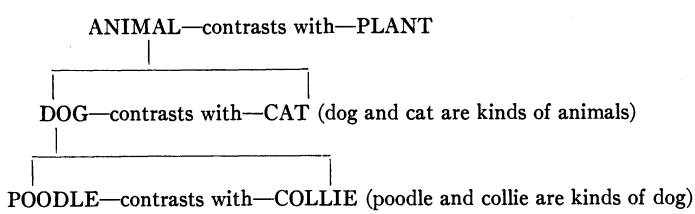
Now suppose, still pointing to a poodle, we ask our (zoologically unsophisticated) informants the following questions:

1. "Is it a plant?"
2. "Is it a cat?"
3. "Is it a collie?"

The responses are, respectively:

1. "No, it's an animal."
2. "No, it's a dog."
3. "No, it's a poodle."

Animal thus contrasts with plant, dog with cat, and poodle with collie.



We could, of course, elicit many more contrasts at each level, and, working with zoologists or dog lovers as informants, we could isolate additional levels.

A *taxonomic hierarchy* comprises different sets of contrasting categories at successive levels, the categories at any one level being included in a category at the next higher level. Taxonomies divide phenomena into two dimensions: a horizontal one of discrimination (poodle, collie, terrier) and a vertical one of generalization (poodle, dog, animal).

The importance of recognizing levels of contrast in Subanun disease nomenclature first became apparent when, early in the field work, I had an infectious swelling on my leg. I asked all visitors for the name of my ailment and received

a variety of different answers (all single disease names) from different people or even from the same people on different occasions. Subanun disease naming seemed to be an inconsistent and unpredictable jumble. Further interrogation, together with closer attention to the socio-linguistic contexts of responses, soon made it clear that all respondents were right; they were just talking at different levels of contrast. Some—especially those who wished to avoid a detailed medical discussion of my ills in favor of another subject—were simply telling me I had a 'skin disease' (*nuka*) and not another kind of external disease. Others were informing me that I had an 'inflammation' (*meŋebag*) and not some other 'skin disease.' Still others—habitual taxonomic hair-splitters and those who had therapeutic recommendations in mind—were diagnosing the case as 'inflamed quasi bite' (*pagid*) and not some other kind of 'inflammation.'

Figure 1 diagrams the taxonomic structure of a portion of the twenty-nine specific 'skin disease' (*nuka*) categories. Superordinate categories stand above

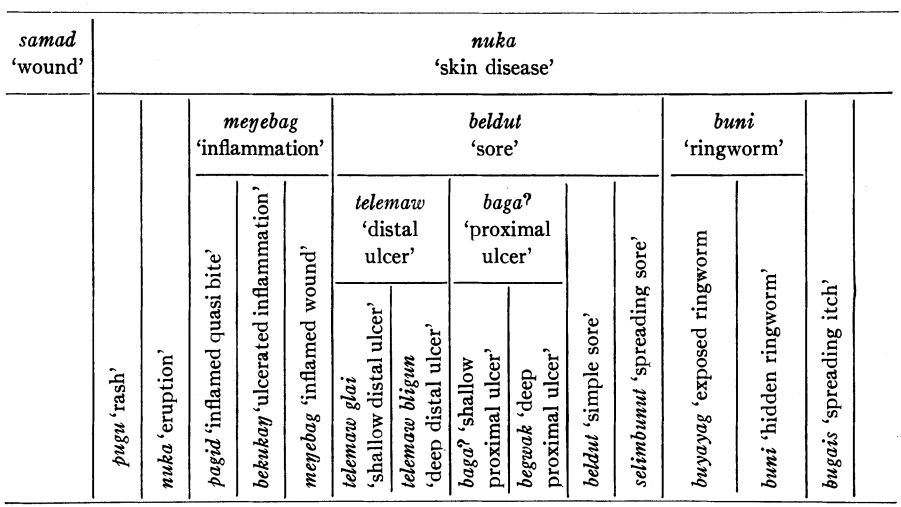


FIG. 1. Levels of Contrast in 'Skin Disease' Terminology

their subordinates. A given category contrasts with another category at the level at which the two share an upper horizontal boundary not crossed by a vertical boundary. Any case, for example, diagnosed as *telemaw glai* 'shallow distal ulcer' can also be labelled *telemaw* 'distal ulcer,' *beldut* 'sore,' or *nuka* 'skin disease' depending on the contrastive context. If, pointing to a 'shallow distal ulcer,' one asks:

1. Is it a *telemaw glibun* ('deep distal ulcer')?
2. Is it a *baga?* ('proximal ulcer')?
3. Is it a *meŋebag* ('inflammation')?
4. Is it a *samad* ('wound')?,

The predictable responses are respectively:

1. No, it's a *telemaw glai* ('shallow distal ulcer')
2. No, it's a *telemaw* ('distal ulcer')
3. No, it's a *beldut* ('sore')
4. No, it's a *nuka* ('skin disease').

