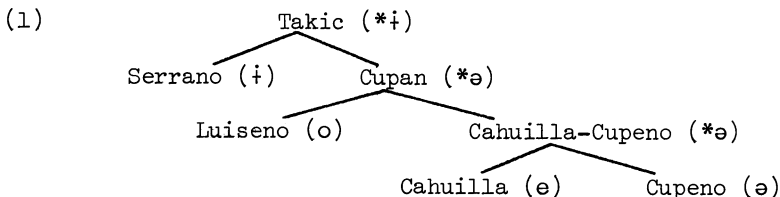


RECONSTRUCTION OF PRONOMINAL ELEMENTS IN TAKIC

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Takic is one of the eight subfamilies of Uto-Aztecan (UA) and is located in southern California. Four Takic languages survive and are reasonably well described--Serrano, Luiseno, Cahuilla, and Cupeno.¹ Their relationship is sketched in (1), together with an indication of the evolution in Takic of the Proto Uto-Aztecan (P-UA) vowel *i (cf. Langacker 1970), which is prominent in the Takic pronominal systems. My purpose is to examine the evolution of selected pronominal paradigms in this subfamily, with an eye toward broader questions of pronominal reconstruction in UA as well as the dynamics of language change in pronominal paradigms generally.



We begin by examining the independent subject pronouns, which are sketched in (2) and for which I suggest the Proto Takic (P-TAK) reconstructions in (3).

(2) Serrano

n+i	ʔičam/ʔačam/(ʔačami+PP)
ʔimʔ	ʔiim/(ʔimʔ OBJ)
DEM/(p+i+PP)	DEM/(pimʔ+PP)

LuisenoCahuillaCupeno

noo	ča(a)m	neʔ	čem(em)	nəʔ	čəm(əm)
ʔom	ʔomom	ʔeʔ	ʔemem	ʔəʔ	ʔəm(əm)
DEM/po	DEM/pomom	DEM/peʔ	DEM/peʔem	DEM/pəʔ	DEM/pəm(əm)

(3) Proto Takic

*nʔʔ(i)	*ʔi-ča-mʔ
*ʔi	*ʔi-mʔ
*DEM/pʔ	*DEM/pi-mʔ

While I wouldn't fight about all the details of (3), the reconstruction does not appear particularly problematic in its broad outlines, and it enables us to see some of the pieces that are relevant to the other pronominal paradigms that will be considered. A few dialectal variants are given in (2), as well as some Serrano forms that occur with postpositions; these postpositional forms allow us to fill in some final vowels, which are otherwise lost by a pervasive process in Takic whereby final short vowels are deleted.

A few words of clarification and elaboration are appropriate. First, demonstratives function as third person pronouns. Even *pi has a demonstrative origin (Langacker 1976c), and while its pronominal function is still attested in the Takic languages, other demonstratives have replaced it to varying degrees. Second, a common tendency in pronominal systems is for a single vowel to spread throughout the paradigm. Here this tendency manifests itself in the first person plural (1P) forms of Cahuilla and Cupeno, where *a--preserved in Serrano and Luiseno--was evidently replaced by Proto Cahuilla-Cupeno *ə to match the vowels of the other subject pronouns. This type of analogical spread is to be distinguished from the common UA phenomenon of vowel harmonization that derives Serrano ʔačam as a variant of ʔičam. Third, the ʔi of ʔičam is reconstructed for P-TAK even though it is directly attested only in Serrano. The reconstruction is clear, however, for two reasons: this syllable is attested with first person pronouns in various other UA languages (e.g. Hopi ʔitam(i) 'we'), and it is responsible for the palatal *č of *ča, which derives regularly from general UA *ta if the sequence *ʔi-ta (> *ʔi-ča) is reconstructed.

Next, the reconstruction of the first person singular form is somewhat speculative. The glottal stop has support outside Takic (e.g. Hopi nɪʔ, Aztec neʔ), and we might account for the Serrano and Luiseno forms as sketched in (4), with an echo vowel added, followed by loss of medial ʔ.

(4) *nVʔ > *nVʔV > nVV

While this requires more careful investigation, loss of medial consonants is undeniably an important phenomenon in historical UA grammar. The loss of medial m in particular is a crucial process for understanding the Takic pronouns, and this brings us to the *-mɪ suffix of the P-TAK plural pronouns and its various reflexes.

