A PAN-PENUTIAN DATABASE OF MATERIALS FOR COMPARISON AND RECONSTRUCTION: ITS ORGANIZATION, USES AND CURRENT RESULTS

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0. ABSTRACT. Sapir's Penutian phylum is still controversial. Its demise has been announced before (Shipley), but rumours of its death are premature and it may yet be salvaged in a new form. In addition to the careful work currently being done on the individual component families, a comprehensive approach is needed, pooling all possible data and organizing them in a principled and systematic manner, before advances in comparison, subclassification and eventually even reconstruction can be more than piecemeal. This is a progress report on my pan-Penutian "database", its organization, uses and current results.[1]

1. "PENUTIAN": BRIEF HISTORY AND DEFINITION. The word "Penutian" has meant, and still means, different things to different people, so that a definition is necessary. To briefly recapitulate its history, the word was coined by Dixon & Kroeber (1918) as a cover term for a group of five language families in California (Wintu, Maidu, Miwok, Costanoan and Yokuts). Sapir (1921) extended the term to languages or families of Oregon (Takelma, Kalapuya, and the Coast Oregon group consisting of Coos, Siuslaw and Alsea), including also Chinook on the Columbia River and "Tsimshian"[2] on the northern coast of British Columbia. Later still (1929) he added to the "Penutian phylum" the groupings Plateau Penutian (Sahaptin, Cayuse, Molale and Klamath) and Mexican Penutian (Mixe-Zoque and Huave). The definition used here is that of most contemporary Penutianists (here "traditional Penutian"), that is to say that of Sapir 1929 minus the Mexican languages: it is not meant to be rigidly exclusive (or inclusive), but provides a manageable group to investigate. Further extensions of the term to larger and larger conglomerations of languages (e.g. by Swadesh, Greenberg) have not been generally accepted.[3]

2. RECENT DEVELOPMENTS. Since the days of Sapir, most of the languages in question have become much better known, especially those where the work of Survey linguists with remaining speakers has resulted in a number of grammars, dictionaries and volumes of texts. Within the past two decades or so there has been dissatisfaction with the internal groupings within the phylum and even proposals to abandon it altogether, but recent developments suggest that what is needed may be reorganization rather than dismantling. This does not mean that specialists in the relevant language families all accept Sapir's grouping as a valid genetic entity: in fact, some reject the suggestion outright, but others are willing to keep an open mind and explore the possibilities.

2.1. END OF CALIFORNIA PENUTIAN. There is a certain recognizable areal unity in the Penutian languages of California, in that their phonological systems and phonotactic structure tend to be simpler than that of their Northern counterparts, but "California Penutian", once considered

[1] Of necessity, some of the information here has been presented elsewhere, notably in Tarpent 1997, but in addition to updating the information and the results, I have tried to give a clearer picture of the organizational detail of the files, and of the methodological reasons for proceeding as I do.

[2] As the term "Tsimshian" as used by Boas and Sapir is ambiguous (applying both to a single language and to the family that includes it), I have used "Tsimshianic" since 1983 to designate the family, and the name is becoming more widely accepted. This small family consists of a Maritime branch, with Southern Tsimshian (ST) and Coast Tsimshian (CT), and an Interior branch, with Nisqa'a (N) and Gitksan (G) (Tarpent 1996).

3 For more details and references see Golla 2002.

the solid "core" of the phylum, is no longer generally accepted as a distinct grouping deserving its own designation. With more careful and abundant descriptive and comparative work in the various families, Miwok and Costanoan have been shown to belong together as "Utian", and more recently have been tentatively joined with Yokuts into "Yok-Utian" (Callaghan & Gamble 1994). Similarly, Wintu has many phonological and morphological similarities with the Oregon Coast languages, while Maidu is significantly different and has some similarities with Klamath (DeLancey 1994). The new developments have led some to call for the abandonment of the term Penutian altogether (Shipley 1983), and for a reclassification of all the component families into smaller groups.

2.2. CONTRIBUTION OF TSIMSHIANIC. However, the dismantling of one proposed group need not mean the end of the phylum, and some linguists have continued to be impressed or at least intrigued by the Sapir grouping. The Tsimshianic family, located at a considerable distance northward from its proposed Penutian congeners, was once poorly known and considered "the weakest link in the chain" (Hymes 1965). Indeed, after perusing what a few scholars (including even Sapir) considered as evidence supporting the relationship, I, as a Tsimshianist, had intended to argue that Sapir's proposal for the membership of "Tsimshian" should be laid to rest, but my own research into the subject convinced me that Sapir's insight was indeed correct. Since I had already done much descriptive and reconstructive work in the Tsimshianic family (e.g. Tarpent 1983a,b, 1989, 1990, 1994), I was able to take as a point of departure my independently reconstructed Proto-Tsimshianic roots and morphological elements, in which I found a considerable number of similarities with other "Penutian" languages throughout the phylum (Tarpent 1992, 1997, 2000, 2002). The geographically distant and isolated position of Tsimshianic is a guarantee that these similarities cannot be due to recent contact. Their nature indicates that Sapir was basically right in postulating a Penutian genetic grouping, even though many of the details are still in need of correction or clarification.

2.3. END OF "TAKELMAN". On the other hand, Swadesh's 1965 attempt to reduce the number of internal groups by setting up "Takelman" has been shown to be unjustified. Apart from the sometimes extremely doubtful segmentation exhibited in Swadesh's proposed cognates[4], the definite morphological similarities between Takelma and Yokuts (which are geographically distant from each other), which first led Sapir to expand D&K's Penutian beyond California, do not apply at all to Kalapuya which is structurally very different, so that the significant number of lexical similarities between Takelma and Kalapuya, even though buttressed by obvious and regular correspondences, must be due to extensive borrowing during a former period of close contact (Tarpent & Kendall 1998).

There are still a number of problems to be solved regarding the relationships between some of the languages, and even the membership of some (such as Siuslaw and Alsea, which are poorly known, and Cayuse, for which information is only fragmentary). But the recent developments point to the basic correctness of Sapir's overall grouping, as well as the need for reevaluation and internal reorganization of "traditional Penutian".