The clearest examples of different levels of contrast appear when a disease category subdivides into "varieties." Systemic conditions producing discolored urine, for example, known generally as *glegbay*, have 'red' (*glegbay gempula*) and 'white' (*glegbay gemputiʔ*) subcategories. The 'distal ulcer' *telemaw* subdivides into *telemaw glai* 'male (i.e., shallow) ulcer' and *telemaw glibun* 'female (i.e., deep) ulcer.' Although in these examples, subordinate levels of contrast are indicated by attaching attributes to superordinate disease names, such linguistic constructions are not necessarily evidence of inclusion. Thus *beldut pesui* 'sty,' literally, 'chick sore,' is not a kind of *beldut* 'sore' but a kind of 'eye disease' (*mesait mata*). It is the way linguistic labels are applied to phenomena and not the linguistic structure of those labels that points to levels of contrast.

As a matter of fact, when we systematically investigate the contrasts of each Subanun disease term, we find a number of cases in which the same linguistic form appears at different levels of contrast. The term *nuka* 'skin disease,' for example, not only denotes a general category of ailments which includes conditions like *bagaʔ* 'ulcer,' but it also denotes a specific kind of skin condition, a mild 'eruption' that contrasts with *bagaʔ* (see Figure 1). In all such cases, if the context (especially the eliciting utterance) does not make the level of contrast clear, respondents can indicate the more specific of two levels by means of optional particles: e.g., *tantu nuka* 'real *nuka*,' i.e., 'eruption', not *any* 'skin disease.'

The use of the same linguistic form at different levels of contrast, while a source of confusion until one attends to the total context in which a term is used, should not surprise us. It is common enough in English. The word *man*, for example, designates at one level a category contrasting with nonhuman organisms. At a more specific level, *man* designates a subcategory of human organisms contrasting with *woman*. Subordinate to this we find the contrast: *man* (adult male)—*boy*. *Man* can even appear at a still more specific level to designate a kind of adult male human, as in Kipling's " . . . you'll be a man, my son."

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MAN—contrasts with—ANIMAL
 |———————————————————|
MAN—contrasts with—WOMAN
 |———————————————————|
MAN—contrasts with—BOY
 |———————————————————————————|
MAN—contrasts with—(UNMANLY MALE)[2]
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This use of single forms at several levels of contrast seems particularly characteristic of Subanun disease terminology. It appears elsewhere as well, in

botanical nomenclature and kinship terminology for instance, but not so extensively. The reasons for its use in disease terminology become, in part, explicable when we consider the use of disease names to designate sequential stages of illness.

The changing and unpredictable course of disease symptoms considerably complicates diagnosis. Of course other phenomena also change. A plant, passing from seedling to mature tree, changes radically in appearance. But a seedling of one kind invariably produces a mature plant of the same kind. A papaya seedling never grows into a mango tree. Consequently, the members of a plant category can be identified at any stage of growth, and terminological distinctions of growth stages do not affect classifications of kinds of plants. Given an illness at a particular stage of development, on the other hand, its symptoms may proceed along a variety of different courses or it may heal altogether. Just as one illness sometimes requires several disease names for complete description at any one time, so its course over time may pass through several distinct diagnostic categories.

Every disease name designates a potential *terminal* stage: a stage of 'being sick' immediately preceding 'cure' (or 'recuperation') or 'death.' But some disease stages, potentially terminal, may also be prodromal stages of other terminal diagnostic categories. This situation occurs especially among the skin diseases. Each sequential stage leading to an ulcer or an itchy skin disease is, in itself, a potential terminal stage designated by a disease name. A case of *nuka* 'eruption,' for example, sometimes heals without complication; at other times it eventually develops into one of 23 more serious diseases. Consequently, *nuka* not only designates a terminal disease category but also a stage of development in a variety of other diseases.

Figure 2 shows that *nuka* is the pivotal stage in the development of the majority of 'skin diseases.' And it is this term that also serves as a general designation for 'skin diseases,' including some for which *nuka* 'eruption' is not a prodrome.

The term *nuka* thus has three uses:

1. As a general designation for 'skin disease,' applicable to any skin disease at any stage of development;
2. To designate a prior stage of some, but not all, 'skin diseases';
3. To label a terminal diagnostic category, 'eruption,' which contrasts with other 'skin-disease' categories.

The reader will find further examples of multiple semantic uses of single linguistic forms by comparing Figures 1 and 2.

Subanun disease terminology well illustrates the proviso, often stated but rarely followed through in semantic analysis, that the meaning of a linguistic form is a function of the total situation, linguistic and nonlinguistic, in which the form is used. Essentially it is a matter of determining with what a term contrasts in a particular situation. When someone says, "This is an *x*," what is he saying it is *not?* (cf. Kelly 1955:59–64).