The reconstruction of *-mɪ as a plural suffix is straightforward for P-UA, even with plural pronouns (e.g. Shoshoni tammɪ 'we'). What requires explanation is the occurrence, in

various daughter forms, of an "extra" $*-m\dot{i}$, particularly in the second person (2), but also in certain first (1) and third (3) person forms.² The explanation, I believe, lies in the Takic tendency for subject pronouns to occur with subject clitic pronouns (discussed below) attached. $*-m\dot{i}$ is a plural clitic form, hence we can reconstruct P-TAK sequences such as $*?i+m\dot{i}=-m\dot{i}$ as common sentence-initial expressions. The reanalysis shown in (5) is then not at all unexpected, and this would in turn facilitate the analogical addition of another $*-m\dot{i}$ in the second person singular (2S) form to restore the simple and regular relation between the 2S and 2P, as sketched in (6).

$$(5) \quad *?i-m\dot{i}=-m\dot{i} > *?im\dot{i}-m\dot{i}$$

2 P P 2 P

$$(6) \quad *?i/*?im\dot{i}-m\dot{i} > *?im\dot{i}/*?im\dot{i}-m\dot{i}$$

2 2 P 2 2 P

This accounts directly for Luiseno $?om$ and $?omom$, and if we push (5) back to P-TAK, we can account neatly for the second person Serrano forms as well. The 2S $?im\dot{i}?$ is accounted for by (5) and (6) provided that $*?im\dot{i}-m\dot{i}$, the output of (5), can be posited for an earlier stage of Serrano. In fact this seems quite plausible. Serrano continues, even as an active synchronic process, the Takic phenomenon of final vowel reduction. Specifically, final long vowels shorten, and final short vowels delete. The 2P $?im\dot{i}$ thus implies $*?im\dot{i}$, while the object form of this (cited in Hill 1967, p. 175), $?im\dot{i}$, implies $*?im\dot{i}$. Both of these can be derived from $*?im\dot{i}-m\dot{i}$ if we assume deletion of either occurrence of medial m (perhaps under different accentual conditions).

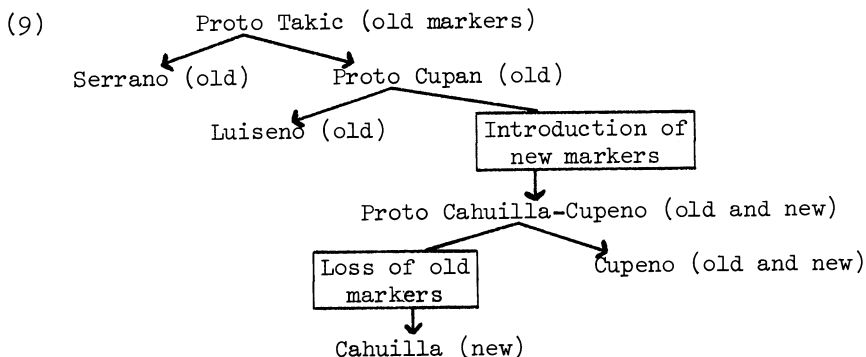
$$(7) \quad *?im\dot{i}-m\dot{i} > \left\{ \begin{array}{l} *?im\dot{i}-m\dot{i} > ?im\dot{i} \\ *?im\dot{i}-\dot{i} > ?im\dot{i} \end{array} \right\}$$

Deletion of medial m in Serrano pronouns is a frequent occurrence, as we will see.

We turn our attention now to what I will call "subject markers" (SM) and "object markers" (OM). These are dependent pronominal elements that agree with the subject or direct object, and they occur either as clitics in a clitic auxiliary group or as verbal affixes. It is readily apparent that a distinction can be made between what I will call the "new markers" in Takic and what I will call the "old markers". They differ as shown in (8).

- | | |
|------------------------------------|-------------------------------------|
| (8) <u>New Markers</u> | <u>Old Markers</u> |
| (a) Restricted to Cahuilla-Cupeno. | (a) General in Takic. |
| (b) Verb prefixes. | (b) Part of auxiliary clitic group. |
| (c) Order OM+SM. | (c) Order SM+OM. |
| (d) New and shiny. | (d) Old and corroded. |

The old markers can be reconstructed for P-UA as well as for P-TAK (cf. Steele 1975, Langacker 1976a), though they have been lost in Cahuilla, whereas the new markers represent an innovation in the Cahuilla-Cupeno (CAC) subgroup.³ The diachronic picture is sketched in (9).



The new markers of CAC do not pose any serious problems of reconstruction. The Cupeno markers are given in (10); (11) exemplifies the co-occurrence of SM and OM.