3. A PAN-PENUTIAN DATABASE. A comprehensive approach is needed if "Penutian" in any definition is to be properly evaluated and reorganized. Many common features can only be distinguished on a large scale and through systematic and principled comparison of:

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4 Some examples (quoted in Tarpent &Kendall 1998): 'we': Tak g-oó-m; Kal dialects s-t-uu, s-t-u; 'small': Tak t'o-sòo; Kal dialects ?iis-ty, tincit, tuu-cwa . These segmentations are not justified internally in the languages.

- morphological elements and processes (especially demonstrably older ones);
- lexical/phonological information: which should be organized by phonological, not semantic, criteria, in order not to prejudice the outcome by the constraints and biases inherent in an alphabetical list of English words;
- semantic information: focusing on RANGES OF MEANING rather than single meanings (relatively few words have only one simple meaning, e.g. 'porcupine' or 'eat').

3.1. ORIGIN AND DEVELOPMENT OF THE DATABASE.

3.1.1. BINARY COMPARISONS. My Tsimshianic/Penutian comparisons were originally meant to determine whether resemblances were significant enough to justify Sapir's inclusion of Tsimshianic within traditional Penutian. In the early stages, I set up separate files for comparing my Proto-Tsimshianic (PTsim) data with each of the component language families (not all of the 15-odd families were equally well represented). Each file consisted of two parts:

a) a short morphological sketch of each language (or family)(root or stem structure, significant morphemes, processes such as reduplication and ablaut)

b) a set of reconstructed PTsim ROOTS (CVC) and grammatical morphemes showing similarities (both phonological and semantic) to WORDS and morphemes in the languages in question.

3.1.2. PROTO-TSIMSHIANIC ROOTS. The Tsimshianic languages are characterized by a CVC root to which affixes and reduplicated elements can be added. In Proto-Tsimshianic only two root vowels *ə* (here written *e*) and *a* need to be reconstructed, each one occurring with or without the additional element noted as H, probably representing a schwa-glide (Tarpent 1990, 1994). Some correspondences require assuming a bipartite PPTsim structure for the PTsim or contemporary 'root'. Examples are (see other instances in Appendix A):[5]

(1) ST *sáh*, N *sá(h)* 'day' < PTsim **sáh*

(2) ST, N *t'á:* 'to sit, exist (sg.)' < PTsim **t'áHh*

(3) ST, CT *lí:mx*, N *límx* 'to sing' < PTsim **léHm-x*

(4) ST, CT *t'ák*, N *t'ák* 'to forget s.' < PTsim **t'ék*

(5) ST *kwtáx*, CT *kwtí:*, N *xwtáx* 'to be hungry' < PTsim **kw-*téx*

(6) ST *n'áh*, N *n'áχ* 'bait' < PTsim **n'áχ* < PPTsim ***?En-Aq-*

(7a) ST *p'ál*, N *m'ál* 'to button s.' (< 'to widen a slit into an oblong shape') < PTsim **p'ál*

(7b) ST *?am-p'á:l*, N *?am-m'á:l* 'poplar' (lit. 'used for-canoe'), N *m'á:l* 'canoe' (made by widening a lengthwise slit in a cedar log) < PTsim **p'áHl*

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[5] All these reconstructions are my own. Each one is justified by a number of interlocking correspondences, as set out in Tarpent (in prep). See also 4.2. below.

Many vowel correspondences are much more complex than these, and PTsim roots as I reconstruct them are often quite different from modern words, for instance:

(8) ST *qá:üs*, CT *qá:ws*, N *qís* 'hair' < PTsim **qéHw-s*

(9) ST, CT *kɬkú:*, N *ɬkí* '(s.o.'s) children' < PTsim *(k-)*ɬkwéHh*

(10) ST *só:yχ* 'to get up early', N *sé:q* 'to stay awake' < PTsim **séHh-(E)q*

(11) CT *mó:maχ* 'to smile' < PTsim **mé?)mE?-q*, N *mimq'* < **méH?)mE?-q*

3.1.3. COMPARING ROOTS WITH WORDS. Although the ideal for comparison would be to use similarly reconstructed ROOTS in other proto-languages, this is not often practicable: most available reconstructions (even when they do exist) are of limited use, either because of their shallow level (where most proto-forms are identical to or only slightly different from existing forms, and the root of words is not always identified) or sometimes because they give evidence of poor methodology (e.g. reconstructions requiring rules counter to generally occurring processes such as spirantization or palatalization).[6] I have found it more fruitful to work with assemblages of paradigms or derivatives, from which stems and sometimes roots can be identified as well as affixes, and a meaning range for the root can be tentatively ascertained.

In the frequent absence of reliably or usefully reconstructed roots and affixes in the other languages, I continue to make every effort to ascertain both the MORPHOLOGICAL ANALYSIS of the words and the SEMANTIC RANGE of roots and derivatives, by consulting and cross-referencing the widest possible array of sources, including grammars, dictionaries, texts, and linguists' manuscript notes, where available.

3.2. PRESENT STATE OF THE DATA FILES. In the original binary files, I was able to collect enough information to convince me that significant commonalities existed between Tsimshianic and every single one of the component families, without pointing to a special relationship with any one of them. I then reorganized the files on a different basis, so that similar information on all the languages was now found together (Tarpent 1997). I have also been adding elements unattested in Tsimshianic but common in other families, especially in morphology, but also in lexicon and phonology. This makes the files useful not only for continuing and refining the Tsimshianic-Penutian comparison, but for comparison between any two or more families. I have been keeping three types of comparative files:

a) morphological elements and processes
b) phonological/lexical elements organized according to phonological criteria (this is the bulk of the files, see appendix A)
c) selected vocabulary items (animals, people, culture words)