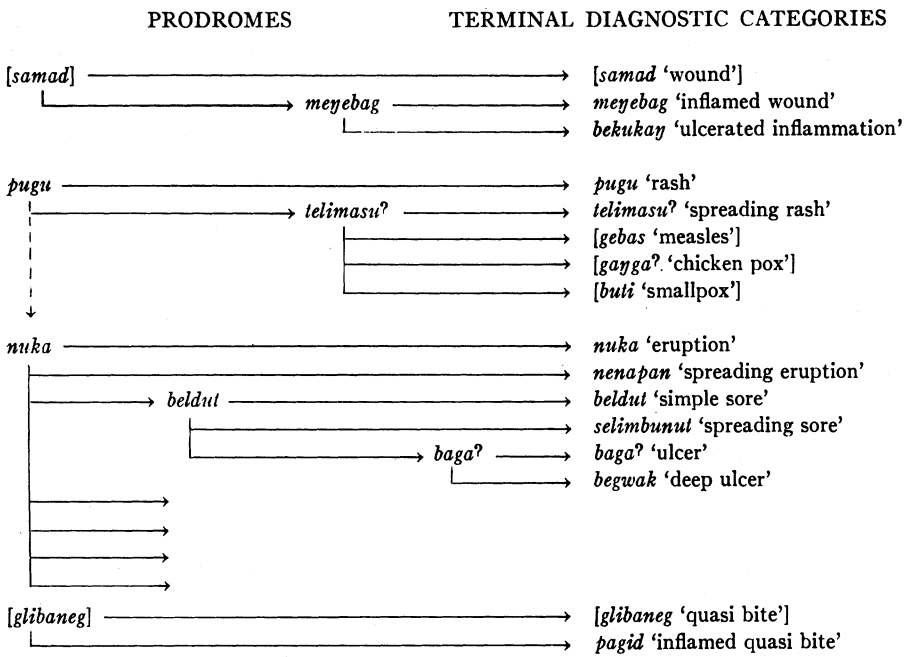

FIG. 2. Skin Disease Stages

Only a few of the diseases arising from *nuka* 'eruption' are shown.
Diseases enclosed in brackets are not classifiable as *nuka* 'skin disease.'

Figures 1 and 2 reveal a partial relation between levels of contrast and stages of development in 'skin disease' terminology. Among 'skin diseases,' where the course of development *through different diagnostic categories* is most complex, the segregation of different levels of contrast is more elaborate than elsewhere in the disease taxonomy. But the terminological complexity of skin disease development does not suffice to explain why this area of the disease vocabulary exhibits more levels of contrast than other areas. A similar variability of number of levels in different segments of a taxonomy, not correlated with the designation of developmental stages, also occurs in botanical and zoological nomenclature.

To explain why some areas of a folk taxonomy subdivide into a greater number of superordinate-subordinate levels than others, we advance the following hypothesis: the greater the number of distinct social contexts in which information about a particular phenomenon must be communicated, the greater the number of different levels of contrast into which that phenomenon is categorized. Skin diseases, for example, enter into a wide variety of social contexts, apart from therapeutically oriented discussions. They can influence bride-price calculations. Here, the concern is over the degree of disfigurement and the contagiousness of the disease. They can be used to justify, perhaps to one's spouse, a failure to perform an expected task. Here the disabling prop-

erties of the disease must be communicated. Skin disease terms figure prominently in competitive joking and maligning, thus entering into special kinds of discourse such as drinking songs and verse. In many of these situations it is imperative to speak at just the level of generality that specifies the pertinent information but leaves other, possibly embarrassing, information ambiguous.

The same hypothesis should hold cross-culturally. If the botanical taxonomy of tribe A has more levels of contrast than that of tribe B, it means that the members of tribe A communicate botanical information in a wider variety of socio-cultural settings. It does not mean that people in tribe A have greater powers of "abstract thinking." As a matter of fact it says nothing about general differences in cognition, for when it comes to fish, tribe B may reveal the greater number of levels of contrast.

Folk taxonomies are cultural phenomena. Their structural variation within and between cultures must be explained by the cultural uses to which a taxonomy is put, and not by appeal to differences in the cognitive powers of individual minds (cf. Brown 1958:284–285).

Diagnostic criteria

A 'disease name,' it will be recalled, is a minimal, congruent (i.e., meaningful) answer to the question, "What kind of illness is that? (*dita? gleruun ai run ma iin*)." Alternatively, it is a congruent insertion in the frame, "The name of (his) disease is _____. (*ŋalan en ig mesait en* _____)." Since different *illnesses*, that is, different instances of 'being sick' (*miglaru*), may elicit the same disease-name response, a disease name labels a class of illnesses: a *diagnostic category*.

Given a set of contrasting disease names, the problem remains of determining the rules which govern the assigning of one name rather than another in a particular diagnostic situation. Rules of use may be analytic, perceptual, or explicit in derivation.