(10)	<u>Cupeno</u>	<u>SM</u>		<u>OM</u>		<u>*SM</u>	
	nə	čəm	nɪ	čimi	*nə	*čə-mə	
	ʔə	ʔəm	ʔi	ʔimi	*ʔə	*ʔə-mə	
	pə	pəm	pi	mi	*pə	*pə-mə	

- (11) nəʔ=əp mi-nə-puyɪ-qal 'I was feeding them.'
 I=REALIZED them-I-feed-PAST
 OM SM DUR

If we fill in the truncated final vowels of the plural for sake of comparison, the new SM of Cupeno can be shown as they are in the final column in (10). The new OM were innovated in Proto CAC (P-CAC) by the addition of the accusative suffix *-i/-y to the SM, followed in Cupeno by vowel merger and vowel harmonization, as illustrated in (12).

(12) *čə-mə-i > *čəmi > čimi

In Cahuilla the situation is slightly more complicated. Cahuilla has OM consisting of the SM plus the accusative *-i*, so this pattern can be reconstructed for P-CAC, but it also has OM+SM combinations involving no special accusative marking. These OM+SM combinations (from Bright) are listed in (13).

(13) Cahuilla OM+SM Combinations

		OBJECT					
		1S	2S	3S	1P	2P	3P
S U B J E C T	1S	---	?en	pen	---	?emen	men
	2S	ne?	---	pe?	če?me	---	me?
	3S	ne	?e	pe	čeme	?eme	me
	1P	---	?ečem	pičem	---	?emečem	mičem
	2P	ne?em	---	pe?em	čem?em	---	me?em
	3P	nem	?em	pem	čemem	?emem	mem

A few forms, circled in (13), show minor irregularities, but overall the system is quite regular (as might be expected given its recent origin). Basically, the same set of pronouns is used both for the SM and for the OM, and the OM+SM combination consists of the simple sum of the two appropriate forms; there is however some divergence in the third person. The one phonological process that affects these combinations is final vowel reduction, previously described, which deletes the final vowel of each combination provided it is not monosyllabic to start with. The SM and OM that underlie the data in (13) are given in (14).

(14) Cahuilla

*SM		*OM	
*ne	*če-me	*ne	*če-me
*?e	*?e-me	*?e	*?e-me
*(he)	*(he-)me	*pe	*me

The parenthesized he in the third person SM is normally absent, but it does surface under various grammatical, dialectal,

or phonological conditions (e.g. when stressed). The *h of *he is actually a lenited version of *p. P-UA *p shows two alternate lenition patterns as one traces it through its evolution in the daughter languages; these are shown in (15). Different daughters, or sometimes different forms in the same daughter, choose different paths or follow the same path different distances. For instance, lenis *p is reflected as w in Papago, h in Cora-Huichol, and Ø in Aztec.

(15) *p > b/β/v/w *p > *ɸ > h > Ø

The lenition of *p, a pervasive UA trait, is particularly important in the history of the Takic pronouns, as this Cahuilla data already shows.

By adding together the OM and SM in (14), one obtains the representations in (16), which underlie the respective combinations in (13). By final vowel reduction (except in monosyllables), all the forms in (13) are correctly derived except the six circled ones. These six discrepancies are easily accounted for. The 1P-2P (OM+SM) form, čem?em, simply involves final vowel reduction affecting both pronominal elements in the combination instead of just the second one. če?me, 1P-2S, involves only metathesis of the final ? left by vowel reduction (*čeme?e > *čeme? > če?me). pičem and mičem show assimilation of the first vowel to the following palatal consonant; that this affected two forms which differ minimally in classificatory features (3S-1P and 3P-1P) is hardly surprising, since analogical developments in pronominal paradigms appear to affect forms differing only minimally in classificatory space in the great majority of cases. Finally, čeme and ?eme fail to undergo final vowel reduction as expected. It is probably no accident that these are the only two polysyllabic forms which are followed by Ø, the hypothesized 3S SM. Conceivably, then, this following SM protected the final vowel of the OM from deletion, suggesting that at the relevant stage the he which sometimes shows up instead of Ø may still have consistently had some phonetic substance.

(16) Cahuilla *OM+SM Combinations

		OBJECT					
		1S	2S	3S	1P	2P	3P
S U B J E C T	1S	---	?e-ne	pe-ne	---	?e-me-ne	me-ne
	2S	ne-?e	---	pe-?e	<u>če-me-?e</u>	---	me-?e
	3S	ne-∅	?e-∅	pe-∅	<u>če-me-∅</u>	<u>?e-me-∅</u>	me-∅
E C T	1P	---	?e-č ^v e-me	<u>pe-č^ve-me</u>	---	?e-me-č ^v e-me	<u>me-č^ve-me</u>
	2P	ne-?e-me	---	pe-?e-me	<u>č^ve-me-?e-me</u>	---	me-?e-me
	3P	ne-∅-me	?e-∅-me	pe-∅-me	č ^v e-me-∅-me	?e-me-∅-me	me-∅-me

Comparing the Cahuilla and Cupeno data, then, the following situation emerges for the new markers in P-CAC. The new SM, found by comparing (10) and (14), are listed in (17); *p_e can be reconstructed for the third person forms, but it was evidently subject to lenition.

