CHRAU ZOOLOGY: AN ETHNOLINGUISTIC STUDY[1]

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0 The myth of 'no generics in primitive languages' was exploded long ago. However, although generics do occur in all languages, they are not always of the same types or of the same frequency. Ullmann[2] has suggested that a study of the relative frequency of specific and general terms might become a criterion in linguistic typology. At first glance, generics in the animal taxonomy[3] of the Chrau language might seem scarce, but there are actually several layers of generics, although they are incompletely utilized.

The principle of taxonomic inclusion, however, is only one of the ethno-zoological classification principles used by the Chrau. The other groupings are frequently non-congruent with the taxonomic groupings and are frequently incomplete. Such other

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[1]Chrau is spoken by about,15,000 people who live E.N.E. of Saigon. This material was gathered during two limited stays in Chrau country and in later work with an informant, Thộ Sang, an intelligent, cooperative helper. The analysis is based on his dialect, although his mother and others had to identify some of the animals. I am indebted to my husband, David Thomas, for many helpful suggestions throughout the paper, almost to the point of co-authorship, especially on the concluding section. Two helpful sources of English names for animals were *Common Malayan Birds*, by M.W.F. Tweedie, Longmans, London, 1960 (with many coloured illustrations) and 'Les Poissons d'Importance Commerciale au Viet-Nam' by Trần Ngọc Lợi and Nguyễn Châu, *Bulletin de la Société des Etudes Indochinoises, n.s.* tome XXXIX, No.3, 3e trimestre 1964 (with sketches of fish found in Vietnam).

[2]Ullman, 'Semantic Universals', *Universals of Language*, ed. J.H.Greenberg, M.I.T., 1963, p. 181. But Ullman gives no examples nor any concrete suggestions how this could be done practically.

[3]For more on taxonomies see: Conklin, Harold C. 'Hanunoo Colour Categories', *Southwestern Journal of Anthropology*, 11.339-344 (1955). – 'Lexicographical Treatment of Folk Taxonomies', *Problems in Lexicography*, Householder & Saporta ed., 1962 pp. 119-194. – Frake, Charles O. 'The Diagnosis of Disease among the Subanen of Mindanao', *Am. Anthropologist*, 1963, pp. 113-132.

principles include clear-cut grouping into all-inclusive sets, grading according to specific characteristics, and undefined *ad hoc* grouping by naming typical representatives, besides other imcompletely explored groupings.

1 *Classification* by Taxonomic Inclusion. In the animal taxonomy there is a maximum of four levels. Generics on one level can be used to discover terms on the next lower level, e.g.:

Q. *păch con ca nŏq?*[4] 'what kind of animal is that?'
A. *sŭm* 'bird'
Q. *păch sŭm ca nŏq?* 'what kind of bird is that?'
A. *gatơ'p* 'pigeon'
Q. *păch gatơ'p ca nŏq?* 'what kind of pigeon is that?'
A. *gatơ'p nhi* 'domestic pigeon'

A generic can be used to replace a more specific term on any level beneath it (with the exception of *con*, which is usually used only under certain circumstances). e.g. *sŭm heq* 'this bird' for *gatơ'p heq* 'this pigeon'.

Taxonomic relationships may be covert or overt. With covert generics the generic function is not discoverable from the morphology but only from their function. e.g. Eng. *animal : horse*. With overt generics the forms reveal the relationship, e.g. Eng. *apple : Baldwin apple*. The different levels of the animal taxonomy are:

		e.g.
Global generic	(covert)	*con*
Families	(covert or overt)	*sŭm*
Genera	(overt) (potential generics)	*gatơ'p* or *sŭm gatơ'p*
Species		*gatơ'p nhi*

These levels will be discussed from the bottom up.

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[4] The consonants of Chrau, as represented in this paper, are voiceless stops p, t, ch, c/k, q (glottal); lenis voiced stops v, d, l, g; preglottalized voiced stops b, đ; nasals m, n, nh, ng; other r, l, w, y, s, h. The vowels are (high to low): front i, ê, e; central ư, ơ, a; low u, ô, k. For a fuller discussion of the phonemes see David D. Thomas, 'Remarques sur la phonologie du Chrau', *Bulletin de la Société de Linguistique de Paris*, 57:175-191 (1962).