Analytic derivation of meanings ideally yields *distinctive features:* necessary and sufficient conditions by which an investigator can determine whether a newly encountered instance is or is not a member of a particular category. The procedure requires an independent, *etic* (Pike 1954:8) way of coding recorded instances of a category. Examples are the "phone types" of linguistics and the "kin types" of kinship analysis (Lounsbury 1956:191–192). The investigator classifies his data into types of his own formulation, then compares "types" *as though* they were instances of a concept. From information already coded in the definitions of his "types," he derives the necessary and sufficient conditions of class membership. Thus by comparing the kin types of English "uncle" (FaBr, MoBr, FaSiHu, etc.) with the kin types in every other English kin category, the analyst finds that by scoring "uncle" for features along four dimensions of contrast (affinity,[3] collaterality, generation, and sex) he can state succinctly how "uncles" differ from every other category of kinsmen. The definition of "uncle" as "non-affinal, first-degree collateral, ascending generation male" suffices to enable an investigator to predict whether any new kin

type he encounters (such as FaMoSiHu) is or is not an uncle. This is not, however, the same thing as a definition which states how people in the society, in fact, categorize persons as "uncles" (Wallace and Atkins 1960:75–79). (When analytically derived features are probabilistically, rather than necessarily and sufficiently, associated with category membership, then we may speak of *correlates* rather than of distinctive features. A correlate of the uncle-nephew relation is that uncles are usually, but not necessarily, older than their nephews.)

To arrive at rules of use one can also direct attention to the actual stimulus discriminations made by informants when categorizing. What perceptual information enables one to distinguish an oak tree from a maple tree, a cold from the flu? Perceptual attributes relevent to categorization, whether distinctive or probabilistic, are *cues*. Discovering cues in ethnographic settings requires as yet largely unformulated procedures of perceptual testing that do not replace the culturally relevant stimuli with artificial laboratory stimuli (cf. Conklin 1955:342).

Finally, one can simply ask his informants about meanings: "What is an uncle?" "How do you know he is an uncle and not a father?" Such procedures yield the culture's explicit definitions or *criteria* of categories (cf. Bruner's 1956:30, "defining attributes" and Wittgenstein's 1958:24–25, use of "criteria" and "symptoms," the former being distinctive, the latter probabilistic).

These different procedures for determining rules of use are not equally applicable to every system of contrasting categories. Distinctive feature analysis becomes impractical without an economical, minimally redundant, and highly specific etic coding device. Explicit criteria may be lacking or highly inconsistent where category discriminations and decisions do not require verbal description. In some cases, consistent criteria may be present, yet provide an unsatisfactory description of behavior: compare the inutility of seeking informants' explanations in certain tasks of formal linguistic analysis. Yet there are categories—like those pertaining to supernatural phenomena—which are known only through verbal descriptions by informants. The difference between a 'deity' (*diwata*) and a 'goblin' (*menemad*) can only be what my informants tell me it is.

Our choice of procedures for arriving at meanings of disease names is, in part, a function of the kind of category such names label, and, in part, of the kind of field data we succeeded in obtaining about diagnostic behavior.

Distinctive-feature analysis is ruled out on both counts. The preliminary denotative definitions would require a listing of illnesses assigned to each disease category in recorded diagnoses. The only meaningful etic units available for such a list are the diagnostic categories of Western medicine. Practical and methodological problems prevent their use. We had neither facilities nor personnel to make competent Western diagnose of all disease cases we observed. Yet, as useful as such information would be for many other purposes, it would, in fact, prove of little help in defining Subanun diagnostic categories. For one thing, too few illnesses actually occurred during our stay in the field to sample

adequately a sufficient proportion of Subanun diagnostic categories. Moreover, even if one could match each Subanun diagnostic category with a series of Western diagnoses, the latter would still provide very deficient etic types. We cannot assume, as we can when working with phone types or kin types, that every Western diagnostic category will be totally included by some Subanun category. Every case diagnosed by Western criteria as tuberculosis will not receive the same Subanun diagnosis. Furthermore, a Subanun category such as *peglekebuun* 'chronic cough,' which sometimes matches with tuberculosis, will not always do so. The criteria and cues of the two diagnostic systems are too disparate for one-to-one or one-to-many matching. The problems presented to the analyst by this overlapping of categories in the two systems are compounded by the superabundance of information encoded in a Western diagnostic category. Knowing only that Subanun disease *X* partially matched Western diagnostic categories *a*, *b*, *c*, and that Subanun disease *Y* partially matched Western categories *d* and *e*, one could not easily extract from medical knowledge about *a*, *b*, *c*, *d*, and *e* distinctive features defining the contrast between *X* and *Y*. For all of these reasons, distinctive-feature analysis from lists of matched native and scientific names is not feasible for folk taxonomies of disease nor, for that matter, of plants, animals, and most other natural phenomena as well.

Inadequacies of our data largely prevent confident definition of Subanun diagnostic categories by distinctive stimulus attributes, or cues, of illnesses. The discovery of what cue discriminations informants are making when contrasting one disease with another is exceedingly difficult. Many apparently pertinent cues, such as the ones that enable a Subanun patient to distinguish 'headache' (*mesait gulu*) from 'migraine' (*tampiak*) are known only by verbal descriptions. A disease "entity" such as 'headache' is not something that can be pointed to, nor can exemplars of diseases ordinarily be brought together for visual comparison and contrast as can, say, two plants. Moreover, situational features other than stimulus attributes of the illness bear on the final diagnostic decision. The same degree of pain, if objectively measured, could probably lead to a diagnosis of either 'headache' or 'migraine' depending on current social or ecological role demands on the patient. Nevertheless, very few diagnostic decisions are made by the Subanun without some apparent appeal to stimulus properties of illness; and in the majority of diagnoses these are the overriding considerations.