(17) P-CAC *SM

*nə	*č ^v ə-mə
*?ə	*?ə-mə
*pə	*pə-mə

These new SM were reanalyzed possessor prefixes originally marking subordinate verbs. Once they were reinterpreted as SM in main clauses, the system was extended to include a new set of OM; since the OM were created after the innovation of the SM, they occurred external to the SM on the verb, resulting in the order OM+SM. One way of creating these new OM, perhaps restricted to Cahuilla, was by simply using the same pronouns as for the SM (with later divergence in the third person, possibly due to their different phonological circumstances). Another way, reconstructable for P-CAC, was by adding the accusative suffix *-i/-y to the subject marking pronoun, with subsequent merger and assimilation in Cupeno.

Now we come to our main concern, the old SM and OM. Having been lost in Cahuilla, these are restricted to Serrano, Luiseno, and Cupeno. They are clitics rather than verbal affixes, and they occur as all or part of an auxiliary clitic sequence found in sentential second position, as illustrated by the Luiseno example in (18).

- (18) noo=xu=n=po pellax 'I should dance.'
 I=should=I=UNREALIZED dance

The order of elements in this auxiliary clitic sequence, which can probably be reconstructed for P-UA (cf. Steele 1975, Langacker 1976a), is that given in (19).

- (19) =MODAL=SM=OM=TENSE/ASPECT

As noted earlier, however, the old subject and object markers are worn and corroded. Only Serrano retains the OM; we may posit the loss of OM in Proto Cupan (P-CUP), with the result that Luiseno and Cupeno show only SM.

The SM in Luiseno and Cupeno are variable, differing slightly depending on co-occurring members of the auxiliary group and other factors. They are summarized in (20),⁴ together with the P-CUP forms reconstructable from them.

- (20) Old SM

<u>Luiseno</u>		<u>Cupeno</u>		<u>P-CUP</u>	
n(o)	č(a(m))	n(ə)	č(ə)/m/čəm	*n(ə)	*č(a(mə))
p	p/m	t/p(ə)/(ə)	məl/(?ə)m/l	*t	*m(ə)
p	(po)m	p(ə)	məl/m/l	*p(ə)	*(pə)m(ə)

Not every aspect of this reconstruction is obvious or totally unproblematic, so a few words are in order about it. The second person forms with p can be presumed to have generalized from the third person and need not be reconstructed (though possibly in the singular this generalization goes back to P-CUP). *t for 2S is completely unanticipated given any pronominal forms we have examined so far, or given any other pronominal forms in Cupan; however, we will see that there is reason to believe this *t to be archaic rather than innovative in Cupeno. The l of the Cupeno 2P and 3P forms can be regarded as the lenis counterpart of *t. Since it follows the old plural mə in məl, it probably represents a newer development, an extension of the singular t first to the 2P and from there to the 3P. 2S ə in Cupeno involves dubious segmentation, and the 2P ?əm appears too new and shiny to be a true old SM comparable to the others; it is probably a re-formation based on the independent pronoun or the new SM. Granted these interpretations, which do not seem outrageous, the P-CUP reconstruction approximately as indicated appears secure.

The old SM of Cupan are somewhat messy, but they lend themselves to a reconstruction that is not terribly deep relative to the attested forms and requires only a few changes. When we turn to Serrano, however, the situation drastically

changes. The basic data I will use was supplied by Donald Crook, based on his fieldwork with one of the last speakers of the language. It is in general agreement with data reported earlier by Kenneth Hill (1967, 1969). The forms in (21) are SM+OM combinations as they appear in declarative sentences with unmarked tense. Slightly divergent sets occur in the past or the future, or in imperatives or interrogatives, but the divergencies are slight and generally of little interest. In a few cases, however, a form from one of the other sets corroborates a reconstruction that would otherwise be hypothetical; such forms will be cited at the appropriate time. The intransitive SM are likewise of little interest, as they consistently match the SM+OM combinations for 3S objects, which are marked by zero.