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General View of Taxonomic Hierarchy

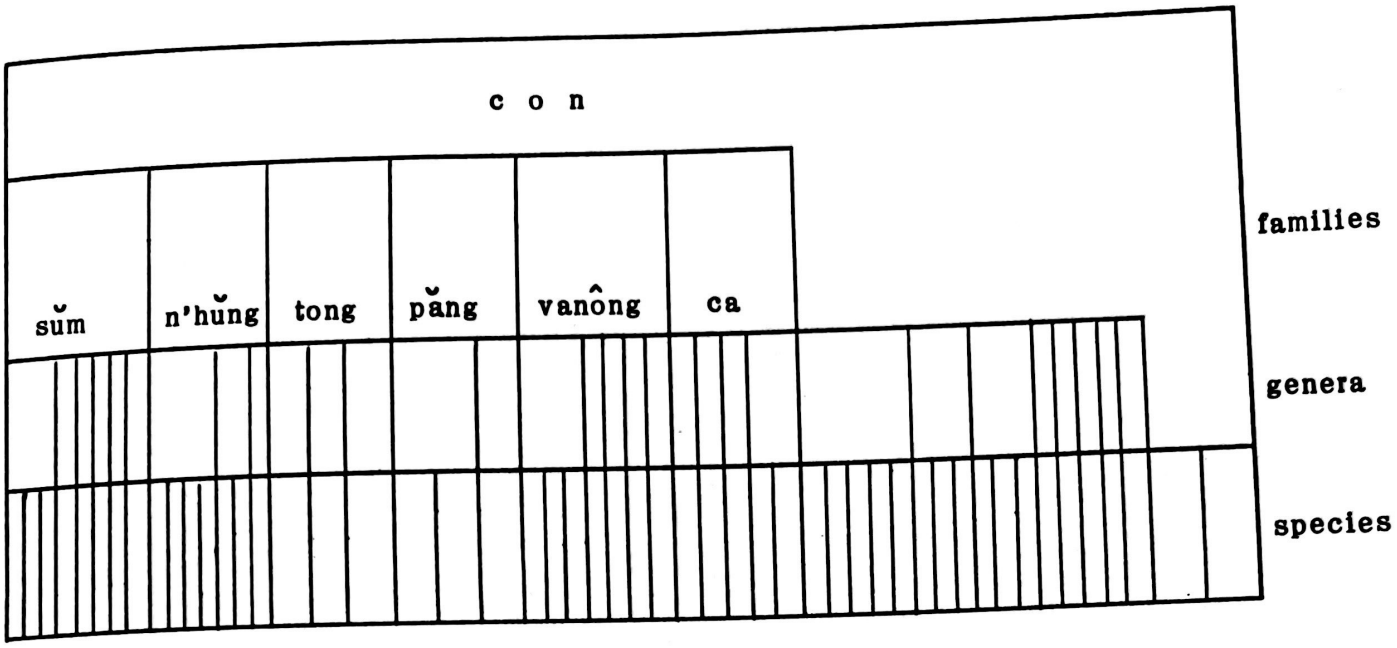

Chart I

1.1 *Species* . The species cannot have further subdivisions. Their names are composed of a qualifying term preceded by the next generic immediately above it.

gatớp ŭinh 'pigeon fire' 'a red pigeon'

sam ŭinh 'ant fire' 'fire ant'

ncô hwi măt 'owl wide eye' 'a wide-eyed owl'

The generic plus qualifier forms a single lexeme, as the qualifier by itself does not refer to an animal at all and the generic by itself refers to the whole genus. *ŭinh* alone means 'fire', not pigeon or ant.

The qualifying terms may be nonce-forms, used only in this one setting, as *rŏ́p* in *khlang rŏ́p* 'hawk', or *vrăch* in *yau vrăch* 'leopard'. Or they may be nouns, as *ŭinh* 'fire', *nhi* 'house', *vri* 'forest'. Or they may be adjectives, as *voq* 'white'. Or they may be descriptive phrases, as *hwi măt* 'wide-eyed', *vôq camhôch* 'ghost-headed'.

The species are an open class of terms which readily admits new terms.

1.2 *Genera* . Genera, the next level above species, have names which are potential generics. Many of these terms would not be immediately recognizable as generics at all because they have no sub-classes. But any new variety of animal tomorrow might be classed under an existing form, making the latter a generic. By extension from *ier: ier vri* 'chicken, wild chicken', *gatớp nhi: gatớp vri* 'domestic pigeon, wild pigeon', *bo: bo vri,* 'cow, wild cow', presumably *asĕh vri* would occur if some *asĕh* 'horse' got loose and went wild.