4. METHODOLOGY AND PARTIAL RESULTS. Although much language comparison in Amerindian historical linguistics deals primarily with vocabulary (e.g. numerous comments in Campbell 1997), I believe strongly in the historical linguistics tradition which gives the primary role to morphological structure, elements and processes, as the foundation upon which other kinds of comparison can most securely rest. The many kinds of possible sources of error in the comparative or reconstructive endeavour, against which linguists are warned (e.g. again Campbell

6 These limitations are not peculiar to Penutian scholarship, but occur also in work on other Amerindian language groups, e.g. a number of examples in Campbell 1997

1997), affect mostly comparisons of vocabulary, that is to say they are piecemeal errors affecting individual words, and thus can easily be corrected with further research, without compromising general conclusions. My position is that in a working document such as this database, it is better to include questionable material (marking it as such), rather than omit it altogether for fear of making mistakes: with a systematic approach to all aspects of the languages in question, errors will reveal themselves sooner or later, while correct guesses will eventually be confirmed by other, independent facts, and lead to new insights. The database therefore is not a fixed repository of forms, but is constantly evolving.

4.1. MORPHOLOGY.

4.1.1. MAJOR STRUCTURAL FEATURES. The basic CVC root structure found in Tsimshianic is also characteristic of the Northern Penutian languages, while the Southern (i.e. California) languages tend to have a CVCVC stem, where traces of an original, now submorphemic CVC root and accompanying affix can often be identified by internal and external comparison. The fact that there is a degree of vowel harmony in most of the Southern languages is consistent with a proto-language *CVC root carrying a stressed vowel, associated with a consonantal affix linked to the root by an undifferentiated vowel which then harmonizes with that of the root. In the Northern languages, adding such a consonantal affix to a root is more likely to result in a cluster, without an intervening vowel, hence the more heavily consonantal character of these languages (Tarpent 2000a).

Several of the languages, notably Klamath, Takelma and Yokuts, and to some extent Tsimshianic, modify the root or stem through complex patterns involving reduplication or ablaut or both, and these processes are also found more or less prominently in the other component families. As noted by Sapir, Penutian affixes, especially suffixes, convey grammatical, not lexical information, something that gives these languages a more European- or Eurasian-like character than that of many other Amerindian language groups.[7] Tense and case are indicated morphologically in several families, although not in Tsimshianic.

4.1.2. ELEMENTS. Significant morphological elements apart from the roots are affixes and other grammatical morphemes.

- Some morphemes occur throughout Penutian: for instance, a linking (connective, attributive, genitive, etc) suffix *-m* attached to the first word of a phrase or compound is found in practically all the component families, as is a relativizing or deverbative agentive suffix compatible with Tsimshianic *-ət* (Tarpent 1996, 1997).

- Some elements are more restricted in their occurrence, making them useful for subclassification. In particular, although formants *n* for the 1st person and *m* for the 2nd person are widespread, not all the families use the same pronominal affixes, and there is often a differentiation according to function (usually Subject/ Object/ Possessive). Nevertheless, there is never a complete break in the pronominal system between one language family and another. Pronouns are generally affixes or clitics, attached to the verbal and/or the nominal stem, or to special pronominal bases which make them into independent words. A Tsimshianic discontinuous clitic *mə ... səm* for 2nd person plural has very close counterparts in Chinook (Hymes 1965)and Maidu, and less close but plausible ones in Siuslaw, Molale, and Yok-Utian (Tarpent 1996, 1997).

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7 However, no claim is being made as to the significance of such resemblances for more distant relationships.

4.1.2. PROCESSES AND THEIR IMPLICATIONS FOR COMPARISON.

- AFFIXATION

As Sapir recognized, Penutian languages are primarily (some exclusively) suffixing, with most preposed elements being proclitics of relatively recent date, with concrete significance (e.g. location, direction, instrumentality especially of body parts), unlike the suffixes which are more abstract in meaning. At the same time, true prefixes are not negligible in the Northern languages, such as Tsimshianic, Chinook and Alsea. AFFIXAL FRAMES[8] consisting of a cooccurring prefix (or proclitic) and suffix are found in Tsimshianic and at least in Alsea (prominently), Coos and Sahaptian.

Although prefixation is currently secondary to suffixation as a grammatical process, there are reasons to believe that prefixation was a common feature in more ancient forms of the languages:

- Some affixes which are productive or at least easily segmentable in the Northern languages are recognizable as submorphemic, frozen relics in the South. For instance, the California CVCVC stem identified by Sapir (1921) must be from **CVC-vC or **Cv-CVC, where CVC also occurs alone, especially in the northern languages, and the affixes also have existing counterparts (Tarpent 2000a);

- More specifically, Tsimshianic has an old *l*-initial plural prefix, currently *lə-*, which is easily segmentable though unproductive, and a more ancient form **lEh-* can be reconstructed for some now irregular forms. An *-l-* plural or dual suffix or formant occurs in most Penutian languages (where suffixation is the rule). But a yet more archaic Tsimshianic submorphemic alternation of *l*-initial plurals and *K*-initial singulars (where *K* may represent *q, h, k ,y*) has been shown to occur as well, although in relic form, in some languages further to the South (e.g. in Takelma, Wintu and Yokuts) (Tarpent 2000b, 2002; see also ex. 2 in Appendix A). This suggests that Tsimshianic has preserved an ancient pattern of prefixation, while what must have been a former clitic in *-l-* has become restricted to the post-stem position in the other languages, leaving traces of prefixation only in a few relic forms.

- REDUPLICATION

In my initial research, the most important, because the most salient, guide for the identification and comparison of ROOTS has been reduplication: although not all instances of the process are used for the same grammatical meanings, reduplication is very often A CLUE TO DETERMINING THE ROOT of a word (Tarpent 1997). Differing reduplicative patterns may also give clues to common ancestry or areal phenomena: e.g. the Tsimshianic CVC)CVC pattern is very common everywhere, but the more complex CVC-V')CvC pattern existing for instance in Takelma and Yokuts is also found in some Uto-Aztecan and Salishan languages: this may be (or have been at some point) an areal feature.