It is difficult, then, to define Subanun diagnostic categories in terms of analytic or perceptual attributes of their denotata. On the other hand, these very difficulties facilitate recognition of diagnostic criteria: explicit defining attributes of disease categories. Since one cannot point to a disease entity and say "That's a such and such," as one can with a plant specimen, and since no one individual ever personally experiences but a fraction of the total number of diseases he can, in fact, differentiate, the Subanun themselves must learn to diagnose diseases through verbal description of their significant attributes. It is thus relatively easy for a Subanun to describe precisely what makes one dis-

ease different from another. He can tell us, for example, that the ulcer *begwak* produces a marked cavity, unlike the ulcer *baga*ʔ. He can describe the difference in appearance between *glepap* 'plaque itch' and *penabud* 'splotchy itch,' the difference in locale between the 'ringworms' *buni* and *buyayag*, the difference in pathogenesis between *meŋebag*, an 'inflamed wound,' and *beldut*, a spontaneous 'sore.' This is not to say that the evaluation of the cues of a particular illness as exemplars of diagnostic criteria is always easy or consistent. Informants operating with identical diagnostic concepts may disagree about the application of these concepts in a particular case, but they rarely disagree in their verbal definitions of the concepts themselves.

The procedures for eliciting and analyzing diagnostic criteria parallel those used to determine the system of nomenclature: we collect contrasting answers to the questions the Subanun ask when diagnosing disease. By asking informants to describe differences between diseases, by asking why particular illnesses are diagnosed as such and such and not something else, by following discussions among the Subanun themselves when diagnosing cases, and by noting corrections made of our own diagnostic efforts, we can isolate a limited number of diagnostic questions and criterial answers.

A classification of Subanun diagnostic criteria follows from (1) the questions which elicit them and (2) the status of the answers as diagnostic labels.

1. By eliciting question
    - 1.1. Pathogenic criteria.
    - 1.2. Prodromal criteria.
    - 1.3. Symptomatic criteria.
    - 1.4. Etiological criteria.
2. By status of the answer as a diagnostic label
    - 2.1. Elementary criteria.
    - 2.2. Complex criteria.

1.1. *Pathogenic criteria* are diagnostically significant responses to questions of 'pathogenesis' (*meksamet*), which is different from '*etiology*' (*melabet*). 'Pathogenesis' refers to the agent or mechanism that produces or aggravates an illness, 'etiology' to the circumstances that lead a particular patient to contract an illness. Thirty-four elementary diagnostic categories require pathogenic information for diagnosis. Examples are 'wound' (*samad*), 'burn' (*pasu*ʔ), 'intestinal worm' (*bulilaŋ*), 'skin worm' (*tayeb*), 'pinworm' (*glelugay*), 'exposure sickness' (*pasemu*[4]). In such cases, where the identification of a pathogen is criterial to diagnosis, the association between the pathogen and the illness is relatively obvious both to the investigator and to his informants.

In addition, the Subanun posit the existence of many pathogens—such as 'plant floss' (*glaŋis*), 'microscopic mites' (*kamu*), 'intrusive objects' (*meneled*), 'symbolic acts' (*pelii*), 'stress' (*pegendekan*), 'soul loss' (*panaw i gimuud*)—which are not diagnostically criterial. These noncriterial pathogens, whose presence generally must be determined independently of diagnosis, provide clues in the search for etiological circumstances and serve as guides to prophy-

lactic measures. But standard, named pathogens, whether criterial or not, have a limited range of pertinence. In the cognitive decisions occasioned by an illness, pathogenic mechanisms are significant only when they are necessary appurtenances to diagnosis or to etiological explanations. Otherwise they are of little interest. Like Western physicians, the Subanun do not know the pathogenic agents of many of their diseases, but, unlike the former, the Subanun consider this lack of knowledge to be of trivial rather than of crucial therapeutic significance. Consequently a large number of Subanun diseases lack standard pathogenic explanations, and many disease cases go by without any effort (except by the ethnographer) to elicit them from consultants or supernaturals.

1.2. *Prodromal criteria* are diagnostically significant responses to questions of the origin or 'prodrome' (*puunan en*) of a given illness, the 'prodrome' always referring to a prior and diagnostically distinct condition. A *derivative* disease is one whose diagnosis depends on its having a specified prodrome. When referring to a derivative disease, a query about its prodrome *must be* answered by another disease name, previously applicable to the illness. A *spontaneous* disease, in contrast, is one for which the response to a query about prodromes *can be* 'there is no prodrome' (*ndaʔ ig puunan en*).

Figure 2 shows a number of illnesses whose diagnoses depend on their having passed through specific other stages. One cannot have *begwak* 'deep ulcer' unless one has previously, as part of the same 'illness,' had *nuka* 'eruption,' *beldut* 'sore,' and *bagaʔ* 'ulcer,' in that order. 'Eruption' (*nuka*), on the other hand, need have no prodrome, though it sometimes begins as 'rash' (*pugu*). The latter disease is always spontaneous.