Families

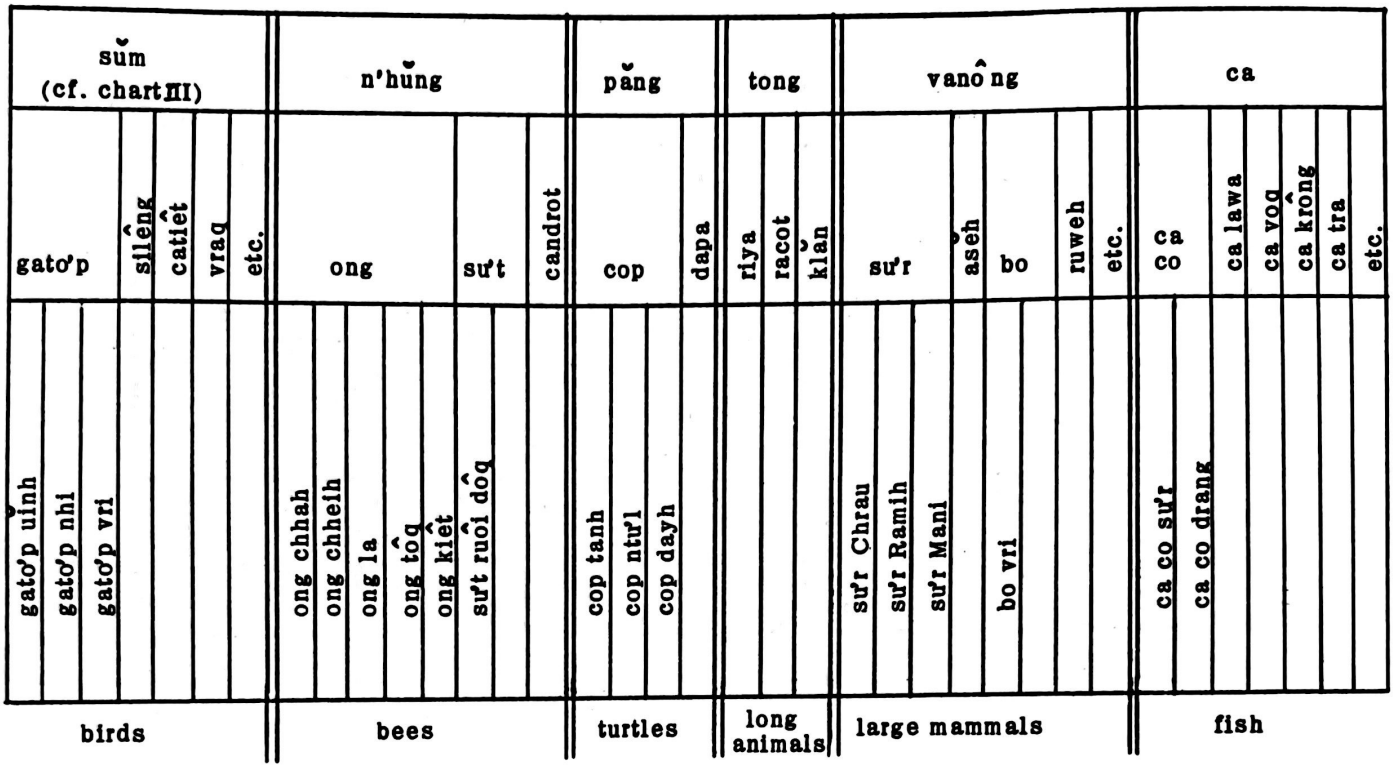

Chart II

Potential generics, except for fish, can stand alone, i.e., without a qualifier, and still refer to an animal, e.g.:

gato'p 'pigeon'	*sam* 'ant'
gato'p uĭnh 'a red pigeon'	*sam uĭnh* 'fire ant'
gato'p nhi 'domestic pigeon'	*sam vôq camhôch* 'a large black ant'
gato'p vri 'wild pigeon'	*sam vôq dol* 'a medium sized blackish ant'

su'r 'pig'
su'r Chrau 'Chrau pig'
su'r Ramih 'French pig'
su'r Ma-ni 'Manila pig'

For fuller listings of subdivisions of genera see charts II (amphibians and bees) and III (birds) and sec. 1.5 (others).

1.3 *Families.* Families are the next level above genera. Formally constituted families cover only a small portion of the animal world. The names on this level are optional generics (with the exception of *ca* 'fish'), i.e., use of the names with the lower terms is not obligatory, but the option of using the name defines the family. Both *gato'p* and *sŭm gato'p* mean 'pigeon', so *gato'p* is a member of the *sŭm* family. Two types of terms are used as optional generics: *sŭm* and certain special classifiers. The term *ca* is an obligatory generic.

1.31 *sŭm*. The *sŭm* family are 'true birds', in the Chrau sense. Birds of prey and flying insects are not included as *sŭm*.

Members of this family are *ncô* 'owl', *hô loq* 'fish owl', *gato'p* 'pigeon', *silêng* 'swallow', *valinh* 'drongo', *vugŭt* 'quail', *ki-iông* 'heron', *canđaq* 'crow', *cungkring* 'rhinoceros hornbill', *cungkiêng* 'hornbill', *catiêt* 'parrot', *coq* 'cattle egret', *vraq* 'peacock', *valang* 'swift', *talĕh* 'woodpecker', *vruwăch* 'wild goose (?)', and *sŭm ŏch* 'sparrow'. The *sŭm ŏch* is the only bird heard of thus far which always has *sŭm* as part of the name. It may be that *ŏch* is homophonous with some other word and the bird family name is used to avoid ambiguity.

