

## ANOTHER LOOK AT AZTEC-CHIBCHAN

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Since the Chibchan family was first established by Max Uhle in 1888, various researchers have suggested relationships between Chibchan and other Amerindian languages and language-groupings. Many of these proposed relationships have involved Chibchan proper plus one or more other languages or families in a large Macro-Chibchan superphylum whose ostensible constitution has expanded and contracted over the years. Other proposals have involved more distant relationships which link Chibchan or Macro-Chibchan to already established phyla. None of these proposals, however, has been rigorously supported by the type or amount of evidence usually required for demonstrating genetic relationship, which is to say, systematically established sound-correspondences as evinced by a suitably large number of probably cognate sets, as well as a clear determination of structural similarities in other grammatical subsystems, such as morphology and syntax (Thomason and Kaufman 1986).

The first person to hint at a possible genetic relationship between Uto-Aztecan and Chibchan appears to have been Nils Holmer, who, in his *Critical and Comparative Grammar of the Cuna Language* (1947), noted a number of lexical and grammatical similarities between Cuna and Classical Nahuatl. However, he does not seem to have believed that these resemblances constituted evidence for a close genetic relationship between the two languages, but saw them merely as residues of a much older Amerindian Ur-Sprache. A few years later, in a paper appearing in *Word* in 1954, Morris Swadesh, apparently following Holmer's lead, presented a small set of matchings from Nahuatl, Cuna, and Cashinawa, and suggested a genetic relationship among the corresponding language-families, Uto-Aztecan, Chibchan, and Panoan (see also Wolf 1959: 36-8). However, Swadesh seems never to have pursued this proposed relationship any further, nor were any other linguists sufficiently intrigued by his suggestion to explore the possibility. Quite independently of Swadesh's findings, in the 1970s, during the course of my comparative studies of the Chibchan languages, I discovered evidence for just such a three-way genetic linking among Uto-Aztecan, Chibchan, and Pano-Tacanan. Some twenty years ago, I provided evidence of distant genetic relationship between Chibchan and Pano-Tacanan (Holt 1976) and between Chibchan and Uto-Aztecan (Holt 1977); and in 1988 I presented a three-way view of these relationships (Holt 1988).

In my 1977 paper, the evidence for an Aztec-Chibchan relationship consists of 93 proposed cognate pairs of reconstructions from Proto-Uto-Aztecan (PUA) (based on Wick Miller's *Uto-Aztecan Cognate Sets* [1967] and, in a few cases, on the comparative work of Carl and Florence Voegelin and Kenneth Hale [1962]) and from Proto-Chibchan (PC) (based on my own comparative analysis of six diagnostic Chibchan daughter-languages). I also provided (within the space-limitations imposed by the editors of the subsequently published proceedings of the meeting at which the paper was presented) representative cognate sets from Chibchan, since little of this comparative data had previously been made publicly available. Even though, in my estimation, the data was ample and my conclusions were valid within the current paradigm of historical reconstruction, this paper has elicited almost no commentary, of either a positive or a negative kind, during the twenty years since its appearance.

Since then, I have revised my hypothesis somewhat, in order to take into account recent developments both in my own work and in that of other researchers in both language-families. In addition to my own UCLA doctoral dissertation (Holt 1986), three other important comparative studies that bear directly on the Aztec-Chibchan hypothesis have appeared since the publication of my earlier paper: Adolfo Constenla's doctoral dissertation on comparative Chibchan phonology (1981); a paper on Proto-Aztecan by Lyle Campbell and Ronald Langacker (1978); and Terrence Kaufman's still unpublished reappraisal of reconstructed Proto-Chibchan and of the relationship among the daughter languages (1988). Constenla's work, which is based on much more reliable data from Chibchan daughter-languages than was available for my own comparative reconstructions, provides a more rigorously established set of PC reconstructions than I was able to come up with, though there is a great deal of similarity between most of the reconstructions that our studies share in common. The Campbell-Langacker paper refines existing parts of the PUA hypothesis to produce an updated view of that side of the larger picture. Kaufman's study is based largely on data presented in Constenla 1981 and Holt 1986, but it provides important new insights into the problem. Some of my own reconstructions have been revised in the light of Kaufman's analysis, and these changes are reflected in the PC forms in the list of cognate sets which follows (Table 3 below).

In this paper I will re-present the evidence for an Aztec-Chibchan relationship in the light of these more recent developments on both sides of the problem. The comparative reconstruction that follows is of the second-order type, based on reconstructed forms from the two proto-languages. The list of high-confidence cognate sets that I propose here contains 136 entries (compared with 93 in my earlier paper). Importantly, I have also added here a complete list of sound-correspondences among the proposed cognate sets and provided reconstructed forms at the Proto-Aztec-Chibchan level.

Tables 1 and 2 below present the reconstructed phonemic inventories of Proto-Uto-Aztecan (based on Miller 1987) and of Proto-Chibchan.



Table 1 — *Phonemes of Proto-Uto-Aztecan*

*p	*t		*k	*k <sup>v</sup>	*ŋ		*i	*i	*u
	*c								*o
	*s				*h			*a	
*m	*n								
	*l	*y		*w					

This is a somewhat simplified picture as compared with the earlier proposal of Voegelin, Voegelin and Hale (which I cited in my 1977 paper) in that the velar nasal  $\eta$  and the liquids \*l and \*r have all been eliminated.

Table 2 — *Phonemes of Proto-Chibchan*

*p	*t	*t̥	*k	*k <sup>v</sup>	*ŋ		*i		*u
*b	*d	*d̥	*g				*e		*o
	*c	*č						*a	
	*s	*š			*h				
*m	*n								
		*y		*w					

The Proto-Chibchan phonemic inventory presented here is somewhat more complex than the one I proposed in my 1977 paper. On the basis of both additional information and reanalysis of certain relationships among daughter-language reflexes, a set of post-dental stops has been included, as have \*č and \*g. Also, as I suggested in my earlier paper, the liquids have been analyzed as allophonic variants of the voiced coronal stops; this correlates positively with the most recent hypotheses postulating similar allophonic relationships within Proto-Uto-Aztecan. Constenla (1981) also includes  $\tilde{\text{'}}$ , nasalized vowels, and high and low tone in his reconstructed phonemic inventory. I have chosen to treat nasalization in reconstructed Proto-Chibchan forms as an unspecified nasal feature symbolized by a stem-final capital letter  $\eta$ . In a few cases, this can be seen to correlate with nasal consonants in Proto-Uto-Aztecan or in the proto-languages of subfamilies within Uto-Aztecan (cf. the sets GO, HEAD, ONE, POINT 2, THREAD).

In the following list of proposed cognate sets (Table 3), the heading—glosses for each set are meant to indicate the approximate range of meanings exemplified in the reflexes in both families, and, in most cases, can also be interpreted as defining a range of meanings for the proto-form. Reflex-forms whose meanings are the same as the meanings of the reconstructed forms are not glossed in the listing. Reflex-forms which are irregular—either phonologically or semantically—are noted as such with a following question-mark. I have left a few

irregular matchings in the list because I believe that they do involve cognate forms, whose slight divergence from the regular sound-correspondences evinced in other sets will ultimately be explainable as resulting from historical processes. Such flexibility of procedure has recently been given support by Roger D. Masters, a political scientist at Dartmouth College, who states that "You can sometimes make a bigger mistake by your failure to see something because of your caution than by asserting something which can't be spelled out in every detail. Our obligation is to make the best possible interpretation of all the bits and pieces" (quoted in Honan 1996: A36).

