BIOLINGUISTIC SYSTEMATICS AND MARKING

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Introduction

This paper endeavors to redirect current thinking of ethnobiologists, linguists, and folk biological taxonomists towards a more natural and holistic frame of reference for making explicit the fundamental principles of interactions between culture and nature. Studies of folk systematics have been appearing with varying theoretical approaches since the early 1970s and might be said to have culminated in the work of Cecil Brown (1984) (although some would surely disagree with this overly succinct assessment). Brown's work, which is much narrower in focus than its title, *Language and Living Things*, would suggest, does provide a useful beginning for further discussion of the relationship between language and the biological environment, and I shall venture here to broaden the discourse which Brown has initiated by examining several of his fundamental assumptions. In so doing the main purpose is not to criticize Brown but rather, in the spirit of scientific inquiry, to ameliorate the current view of taxonomies in natural language. In particular the following are basic to Brown's propositions:

(a) that **Life-form (LF)** taxa represent discontinuities in nature;
(b) that marking conventions follow an evolutionary appearance of Life-form taxa;
(c) that zoological and botanical realms are logically symmetrical in relation to each other.

There is substantial overlap between these and it will become apparent that difficulties encountered in (b) and (c) are merely the logical consequence of (a).

The focus of *Language and Living Things* is the Life-form category of Berlin (et.al.)'s (1973) folk biological taxonomic hierarchy, that is, the class which, when it occurs, is dominated by Unique Beginner (UB, analogous to Kingdom) and which in turn dominates the Generic (G) class. Brown's data, descriptively desiccated as it is, does demonstrate adequately that in terms of occurrence among the world's languages there is a decisive split between zoologi-

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[1] I would like to acknowledge the kind assistance of Gérard Diffloth for his comments on the initial draft of this paper.

cal taxa representing the concepts **Bird**, **Fish**, and **Snake** on the one hand, and those representing **Mammal** and **Wug** on the other. This generalization notwithstanding, the analysis and explanation offered to account for the data rely fundamentally on a tautology to the effect that **Bird**, **Fish**, and **Snake** are unique because they share bird-like, fish-like, and snake-like characters, an unsatisfactory explanation from a scientific point of view.

The discussion which follows will rely heavily on data from the Tai language family and aspects of the reconstructed Proto-Tai zoological system found in Chamberlain (1977, 1979,1980,1981), as well as from English.

1. Discontinuities in Nature

This expression is disturbing on several counts. To begin with, there is no evidence presented in *Language and Living Things* to suggest that the idea of a continuum is in any way relevant to the study of the relationship between language and the biological environment. It seems to me there are several issues being confused here. First of all, one must separate notions of the "language" of nature from those which concern the nature of language. In the former one could refer to sematic coloration in some male birds as being intentionally (in a systemic sense) discontiguous with the environment while somatolysis in other species is obviously meant to form part of a single pattern. But while we may express such variation using natural language this is obviously not the type of continuity or discontinuity intended by Brown. It could also perhaps be argued that at some stage in its genesis natural language mimics the language of nature, but *Language and Living Things* does not follow this pathway, rather nature is viewed as a lineal scale, likened to the color spectrum in physics (to which overt comparisons are made in the last chapter), but one in which there are large gaps rather than subtle gradations.

Here again there are two separate issues: (1) are these gaps perceived by scientifically naive speakers of the world's languages, and (2) are the gaps represented in similar ways in the world's languages. The first issue is a matter for psychological testing which has not been thoroughly carried out, least of all by Brown himself. In my own experience with speakers of Tai languages, perceived morphological similarities of crows and sparrows, or of soft-shell and hard-shell turtles are recognized even though crows are not classed as birds and soft-shells are not classed as turtles. This is only common sense, and to

discover, in the name of cognitive science, that the peoples of the world are physiologically capable of discerning morphological differences and similarities in plants and animals certainly is not surprising, and does not get us very far. Brown, in proposing his "rich cognition" model (127), seeks to combine (1) and (2) (his "detailed design" and "information processing") which can only result in confusion since the data consists of linguistic representations, not the organisms themselves which are incidental to language operations (unlike color categories which according to Brown do indeed have physiological counterparts [!]).