For any derivative disease, a given prodrome is a necessary but not a sufficient diagnostic criterion. If the evidence of other criteria overwhelmingly points to a contrary diagnosis, one must conclude—since the criteriality of the prodrome cannot be discounted—that the previous diagnosis, or current information about it, is erroneous. Thus an informant insisted that an inflammation on my leg was an inflamed insect bite (*pagid*) rather than an inflamed wound (*tantu meŋebag*), even though I had told him I thought it originated as a 'minor cut.' I simply, according to him, had not noticed the prodromal bite. In such cases the existence of the prodrome is deduced from its criteriality to a diagnosis actually arrived at on other grounds. Our data would have been much improved had we earlier recognized the importance of these *ex post facto* classificatory decisions as evidence of criteriality.

1.3. *Symptomatic criteria* are diagnostically significant responses to a variety of questions about the attributes of an illness currently perceptible to patient or observer. These are the most frequent, wide-ranging, and complex of diagnostic criteria. Our data are not, in fact, complete enough to list, or even to enumerate, all the questions, with all their contrasting responses, necessary to define in explicit Subanun terms the symptomatic differences among all disease categories. Moreover, we can present here, in analyzed form, only a small proportion of the data we do have.

To exemplify symptomatic criteria we shall discuss several major questions

that occur repeatedly in the diagnosis of a variety of illnesses; then we shall illustrate how these and other criterial contrasts intersect to define a segment of skin-disease terminology.

Specifications of locale along several dimensions provide fundamental criteria of Subanun diagnosis, closely relating to selection of appropriate therapeutic measures, to prognostic judgment, and to the evaluation of the disabling potential of an illness. First of all, disease symptoms can be located along a dimension of depth or penetration with two basic contrasts: 'external' (*dibabaw*) and 'internal' (*dialem*), depending on the presence or absence of visible lesions on the surface of the body. An external disease may penetrate to produce internal symptoms as well as external lesions, in which case the disease has 'sunk' (*milegday*). Rarely, a disease may penetrate to the other side of the body producing 'balancing' (*mitimpay*) or 'pierced' (*milapus*) lesions. Penetration is prognostic of seriousness; the therapy of a number of skin diseases aims at preventing 'sinking.'

Those diseases which may be pinpointed anatomically (in Subanun terms, of course) are *localized* diseases. Should an initially localized condition begin to spread to adjacent areas within the same penetration level, then it will often fall into a new and distinct disease category. The distinction between circumscribed and spreading conditions pertains especially to external lesions. If a 'sore' (*beldut*) becomes multilesional (*misarak*), it is no longer *beldut*, but *selimbunut* 'spreading sore.' Other diseases for which spreading is an important diagnostic criterion are 'spreading rash' (*telimasuʔ*), 'spreading eruption' (*nenapan*), 'yaws' (*buketaw*), and 'spreading itch' (*bugais*). The Subanun describe an external condition that covers all or most of the body surface as *mipugus* or *miluup*, the latter term also designating a completely dibbled rice field.

Degree of penetration and spreading correlate closely with prognostic severity, hence their diagnostic importance. Distinctions of specific locales seem to reflect in part the disabling potential of a disease. Thus, lesions on the hands and feet often receive different designations from similar lesions elsewhere on the body; compare *bagaʔ* 'proximal ulcer' with *telemaw* 'distal ulcer.' Among itchy skin diseases which seldom cause severe discomfort, distinctions of locale correspond with unsightliness. Thus the Subanun, who regard these diseases as extremely disfiguring, distinguish lesions hidden by clothing from those visible on a clothed body: compare *buni* 'hidden ringworm' with *buyayag* 'exposed ringworm.'

Specifications of interior locales usually refer to the area below an external reference point: the 'head,' 'chest,' 'xiphoid,' 'side,' 'waist,' 'abdomen,' and so on. The only internal organs commonly named as disease locales are the 'liver' and the 'spleen.' The liver in Subanun anatomical conceptions is somewhat akin to the heart in popular Western notions. (We recorded no Subanun diseases attributed to the heart.) The choice of the spleen as a disease locale seems to represent an instance of Subanun medical acumen. The term for spleen, *nalip* (identified during dissections of pigs), names a disease characterized by

externally visible or palpable swelling attributed to this organ. The Subanun regard *nalip* as a complication of actual or latent malaria (*taig*). In Western medicine, an enlarged spleen (splenomegaly) may indicate malaria infection (Shattuck, 1951:50).

Most peoples probably single out disorders of sensation as one of the most pertinent characteristics of diseases: witness our own stock query, "How are you feeling?" The Subanun ask "Does it hurt?" (*mesait ma*). The contrasting replies to this question are, first, an affirmative, "Yes, it hurts"; second, a denial of pain followed by a specification of a contrasting, nonpainful, but still abnormal sensation, "No, it doesn't hurt; it itches"; and, third, a blanket negation implying no abnormal sensation. Thus the Subanun labels a number of contrasting types of sensation and uses them to characterize and differentiate diseases.