In Table 3, numbers in parentheses refer to cognate-set numbers in Miller 1967 and 1987 (M), Campbell-Langacker (C-L), Holt 1977 (H'), and Holt 1986 (H). Constenla's sets (C) are unnumbered and listed alphabetically by English gloss. The letters 'DH' following certain forms indicate reconstructions made by the author on the basis of reflex-sets given by other researchers. Due to considerations of space, reflex-forms are listed only when they do not already appear in earlier listings or when more recent information as to their phonological shape has been made available.

*Table 3—Proposed Aztec-Chibchan Cognate Sets*

Abbreviations: *Proto-Languages*:

PAC = Proto-Aztec-Chibchan  
 PAz = Proto-Aztecan  
 PC = Proto-Chibchan  
 PCup = Proto-Cupan  
 PNum = Proto-Numic  
 PSon = Proto-Sonoran  
 PTep = Proto-Tepiman  
 PUA = Proto-Uto-Aztecan  
 PSUA = Proto-Southern-Uto-Aztecan

*Languages*:

Az = Nahuatl (Aztec)  
 Ba = Barí  
 Bc = Bocotá  
 Bo = Boruca  
 Br = Bribri  
 Cb = Cabécar  
 Ch = Chimila  
 Cm = Comanche  
 Cu = Cuna



Do = Dorasque  
 Gm = Guamaka  
 Gt = Guatuso  
 Hu = Huichol  
 Hp = Hopi  
 Ko = Kogi  
 Ik = Ika  
 Ls = Luiseño  
 Mo = Movere  
 Mu = Muisca  
 Oo = O'odham  
 Pe = Pech  
 Rm = Rama  
 ST = Southern Tepehuán  
 Te = Térraba  
 Tr = Tarahumara  
 Tu = Tunebo

*Sources:*

B = Bascom 1965  
 B-H = Bright and Hill 1967  
 C = Constenla 1981  
 C-L = Campbell and Langacker 1978  
 Dak = Dakin 1982  
 H = Holt 1986  
 H' = Holt 1977  
 I = Iannucci 1972  
 L = Lionnet 1985  
 M = Miller 1967 and/or 1987  
 VVH = Voegelin, Voegelin and Hale 1962.

	PAC	PUA	PC
ALL	*pe	*pi 'all' (mpi-) >	*peða 'all' > Te Fír-ko; Cu pela; PTep *'vi:si (B293) Pe pèra 'many'; ik pinna
ARM 1, WING	*2at <sub>2</sub> a	*2ana 'wing, arm' (M465/a-03)	*ata 'hand' ~ *ata (ɸ)
ARM 2, HAND	*s'ka	*sIka 'arm, shoulder'	*sak <sup>w</sup> a 'arm, hand, finger' (H) (M7, 375/sI-01) > Te sákwo 'finger'

ARROW	**H <sub>1</sub> u	*hu 'arrow' (M9/hu-03)	*u: 'arrow' (H324)
BATHE	**H <sub>2</sub> u-ba	*u-pa 'bathe' (M27/u-02)	*hob/*hub 'swim, bathe' > Cu (cf. WATER) oom-Ch hóuva; Mo huba-; etc.
BEHIND	**co	*co 'buttocks' (M66/co-09)	*suk 'back, behind' (H171)
BEND, CURVE	**to	*to 'bend' (M37/to-10)	*tu 'bend, bow (v.-n.)' (H321)
BIG 1	**ty	*ti 'long' (M268/tI-11)	*tai(N) ~ *təĩ (C) 'big; much, many' > Pe tē:h- 'be heavy'; Bc táya 'power'?
BIG 2	**we/**wI <sub>1</sub>	*wi 'big' (M39a/wi-01)	*we/*wi 'big; many, much' (H234) > Mu -we- 'long'; Tu win- 'much, many; very'
BIRD 1	**cudu	*cutu 'bird' (M41/cu-10)	*cudu 'bird' (H'6) > Rm us(u)rú 'chicken'; Bo c&urúro 'wild chicken'; etc.
BIRD 2	**doli	*totoli 'chicken' (M85)	*dudi 'bird' > Gt tu:li 'dove'; Do *dudi; Ko sin-duli 'hummingbird'; etc.
BLACK 1	**cu	*cuk 'black' (M45c/cu-04)	*su 'black, dark' > Pe su-kwa 'dark'; Cu kap-su-s 'dark'; Ik tui-kaba 'black'; etc.
BLACK 2	**tu	*tu(nu) 'black' (M45a/tu-03)	*tu(d) 'black, dark' (H221) > Rm tum 'dark'; Bo turíN 'dark'; Ko tu-anzéis&i 'get dark'
BLOOD, LIVER	**H <sub>3</sub> ed	*ʔit 'blood' (M47a/I-04)	*hed 'liver; blood' (H79) > Cb he\$d 'liver'; Br ě'd 'liver'; Mu hesI- 'red'?
BLOW 1	**bi(k)	*piku/*wiku 'whistle'	*bi(k) 'wind; fan' (H157) > Ik (M457ab/pi-14)a?-bis- 'fan (v.)'
BLOW 2	**bu	*puc/*puhi 'blow' (M49ab/	*bu(s) 'blow' > Pe bú-s- 'fart'; pu-12) Bo bux; Cu pu:sae; Mo bu-ke 'fan (v.)';
BREAST 1, CHEST	**bi(T <sub>1</sub> )	*pi 'breast' (M58/pi-09) > Bo PNum *pici(ʔi) (I166) ?	*bu-d5 (H39) ~ *Bur- (C) 'wind'
			*bita 'chest, liver' (H303) >