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8 I prefer the term "affixal frame" to "circumfix" or "discontinuous affix" in the Tsimshianic (Tarpent 1989) or Penutian context. The latter terms suggest a unique identity for a single through discontinuous morpheme (e.g. Tsimshianic mə...səm in above), but in Tsimshianic and Coos, at least, the two components of the affixal frame are not restricted to occurring together, they are found separately as well, in other contexts. They usually "frame" the root or stem of the word, resulting in a single complex word with a unique identity.

- ABLAUT

Another common process in these languages (considered characteristic by Sapir) is vocalic ablaut, which also affects mostly the root. Differing patterns of ablaut give clues to the nature of the underlying vowels of the proto-language, e.g. an *i/e:* pattern is likely to go back to a front rather than a back vowel: this is useful not only for the reconstruction of the root vowel, but also for cases of suspected palatalization or assibilation of a preceding consonant, giving a clue to the original nature of that consonant, and therefore to what sound(s) could be considered in the search for phonological correspondences (see below, 4.2.).

- CONSONANT GRADATION

Consonant gradation is also a frequent morphological process in the area (shared with some otherwise unrelated languages). It plays a distinct and important morphological role e.g. in Takelma and Sahaptian, and there are many submorphemic traces of it in some of the other families, for instance Miwok and Yokuts. This means that even if a language has two or three series of alternating stops (e.g. *t, th, t'*), as in Wintu or Yokuts, only a single, basic stop (e.g. "T") may need to be considered for purposes of preliminary inter-family comparison, and the aspiration or glottalization ignored for the time being (however important it may be for more detailed work). This will not work in every case (e.g. not for Tsimshianic, which apparently has no trace of such gradation), but the possibility must be kept in mind in the reconstruction of other proto-languages. Gradation also occurs in consonants other than stops: two of the most common instances are *l* ~ *n* and *s* ~ *ɬ* (lateral fricative), but such gradation may involve more surprising alternations. This means that alternations in actual languages may give yet additional clues to what can count as phonological compatibility for these languages (see below, 4.2.).

4.2. PHONOLOGY/LEXICON.

4.2.1. NO LEXICAL SETS.

Although they are widely used in many contexts, and may be useful for preliminary work, when it comes to detailed comparison lists of words organized by alphabetical order of the equivalents in English (or other dominant language) are appropriate only for very closely related languages, such as those of the small Tsimshianic family, where little semantic variation occurs from one language to the next (see Tsimshianic examples above, 3.1., 2)). Otherwise, lexical sets tend to distort the data: they favour meaning clusters existing in the researcher's own language and/or imagination, rather than those inherent in the languages under consideration; they prevent identification of nonobvious phonological correspondences, which may be scattered randomly through the data; and they make it difficult to distinguish borrowings from true cognates (Tarpent 1997). Also, in a group such as Penutian, where several of the languages (especially in Oregon and the Plateau) are less than adequately documented, mistakes or misunderstandings in translation are likely to occur, so that glosses in a dictionary or glossary cannot always be fully trusted.

4.2.2. COMPATIBILITY.

Instead of "lexical sets", the entries consist of POTENTIAL cognates which are PHONOLOGICALLY AND SEMANTICALLY COMPATIBLE with each PTsim root (see appendix A for sample entries). Here again, the advice often given, "start with identical sounds and meanings" is only appropriate within a very close-knit family; a greater degree of divergence is

expected between one family and the next, so that compatibility rather than identity should be sought (it is well known that borrowings are usually identifiable because they are too close a match phonologically).

(a) PHONOLOGICAL COMPATIBILITY.

Each entry takes a reconstructed PTsim root as its starting point. Potential cognates in other languages are organized by DEGREE OF RESEMBLANCE to the initial consonant of this root (clearly homophonous roots are listed separately according to meaning). Of course this does not mean that only the initial consonant counts: the rest of the word (or at least what can be interpreted as its root) must match to some extent as well, and the meaning should be compatible. In case of doubt because of "semantic latitude", phonology wins, but with a question mark: in practice, doubtful cases often cease to be doubtful once further data from the same or another family are added, confirming the initial choice or leading to its rejection. Some types of consonants are notoriously liable to change into others, or to be derived from others, so that not just individual sounds but SERIES OF RELATED SOUNDS need to be considered when looking for potential cognates: some examples of such series are:

PTsim *k : *k, ky, y; č, ts, š, s*
PTsim *ts : *ts, tVs, kVs, č, s; ky, y, k*
PTsim *ɬ : *ɬ, l, r; tl'*
PTsim *qw : *qw, q, ʔw, ʔ, kw, k, xw, x, w, p, f*
PTsim *p' (< PPTsim **ʔəp): *p', p, m', m, ʔVp, ʔVf, ʔVm*

Such long chains of possibilities may seem to allow too much "phonetic latitude", but in practice only one or two possibilities for correspondence with a given PTsim sound occur consistently in any one of the families.

- If appropriate, data are further subcategorized by final root-consonant according to the same principles; other correspondences show up in non-initial position, e.g. often final *ɬ = *ll, r, ls*, final *w = *p* , in other families (see examples in Appendix A).

- In general, the languages North of California tend to have many clusters, resulting from the loss of a vowel (or the lack of an epenthetic vowel); initial clusters especially are often reduced, introducing yet another source of correspondences (e.g. **t'Aq- > *tq'- which may later evolve to *č* or *c*, or reduce to plain *t'*- or plain *q'*-, among other possibilities); such correspondences are also listed separately.

- After a while, sets of correspondences become identified with specific families, e.g. in many cases PTsim *qw- = Maidu, Yokuts *p*-; PTsim *q- = Yok *k*- or *ʔ*-, Mi *h*- or *ʔ*- (such alternations in correspondences may reflect earlier consonant gradation); PTsim *-w = Win *w*- or -*p* . Consistent correspondences help spot borrowings, which stand out by not fitting in the expected places.

- General phonological laws help determine the direction of change (e.g. *k > *ts* is expected, but not *ts > *k*), hence to differentiate archaic survivals from innovations.