The contrast between 'pain' (*mesait* or *megeel*) and 'itch' or 'irritation' (*matel*) has special relevance to skin lesions. 'Sores' 'hurt,' whereas scaly lesions 'itch.' But should a sore-like lesion both 'itch' and at the same time multiply and spread, a distinctive and serious disease is indicated: *buketaw* 'yaws.' The type of sensation also indicates possible pathogenic agents. Pain usually follows some kind of trauma so if the patient has suffered no obvious injury, the supernaturals have very likely inflicted an invisible wound. Itchiness signals the presence of an irritating agent, often *glaŋis* 'plant floss.'

Once a condition has been labelled 'painful' in contrast to other possibilities, the kind of pain can be specified at a subordinate level of contrast. However, the Subanun make such specifications more in contexts of complaining about discomfort than in diagnosing. Consequently the terms descriptive of pain are often chosen for their rhetorical rather than denotative value. Such terms resemble English metaphors: 'burning,' 'piercing,' 'splitting,' 'throbbing.'

There are, of course, many other sensations criterial to diagnosis and a long list of diagnostic questions referring to appearances and to bodily functions. Rather than attempting to discuss each of these, it will be of greater methodological advantage to illustrate how a series of questions with their contrasting answers defines one small segment of the disease terminology. Figure 3 diagrams the criterial definitions of the types of 'sores' (*beldut*) distinguished by the Subanun (cf. Figure 1). The 'sores' contrast with 'inflammations' (*meŋebag*) in having the prodrome *nuka* 'eruption.' 'Inflammations' and 'sores,' on the other hand, fall together in contrast to many other skin diseases in being 'painful' (*mesait*) rather than 'itchy' (*matel*). Answers to questions of spread, severity, distality (hands and feet vs. rest of body), and depth differentiate all the sores.

Depth, and especially severity, are not sharply defined by distinctive cues. In the case of 'sores,' size, persistence, and a variety of specific symptoms may point to severity: suppuration (*dun ig mata nen*), opening (*miterak*), hot sensation (*minit*), throbbing pain (*kendutendut*), intermittent burning pain (*metik*). Although not explicitly stated, judgment of severity is, in fact, partially a

function of social-role contingencies. Do the patient and his consultants wish to emphasize the former's crippling disability, which prevents him from discharging an expected obligation? Or do they wish to communicate that the patient's lesion is not serious enough to interfere with his duties? Diagnosis is not an automatic response to pathological stimuli; it is a social activity whose results hinge in part on role-playing strategies.

LEVELS OF TERMINOLOGICAL CONTRAST	*beldut* 'sore'					
	telemaw 'distal ulcer'		*baga?* 'proximal ulcer'			
	telemaw glai 'shallow distal ulcer'	*telemaw glibun* 'deep distal ulcer'	*baga?* 'shallow proximal ulcer'	*begwak* 'deep proximal ulcer'	*beldut* 'simple sore'	*selimbunut* 'multiple sore'
depth	sh	dp	sh	dp		
distality	distal		proximal			
severity	severe				mild	
spread	single					mult

DIAGNOSTIC QUESTIONS — RANGE OF CONTRASTING ANSWERS

FIG. 3. Criterial Contrasts Differentiating the 'Sores'

1.4. *Etiological criteria* are diagnostically significant responses to questions of 'etiology'; how did the patient 'encounter' (*melabet*) his illness? These questions ask "Why did it happen to me?" rather than "What causes this kind of disease?" Diagnostic knowledge of the kind of disease does not give knowledge of 'etiology' in this sense. Confident determination of etiological circumstances requires communication by divination or seance with the supernaturals. Since this kind of communication tends to be costly, patients reserve etiological searching for cases when ordinary 'medicinal' (*kebuluŋan*) treatments predicated on diagnosis have not met with success. Etiological determination generally enables the patient to undertake propitiatory rituals (*kanu*) with therapeutic value. But some etiological circumstances, notably those involving human agency, cannot be counteracted by propitiations to supernaturals. These cases require treatment with specially acquired 'medicines' such as

'charms' (*pegbeliyen*), 'amulets' (*buluy penapu*), 'potions' (*gaplas*), and 'antidotes' (*tekuliʔ*). When illnesses have a medicinally treatable etiology, the disease is then *named* for the etiological circumstance regardless of previous symptomatic diagnosis. There are seven such diseases, only two of which were recorded as diagnoses during my two years in the field: *mibuyag* 'bewitched' and *pigbuluyan* 'poisoned.'

In view of other descriptions of primitive medicine, the surprising fact about Subanun diagnosis is that in naming all but seven of the 186 human disease categories, diagnostic questions refer directly to the empirical evidence of the disease itself and its history. The exceptional cases result from these few etiological circumstances whose determination by divination or seance necessitates renaming the illness they caused. Otherwise the results of etiological determinations do not affect previously determined empirical diagnoses. A deity may have to inform a Subanun how and why he got sick, but the symptoms themselves normally provide the information to name the disease, and by naming it, the Subanun is well on the road to prognosis and preliminary therapy.