BREAST 2	**tab	bid-raŋ 'chest' *tawi 'breast' (M59/ta-29)	*taba 'chest, breast' (H197) > Gm tama-k'na 'belly'; Cu napa 'beside'?; Ko tába 'beside'?
BRING	**bi <sub>2</sub> d	*pin 'bring' (M61b/pi-15); *piti 'arrive' (M8/pi-16) ? per-we; Tu be- 'take'	*be(d) 'bring' > Pe pè?;-; Cu
CARRY	**we	*wi 'carry' (M77/wI-07)	*we 'bring, carry' > Bo wí?;-; Mowe-; Cu we- 'take'; etc.
CHILD	**mal	*ma(l) 'child' (M86/ma-07)	*ma(d)/*wa(d) 'child, grandchild' (H295)
CLOUD	**mo	*mo 'cloud' (Mmo-07);	*mo *mo(n) 'cloud' ~ **bō~ (C) > Br 'smoke (n.)' (M393/mo-08) mō'; Cu mola; Ch mo:ná; etc.
COLD	**ce	*ci(p)/*sI(p)/*si(p) 'cold' ce'; Br sē'-sē~; Bo sex-	*ceN/*seN 'cold' (H169) > Gt (M94/cI-03) čĩci; Cb
COME 1, GO	**ya	*ya 'come' (M98/ya-05), *ya 'run' (M358/ya-08) 'flee'; Ba ya-; Bc ho-yá- 'arrive'?	*ya 'go, walk' > Bo ĵa; Mu yan
COME 2	**d <sup>y</sup> e	*yĩ 'come' (M97/yI-07)	*de? ~ *dĩ- (C) 'come' > Pe tē?;-; Cb dē'-; Br đĩ?; Bo dé? 'be, become'; Tu re?-'be, become'
COME 3, GO	**si	*simi/ĩ 'go' (M198/si-03)	*ši(k) ~ *si(k) 'come' (< H177)
COOK	**d <sup>y</sup> u	*yu 'warm' (M453/yu-09) ?; *yu 'make, do' (M271/yu-08)?	*đu(k) 'cook, boil' (H69)
CORD, THREAD	**ca/**ca	*ca 'twist' (Mca-01); *ca:wa 'spin thread' (C-L157) Mu -cawa- 'spin thread'	*ca(?)/*sa(?) 'rope' (DH < C) >
COUGH	**?oh	*?oh 'cough' (M105/o-12)	*uh 'cough' > Pe a-ùh-; Rm uhu:-tiN-
CRY 1, SHOUT	**ki	*ki (DH) > Hp ki-ta 'say', Az	*ki(n) 'shout, scream, cry' > ki-kina-ka 'whine, squeal, Gt

			kí- 'say', i-kín-kin 'bark'; Cu growl' ak-ki-kin-ya- 'growl, wail; Cb ki- 'call, ask for'; Mu kihi 'yell, shout'; etc. *wa 'cry, make a sound' > Pe (M22/wo-11) wáh-; Gt xo-; Cu wa-makk- 'cry'; Tu wa(k)- 'say'; etc.
CRY 2	**wa	*wo/*wa 'bark, howl'	
CUT 1, SPLIT	**ça/**ca	*sa 'break, crack' (Msa-06) ~ *ca (DH)zo- 'cut'; Ik za-béis- kwa 'cut', zaga-we< 'chew'	*ca 'cut, split, chew' (H43) > Te
CUT 2	**šik	*sik 'cut' (M118/si-01)	*šik 'cut, divide, break' (H183)
CUT 3	**tək /**t <sub>l</sub> k	*tik 'cut' (M117/tI-23)	(1) *tak 'cut, split, chop' (H200) > Pe a-ták- 'separate'; Bo ták- 'split'; Cu naka- 'grind'; Tu tak- 'chop', a-tak-tene-gro 'cut'; Mu tlhkwa 'wound' (2) *ti(k) 'cut' > Rm aN-tik-; Cb ti-ö; Mo tîgégO~; Tu tiw~
DANCE, SING	**k <sup>w</sup> i	*k <sup>w</sup> ika 'sing' (M379/k <sup>w</sup> i-03)	*k <sup>w</sup> i 'dance' (H133) > Bc gwi-; Bo kwix- 'play, dance'; Ik kwé(a)n; Gm kwi- 'n;
DEEP, DOWN	**tu	*tuk 'deep' (M122/tu-14);	*tu *tu 'under, lower (v.)' > Rm tup- 'down, below, under' (DH) > 'down'; Te tús&ka 'under'; Bo tux Tr tu 'down, below'; Ls tó:- 'crouch, squat', tu-bu? 'sink'; Nax;Hu tu: 'lower'; Hp tup Mo nun- 'sit'; Bc tu-í 'live, be 'base, foot'; Cm tumu:- 'bend seated'; Tu tuigai-gui 'deep'; etc. down, stoop'
DEER	**su	*su(ka)/*cu 'deer' (M124ab/	*su(di) (H309) ~ *sur(ī) (C) su-08) 'deer'
DEMONS- TRATIVE	**u(N)	*u(N) (DH: Mdm-02) > PNum *u(si(N)) 'that' (I18,	*u(N) Demonstrative > Pe ũhta



that (one)'; Ko uni 'there'; Cu Mdm-02) ue 'that (one)'; Tu u- 'this'; Terraba xũ 'here'; etc.

EAR, HEAR	<b>**nak</b>	<b>*naka</b> 'ear' (M148/na-01)	<b>*nak-wi</b> 'hear' (= 'ear-know' ?) > Gm naku-; Mo nōĩ; Mu nIpkwa; Ch noŋ-wi
EARTH 1, FIELD	<b>**te</b>	<b>*ti</b> 'rock' (M354/tI-12)	<b>*te</b> 'field, land' (H209) > Br tũ!; Te tʰũ!; Ik c&ei 'farm, clearing'; Tu té-ya-ra; Mu ta 'sown field, property'
EARTH 2	<b>**t'p</b>	<b>*ti(p)</b> 'earth' (M150/tI-36)	<b>*tapa ~ **tÁBA</b> (C) 'earth, dirt, mud' > Bc dabá 'ground'; Mo DO~brO!
EDGE	<b>**su</b>	<b>*su</b> 'edge' (Msu-07) > PTep	<b>*suD</b> 'side, flank, edge' (H173) <b>*hu'gida-</b> (B76)
EGG, SEED	<b>**k(a)wa</b>	<b>*kawa</b> 'egg' (M156/ka-10)	<b>*k'a ~ **pkua</b> (C) 'seed' > Do ku:
FALL 1, SINK	<b>**d'u</b>	<b>*yu</b> 'fall' (M164/yu-06)	<b>*du</b> 'lower (v.), sink' (H270) > Cb du- 'die'; Ik j&u-rí 'lower'
FALL 2, DROWN	<b>**wi<sub>1</sub>T<sub>1</sub>(I<sub>1</sub>)</b>	<b>*wici</b> 'fall' (C-L227, M163/	<b>*wit(i)</b> 'fall, drown; deep' wi-03) (H337)
FIRE 1	<b>**ku(n)</b>	<b>*ku</b> 'fire' (M170a/ku-04);	<b>*ku(n)</b> 'fire, light, heat' > Rm <b>*kuna</b> 'firewood' kun-kunu 'light'; Gt kue: 'fire'; (M170b/ku-05) Bri-kuke 'roast'; Mokuke 'burn'; Cu kun-wa 'light'; etc.
FIRE 2, BURN	<b>**tai</b>	<b>*tai</b> 'fire, burn' (M423d/ta-01,	<b>*te(N)</b> (~ <b>*taiN</b> ) 'fire, burn' > Pe 02) ~ <b>*tahi</b> (C-L307) tẽ:wa 'fire'; Bo teN 'kindle; stir fire'; Cu newa-makk- 'flame up'; Ba i-ten-kwa 'burn'
FLOW, RUN	<b>**m'l</b>	<b>*mIl</b> 'flow, run' (M177/mI-06)	<b>*mad</b> 'run, flow' > Ko male-c&anu- 'hurry'; Gm malá-mala-