- The existence of consonant-gradation and vocalic ablaut as morphological processes in some languages means that several alternate forms of the same original root may exist within one

language, or in two different languages, causing yet more alternations as the various forms may have evolved separately in different languages.

(b) SEMANTIC COMPATIBILITY.

In the absence of reliable reconstructions of roots comparable to the PTsim ones, morphological derivatives of the same root (or at least stem) are listed where possible: this helps to define the semantic range of the root and the probable semantic evolution, as well as providing morphophonological information (such as the occurrence of ablaut). Where lexical information is limited (e.g. in a glossary), textual context is entered as well, to help define meaning. In some cases, specific initial consonants are consistently linked with specific meanings, and occasionally wrong or misleading definitions can be spotted because they do not fit the pattern. Cultural information also helps in determining the source of apparently improbable semantic relationships (see example 2. in Appendix A).

(c) MORPHOLOGICAL SOURCES OF COMPATIBILITY BETWEEN LEXICAL ITEMS

The discovery that the archaic Tsimshianic singular/plural alternations in *l-/K-* (see above, 4.1., 3)) have relic counterparts in other Penutian languages opens up yet another avenue for comparison of lexical items: in some cases it may be possible to hypothesize a MORPHOLOGICAL relationship between the ancestors of forms which do not now share a PHONOLOGICAL relationship according to rules of phonological evolution, as in the "aberrant phonological correspondence" Wintun *l*, Miwok *h* identified in some forms (Broadbent & Pitkin 1964). Such a correspondence may be one of archaic morphological remnants, rather than simply phonological elements (Tarpent 2002; see also Appendix A, example 2., section (2)).

4.3. SELECTED VOCABULARY. Although often subject to borrowing, and therefore unreliable for initial comparison, terms for animals, people (especially kin), culture words (e.g. 'bow/arrow', 'copper', 'puberty dance') are nevertheless useful for indications on:

- ranges of meaning of the terms, showing cultural patterns:
  e.g. kin terms: 'aunt/stepmother' = 'little mother', 'grandparent' = 'grandchild', etc.;
  e.g. animals: similar names for a range of small furbearers (e.g. 'beaver', 'muskrat', 'badger') rather than just individual species;
- possible origins, e.g. descriptive terms may point to taboo; 'horse' = 'big dog' shows history and cultural use, etc.;
- areas of potential contacts with other languages (hence borrowings or loan-translations).

In this section I am also adding words from neighbouring languages considered unrelated to Penutian (e.g. Wakashan, Salishan, Chumash, Uto-Aztecan) in order to check for borrowings.

5. CONSOLIDATION AND EXPANSION OF RESEARCH. This pan-Penutian "database", although technically primitive and still very incomplete, has already amply repaid the work put into compiling it, and confirmed or opened up several directions of research as data from all the component languages are brought together.

5.1. CONFIRMATION. As I continue to add data on Penutian languages, Tsimshianic/ Penutian comparisons continue to grow, and knowledge gained about one continues to influence knowledge about the other: e.g. PTsim reconstructed **qw* is evidenced only before **e* (because existing *quC*

is explained by earlier **qweC*), not before **a*; but comparison with other languages where both *q* and *qw* correspond to PTsim **q* suggests an earlier change PPTsim ***qwa* > PTsim **qa* (Tarpent 1997; see Appendix A, example 3). Correspondences are strengthened when multiple cues converge. Errors are corrected as patterns of correspondences with specific languages become better known. There is no doubt that Tsimshianic is related to the Penutian group, although it cannot be conflated with any single one of the other component families. The recognition of commonalities throughout the Penutian group, for instance the striking *l-/K-* PLURAL/SINGULAR alternation (see above, 4.1., 3)), which is highly unlikely to result from chance, confirms its existence in some form: Penutian is alive if not actually well.

5.2. DIRECTIONS FOR FURTHER RESEARCH ON TRADITIONAL PENUTIAN.

- Resemblances already noted between Takelma (Oregon) and Yokuts (California) (Sapir), and between Wintun (California) and some Oregon languages (e.g. Golla, Whistler), are confirmed and will eventually have to be taken into account in reorganizing language families (after much more work on the details).

- The validity of Swadesh's "Takelman" first became doubtful when my attempts to import Kalapuya lexical/phonological data into the original Tsimshianic/Takelma file (as I had added Nez Percé data to the Tsimshianic/Sahaptin file) resulted in chaos, and it has been disproved by further research (Tarpent & Kendall 1998). Much more descriptive and comparative research on Kalapuya (extinct, but for which there is ample textual material) is needed in order to determine the affiliation of that family, which is probably Penutian, but not obviously closely related to a single other component family.

- Elements not found in Tsimshianic but common in other parts of the Penutian domain include alternate pronominal affixes (i.e. NOT the very widespread *-n-* '1S' and *-m-* '2S') and tense/mode affixes. A complete list of grammatical elements, together with their distribution and with a typology of reduplicative patterns, should help in reorganizing subclassification within Penutian.

- Comparison of reduplicative patterns in Penutian languages and their presumably unrelated neighbours (see above, 3.1., 2)) may also point to areal developments even at great time depths, in some cases giving clues to former locations, movements of speakers, and cultural influences.

- Recognition of which features are archaic "Penutian" elements should help measure the degree of distance between individual languages and the presumed ancestor, and also to determine whether and which existing languages are lineal descendants or have been adopted at some point by speakers of another substrate. Languages of still doubtful affiliation (Alsea, Siuslaw, Cayuse) might also be classifiable with more confidence, or ruled out of traditional Penutian.

5.3. WIDER DEFINITIONS OF PENUTIAN. Since the traditional definition of "Penutian" is not accepted by all specialists in the component languages, who would rather split the phylum into smaller groups, it would seem premature to even consider definitions encompassing yet more languages. However, since a pan-Penutian approach is yielding more insights into commonalities than one simply focusing on a small group, the database should help in either recognizing common elements between traditional Penutian and the other languages in question, or in ruling out demonstrable relationship.