2.1. *Elementary criteria* are those whose linguistic expression is not a disease name. 'Pain (*mesait*) is an elementary criterion because *mesait*, by itself, cannot function as a disease name.

2.2. *Complex criteria* are themselves diagnostic categories labelled by a disease name. 'Malaria' (*taig*), for example, is diagnosed by the presence of the *disease* 'fever' (*panas*) plus the elementary criterion of 'periodic chills' (*seleyaun*). The disease 'fever' (*panas*) is, in turn, diagnosed by the presence of the disease 'malaise' (*mesait glawas*) plus the elementary criterion of 'feeling feverish' (*mpanas*). Earlier we noted that some illnesses require a simultaneous conjunctive description by more than one disease name, e.g., 'stomach ache and headache.' A few conjunctive combinations diagnose distinct disease categories. The diseases 'stomach ache' (*mesait tian*), 'difficult breathing' (*bektus*), and 'chest pains' (*mesait gegdeb*) function as complex criteria in the diagnosis of *baʔus*, a systemic disease for which we have devised no satisfactory gloss.

The Significance of Diagnosis

The diagnostic criteria distinguishing one Subanun disease from another, in their explicit verbal formulation by informants, define conceptually distinct, mutually exclusive categories at each level of contrast. Informants rarely disagree in their verbal descriptions of what makes one disease different from another. This does not mean, however, that they are equally consistent in their naming of actual disease cases. Two informants may agree that the ulcers *bagaʔ* and *begwak* differ in degree of penetration, yet disagree on whether a particular ulcer they are examining exhibits sufficient depth to exemplify *begwak*. The "real" world of disease presents a continuum of symptomatic variation which does not always fit neatly into conceptual pigeonholes. Consequently the diagnosis of a particular condition may evoke considerable debate: one reason a patient normally solicits diagnostic advice from a variety of people.

But the debate does not concern the definition of a diagnostic category, for that is clear and well known; it concerns the exemplariness of a particular set of symptoms to the definition (cf. Goodenough 1956:215).

Conceptually the disease world, like the plant world, exhaustively divides into a set of mutually exclusive categories. Ideally every illness either fits into one category or is describable as a conjunction of several categories. Subanun may debate, or not know, the placement of a particular case, but to their minds that reflects a deficiency in their individual knowledge, not a deficiency in the classificatory system. As long as he accepts it as part of his habitat and not 'foreign,' a Subanun, when confronted with an illness, a plant, or an animal, may say he does not know the name. He will never say there is no name. The conceptual exhaustiveness of the Subanun classification of natural phenomena contrasts with the reported situation among many other peoples.

Diagnosis—the decision of what 'name' to apply to an instance of 'being sick'—is a pivotal cognitive step in the selection of culturally appropriate responses to illness by the Subanun. It bears directly on the selection of ordinary, botanically-derived, medicinal remedies from 724 recorded alternatives. The results of this selection, in turn, influence efforts to reach prognostic and etiological decisions, which, in their turn, govern the possible therapeutic need for a variant of one of 61 basic, named types of propitiatory offerings. All of these decisions and resulting actions can have far-reaching social and economic consequences.

In this paper we have presented some methodological devices which we feel are effective in delimiting the basis for decisions underlying terminological systems. Unfortunately, while in the field we did not reach even the methodological sophistication of this article. Consequently, our data have proved deficient at a number of critical points.

NOTES

[1] Field work among the Subanun, conducted in 1953–54 and 1957–58, was supported by grants from the U. S. Government, Yale Southeast Asia Studies Program, and Smith, Kline, and French Co. The bulk of the data upon which this analysis is based were obtained in 1957–58 in the Gulu Disakan and Lipay regions northeast of Sindangan Bay in the interior of Zamboanga del Norte Province. All linguistic forms cited are from the Eastern Subanun dialect of this region. The frequent use of the first person plural in this article is not a rhetorical device but reflects the indispensable participation of my wife, Carolyn M. Frake, in the collection of field data. My handling of this material has profited from lengthy discussions with Harold Conklin and Volney Stefflre. Dell Hymes and Clyde Kluckhohn made helpful criticisms of an earlier draft of this paper.

[2] There is no standard lexeme labelling the category that contrasts with *man* in the sense of manly male. The most likely polylexemic designation is probably "not a real man."

[3] English kinship classification requires a special definition of affinity to contrast "in-laws" with other kin, some of whom (like FaSiHu) are connected to ego by a marriage link but are categorized with consanguineals (like FaBr). This definition provides that kin of different generations connected by a marriage link qualify as affinals only if the marriage link is in the lower generation.

[4] Latin Americanists should recognize this term (see Redfield and Redfield 1940:65). Disease names adopted from Spanish *pasmo* or *pasma* are widespread in the Philippines. This was the only Subanun disease name of obvious Spanish origin that we recorded.

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