			ké 'hurry up'; Mu i-mI!hIsI-; Ch mra:-mrá 'current'
FOOT 1, LEG	<b>**kas</b>	<b>*kasi</b> 'leg, thigh' (M435/ka-07)	<b>*kas</b> 'foot' (H97) > Ik k'tt'; Ch kátsa
FOOT 2	<b>**ta</b>	<b>*ta</b> 'foot' (M187/ta-12)	<b>*ta</b> 'foot' (H191) > Bo tamix 'calf'
GET, TAKE	<b>**cu</b>	<b>*cupa</b> 'gather' (M194/cu-06))	<b>*cu</b> 'take, get' (H51)
GIVE	<b>**ma</b>	<b>*maka</b> 'give' (M196a/ma-12)	<b>*ma/*me</b> 'give' (H289) > Cu me-loa- 'add', me-tta 'throw, send, bring', me-sa- 'put'; Mu - ma- 'bring';
GO, FLY	<b>**nə•M</b> / <b>**ne(M)</b>	<b>*ni</b> 'fly (v.)' (M184/nI-05);	<b>*naN/*neN</b> 'go, run, fly' (H145) <b>*nim-i</b> 'live, walk around' > Mo nO'i 'walk, go', nē' 'flow'; (M263a/nI-09) Ik nai- 'walk, go'; Gm na-i 'go'
GOOD GRIND, POUND	<b>**ʔay</b>	<b>*ʔay</b> 'good' (M201/a-17)	<b>*ay</b> 'good' (H6)
	<b>**tu(s)</b>	<b>*tu(s)(i/u)</b> 'grind' (M206/tu-07)	<b>*tus</b> 'pound, grind' (H323) > Bo tú?s- 'break, burst', tús 'piece'
HE	<b>**ya</b>	<b>*ya</b> (DH) > PAz <b>*ya</b> 'he, she'	<b>*ya</b> 'that one' > Rm ya-iN 'he, (Dak 312); Hu ya- 'thus'; Oo she, it'; Bo ʔá; Ik ʔa-ma; Tu u-ya i:-ʔa(?a) 'this, he'; Hp ya:- sa 'this one'; Ba ya 'this many/ much'
HEAD, HAIR	<b>**cɔn</b>	<b>*co</b> 'head' (M219a/co-06); <b>*coni</b> 'hair, head' (M219c/ hair'co-07, 08)	<b>*caN</b> (H47) ~ <b>*'tsā</b> (C) 'head,
HEART	<b>**su</b>	<b>*sula</b> 'heart' (M222a/su-13)	<b>*su</b> 'heart' > Gt lu:-tu; Br sulɪ^ wu~; Bo su?-kra 'vein' (= 'heart- branch?'); Ko a-vi:ta-suna 'lung?'
HEAVY	<b>**pete</b>	<b>*piti</b> 'heavy' (M223/pi-01)	<b>*pete</b> ~ <b>*bete</b> 'weigh; heavy' (H252) > Mo bètégo~ 'fall?'; Ko pein- 'fall down?'



HIT 1, KILL ?	<b>**ma</b>	<b>*mak</b> 'hit' (M233/ma-18)	<b>*ma</b> 'hit, kill, hunt' (H137) > Pe màs- 'hit', ah-màs- 'kill'; Rm maliN 'kill'; Cu mak-/mai- 'kill, hunt'
HIT 2, POUND	<b>**bo</b>	<b>*po</b> 'pound' (M331/po-07); > <b>*pon</b> 'drum (v.)' (M142/	<b>*bu</b> 'hit, beat, pound; fist' (H31) Tu mu-húa 'fist', ti-muxá po-12) 'fight'; Do búli/bugú 'heart'?
I	<b>**n'</b>	<b>*ni?</b> 'I' (C-L247, Mpr-06)	<b>*na</b> 'I, me, my' > Rm na-; Gt-na; Ko na-
INTERRO- GATIVE	<b>**sa</b>	<b>*sa</b> Interrogative, Inferential,	<b>*sa</b> Interrogative, Possibility Future (Steele 1975) (H162)
INTESTI- NES	<b>**ši</b>	<b>*si/*ci</b> 'intestines' (M476/si-07)	<b>*ši:d5(a)</b> 'cord; tube; intestines' > Rm sí:ra 'rope, thread', urmut síralut 'intestines'; Cb šña 'intestines'; Ko ši:ža 'band, cord', ganuk- ši:ža 'intestines'; Ik ga-siro intestines'; etc.
IRREALIS, PAST	<b>**da</b>	<b>*ta</b> Past, Irrealis (Steele 1975)	<b>*da(m)</b> Negative (H53)
KNOT, NAVEL	<b>**ši</b>	<b>*sik</b> 'navel' (M301/si-02)	<b>*ši(N)</b> 'knot (> navel); joint (knee, elbow)' (H180) > Ba b'- čidu 'navel'
KNOW , THINK	<b>**ma(t/c)i</b>	<b>*ma(t/c)(i)</b> 'know' (M249/ ma-02) > Rm á:mayn- 'teach'; Bc mē' 'see'	<b>*mai(N)</b> 'think, be sad' (H138)
LAUGH	<b>**H<sub>3</sub>ad</b>	<b>*?ac</b> (M251/a-01) ~ <b>*?aci</b>	<b>*had</b> (H5) ~ <b>*?haĩ</b> (C) 'laugh' (VVH39)[prob. < <b>*?ati</b> (DH)]
LIGHT	<b>**ma</b>	<b>*masi/*maci</b> 'light; appear'	<b>*ma</b> 'shine; sun, day' > Pe ka- (M261/ma-03) màs- 'shine, glow'; Rm mak- mak i-tiN-

			'shine'; Brma 'day'; Cu i:s-mak- 'shine'; etc.
LIVE	<b>**d'o(L)</b>	<b>*yo</b> 'live' (M264/yo-04) > PSUA <b>*yoli</b> 'live' (Dak114)	<b>*duđ</b> 'live, grow' (H74)
MAN 1, PERSON	<b>**te</b>	<b>*tiwi</b> 'person, man' (M273b/	<b>*ted</b> 'man' (H214) > Rm tairuN ti-09) 'brother'; Mo tre Plural (with person-nouns)
MAN 2	<b>**daba</b>	<b>*tawa</b> 'man' (M273a/ta-26)	<b>*daba</b> 'man, person' (H58) > Tr dob-én 'man'; Ko s&iba-lama 'Tairona'; Tu -rama/-raba 'person'; Mu sa:wa 'husband'
MEAT	<b>**dVku</b>	<b>*tuku</b> 'meat' (M279/tu-04)	<b>*dVku</b> 'meat; eat' (H66)
MEDICINE	<b>**hi</b>	<b>*hi</b> 'remedy' (Mhi-04)	<b>*hi(N)s</b> 'medicine' (H93) > Mu hizka
MOUTH	<b>**kam</b>	<b>*ka<sub>u</sub>ma</b> 'mouth, cheek; taste'	<b>*kam</b> 'mouth' > Pe kam(a)- 'taste'; (VVH87, Mka-26)Te k <sup>h</sup> ámō; Bc kwá-gama; Cu kam- mu 'neck, throat, opening'; kam- wala 'neck' (= 'mouth-stem/ way'); etc.
MUD	<b>**so</b>	<b>*so(k)/*cok</b> 'mud, ground,	<b>*su</b> 'mud, loam' > Gt lu:xi 'mud earth' (M297ab/so-06) etc.
NAIL	<b>**šud</b>	<b>*sut</b> 'fingernail' (M298/su-01)	<b>*šu(d)</b> 'nail, claw' (H314) > Bo s&ret 'scrape'
NECK 1	<b>**kuđa</b>	<b>*kuta</b> 'neck' (M303a/ku-09)	<b>*duk-kud5a</b> (H122) ~ <b>*du'kur'</b> (C) 'neck, nape'
NECK 2	<b>**gada</b>	<b>*kat</b> 'head, base of head, nape'	<b>*gada</b> ~ <b>*gala</b> (C) 'neck' (M220/ka-14)
NOSE	<b>**d'a(V)k</b>	<b>*yaka</b> 'nose' (M308/ya-03)	<b>*dayk</b> (H269) ~ <b>*d'iki</b> (C) 'nose'
ONE	<b>**šeN</b>	<b>*sI(mI)</b> 'one' (M507ab/sI-09)	<b>*še(N)</b> 'all, complete, one' (H168) > Cg c&e\$'?' 'be satisfied'; Tu s&e 'a lot'
OTHER, SOME- ONE ELSE PEEL,	<b>**hak</b>	<b>*haka</b> 'who' (C-L289, Min-01)	<b>*hak</b> 'other, different' (H75)