• Data on Mixe-Zoque, the group geographically most distant from Tsimshianic, were not included in my original research, which dealt strictly with the potential affiliation of Tsimshianic to traditional Penutian. I have added some MZ in the current files and will continue to do so as more data become available to me.

• Mixe-Zoque does seem to have some similarities with Penutian as a whole, but (at this point) not more so than other "Macro-Penutian" (Whorf) families such as Uto-Aztecan, Maya and Totonac.[9] I have started to collect data on those families as well as on MZ. Conclusions would be premature at this point but Whorf's hypothesis seems worth investigating.[10]

• The same cannot be said of the (perhaps not serious) inclusion of Zuni (Newman 1964), which seems so doubtful as to be practically ruled out on morphological grounds (even if one could accept the rather haphazard phonological resemblances), but I am waiting for the outcome of work in progress by Lynn Nichols, whose forthcoming dissertation is a grammar of Zuni, to give more attention to this problem.

6. GENERAL CONCLUSION. "Penutian" has often been considered a doubtful or nebulous entity, a priori "beyond the reach of the comparative method". Even though Sapir was led to postulate the existence of the phylum by similarities in the typological and morphological patterns of the language families composing it, Silverstein described it as having "tremendous typological diversity, perhaps equalling that of the entire continent" (1979), a patently exaggerated description. Instead, the pooling of morphological information in a single database continues to reveal a sizable common core of morphological structure, elements and processes, while the pooling of lexical/ phonological information shows a considerable number of common roots, linked by a number of regular sound correspondences, with plausible semantic compatibility. This pooling allows borrowings or discrepant forms to be spotted much more readily than with comparison of only two or three languages. Although the work of comparison is still in the early stages, the results obtained so far continue to point consistently in the same direction, that of genetic relationship between at least the majority of the families.

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9 A grouping of these three is considered promising by Campbell (1997:324).

10 cf. also Sapir, who had this comment about his "Aztec-Tanoan" phylum: "impresses me as old Penutian strongly overlaid by Hokan" (Golla 1984:452), showing that he recognized significant similarities. Even though "Aztec-Tanoan" is no longer accepted, the "Aztec" portion (meaning Uto-Aztecan) does resemble Penutian in some respects.

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APPENDIX A

NOTE ON PTSIM PHONOLOGY: 2 vowels only, *ə(here written *e) and *a; each can appear with "H", probably a ə-glide, which originally had aspectual meaning. *E* and *A* are cover symbols for the alternations *e/eH* and *a/aH* respectively. In some cases a Pre-Proto-Tsimshianic form (PPTsim) can also be hypothesized (marked as **).

1. SAMPLE ENTRY IN THE MORPHOLOGICAL SECTION:

EXAMPLE 1:
Ptsim* *-ɬ* appears to be an INSTRUMENTAL NOMINAL suffix ('instrument of repetitive motion'?), e.g.

N *táqɬ* 'hammer' (<**táχ-ɬ*; similar Tlingit word probably borrowed)
wáqɬ 'beavertail' (<**wáχ-ɬ* ; considered as a kind of paddle ? [beaver whacks water with it], cf *wá:x*, 'paddle, to paddle' < **wáχ-x*)
ST *ʔü:mɬ*, N *ʔímɬ* 'bucket, pail' (< **ʔéHw-m-ɬ*; *-m-* possibly 'temporarily')
CT *ʔú:mɬ* 'bucket, pail' (< **ʔéw-m-ɬ*)(PTsim **ʔEw* not glossable at present)

NOTE ON PHONOLOGICAL CORRESPONDENCES for *ɬ* in general: where most Northern languages have *ɬ*, Al sometimes also has *sl* (morpheme-initial); Kal has *l, ʔl*; Win may have *l, r*, as well as *ɬ*; Tak, Yok have *l*, sometimes *ls* (final) or *sl* (initial); Mi, Cos have *l* (sometimes Mi *ll* medially, Cos *r*)

(1) NOMINAL suffixes compatible with PTsim *-*ɬ* :

- with lateral fricative *ɬ* :

Ch *-ɬ* seems INSTRUMENTAL e.g. *–skɬ* 'sinew' (-sk- cf Ptsim **sEk* 'to stretch')
Al *-ɬi:* "stative agentive" ; cf also suffixes *-slo:, -sla, -slEm, -sli* ~ *-sɬi*;
Siu *-ɬ!* (= *tl'*) probably INSTRUMENTAL e.g.
tEk!á:kɬ! 'trap' (perhaps better 'snare' ?; stem *-k!á:k!-*
cf. N *k'ák'* 'to choke' ?);
tci:ɬ 'hand' (cf PPTsim***kEh* 'pick, snatch, etc.' = 'use fingers')
Co *-(ə)ɬ* as in
kwá:xaɬ 'bow' (cf. PPTsim ***k'wEh* > words for 'bend, bow, etc.')
kwámeɬ 'large cooking-pot' (*kwám-* 'food')

yúwełł 'a pack' (cf. *yEw* 'pick, carry')

tcîcí:mîł 'spruce' (stem *-cí:m-* 'burn', ex. 2; cf. also NP, Mi below)

Sah'n NP *-a:ɬ* as in *ta:qma:ɬ* 'hat'

(cf Mol *taqe:m, taqqam?, taqqe:m* 'hat' ; root *ta(:)q-* 'head')

NS *-aɬ* as in *táqmaɬ* 'hat'

- with plain *l* :

Sah'n NP *-le* as in *kimile* 'tamarack' (if stem *kim-* 'burn', see ex. 2; cf. Co 'spruce' above)

Kal *-ʔla(:), -ʔle(:)* (long V when followed by other suffix)forms INANIMATE NOUNS (PLACES, INSTRUMENTS) as in

p'yawsa-ʔla 'winterhouse' (*p'yawsa* 'winter')

-laa-daʔ INSTRUMENT (esp. "forming newer words")(*-daʔ* possibly cf. Yok *-thaʔ* in *simithaʔ* 'coal, ashes', ex. 2 below)

Tak *-la* NOMINAL e.g. *maxla* 'dust' (*max-* cf common *MVQ ~ p'VQ* words 'dust, powder, scattering, etc.)