Thus, the issue of physical perception must be kept separate from that of the structure of language. The naming of a crow, its "crowness" if you will, has little to do with a crow's true nature, morphological characters or otherwise, but is a function of that organism's *representational role* in a particular language's biolinguistic system.[2] The fact that it shares common properties with other birds is of secondary importance in the taxonomy while its symbolic relationship to humans is primary. The linguistic system makes explicit the nature of the relationship between humans and other organisms. And it is this system which ultimately determines how the members of a given language community behave towards the natural world and interact with the ecological system.

The well-known phenomenon in folk systematics whereby many organisms are not classed with their scientifically obvious group as in the above examples should not, therefore, be viewed as exceptional, rather this is to be expected as the general rule. To assume that a natural biologically diverse environment can or should be reduced to an artificial continuum analagous to the color spectrum in physics is to imbue folk biologies with a physicalism they do not possess and does not even make much sense from a biological perspective. This is an epistemological error which has resulted in the failure of *Language and Living Things* to account for real biolinguistic classification and its consequent highly restricted applicability to only the data which Brown presents as evidence (rarified and overcooked as it is). It has also resulted in a failure to

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[2] There are animal names which are a function of what I have referred to as **mimesis**, that is the sound of the name synesthetically mimics the physical form of the animal and thus the representational function related to the meaning in a non-arbitrary way. Others have included similar phenomena under the label of iconicity although I have sought to make a distinction. (Chamberlain 1988)

recognize an underlying principle of folk taxonomy which does seem to account for the phenomena of the separateness of **Bird**, **Fish**, and **Snake**, and for the fact that many organisms are not classed with their anticipated group; that is, the organism's proximity to humans, either in physical form or in familiarity, what I have referred to elsewhere (Chamberlain 1977) as anthropocentric distance, but which for simplicity's sake will be referred to hereafter as anthroproximity.

Seen in this light, **Bird**, **Fish**, and **Snake** are distinct from other groups not because of features which they possess, but because of the human characters which they lack, such as recognizably homologous arms and legs, hands and feet, fingers and toes. Or, aside from physical characters, anthroproximity may be gaged as well by familiarity, in terms of recognizability, occurrence in myth and ritual, environmental proximity, or frequency of occurrence.

Chart 1 below is adapted from Chamberlain (1977) and represents the reconstructed zoological taxonomic system for Proto-Tai.

Animals on the left of the chart are named with two word expressions, a Generic taxon preceded by the taxon for Unique Beginner. Those on the right have names comprised of the Life-form plus Generic optionally preceded by an Unique Beginner marker. Tai languages are interesting in that for most of them Unique Beginner and Life-form occur overtly in the nomenclature for each organism.

Unfortunately, it is impossible to tell from Brown's linguistically impoverished data to what extent this latter characteristic is common throughout the world's languages since virtually no information is provided on actual usage in LLT's catalogue of disembodied Life-form taxa, a deficiency which casts a shadow over the entire work. The evidence, and hence the author's claims, is cut off from additional scientific inquiry. It is a serious matter, not only philosophically, but in terms of the data which Brown presents. He notes (p.20) that in Chrau (a Mon-Khmer language), the class for **Snake** only includes names of the type Life-form + secondary lexeme. This is permissible for Brown but in Berlin's system **Snake** would necessarily be classed as a Generic taxon. The same would be partially true for English where most snake terms include the lexeme for snake (*coral snake, bull snake, garter snake, mud snake, black snake, rat snake*) but with some exceptions (*boa, python, cobra*) which are all of recent non-native provenance except for *adder* which indeed derives from the Indo-European root for 'snake.' Also, in English botanical names, use of the Life-form is optional for **Tree**, as in *oak (tree), maple*