BREAK	<b>**bu</b>	<b>*pu</b> 'remove, take off/away'	<b>*bu-c-</b> 'break, peel' (H42) . (Mpu-01); <b>*pu</b> 'untie, disrobe' (Mpu-08)
PLACE	<b>**ki</b>	<b>*ki</b> 'house' (M240/ki-01) ?	<b>*-ki</b> Locative (H108)
POINT 1, TOOTH	<b>**ci</b>	<b>*ci-</b> 'point' (VVH164, Mci-07)	<b>*sik(a)</b> 'point, tip, tooth; arrow' (H167) > Rm si:k 'tooth, tip'; Bo sí? 'tooth'; Gm síga 'tongue-tip'; Ik tékan 'tongue-tip'
POINT 2, SHARP	<b>**ki<sub>1</sub></b>	<b>*kI</b> 'bite, use teeth' (m42/kI-02);	<b>*kiN</b> 'point, edge; tooth' (H111) > PNum <b>*kIma</b> 'sharp edge' Cb kī' 'over, above'; Te krop-kis (I74, MkI-05) 'summit'
POINT 3, TOOTH	<b>**tama</b>	<b>*tam</b> 'tooth' (M442/ta-14) ~ <b>*ta<sub>3</sub>ma</b> (VVH29) tama 'crest (of bird)'; Bc taú(ma) 'tooth'; Tu táma-ra 'mountainous land'; etc.	<b>*tama</b> 'pointed object' > Pe kas-
POINT 4	<b>**su/**so</b>	<b>*so?i</b> 'thorn' (VVH132/Mso-02);	<b>*su(k)</b> 'point' (H172) > Bo suk
		<b>*su</b> 'sting' (Msu-19) > PCup 'prick, bite'; Te šku 'needle'	<b>*suyi</b>
POINT 5	<b>**BI<sub>2</sub></b>	<b>*wi</b> 'awl, needle' (C-L202,	<b>*beta</b> 'point, angle' (H236) M14/wi-05)
PUT	<b>**tUk</b>	<b>*tI:ka</b> 'put down' (C-L266, MtI-07, 33)	<b>*tuk</b> 'put, place, hide' (H218)
RAT	<b>**ka</b>	<b>*ka(wa)</b> 'rat' (M340/ka-13)	<b>*ka(?i)</b> 'rat' (H'65) > Pe kà?is-; Gt koN 'gopher'; Cg mulu-kai-kai 'big-rat'
RAW, YELLOW	<b>**sap(a)</b>	<b>*saw</b> 'raw' (M342/sa-13); <b>*sawa</b> 'yellow' (M478/Te s&po- 'unripe'; Do yi-sama sa-05) 'unripe'; Cu sap-ka-leti 'unripe'	<b>*sapa</b> 'unripe, raw' > Pe sá?-ka;
RODENT	<b>**kuriP</b>	<b>*tikuri</b> 'mouse' (L290,	<b>*kuḍi</b> 'paca' > Rm kuli::; Gt ku:ri; MtI-47); PTep
		<b>*ti: 'kuri</b> Te k <sup>h</sup> ul&í 'ground-squirrel' (B251); Cm ku:ra 'pack-rat'	
ROUND	<b>**bod5</b>	<b>*pot</b> 'round' (M357/po-15)	<b>*bud5(u)</b> 'round, big' (H306) > Br bru/bruru/bulú-bulu 'big'; Bo

			bru?-krí?-wa 'thumb'; Mo bori 'more, greater'; Cu pula 'big, many'
SAND	**?o	*?o 'rock, sand, gravel'	*u(N)(ta) (H225) ~ *u(Ba) (C) (M355a/o-09) 'sand'
SAY 1	**pa	*pai 'call' (M74/pa-24)	*pa(d5) 'talk, speak, say' (H150)
SAY 2	**?a <sub>h</sub> kaPTep	*?a?ga 'say, speak' (DH) > Oo a:g'say, sing, name'; Pe à:ka 'heritage'; Ko aka(i)- ST ?a?ga 'speak' yaús& 'be named'; Ik a?kan- 'shout'	*ahka ~ *haká (C) 'name' >
SECRETION	**di	*ci- 'spit' (< *ti ?) (VVH114), *cic/t 'spit' (M406/ci-05) secretion	*di (H60, 61) ~ *dí? (C) 'water,
SEE	**t <sub>1</sub> B	*ti 'see' (M365/tI-02);	*tiwa *tib 'see' (H'69) > Bc tiē; 'see, find' (VVH21, C-L271) Mu čib(i) 'look at';
SHRIMP	**kocP	Son *koci 'shrimp' (L90, Mko-17)	*kus 'shrimp' (C)
SIDE, NEAR	**nak	**naak <sup>w</sup> 'side' (M376/na-16)	*nak 'near, beside' > Rm na-na:ka; Mo nokO; Cu naka; Ba naka 'cheek'
SKIN, HIDE	**ho	*ho (M227)	*huk <sup>(w)</sup> a (H82) ~ *huk'! (C) 'skin'
SLEEP	**kVp	*ku(p) 'sleep' (M386/ku-14)	*kap (H127) ~ *kAp- 'sleep' (C)
SLIP	**seL	*si 'slide' (Msi-10) ~ *sIl/n	*seq 'smooth' (H170) (DH) > Hp sIrspa 'be slipping'; Oo hI:lwua 'slide'
SMELL	**hu	*hu(pa) 'smell (v.i.)' (M391/hu-01)	*huN 'smell (v.t.)' (H81) > Bc u\$(N)- 'respiration'
SPLIT	**ta	*ta 'split' (VVH10, Mta-17) > Hu tara- 'break'	*ta 'split, cut' > *tak (H200), *tas (H316)
STAND	**hak	*hak (DH) > Pson *hak <sup>w</sup> I 'be standing' (L51, Mha-01); Az ak-dab- 'arrive' (= 'come-be?'); aki 'fit (in a hole); set (sun); Te xoN 'stand'; Tu -hak-plant'Perfective	*(h)ak 'be, stand' (H7) > Bo
STAR	**su	*su/*cu 'star' (M413/su-09)	*su(d) 'star' > Pe su-kòr-su-kòr-ká 'Pleiades'; Gt surú-