Mi *-l:a* NOMINAL e.g. *cikil:a* 'poker', *cikol:a* 'index finger'

(if stem *cik-*, cf. PTsim **ts'Ex* 'rapidly moving hand or instrument in and out of sthg, e.g. poking, snatching')(*-l-* also VERBAL, see below)

Mip *-le-* NOMINAL "plant and animal suffix" (Callaghan)(cf. Co, NP, Um ex's)

Cos Mu *-le* NOMINAL SUFFIX

- with *-l-s*

Cay *-(i)lis* [??] NOMINAL SUFFIX, e.g.

<*pá-kî-lîs*> 'mirror', <*pér-kî-lîs*> 'window' (same word?? or same root with V-alternation ??))

Yok Yl *-lis, -ls* NOMINAL "habitual place of? agent?" (Kroeber);

hot.one-ls 'fireplace' (*hot.one* 'build a fire')

(2) NOMINAL suffixes unattested in Tsimshianic: nouns designating AGENTS:

Al *-sla, -slo, -sli:, -slEm* as in

hí:tslEm 'person' (*hí:ts-* 'stand')

məshalsla "woman" (Frachtenberg) probably *mə-shals-sla* 'worker' ???? (*-shals-* cf. Co *-cʔalc-* 'to work' ??)

Si *-i:ɬ ~ -ai:ɬ* forms "NOMINA ACTORIS" with HABITUAL meaning ("nouns of agency") (Frachtenberg)

xí'ntmi:ɬ 'a traveler' (*xîntm-* 'to travel')

pákwi:ɬ 'a shinny player' (*pEkú:-* 'to play shinny')

Co *-i:yaɬ, -a:yaɬ* NOMINAL "performer of an action" (Frachtenberg)
ɬní:yaɬ mä 'a hunter' (lit. 'hunter man') (*ɬîn-, ɬn-* 'to hunt')
alîcaní:yaɬ 'a player' (*alîc-* [ʔáliš] 'to play')

cf. also names of some ANIMALS:

Ch *-ɬ* NOMINAL in a few names of *animals*, as in *–ge:piçɬ* 'sealion' (root *-piç* probably 'emerge')

Sah'n Um *-łá* NOMINAL in a few names of *animals*, as in
wašanałá 'swan', *wapa:nłá* 'grizzly bear', *wapînyawałá* 'small hawk'
(note affixal frame *wa-...-łá*; cf. Al *mə-...-sla* ??)

(3) VERBAL suffixes [not in Tsimshianic] with compatible meanings

Chin *-ɬ ~ -niɬ* "semi-temporal" verb suffix: *continued repetition* (Boas)

Win *-:r-* ITERATIVE PLURAL
-V:r "to do sthg repeatedly or continuously" (Schlichter)

Chin *-l-* "semi-temporal" verb suffix: *repetition, characteristic of an action, frequentative*

Mi Mip *-le-* "VERBAL STEM FORMATIVE" (CCallaghan)

Yok *-il* "MANIPULATIVE" verb-forming suffix added to nouns: "... notion of *handling or gathering* the entity ..." (Kroeber)

Cos Mu *-ls* in some verb forms; e.g.
tume:mels ~ tumen 'to make food' (Mason)[stem *tume-*; forms glossed identically by JAM are probably slightly different in meaning: note sequence *-mels*, could be *-me-ls*, corresponding to Tsim *-m-ɬ*, see above; alternately, could be final reduplication but redup. is not very common in Cos]

2. SAMPLE ENTRIES IN THE PHONOLOGICAL/LEXICAL SECTION

EXAMPLE 2: PTsim **kEm* < PPTsim ***kEh-***Em*

(A) **kEm*, **kéHm-ʔs* > N *kím'is-T*, ST *kí:m'is*, CT *kí:ms* 'shredded cedar bark' (used both as fire starter and as absorbent material for cleaning purposes) (*-ʔs* DEFINITE ANTIPASSIVE, *-T* MEDIAL)

(B) **kEm-k* : cf A) for explanation of meanings
a) **kém-k* > ST, CT *kámk* [gyámk] 'sun'; N *kámk* 'to be warm, hot'; N pl. *lim)lámk* < stem *lámk* < **lEh-*ém-k* (plural pfix **lEh* replacing initial Velar element **kEh*)(Tarpent 2002b)

b) **kéƚHm-k* > ST, CT *kí:mk*, N *kímk* 'to wipe s.' ; N *hakímk'a?* 'dish or dust cloth, blackboard eraser, etc' (*ha-kímk-a?* : ha- 'instrument for', *-a?* DETRANSITIVE/ FREQUENTATIVE); ST, CT pl. *lí:mk*, N pl. *lim)límk* < stem *límk*, all < **lEh-éHm-k.*

(1) FORMS COMPATIBLE WITH **kEm*

(a) full root

- stop initial

Al *k.imn-* 'to light a fire'

k.imní: 'he made a fire'

Kal S, MR *geemi* 'to burn up'

geemisdi(?) 'knife'

MR *geemsde* 'knife' (cf words for 'knife' often associated with 'burn' because of the black [= sooty] colour of iron utensils)

NP *kimíle* "tamarak" (cf. Co below, also ex. 1)

- initial augment *t-* [frequent in some languages] before root-initial stop

Tak *tgem/tgam* 'to get dark'

- affricate initial (could be from **k-*, or from **t-k-* as in Tak)

Co *-ci:m-* [ši:m] in *tcîci:mɬ̂* 'spruce'; cf. NP above (*tcî-* reduplication shows that the stem must have been *-tci:m-* originally; Co simplifies C1 after reduplication makes it C2)

Yok Yaud *-tcüm-g-* [čüm] in *tcümgutan* 'black'

Chaw **čim'e:k* 'to get dark, become night' (underlying form, not proto-form)

- plain sibilant initial

Mai *sîm/sîw* 'black'