For subdivisions within this family, see chart III.

sŭm Family

sŭm																			family
gato'p			ncô			hô loq	silêng	ă valinh	vugŭt	ki-iông	canđaq	cungkring	cungkiêng	catiêt	coq	vraq	valang	tălĕh	vruwăch	ŭ sum ŏch	genera
gato'p ŭinh	gato'p nhi	gato'p vri	ncô hwi măt	ncô măt meo	ncô blôc																species

Chart III

1.32 *Special Classifiers.* In Chrau, classifiers come between a numeral and the item being counted, e.g.: *du lâm ti* 'one classifier hand' 'one hand', *du lâm ndĕh* 'one classifier vehicle' 'one car', *du lâm (sŭm) gato'p* 'one classifier (bird) pigeon' 'one pigeon'. Some classifiers tell something about the shape or character of the item, and can be used to replace the general classifier for non-human things, *lâm*. These special classifiers define several families of the animal world.

The classifiers *păng* 'flat object' and *tong* 'long, stick-like object' occur with animals of corresponding shapes. *vanông* occurs only with large mammals and *n'hŭng* occurs only with bees and wasps, e.g.:

du păng cop 'one flat-thing turtle' 'one turtle'

du tong riya 'one long-thing lizard' 'one lizard'

du vanông ruweh 'one large-mammal elephant' 'one elephant'

du n'hŭng sŭt 'one bee-thing bee' 'one bee'

Some members of these classifier-defined families are (see chart III for full listing of the *n'hŭng*, *păng*, and *tong* families, and sec. 1.51 for *vanông* family):

păng	*tong*
cop 'land turtle'	*riya* 'spotted lizard'
dapa 'water turtle'	*racot* 'black lizard'
	klăn 'python'
vanông	*n'hŭng*
sicau 'big black bear'	*sŭt* 'bee'
prih 'middle sized bear'	*ong* 'wasp
yau 'tiger'	*candrot* 'a small bee, makes very good honey'
(etc.)	

1.33 *ca*. The *ca* family includes all fish and some eels. As mentioned before, this generic must be used with the next lower generic,[5] e.g.: *ca co* 'catfish', but not **co*. Even when the catfish are subdivided, the *ca* is still obligatory: *ca co sŭr* ' kind of catfish'.

Members of the *ca* family are:

ca canang 'a white fish'
ca lawa 'large-headed ribbon fish'
ca silet 'angel fish'
ca tuôt 'a small, black fish'
ca krănh 'climbing perch'
ca krông 'a fish with three horn-like appendages'
ca lagle 'a small, mottled black fish, lives in murky water'
ca co 'catfish'
  ca co sŭr
  ca co drang
ca tra 'mudfish'
ca rai 'a white fish'
ca voq 'a white fish'
ca klŭn

[5] An alternative solution which would eliminate the exceptions to use of family and genera terms in the single case of *ca* would be to call *ca* a term on the level of genera, *ca co* a term on level of species, and *ca co sŭr* a term on a new, subspecies level. But this would create a completely new level with no representatives so far other than two fish, and there is already some leeway on the family level because the other terms on that level can occur optionally with lower levels. So for the present it seems simpler to call *ca* a family division which acts slightly differently from the other families.

1.4 *Global Generic.* The Chrau have a generic for 'animal', *con*, but they use it infrequently. Over-use of the term is considered to be Vietnamese, not Chrau.[6] Usually they use the term *pǎch* 'thing' to replace a more specific animal name, and they use *con* only in situations where animalness must be distinguished from non-animalness or if the specific name is unknown, e.g.: *pǎch con ca nǒq?* 'what kind of an animal is that?'

A few animals have no generic on either the genus or family levels and use *con* as the generic to complete the name of the species. They are *con duc* 'cricket', *con đec* 'flying ant', and *con doh aq* 'a small bug'. The names for wrigglers, *quăn*, and tadpoles, *klu'n*, often are preceded by *con*, but can also occur alone. *klu'n* is homophonous with a kind of fish, so perhaps the use of *con* with it helps to prevent ambiguity.

1.5 *List of Genera.* The genera of birds *(sŭm)* are listed in sec. 1.31, species of birds are listed on chart II. The genera and species of amphibians *(păng, tong)* and bees *(n'hŭng)* are listed on chart III. The other genera and species follow here. It will be noted that there are a large number of genera which are not included in any formally constituted family. The significance of this will be discussed later.