STICK (WOOD)	<b>**kuda</b>	<b>*kuta</b> 'stick of wood' (M170d/  <b>*kut</b> 'make fire' kraN 'horn'	surú 'small stars'; Ko surh-labei 'planet, comet (?)'; Ba tubi; etc.  <b>*kuda</b> 'tree, branch' (H123) > Bo (cf. FIRE 1) ku-04); (M170e/ko-01)
STOMACH 1	<b>**sap</b>	<b>*sap</b> 'stomach' (M416/sa-12)	<b>*sapa</b> 'stomach, belly' > P sapa 'mouth'; Rm sába 'vulva'; Cu sapa-na 'stomach'; Gm tama- k'na 'belly'
STOMACH 2	<b>**to</b>	<b>*to</b> 'stomach' (M417/to-09)	<b>*tu</b> 'stomach, heart' (H'74) > Gt lu:-tu 'heart'; Cb tú-ba\$la\$~ 'heart', her-tu 'stomach'; Do po- tú 'navel'
STRONG, POWER	<b>**bu</b>	<b>*pu</b> 'medicine, power'	<b>*bu(d)</b> 'good, strong' (H305) > (M281/pu-10) Br bua& 'good' <b>*cu</b> (H52) ~ <b>*cú?</b> (C) 'suck, breast'
SUCK	<b>**cu</b>	<b>*cun</b> 'suck' (M420/cu-07)	
SUN	<b>**dada</b>	<b>*ta(ta)</b> 'sun; hot' (M423ae/ta-03)	<b>*dada</b> 'sun' (H'77) > Cu tata; Bodat-s&f?-wa 'illuminated'; Te dró; Tu ra?sa <b>*mu</b> 'swell, be full' (< H159) > Gm kumugui 'full'
SWELL 1	<b>**mu</b>	<b>*mui</b> 'many' (M276/mu-21)	
SWELL 2, FULL	<b>**pu(s)</b>	<b>*pu</b> 'full' (M193/pu-09); <b>*posa/*poca</b> 'swell, be full' (H158a); (M429/po-14)	<b>*pu</b> 'increase, grow, swell' <b>*pus</b> 'be full' (H159)
TAKE, GET	<b>**k<sup>w</sup>i</b>	<b>*k<sup>w</sup>i</b> 'take, get' (M76/k <sup>w</sup> I-02)	<b>*ku/*k<sup>w</sup>i/i</b> 'take, get' (H115)
TALK	<b>**niV</b>	<b>*niok/*neok</b> 'talk'	<b>*nia/*nie</b> 'speak, talk, say' (M432/ni-01) (H293)
TELL	<b>**te</b>	<b>*ti</b> 'tell' (M434/tI-17)	<b>*te(N)</b> 'say, tell' > Gt pore:-te- 'sing'; Bo te(k)- 'speak; thunder (v.)'; Te t <sup>h</sup> ēlē! 'speak'; Cu nele 'seer' (= 'teller?'); Mo bli-te 'speak'; Bc tē!- 'tell, relate'; Tu ten 'speak, talk'
THIS	<b>**?i</b>	<b>*?i</b> 'this' (VVH116, Mdm-01)	<b>*i(N)</b> 'this' (H90) > Pe ĩ-; Cu i- Gm íma; Cb hí; etc.



## THREAD,

CORD	<b>**ta(N)</b>	<b>*ta</b> 'sinew' (M377/ta-19) > PNum <b>*tahmu</b> 'muscle, Rm tan-si:ra 'fabric, web'; Bo thread, sinew' (I204) táña? 'loincloth'; Mo DO\$! 'clothes'	<b>*taN</b> 'cord, thread' > Pe -tāwa;
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THREE	<b>**ba<sub>H</sub>i</b>	<b>*pahi</b> 'three' (M510/pa-23)	<b>*bai(N)</b> (H16) ~ <b>*'bai</b> (C) 'three'
TICK	<b>**mac</b>	<b>*mac</b> 'tick' (DH < Mma-01)	<b>*mac(i)</b> 'flea, chigger, tick' > Pe ās- 'tick'; Ko mac&i 'chigger, tick'; Mu mIca 'chigger'; etc.

## TURN,

SPIN	<b>**pili</b>	<b>*pili</b> 'twist, spin' (DH < Mpi-03) prí-; Rm an-pri-k-; Cu piry-a	<b>*pidi</b> 'revolve, turn' > Pe
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TWO	<b>**bo(k)</b>	<b>*wo(ka)</b> 'two' (M509ab/wo-01)	<b>*bu(k)</b> (H30) ~ <b>*'bu</b> (C) 'two'
URINATE	<b>**si</b>	<b>*si?</b> 'urinate' (M447/si-08)	<b>*h<sup>(w)</sup>isi/a</b> 'urine' (H87)

## WASH,

CLEAN	<b>**co</b>	<b>*copa</b> 'clean, sweep' Mco-16)skw-; Gt -xu:N; Te pó-šku; Do čuká-gala 'broom' (= 'clean-stick'?)	<b>*šuk</b> 'wash' (H311) > Rm súki ~ (C-L214,
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WATER	<b>**pa</b>	<b>*pa</b> 'water' (M455a/pa-07)	<b>*pa(d)</b> 'water' (H300) > Cb pá-ũ'- 'wash'; Te pó-šku 'wash'; Cu a-pa-yo- 'moisten, wet (v.)'
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## WET,

BATHE	<b>**mu</b>	<b>*musa</b> 'sweat-house' mu-16)	<b>*mu</b> 'wet; bathe' (H142) > Ko ní- (M426/ muta 'fog, mist'?; Ch móre 'sweat (n.)'
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WHAT	<b>**hi</b>	<b>*hita</b> 'what' (C-L287, Min-02)	<b>*hi(N)</b> (H89) ~ <b>*'hi</b> (C) 'what?'
WIDE 1	<b>**pa</b>	<b>*pata</b> 'spread' (M410/pa-32) > PAz <b>*pa<sub>la</sub>(awa)k</b> 'wide' Pe pák- 'wide'; Cb c&i-paha (C-L192, Mpa-50) 'wide'; Ko héi-pak-we 'wide'; Ik pá 'flat'; Mu pa:ma 'wide'	<b>*pa(k)</b> 'wide, flat, open' (H149)