(21) Serrano SM+OM Combinations

		OBJECT					
		1S	2S	3S	1P	2P	3P
S U B J E C T	1S	---	n	n	---	n†	n†
	2S	ᶜi	---	m	ᶜ†m†	---	p†
	3S	v†n	m	∅	v†ᶜi?	m†	m†
	1P	---	ᶜ	ᶜ	---	ᶜ†m†	ᶜ†m†
	2P	m†n†c	---	mc	ᶜ†m†c	---	p†m†c
	3P	m†n	m	m	m†ᶜi?	m†	m†

While regularities are apparent in (21), this system obviously comes nowhere near the Cahuilla system of (13) in terms of regularity or transparency. Presumably this system derives from a much earlier one that was more regular and transparent, consisting of systematic combinations of subject and object pronouns resembling those found elsewhere in Takic and in other paradigms in Serrano. Phonological developments, reanalysis, analogy, and so forth may have conspired to yield the highly opaque and irregular system that survives. Can we, relying purely on internal evidence, arrive at a reasonable reconstruction, one that will be basically regular, will yield the attested system through plausible sequences of changes, and will correlate well with what can be anticipated through external comparison? Obviously the answer is yes, or I wouldn't have posed the question.

Let us first direct our attention to the sixteen uncircled forms in (21). The twelve circled forms are the irregular ones and will be dealt with subsequently.

The key to deciphering this system is to take into account the phonological processes known to have affected other forms in Serrano, pronominal forms in particular. There is no reason not to expect these processes, even relatively sporadic ones, to affect clitic pronoun combinations, particularly as these are typically unstressed, possibly complex, and often redundant. Consider in particular final vowel reduction, a pervasive process in Serrano. In view of this process, what appears in (21) as m, for instance, can be presumed to reflect an earlier *mí, and what appears as mí to reflect an earlier *míí. This leads to a puzzle, however. The frequently occurring mí should be derived in some way from the ubiquitous plural míí, but this is regularly short, so why do we find evidence for *mííí? The answer lies in the process of medial m deletion, previously observed for Serrano in (7). *míí then points to earlier *mííí, which is clearly appropriate for such doubly plural forms as 3P-2P (SM+OM) and 3P-3P. The ví of 3S-1S and 3S-1P, moreover, can be related to the familiar 3S pí, as v represents lenited p.

These observations allow us to make a reasonable reconstruction for the regular forms in (21). Three basically consistent phonological processes must be invoked; these are given in (22).

- (22) (A) v...m > m...m
 (B) VmV > VV
 (C) (V)V# > (V)#

Rule A states that v assimilates to a following m in the same clitic combination, a plausible phonological development. Rule B is the deletion of medial m previously alluded to. Rule C is final vowel reduction, which deletes a short vowel and shortens a long vowel.

Granted these phonological developments, we can arrive at the pronominal forms in (23) for an earlier stage of Serrano.

- (23) Serrano *SM *OM
 *ní *çí-mí *ní *çí?
 *çí *çí-mí *∅ *mí
 *ví *mí *∅ *(pí-)mí

The one irregularity that it appears necessary to reconstruct for this early stage pertains to the 3P OM. This is normally *mí, but the fuller form *pí-mí is posited for the two combinations involving second person subjects (2S-3P and 2P-3P). If we assume the general historical development *pí > ∅ through lenition of *p and further reduction, as seen already in

Cahuilla for instance, then this special *pi-mi in two combinations may represent the last holdout of a still earlier system in which *pi appeared in certain OM.

The SM+OM combinations implied by (23) are listed in (24).

(24) Serrano *SM+OM Combinations

		OBJECT					
		1S	2S	3S	1P	2P	3P
SUBJECT	1S	---	n ⁺ -∅	n ⁺ -∅	---	n ⁺ -m ⁺	n ⁺ -m ⁺
	2S	<u>ci-n⁺</u>	---	<u>ci-∅</u>	<u>ci-či?</u>	---	<u>ci-pi-m⁺</u>
	3S	v ⁺ -n ⁺	<u>v⁺-∅</u>	<u>v⁺-∅</u>	v ⁺ -či?	v ⁺ -m ⁺	v ⁺ -m ⁺
	1P	---	<u>či-m⁺-∅</u>	<u>či-m⁺-∅</u>	---	či-m ⁺ -m ⁺	či-m ⁺ -m ⁺
	2P	<u>ci-m⁺-n⁺</u>	---	<u>ci-m⁺-∅</u>	<u>ci-m⁺-či?</u>	---	<u>ci-m⁺-pi-m⁺</u>
	3P	m ⁺ -n ⁺	m ⁺ -∅	m ⁺ -∅	m ⁺ -či?	m ⁺ -m ⁺	m ⁺ -m ⁺

All the regular, uncircled forms in (21) derive from the corresponding reconstructions in (24) via the rules in (22). These derivations are summarized in (25).