1.51 *Genera of the vanôŋ Family*

sicau 'black bear'
prih 'middle sized bear'
vlôr 'small bear'
yau 'tiger'
yau vrăch 'leopard'

kwănh 'howler monkey'
hwa 'ape'
dôq 'monkey'
dôq gle 'a small monkey'
gapu 'water buffalo'
gapu vri 'wild buffalo'
bo 'cow'
bo vri 'wild cow'
asĕh 'horse'

jun 'deer'
ju'l 'barking deer'
sikwĕy 'mouse deer'
ruweh 'elephant'
ramih 'a gaur'
vu'r 'a gaur'
so 'dog'
jike 'wild pig'
vave 'goat'
su'r 'pig'
su'r Chrau 'Chrau pig'
su'r Ramih 'French pig'
su'r Mani 'Manila pig'

1.52 *Genera Belonging to no Family.*

kyôq 'frog'
k. jike 'a large, black frog'
k. mvu'r 'a toad'

simar var 'flying squirrel'
lŭq 'bat'
wu'l 'spider'

[6] I first became aware of this problem during literacy work. I wanted to say 'There are many animals in the jungle', and used the Vietnamese word *con* for animals, hoping that a better term would be proposed. But although the Chrau were enthusiastic about throwing out Vietnameseisms in the book, they insisted that *con* was correct in this instance. They also read it as a Chrau word (local Vietnamese has a final [ŋ] for written *n*).

k. khlo 'a yellow frog'
k. sang 'a yellow frog'
k. gong 'a light colored frog, large as *jike* frog'
vih 'snake'
v. khu 'a large, black, poisonous snake'
v. catlô nteh 'a small poisonous snake'
v. chhe aq 'a small snake, lives in grass roofs'
v. cungkring 'cobra'
v. caniêm 'a small, striped, poisonous snake'
v. chun 'a large, black, poisonous snake'
v. paitrau 'a long green snake, bite not fatal'
cham 'crab'
c. daq 'a blackish, water crab'
c. dol 'a reddish, land crab'
sam 'ant'
s. uinh 'fire ant'
s. vôq camhôch 'a large black ant'
s. vôq dol 'a medium sized blackish ant'
s. lênh 'a large, black, biting ant'
si 'louse'
si so 'dog flea'
si cô măq 'bedbug'
si raq 'a chicken flea'
si rôq 'body louse'
si uei 'head louse'
khlo 'snail'
k. lăn 'a snail'
k. răch 'a snail'
sipiq 'weasel'
s. cham 'a large yellow weasel'
s. mŏng 'a weasel the size of the calf of a person's leg'
s. plai ' mottled weasel'
s. tamhu'l 'a mottled weasel
kine 'rat'
k. lêr 'shrew'
khlang 'bird of prey'[7]

siduy 'scorpion'
wayôt 'an insect that calls *'wayôt'*
wot wen 'cicada'
con đec 'flying ant'
con đuc 'cricket'
con doh aq 'a small bug'
lanh 'a bug'
ro 'an insect that lives in trees'
ramŏng 'a gnat that lights on sores'
rai 'maggot'
plo'm 'land leech'
glu 'water leech'
gatiêr 'termite'
camhŏq 'a wood insect'
ca-u'p 'centipede'
cayao 'millipede'
jrŭng 'caterpillar'
vrun 'earthworm'
phi 'a large otter'
phiêr 'a large otter, different from *phi*'
quan 'wriggler'
klu'n 'tadpole'
krang 'clam'
visao 'periwinkle'
ngguc 'conical shell, bigger than *visao*'
camvih 'shrimp'
ndŭng 'mud eel'
cungkim 'butterfly'
jop
chu'p 'silverfish (moth?)'
moih 'mosquito'
ruôi 'fly'
chaq nhêt 'preying mantis'
c.n. yang
c.n. chaq
phloh ôq 'a night-flying insect'
vôq mi 'crocodile'

[7] There is some disagreement among various speakers as to whether coq, a white bird that rides on backs of cows or buffaloes, is a 'bird', *sŭm*, or a 'bird of prey', *khlang*. My informant seemed unsure of himself at this point, but most *khlang* are carnivorous, and to the best of my knowledge the coq is not.

k. rŏp 'hawk'
k. grŏq
k. camhôch
k. tongsung 'heron'
k. cuc
ier 'chicken'
i. vri 'wild chicken'
i. yoq
da 'duck'
da vri 'wild duck'
da vŭng
da jong

sipai 'rabbit'
sima 'porcupine'
proq 'squirrel'
kraih 'chipmunk'
lahô 'wild dog, wolf'
ngkwĕy 'small lizard'
pakke 'gecko'

2 *Grouping into Sets.* Three all-inclusive classificatory principles have been found - edibleness, size and habitat.