WIDE 2	<b>**tala</b>	<b>*tala</b> 'spread out' (DH < Mta-13, 39) wide' > Gt tala:- 'wide'; Br talád- 'grow'; Te krus-táleN 'long'; etc.	<b>*tada</b> (H318) ~ <b>*tə'lə</b> (C) 'span;
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WILDCAT	<b>**ku</b>	<b>*tuku</b> 'wildcat' (M460/tu-05) > PCup <b>*tukut</b> (B-H)	<b>*kud</b> (H131) 'wild cat' > Bo kurá? 'jaguar'; Tu kunua 'puma'
WOMAN	<b>**siw</b>	<b>*siw</b> 'woman' (M470)	<b>*siwa/*sIwa</b> 'woman' (H'91) > Mu siwa 'female genitals'
WOOD	<b>**kaL(i)</b>	<b>*kali</b> 'house' (M239/ka-06, VVH141) ? (for semantics cf. English <i>timber</i> , German <i>Zimmer</i> )	<b>*kaḍ</b> (H98) ~ <b>*ka'ri</b> ~ <b>*'kar'</b> ! ~ <b>*'kàr</b> (C) 'tree, wood, stick'
YELLOW, BILE, SOUR	<b>**ci(p)</b>	<b>*si/*ci</b> 'yellow, guts, gall' (M476/si-07); <b>*cipu</b> 'bitter' (M43/ci-01); <b>*ci</b> 'sour' (M404)	<b>*cipa</b> 'yellow, bile' (H49)

The pairs of recurring correspondences which occur among the proposed cognate sets, together with a complete tabulation of the sets in which they occur, are listed in Table 4.

Table 4 — *Proto-Uto-Aztec—Proto-Chibchan Correspondences*

PAC	PUA	PC	
<b>**p</b> :	<b>*p</b>	<b>*p</b>	in 11 sets: ALL, EARTH 2, HEAVY ?, SAY 1, SLEEP, STOMACH 1, SWELL 2, TURN, WATER, WIDE 1, YELLOW ?
<b>**b</b> :	<b>*p</b>	<b>*b</b>	in 12 sets: BATHE, BLOW 1, BLOW 2, BREAST 1, BRING, HEAVY ?, HIT 2, PEEL, ROUND, SLEEP, STRONG, THREE
<b>**B</b> :	<b>*w</b>	<b>*b</b>	in 5 sets: BREAST 2, MAN 2, POINT 5, SEE, TWO
<b>**t</b> :	<b>*t</b>	<b>*t</b>	in 19 sets: BEND, BIG 1, BLACK 2, BREAST 2, CORD, CUT 3, DEEP, DEMONSTRATIVE, EARTH 1, EARTH 2, FIRE 2, FOOT 2, GRIND, HEAVY, POINT 3, SPLIT, STOMACH 2, TELL, THREAD
<b>**T<sub>1</sub></b> :	<b>*c</b>	<b>*t</b>	in 2 sets: BREAST 1, FALL 2 (both PUA forms before high vowel)
<b>**t5</b> :	<b>*t</b>	<b>*t5</b>	in 5 sets: BEND, MAN 1, PUT, SEE, WIDE 2
<b>**d</b> :	<b>*t</b>	<b>*d</b>	in 10 sets: BIRD 1, BIRD 2, BLOOD, IRREALIS, MAN 2, MEAT, NAIL, NECK 2, STICK, SUN (2?)
<b>**D</b> :	<b>*c</b>	<b>*d</b>	in 2 sets: LAUGH, SECRETION (both PUA forms before <i>i</i> )
<b>**d5</b> :	<b>*t</b>	<b>*d5</b>	in 3 sets: BRING ?, NECK 1, ROUND
<b>**d<sup>y</sup></b> :	<b>*y</b>	<b>*d</b>	in 3 sets: COME 2, LIVE, NOSE
<b>**d5<sup>y</sup></b> :	<b>*y</b>	<b>*d5</b>	in 2 sets: COOK, FALL 1

**k : *k	*k	in 31 sets: BLOW 1 ?, CRY 1, CUT 2, CUT 3, EAR, EGG, FIRE 1, FOOT 1, MAN 1, MEAT, MOUTH, NECK 1, NOSE, OTHER, PEEL, PLACE, POINT 2, PUT, RAT, RODENT, SAY 2, SHRIMP, SLEEP, STAND, STICK, STRONG 1, TOOTH, TWO ?, WASH, WILD CAT, WOOD
**k <sup>w</sup> : *k <sup>w</sup>	*k <sup>w</sup>	in 2 sets: DANCE, TAKE
**? : *?	*ø	in 7 sets: ARM 1, COUGH, GOOD, I, SAND, SAY 2, THIS
**c : *c	*c	in 11 sets: BIRD 1, COLD, CORD ?, CUT 1, GET, HEAD, KNOW 2, PEEL, SUCK, TICK, YELLOW
**c : *c	*s	in 7 sets: BEHIND, BLACK 1, CORD ?, POINT 1, SHRIMP, SPLIT ?, WASH
**s : *s	*s	in 17 sets: ARM 2, COME 3, DEER, EDGE, FOOT 1, GRIND, HEART, INTERROGATIVE, MUD, POINT 4, RAW, SLIP, STAR, STOMACH 1, SWELL 2 ?, URINATE, WOMAN
**s& : *s	*s&	in 5 sets: CUT 2, INTESTINES, KNOT, NAIL, ONE
**ç : *s	*c	in 2 sets: CUT 1, SAND 1
**h : *h	*h	in 8 sets: COUGH, MEDICINE, OTHER, SKIN, SMELL, STAND, URINATE, WHAT
**H <sub>1</sub> : *h	*ø	in 2 sets: ARROW, THREE
**H <sub>3</sub> : *?	*h	in 3 sets: BLOOD, LAUGH, SAY 2 ?
**m : *m	*m	in 12 sets: CHILD, CLOUD, FLOW, GIVE, HIT 1, KNOW, LIGHT, MOUTH, POINT 3, SWELL 1, TICK, WET
**M : *m	*N	in 3 sets: GO, ONE, THREAD ?
**n : *n	*n	in 6 sets: EAR, FIRE 1 ?, GO, HEAD, I, TALK
**l : *l	*d	in 4 sets: BIRD 2, CHILD?, FLOW, WIDE 2
**L : *l	*d5	in 4 sets: LIVE ?, SLIP, TURN, WOOD
**w : *w	*w	in 6 sets: BIG 2, CARRY, CRY 2, EGG, FALL 2, WOMAN
**a : *a	*a	in 54 sets: ARM 1 (2), ARM 2, BATHE, BREAST 2, CHILD, COME 1, CORD, CRY 2, CUT 1, EAR, EGG, FOOT 1, FOOT 2, GIVE, GOOD, HE, HIT 1, INTERROGATIVE, IRREALIS, KNOW, LAUGH, LIGHT, MAN 2 (2), MOUTH, NECK 1, NECK 2 (2), NOSE, OTHER, POINT 3 (2), RAT, RAW (2?), SAY 1, SAY 2 (2), SIDE, SPLIT, STAND, STICK, STOMACH 1, SUN (2), THREAD, THREE, TICK, WATER, WIDE 1, WIDE 2 (2), WOOD
**i : *i	*i	in 28 sets: BIRD 2, BLOW 1, BREAST 1, COME 3, CRY 1, CUT 2, DANCE, FIRE 2, GOOD ?, INTESTINES, KNOT, KNOW, MEDICINE, PLACE, POINT 1,