- (25) 1S-2S and 1S-3S *n⁺-∅ > n
(C)
- 1S-2P and 1S-3P *n⁺-m⁺ > *n⁺i > n⁺
(B) (C)
- 3S-1S *v⁺-n⁺ > v⁺n
(C)
- 3S-1P *v⁺-či? = v⁺či?
- 3S-2P and 3S-3P *v⁺-m⁺ > *m⁺m⁺ > *m⁺i > m⁺⁵
(A) (B) (C)
- 1P-2P and 1P-3P *či-m⁺-m⁺ > *či⁺m⁺i > či⁺m⁺
(B) (C)
- 3P-1S *m⁺-n⁺ > m⁺n
(C)
- 3P-2S and 3P-3S *m⁺-∅ > m
(C)
- 3P-1P *m⁺-či? = m⁺ci?
- 3P-2P and 3P-3P *m⁺-m⁺ > *m⁺i > m⁺
(B) (C)

Now we must return to the circled forms in (21) and attempt to derive them from their putative antecedents hypothesized in (24). It is complicated, and not particularly pretty if you have an aversion to analogy and such in pronominal paradigms, but it can be done in a manner that is perfectly consistent with what we know to be possible changes in such matrices. In a number of instances divergent forms from other paradigms can be brought forth to support reconstructed forms that have been changed by analogical or other processes, lending further support to the reconstructions in (23). The evolution of the circled forms is outlined in (26)-(36).

- (26) 2P-1P *či-mi-či? > čimic
 The imperative variant čimici helps corroborate the reconstruction; essentially it involves only the change of č to č̣ under the influence of the following č̣. Confusion of such similar sounds in a clitic group is not unlikely; another factor might be the occurrence of initial čim in the 1P subject series. čimic follows another path from the reconstruction, showing interchange of the two consonants rather than assimilation (but also creating initial čim), then restoration of the common ci by adjusting the final syllable, then rule C: *čimici? > *čimici? > *čimici > čimic.
- (27) 2P-3S *ci-mi-∅ > mč
 The evolution of the 2P-1P form apparently established a model in which ci was the final syllable in a combination; other forms then followed this model. Here the ci-final principle creates *micci, which becomes mici by C; this form is attested in the interrogative paradigm. mč is a further reduction.
- (28) 2P-1S *ci-mi-ni > minic
 Nothing is required other than the ci-final principle followed by C: *cimini > *minici > minic.
- (29) 2P-3P *ci-mi-pi-mi > picpi
 Besides the general picpi, we find the variants micpi in the imperative and mici in the future. The first two forms involve the irregular 3P OM *pi-mi, found only with second person subjects. The third form uses the regular *mi and may be a newer, regularized offshoot. From regular *ci-mi-∅-mi, the ci-final principle yields *mimici, which by rule B, vowel shortening (possibly by analogy to 2P-3S), and C becomes mici: *mimici > *mici > *micci > mici. For the imperative micpi, we may assume

that *ci-mi-pi-mi became *mi-ci-pi-mi by the ci-final principle operating within the SM alone (also possibly by analogy to 2P-3S). This becomes micpi by rules B and C, as well as loss of the second vowel (by an extension of C?). In the basic paradigm, *ci-mi-pi-mi gives *pi-mi-ci by the ci-final principle in conjunction with analogy to *ci-mi-ci (2P-1P). Rule C then derives pi mic.

- (30) 1P-2S and 1P-3S *ci-mi-∅ > č

In the past tense, where this clitic group combines with the past tense clitic =?, the final vowel is protected from deletion by rule C and the hypothesized čimī occurs unmodified.⁶ In non-past forms, we might expect *čimī > *čii > *či by B and C, but č is found instead. Analogy is almost certainly the reason. If one examines the regular forms in the 2S and 3S object columns in (21), it is observed that all these forms consist of just a consonant; moreover the forms for 2S object and 3S object are identical. Reducing *či to č brings these 2S and 3S object forms into line with this pattern.

- (31) 3S-3S *vi-∅ > ∅

Once again the past tense form, in which following glottal stop protects the final vowel from the application of rule C, corroborates the reconstruction: vi. In non-past forms, *vi > *v by C. Further reduction to ∅ may be in part phonological,⁷ but it was no doubt greatly facilitated by the fact that the 3S-3S form is maximally unmarked semantically and that ∅ is a strong possibility on the basis of universal tendencies.

- (32) 3S-2S *vi-∅ > m

More expected is ∅, by rule C and loss of final v as in the 3S-3S form, or by generalization of the adjacent 3S-3S form. If earlier *∅ is posited, m is easily accounted for. Its introduction restores the distinction between 3S-2S and 3S-3S, and the choice of m in particular is analogically very strongly determined. With m, the relation between 3S-2S and 3S-2P (m/mi) is identical to the relation between 3P-2S and 3P-2P, and parallel to the relation between 1S-2S and 1S-2P (n/nī).