Yok Yp (Poso Creek)

simitha? 'coal, ashes' (*-tha?* NOMINAL, cf. ex. 1)

(b) reduced root

- affricate initial (could be from **k-*, or from **t-k-* as in Tak)

Sah Um *č'múy* 'warm'

č'múk 'black'

Km *č'mog* 'to be dark'

- after prefix or initial augment: *-cm-* [= šm], *-sm-* in

Cos Mont, SCru, SCl, SFr *icmen* 'sun'
Mu, SJb *isme-n* 'sun'
Sjo *hicmen* 'sun'

(2) more distant correspondences

(a) *y-* initial

Mai *jamaj* 'shade, shadow'
Mi Mib *jémi* 'ashes'

(b) *l-* initial = could be PLURAL, replacing **k-* ?? (cf. Tsim plurals above, 4.1., 3))

Yok Yl *lim'-wiyi* 'cloud up' (*-wiyi* 'to do')
limik' 'black'
Chuk *limik'* 'black, dark'
leme:k'a 'to become black'

NOTE on SEMANTICS:

- primary meaning probably 'burn', hence:
  - 'be hot' > 'sun' (ST, CT), 'warm'
  - 'burn up' > a) 'black' (like charcoal) > 'dark, night', 'iron, knife'
    > b) 'ashes, gray' > 'shadow, cloudy sky'
    > c) '(tree with) wood that burns well'
- Tsimshianic meaning 'wipe' clearly secondary, unattested in any other languages.

NOTE on MORPHOLOGY: when there is a stem consonant added after a CVC root compatible with PTsim **kEm*, it is most often a Palatal, as in PTsim **kEm-k*. The Yokuts examples show a palatal after both the *K-* and *l-* initial forms of the root, again as in PTsim.

EXAMPLE 3: (***qwEh-**E/At* > **qwAt* >) **qAt*; *qwa* > *qa* suggested by correspondences with other languages)

PTsim **qAt-s*, **qát-s*, all *qáts-* (referring to liquid state)

(A) intransitive e.g. *lu:=qáts* '(liquid) to be in sthg.' (e.g. coffee in a pot) (*lu:=* 'in' [proclitic]); redup. *lu:=qa)qáts* '(liquid) to be in sthg. permanently' (e.g. water in a lake)'; *n'i:=qáts* '(liquid) to be on sthg', e.g. water spilled on a table, etc. (*n'i:=* 'on')

(B) with *-T* > transitive: *qáts-T* 'to pour, spill sthg.'

(C) with other suffixes:

N *qátsiks* 'to pour water on (sthg.), to water (sthg. e.g. plants)'
(*-iks* here <**?éks* 'water')

N *qátsiksa?* '(rain) to pour' (*-a?* DETRANSITIVE/FREQUENTATIVE)

N *qátsikskw* '(merchandise) to be on sale at bargain prices' (lit. 'to be poured'; *-[t]kw* PASSIVE)

(1) forms compatible with PTsim **qAt*

(a) with uvular initial

- root-final dental

Km *qdo:c* 'rain' (reduced root *qd-*)

Win *-q'at-* in *ʔel-q'atal* '(person) to get wet'

- root-final affricate: (but could be from *qat-č-*, cf. other ex's of *-t-č* > *č*)

Win *qač-* in

se-q'ači:čuna: 'to rinse out one's mouth'

se-q'ači:la 'to rinse or wash out (as dishes)'

ser-qačaya 'to splash in all directions'

(b) with palatal initial (no q in Mai), root-final dental

Mai *k'adik(i)* 'rain' (cf. Km *qdo:c* 'rain')

(2) forms compatible with Labio-uvular initial (**qwAt*), final dental

(a) L-Uv initial or Uv + rounded V

Ch Kath *-qoa(:)t* 'to wash, bathe'

Al *qut-* 'to pour'

Yok Yd, Ys *xoth-* 'to rain'

(b) labio-velar initial (no *qw* in Kal)

Kal *kwit* 'to drink'

3) forms compatible with PPTsim initial element ***qwEh* or perhaps ***qEwEh*

(a) L-Uv or Uv + rounded V initial

Siu *qú:hn-* ~ *qwáhn-* 'to pour' (*-n-* verb suffix)

qwáhnu:ɬ '(they) pour it into his (mouth)'

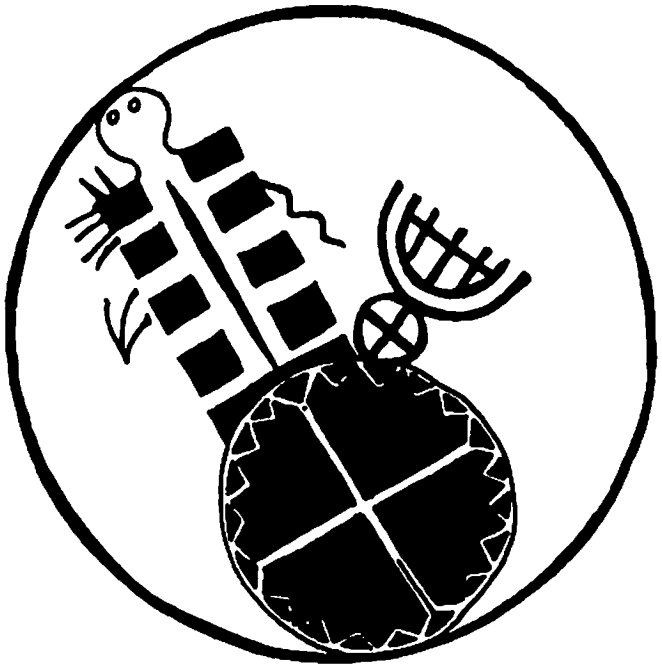
(b) delabialization, palatal initial (< C-gradation ??)

Co *ɬ!k.îts* 'she poured it' (*ɬ!-* augment ??; root *k.i(:)-*; *-ts* verb suffix)

ɬ!k.i: 'it spilled'

REPORT 12

SURVEY OF CALIFORNIA AND OTHER INDIAN LANGUAGES



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