RODENT, SECRETION, SMELL 2, TALK, THIS, THREE, TURN (2), URINATE, WHAT, WOMAN, WOOD ?, YELLOW

**e :	*i	*e	in 14 sets: ALL, BIG 2 ?, BLOOD, CARRY, COLD, COME 2, EARTH 1, GO ?, HEAVY (2), MAN 1, ONE, SLIP, TELL
**u :	*u	*u	in 31 sets: ARROW, BATHE, BIRD 1 (2), BLACK 1, BLACK 2, BLOW 2, COOK, DEEP, DEER, DEMONSTRATIVE, EDGE, FALL 1, FIRE 1, GET, GRIND, HEART, NAIL, NECK 1, PEEL, POINT 4 ?, RODENT, SMELL, STAR, STICK, STRONG, SUCK, SWELL 1, SWELL 2, WET, WILD CAT
**o :	*o	*u	in 16 sets: BEHIND, BEND, BIRD 2, COUGH, CRY 1, HIT 2, LIVE, MUD, POINT 4 ?, ROUND, SAND, SHRIMP (PC U), SKIN, STOMACH 2, TWO, WASH
**' :	*i	*a	in 6 sets: ARM 2, CUT 3 ?, EARTH 2, FLOW, GO ?, I
**i <sub>1</sub> :	*i	*i	in 7 sets: BIG 2 ?, CUT 3 ?, FALL 2 (2?), POINT 2, SEE, TAKE ?
**i <sub>2</sub>	*i	*e	in 3 sets: BRING, POINT 5, SLIP ?

Clearly not all of the symbols in the PAC column are to be interpreted as actual proto-phonemes; a number of them are merely cover-symbols representing correspondence-sets, though the symbols I have chosen are intended to suggest the probable phonetic quality of the underlying proto-phoneme. Using the arbitrarily chosen criterion of at least 10 occurrences among the cognate sets, the following partial set of probable proto-phonemes can be postulated for PAC:

Table 5—*Probable Phonemes of Proto-Aztec-Chibchan*

*p	*t	*k	*i	*u
*b	*d		*e	*o
	*c		*a	
	*s			
*m				

As Table 4 suggests, there are still numerous loose ends and unexplained phenomena even among these high-confidence sets. Nevertheless, in addition to the rather large number of sets included here, the hypothesis that the Uto-Aztecan and Chibchan families are genetically related to each other is further strengthened by the fact that there are many CVC matchings among the proposed cognate sets, as well as a number of the CVCV type. Additionally, it seems relevant to point out that among the reconstructed glosses there are 69 items from the Swadesh 200-word lexicostatistical list, evidence that a significant proportion of the etymons involved here — about half — represent core vocabulary.

Moreover, a number of grammatical morphemes appear among the reconstructions, including a form for Irrealis, two Demonstratives, a 3rd-Person Singular Pronoun, a 1st-Person Singular Pronoun, and two Interrogatives. In a later paper I hope to further explore the morphological and syntactic similarities between the two language-families.

Given the quantity and the quality of the evidence I have presented, I believe that only someone who is intractably biased toward some other view of the situation could fail to be intrigued by, if not largely convinced of the validity of, the relationship that has been partially delineated here. It seems to me that, especially in the light of recent Amerindian genetic hypotheses of much greater tenuousity, the recognition of the genetic relationship of Uto-Aztecan and Chibchan is long overdue.

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Lila Wistrand-Robinson (who was apparently unaware of my own work in this area) has published a paper (Wistrand-Robinson 1991) in which she proposes a genetic relationship between Uto-Aztecan and Panoan based primarily on observed similarities between the vocabularies of two daughter-languages from the respective families, Comanche and Cashibo. Unfortunately, while she does provide a listing of observable sound-correspondences between the two families, she provides only a small sample of the set of proposed cognates that she has discovered. These will apparently be published in a second installment of her study. Because my own hypothesis has arisen out of work with Chibchan and has concentrated on discovering relationships between Chibchan and the other two groups, Wistrand-Robinson's work should serve a complementary function with regard to my own and may help fill any important gaps in the larger UA-C-PT hypothesis that might have developed as a result of the relatively lesser importance I have tacitly ascribed to the UA-PT connection.

At least 40 additional proposed cognate sets have also been discovered, but these are not considered here since they are of somewhat lower confidence due to important discrepancies either in phonological shape or in meaning, or in both, or, in some cases, because the PUA or the PC reconstruction is itself highly tentative.

While I do believe that phonemic tonal phenomena are reconstructable for Proto-Chibchan, I have not yet explored the situation completely enough to be able to include tone in my own reconstructions. Thus the effects, if any, of the inclusion of tone in the process of comparative reconstruction of Aztec-Chibchan remain to be seen.

Set-numbers in Miller 1967 consist of a number, sometimes with an additional lowercase letter; those in Miller 1987 consist of one or two lowercase letters, a hyphen, and two numerals, e.g. pI-15. Where both types are listed within an entry, they are separated by a slash, e.g. M465/a-03.

Set-numbers in Miller 1967 consist of a number, sometimes with an additional lowercase letter; those in Miller 1987 consist of one or two lowercase letters, a hyphen, and two numerals, e.g. pI-15. Where both types are listed within an entry, they are separated by a slash, e.g. M465/a-03.

This set may be related to STRONG, q.v.

Non-recurring correspondences are as follows: \*\*P: \*w, \*p in RAW; \*\*T<sub>2</sub>: \*n, \*t in ARM 1; \*\*K: \*k, \*k<sup>w</sup> in ARM 2; \*K<sup>w</sup>: \*k<sup>w</sup>, \*k in SIDE; \*\*g: \*k, \*g in NECK 2; \*\*H<sub>2</sub>: \*ø, \*h in BATHE; \*\*r: \*r, \*d5 in RODENT; \*\*y: \*y, \*y in COME 1; \*\*A<sub>4</sub>: \*a, \*I in NOSE; \*\*I: \*I, \*I in TAKE ?; \*\*O: \*o, \*o in CLOUD; \*\*O: \*o, \*a in HEAD; \*\*U: \*I, \*u in PUT.

These are: ALL, ARM/HAND/WING (2), BIG (2), BIRD (2), BLACK (2), BLOOD, BLOW (2), CHILD, CLOUD, COLD, COME (3), CUT (3), EAR, EARTH (2), EGG/SEED, FALL (2), FIRE (2), FLOW, FLY/go (walk), FOOT/LEG (2), GIVE, GOOD, HAIR/HEAD, HE, HEART, HEAVY, HIT (2), I, KNOW, LAUGH, LIVE, MAN(/PERSON) (2), MEAT, MOUTH, NECK (2), NOSE, ONE, OTHER, ROUND, SAND, SAY (2), SEE, SKIN, SLEEP, SMELL, STAND, STAR, STICK, STOMACH (belly)(2), SUCK, SUN, SWELL (2), THIS, THREE, TURN, TWO, WASH, WATER, WET, WHAT, WIDE (2), WOMAN, YELLOW.