2.11 *Edibleness.* Animals are classified rather clearly in Chrau culture as edible or inedible. Animals that eat meat, suck blood, or live in the mud are considered unclean and thus inedible. Other animals are generally considered edible. Blood sucking may be mystical, as with the *hô loq* owl, or genuine, as with leeches, mosquitoes, ticks, and lice.

Although tigers and pythons are carnivorous, they are considered edible (tiger meat is said to be not very tasty, but python is considered delicious). Ducks, pigs, and turtles are considered to be dirty but are edible nonetheless.

A few animals are considered only partly clean, but are edible: clams, bears, and weasels.

On the other hand, some 'clean' meat is not edible, either. Water buffalo are considered semi-human so cannot be eaten, and a portion of meat behind the head of the elephant is also considered semi-human and cannot be eaten.

Some further personal taboos on certain animals occur, but cleanness is the overall criterion for edibleness.

2.12 *Size.* The informant suggested a large vs. small division among the animals. There were three groups of 'large animals': large wild animals, large domestic animals, and large birds. All others were considered 'small'.

Large Animals

Wild:	Domestic:	Birds:
jun 'deer'	*bo* 'cow	*cungkring* 'rhinoceros hornbill'
yau 'tiger'	*asĕh* 'horse'	*cungkiêng* 'hornbill'
sicau 'black bear'		*vraq* 'peacock'
ramih 'a gaur'		*khlang rŏp* 'hawk'
vu'r 'a gaur'		

bo vri 'wild cow'
gapu vri 'wild buffalo'
ruweh 'elephant'

'Small' animals include animals as large as goats, dogs, and pythons, and everything smaller. In contrast with this division, in grading according to characteristics (cf. sec. 3) all birds were small. This points up two types of rating - relative and absolute - which can be used in making the contrast big/small.

2.13 *Habitat.* The informant also suggested division by habitat. This division covers all the animals, and in several places corresponds to the taxonomy. Therefore this method might be considered to be the simplest complete classification, except that there is much cross-classification. The classes by habitat are: *pǎch sŭng vri* 'things in the wilds', *pǎch tamun tê* 'things people raise', *pǎch avlơ* 'things above', *pǎch u ntĕh* 'things on the ground', *pǎch gŭq bay chhơ* 'things living in trees', *pǎch sŭng chhŭng* 'things in holes', and *pǎch sŭng daq* 'things in water'.

To minimize cross-classification, where animals belonged to the *vri* class and another class, I have assigned them to the second class. This left a *vri* class which, combined with the *tê* class, almost equaled the *vanông* taxonomic grouping. Similarly, by eliminating cross-classification in the *avlơ* class, a class close to the *sŭm* taxonomic grouping resulted.

Classification by Habitat

wild	domestic	above
jun 'deer'	*gapu* 'buffalo'	all *sŭm* 'birds'
jư'l 'barking deer'	*so* 'dog'	*ruôi* 'fly'
prih 'bear'	*sư'r* 'pig'	*moih* 'mosquito'
yau 'tiger'	*ier* 'chicken'	*cungkim* 'butterfly'
yau vrăch 'leopard'	*da* 'duck'	*candec* 'flying ant'
ruweh 'elephant'	*bo* 'cow'	*ploh ôq* 'a night-flying insect'
etc.	*vave* 'goat'	

on the ground	in trees	in water
cop 'turtle'	*khlo* 'snail'	all *ca* 'fish'
conđuc 'cricket'	*proq* 'squirrel'	*dapa* 'water turtle'
ca-ư'p 'centipede'	*ro* 'an insect'	*krang* 'clam'
cayao 'millipede'	*wayôt* 'an insect	*camvih* 'shrimp'
plơ'm 'leech'	that calls '*wayôt*'	*phi* 'otter'
sam 'ant'	*sư't* 'bee'	*glu* 'leech'
vrun 'earthworm'	*dôq* 'monkey'	etc.
etc.	*lŭq* 'bat'	
	etc.	

in holes

all *vih* 'snake'

sima 'porcupine'

riya 'a large lizard'

3 *Grouping by Graded Characteristics*. The informant graded each of the animals on a scale from 1 to 7 on various categories. The categories the informant applied to animals were *sǎch* 'clean', *vanoh* 'wise', *camhlăng* 'strong', *jac* 'fast', *chhâc* 'fierce', *phŭng* 'feared', *rom* 'beautiful', *cơnh tê* 'desirable (to raise)', *gŏq* 'many', and *ngang* 'smelly'. Other categories like industrious or good he said did not apply to animals. With some categories the judgments clustered around 1 and 7, showing a polar opposition, with other categories the judgments were spread along the whole continuum.

ruweh 'elephant' and *khlo* 'snail' showed almost maximum difference in their ratings, indicating that the two are about as different as a Chrau can imagine. Elephants came out 7 on all tests, except *gŏq* 'many' where they were 5. In other words, elephants are among the cleanest, wisest, strongest, fiercest, most feared, beautiful, desirable, and smelliest of animals, but are only relatively plentiful in Chrau country. Snails, on the other hand, came out 1 on all tests except many - 2, and smelly - 6. Strangely enough there were far too many snails in my garden to suit me and I never actually saw an elephant in Chrau country, yet snails rated as fewer than elephants. Apparently snails are insignificant in Chrau culture.