- (33) 2S-3P *ci-pi-mi > pi

The driving factor in the entire 2S subject row is loss of *ci, reconstructed as the 2S SM. We can securely posit this *ci on the basis of the overall pattern, the fact that it shows up in variant forms, and the fact that the reconstructions allow a workable analysis, but we

must acknowledge some ci-loss principle affecting the 2S subject forms. Perhaps this came about in part by the modifications in the 2P subject forms, in which ci was shifted to the end (for phonological and analogical reasons), thereby destroying the pattern in which initial ci marked a second person subject. Once ci-loss is recognized, pi derives regularly by B and C: *cipimi > *pimi > *pi > pi. The hypothesized *ci receives direct support from the generally more conservative imperative paradigm, where the variants cp and pic are both found. The former involves B and C together with an additional vowel loss: *cipimi > *cipi > *cipi > cp. From *cipi(i), the latter derives by the ci-final principle, extended from the 2P subject forms, followed by C: *cipi(i) > *pic > pic.

(34) 2S-3S *ci- \emptyset > m

\emptyset is anticipated, either by ci-loss or by spread of \emptyset from 3S-3S. m may have been adopted to re-code 2S-3S by extension from 3S-2S; this involves allowing m to code the combination of 2S and 3S without regard to which is the subject and which the object.

(35) 2S-1P *ci- $\check{c}i$? > $\check{c}i$

ci-loss yields * $\check{c}i$?, which does not occur but can be reconstructed for an intermediate stage because it provides the basis for an analogical formation found elsewhere in the system (2S-1S). The basic step in the derivation of the observed form is analogical extension of the 2P-1P $\check{c}i$ mic to 2S-1P; $\check{c}i$ mic is in fact attested as the imperative 2S-1P form. Reduction to $\check{c}i$ represents another kind of analogy. By this reduction, the relation between 2S-1P and 2P-1P ($\check{c}i$ mi/ $\check{c}i$ mic) becomes directly parallel to the relation between 2S-3S and 2P-3S (m/mc); perhaps c is being reinterpreted as an indication of plural subject for the second person.

(36) 2S-1S *ci-ni > $\check{c}i$

We expect *ni by ci-loss, then *n by C, but this would probably involve too much neutralization in the basic sector having singular subject and singular object. The $\check{c}i$ adopted to replace it was generalized from the hypothetical * $\check{c}i$ (?) found at one stage in the evolution of the 2S-1P form. 2S-1P generalizing to 2S-1S is not surprising.

If we can take the Serrano pronominal forms hypothesized in (23) as reasonably well established, we can proceed now to a

reconstruction of the P-TAK old SM and OM on the basis of the P-CUP and Serrano sets. This is shown in (37).

(37) Old Markers

P-CUP *SM		Serrano *SM		Serrano *OM	
*n(ə)	*č(a(mə))	*n†	*č†-m†	*n†	*č†?
*t	*m(ə)	*ç†	*ç†-m†	*∅	*m†
*p(ə)	*(pə)m(ə)	*v†	*m†	*∅	*(p†-)m†

P-TAK

	SM	/	OM
*n†	*ča-m†		*č†?
*t(†)	*m†		
*p†	*(p†-)m†		

The OM were probably fading even in P-TAK; some of the forms were marked by zero even in early Serrano, and only the 1P *č† stands out as a distinctly object form. Since Serrano č derives from t, the consonant of the 2S form is regular. It is likely that 2S ç† was extended to the 2P as a late development, as there is no trace of anything like *təmə for 2P in Cupan. The third person *p† shows a greater tendency toward lenition in the plural than the singular.

The final question that arises is how the P-TAK reconstruction compares to pronominal systems in other UA languages. A full discussion is not possible here, but a few salient points of interest can be noted.

1S *n†, third person *p†, and plural *m† are basic and widespread UA elements, and their occurrence in the P-TAK clitic system is not nearly so surprising as their absence would be. The two forms *t(†) and *ča can both be derived from earlier *ta in a fairly straightforward way. The vowel of *t(†) counts for little, as *a in the singular set could easily come to agree with that of the other singular pronouns, and in any case the only evidence for *† is provided by Serrano *ç†, one member of a paradigm in which every vowel is *†. *ta also underlies *ča, as we saw earlier in conjunction with the independent subject pronouns. The palatalization of *t to *č in Tactic was under the influence of a preceding *†i, not preserved in the clitic pronouns.⁸