'Cleanness' has already been mentioned in sec. 2.11. Its groupings are very similar to those of 'edibleness', except that it allowed a small median group (rated 3-4) between the poles of 'clean' and 'dirty'. This median group included snakes, clams, *khlang grŏ'q*, weasels, bears, turtles, and small lizards. As mentioned in sec. 2.11, eating habits and living conditions combine to determine cleanness. Most of the birds of prey were dirty, with the exceptions of *khlang grŏ'q* and *khlang tong sung*. Fish were clean, except mudfish.

On 'wise' the majority of the animals rated only 1 (i.e. stupid), but elephants and dogs were 7, pigeons, howler monkeys, squirrels, gaurs, and tigers were 6, water turtles were 4, horses, cows, parrots, monkeys, and chipmunks were 3, and chickens and pigs were 2. According to Chrau tales, the tiger is stupid and the rabbit is always taking advantage of him, but this must not be carried over into real life where tigers rate 6 to the rabbits' 1 in wisdom!

On 'strong' most of the animals rated 1 (i.e. weak). Exceptions were: 7 - bears, elephants, gaurs, tigers, buffalo, cows, pythons, and rabbits (rabbits run very 'strong'); 5 - leopards, deer, horses, *khlang grŏ'q*, and French pigs; 4 - barking deer, howler monkeys, *vih khu*, and water turtles; 3 - small bears, monkeys, dogs, goats, *vih chun*, cobras, wild dogs, large lizards, weasels, otters, *khlang rŏ'p*, and flying squirrels; 2 - mouse, deer, some pigs, *vih caniêm*, eels, porcupines, jumping fish, *khlang camhôch*, and *con doh aq*.

On 'fast' most of the animals came out 7, including all fish and all birds. Fleas, shell animals (except water turtles), pigs, and a few others were 1. Buffalo when running, were 7, but their normal plod was 2.

The animals were fairly evenly spread from 7 to 1 for fierceness. Most snakes

were 6, but cobras and pythons were 7. Some buffaloes rated 7, but most are a quite docile 1. Biting insects mostly rated 3, but stinging insects were 7.

On 'feared', the ratings were quite similar to the 'fierce' ratings, especially on the extremes. Within the range of 7 - 6 the lists compared very closely, except for *jrŭng* 'large caterpillar', which rated 7 for feared because it is dirty, whereas it is not at all fierce. Also, a few fierce animals are not feared. Cobras rated a special category all their own - 10 - because death comes so swiftly after a bite.

On 'beautiful' the majority of the animals rated 1 (i.e. ugly). A number of animals the informant had never seen so was not sure how beautiful, or otherwise, they might be. Elephants, *ramih* gaurs, tigers, cows, horses, *vih chun*, pythons, rabbits, *riya* lizards, ducks, and parrots rated 7. Jumping fish rated 6, and howler monkeys, cobras, chickens, *khlang rŏp*, and water turtles rated 5. Black bears, buffalo, squirrels, *racot* lizards, and *phloh ôq* rated 4. Deer, *vih khu*, bees, otters, and mud fish rated 3. Barking deer, monkeys, *vu'r* gaurs, mouse deer, dogs, chipmunks, swallows, drongo birds, and three kinds of frogs: *jike*, *khlo*, and *sang* rated 2.

On 'desirable to raise' only a few wild animals were added to the list of common domestic animals (cf. sec. 2.13). Of the wild animals that are desired, elephants, howler monkeys, squirrels, and rabbits rated 7, apes 6, monkeys and mouse deer 5. All the common domestic animals rated 7 except water buffalo, which were, surprisingly, only 5.

On 'many' there was a wide spread from 7 - 2, but only two animals were as scarce as 1: *lung toi*, a kind of worm which the informant has never seen, but only heard about, and *si uei* 'head louse'. However, the informant suggested a new degree - 100 - for parrots, shrimp, and water crabs. Parrots are a major pest when rice is almost ready to harvest, but the rest of the year they are elsewhere. Chrau streams frequently are dry in the dry season, but in the rainy season they must swarm with animals!