What now is the relation between the 2S *ta and the 1P *ta? I will suggest (cf. Steele 1975) that they derive from the same P-UA pronominal element, *ta 'we', which was extended to 2S sometime during the P-TAK period, perhaps to replace an earlier *†i, which, being a weak syllable, would tend to be lost in clitics. A similar extension evidently occurred in Aztec, where te?waaʌ and te?waantin are the 2S and 1P forms

respectively, for instance, and ti- is a SM on the verb for the same two persons. I take the Takic and Aztec extensions to be independent, but there may well be a common factor in the two cases that would help explain why this particular shift might take place. The link, I believe, lies in the "inclusive" category, which groups speaker and hearer in a single pronoun reference. It is uncertain whether P-UA *ta 'we' was inclusive--most probably it was not--but certainly this form had the potential to take on specifically inclusive value, i.e. 'you and I'; Numic and Tubatulabal have in fact specialized *ta in precisely this way, producing an innovative inclusive/exclusive distinction in the non-singular first person pronouns. The possibility of 'we' becoming specifically 'you and I', and then shifting to simply 'you', is further illustrated by English bedside talk, where How are we today? really means How are you today?, with we used to indicate solidarity.

Finally we come to *ci?, which can be reconstructed for the P-TAK object clitic 'us', but not the subject clitic 'we'. This distribution is not accidental, since *ci? can be derived from an accusative suffix *-ci that can be reconstructed for P-UA (cf. Langacker 1976b). This suffix was archaic already in P-UA, having been supplanted by newer accusative suffixes; probably it was confined mainly to certain pronominal forms, which often retain archaisms (such as case distinctions in English). Huichol and Aztec both show *-ci on some of their OM (which in these languages are verb prefixes), including the 'us' form. In Huichol ci is an optional component of neci- 'me', maci- 'you', and taci- 'us'. In Aztec, *c becomes č before *i, so such forms as neč- 'me' and teč- 'us' attest to earlier *ci.

All of the elements used in the P-TAK reconstruction can therefore be related in a reasonable manner to elements found in other UA languages. The old subject and object markers in Takic are rightly seen to archaic, and the P-TAK reconstruction proves to have substantial comparative significance.

Footnotes

¹Serrano and Cupeno are on the verge of extinction, and the other two languages are not widely spoken.

A preliminary version of this paper was presented at the Southwestern Anthropological Association meeting, San Francisco, 19 April 1973. If memory serves me, Mary Haas and Madison Beeler were in the audience as this paper was presented there.

²Whether the parenthesized sequences in the Cupeno forms belong to the independent pronoun depends on how various pronoun+clitic sequences (such as ?eməməl) are analyzed; Cupeno scholars have left this uncertain, perhaps with reason. I assume that Cahuilla pe?em is a recent development based

on the singular pe? and does not reflect the process under discussion. I mark morpheme boundaries with a hyphen (-) and clitic boundaries with an equal sign (=).

³This is an oversimplification. As shown by Jacobs (1975), the new subject markers in Cahuilla and Cupeno were originally possessor prefixes marking a subordinate verb; they were reanalyzed as main-clause subject markers when a higher verb 'be' marking past tense was lost. Thus only Cahuilla and Cupeno show them as subject markers in (active) main clauses, but the innovation is one of function, not of forms. In Cupeno the new subject markers are basically restricted to past tense (betraying their origin) and are not always prefixal.

⁴I ignore the fact that č becomes š when final, and I omit vowels that have been resegmented from the preceding word.

⁵Hill (1967, p. 201) reports the variant form vɪ for 3S-3P. If valid, this variant derives from the reconstruction regularly except that rule A fails to apply: $*v_i-m_i > *v_{ii} > v_i$.

An alternative to positing rule A, which applies only in the 3S-2P and 3S-3P forms, is to claim that they are formed by analogy to the 3P-2P and 3P-3P forms. This is quite plausible; it amounts essentially only to the claim that the change of $*v$ to m was conditioned analogically rather than phonologically. There is no strong reason to prefer one analysis over the other, or even to assume that the two potential motivating factors had to be mutually exclusive.

⁶Rule B fails to delete m here, as it does in several irregular forms. Rules B and C as stated can only be regarded as first approximations; a detailed and careful examination of the precise conditions in which they apply must await further study.

⁷Final v can occur in Serrano, e.g. in the verb suffix -iv of the future, so the operation of a deletion rule cannot automatically be assumed. However, clitics are weaker phonologically than verbs, and v is a very weak consonant, indicating that phonetic factors may still be relevant.

⁸It may not be possible to reconstruct $*?i$ in the P-TAK clitic form, since there is no direct trace of it. If not, the shift of $*ta$ to $*ca$ in the clitic simply follows analogically the shift in the independent pronoun, which was phonologically determined by $*?i$.

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