On 'smelly' all fish were 7. 'Smelly', when applied to animals, appears to be used mainly for the smell of the meat, not body odor. There was a large group of animals which the informant has never eaten, so he did not know how they smelled. A bad smell was loosely associated with dirtiness, and this was fairly well substantiated by comparison of the two sets, except for ducks and worms.

4 *Grouping by Typical Representatives.* Loose *ad hoc* categories are not infrequently described by naming two typical representatives, often with the addition of *đô* 'et cetera'. Thus the pair *jun jike* 'deer wild pig' or *jun jike đô* is often used to refer to crop-destroying animals in general. *sŭm khlang đô* 'bird hawk etc.' is sometimes used in speaking of all birds.

Terms such as these do not demarcate sharp classes, but rather place in focus two of the most prominent representatives of the group being talked about, with the specific extensions and limits of the group left unstated as though unimportant.

This pattern of naming groups by pairs of typical representatives runs through many areas of Chrau vocabulary and stands out strikingly to native English speakers learning Chrau.

5 *Other Groupings.* The foregoing types of groupings do not exhaust the folk groupings of animals in Chrau. A free association test showed groupings of animals many of which followed the foregoing classifications, but some of which revealed hitherto unsuspected groupings. These groupings are still incompletely explored, but the following results are suggestive.

The informant was presented with names of animals one by one and was asked to respond with the name of the first other animal which came to mind for each stimulus name. On the whole the informant responded quite rapidly to suggested names. Possible phonological conditioning was evident in only a few sets of responses, as in *sikwěy - sima - sipiq - sipai* 'mouse deer - porcupine - weasel - rabbit'. However, even this divergent set has the constant of 'small mammal'. The pairs *phi - phiêr* 'otters' and *riya - racot* 'large lizards' may add additional evidence that the words do reflect a semantic grouping, rather than just that the responses were phonologically conditioned.[8]

Some pairs were so closely connected that either stimulus produced the other as response:

cop - dapa 'land turtle - water turtle'
sŭ't - candrot 'bees'
riya - racot 'big lizards'
phi - phiêr 'otters'
glu - plŏ'm 'leeches'
siduy - ca-ŭ'p 'scorpion - centipede'
ramih - ruweh 'gaur - elephant'
proq - kraih 'squirrel - chipmunk'
dôq - hwa 'monkeys'
so - sŭ'r 'dog - pig'
rai - si 'maggot - louse'
da - ier 'duck - chicken'
krang - visao 'clam - periwinkle'
sipiq - sipai 'weasel - rabbit'

Of these closely related pairs, the first three are members of the same taxonomic families. Most of the other pairs, though they share no taxonomic label, almost form composite generics (cf. sec. 4) as they occur so frequently.

Some pairs revealed a pattern of generic to more specific, e.g.: *khlang - khlang rŏ'p, sam - sam lêng.*

In one case parallel generics were given: *vanông -- tong.*

6 *Miscellaneous Information.* Several animals have special powers. The leopard is able to become larger or smaller at will, although he is not considered to be really magic. Charms made from the rhinoceros hornbill or the woodpecker are useful for healing sickness. The *con doh aq* is a small bug which can crawl inside a person's ear and eat his brain.

[8] The vowel of the preliminary syllable is conditioned by the following consonant, so *riya* and *racot* can be considered to have the same preliminary syllable, *rV*.

The toad *kyôq mvu̯r* is called *dêq cô voq de* 'God's uncle'. The preying mantis is sometimes called *aseh trôq* 'God's horse' (possibly both are straight translations from Vietnamese).

7 *Conclusion.* It will now be readily seen that taxonomic inclusiveness is not the only key to the Chrau animal world, but is just one of several keys. Animals may be grouped into classes and subclasses by specific taxonomic labels (sec. 1) or by citing representative members (sec. 4). They may be grouped in terms of various shared characteristics (sec. 3). They may be grouped by other clear classificatory schemes (sec. 2). Or certain animals may be grouped together by virtue of certain associations (sec. 5).

This results in neither the neat consistent pattern of a zoological taxonomy, nor the semi — consistent pattern of a simple folk taxonomy, but it gives a variegated system (or intersecting set of partial systems) which is well adapted to the natural variety of normal life and speech situations.

The Chrau taxonomic system is somewhat limited on the upper levels of the hierarchy, but its chief value is on the lower levels, where it is well adapted to defining subclasses and naming new species. The non-taxonomic systems provided adequately for higher level groupings.

Words can be truly understood only in the context of a certain culture, but classificatory systems based solely on taxonomic inclusion can take only limited notice of culture. Thus the usefulness of generics as a proposed criterion in language typology would seem to be rather limited. And the description of a semantic domain such as this should be expected to involve other types of classification in addition to the folk taxonomy.