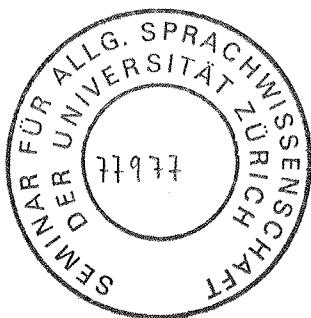


PROTO-TAKANAN PHONOLOGY

BY

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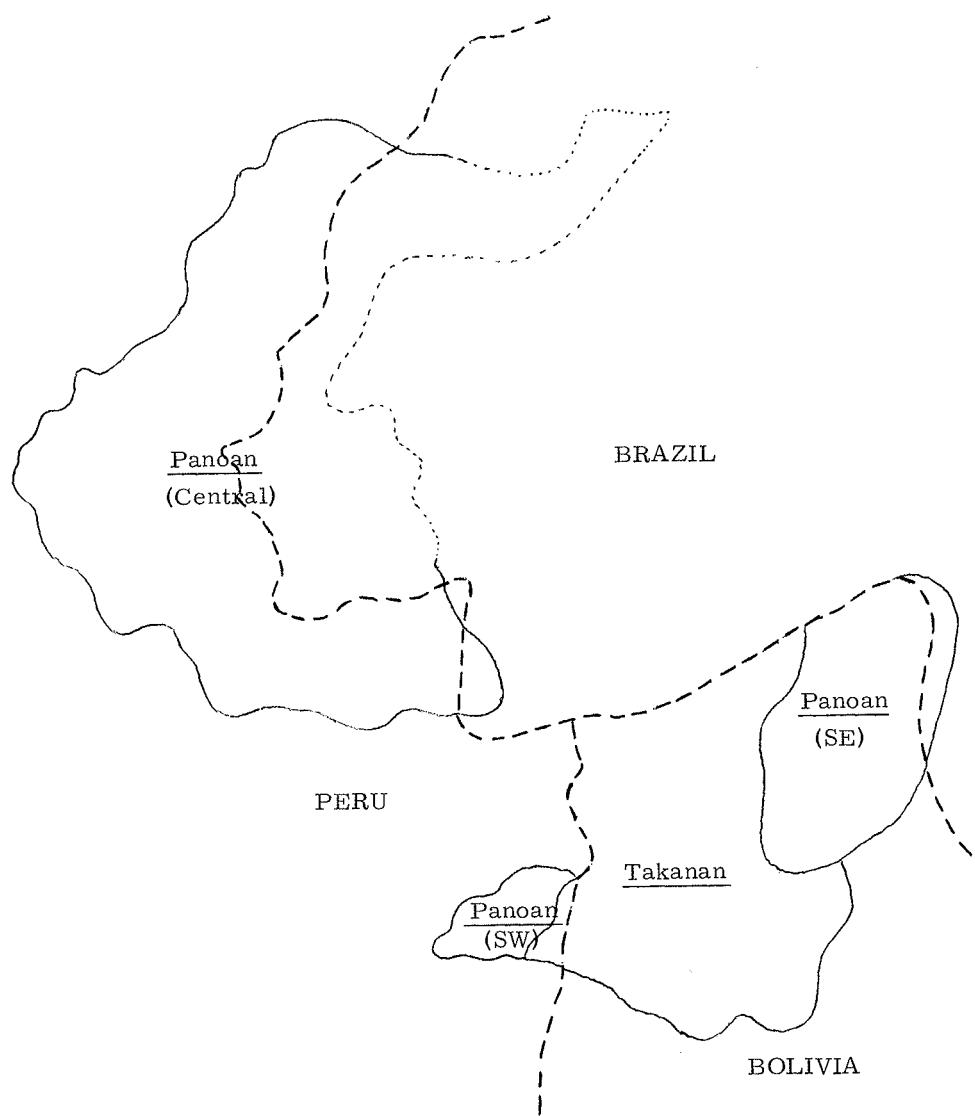
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Schematic Map of the Panoan and Takanan Languages

INTRODUCTION

0.1. Geographical Distribution.

The Panoan languages of South America are spoken throughout a wide territory in the tropical forests of Peru, Bolivia, and Brazil. They are distributed in three geographically discontinuous groups, separated from each other mainly by Arawakan intrusions (Piro, Campa, and Machiguenga) and by the Takanan languages. Classification of the Panoan languages has hitherto been based on these specific geographical groupings. The "Central" group, which is the largest in area and contains the greatest number of speakers and linguistic subdivisions, is found throughout the forests of eastern Peru with unknown extension into western Brazil; the "Southwestern" group is found in southeastern Peru in the area of the Peruvian-Bolivian border and occupies a relatively small area and contains only a few dialects or languages; and the "Southeastern" group is found in the northernmost section of Bolivia at the Brazilian border.

The Takanan languages occupy the territory between the Southwestern and Southeastern Panoan languages: northern Bolivia and the southeastern portion of Peru.

0.2. Classification Problems in South American Linguistics.

0.2.1. Names.

While many linguists have shown a penchant for classification of South American languages, attempts to base classification on concrete evidence have been met with considerable resistance.

Among the many problems which face researchers interested in these languages is the utter confusion which reigns concerning names. Names for which we have no linguistic evidence (called in this work "*nomina nuda*") cannot be accepted as linguistic entities. Names of clans or bands or tribes or of geographical locations in which some people live may well not have any linguistic significance whatever. Two bands may each have their own band name but speak the same language and even the same dialect. On the other hand, a large band or tribe of people, geographically widespread, may have but one name for themselves and yet speak perceptibly different dialects. However, that there may be no linguistic material

for many of these "names" has not daunted classifiers who, from Brinton to Mason, insist on inflating their linguistic "families" by adding any and all names mentioned in the literature.

Under certain circumstances, the inclusion of some "names" as being in "X" family may be justified: direct substantiation that one language for which we have no evidence is quite similar to another language for which we have (at least) some evidence is not altogether improper. I personally have not chosen to include any of these languages in my classification. Classifying *nomina nuda* simply on the basis of geographical distribution or alleged morphological or lexical similarities in their names should not be tolerated. Brinton, for example, justifies including in his Takanan family such *nomina nuda* as Chumanos, Poromonas, Uchupiamonas, and Yubamonas "because the termination *monas* . . . is the Spanish plural form of the Tacana *manu*, river, the tribes being named from the streams along which they lived." There is no evidence, even now when we have considerably more Takanan material than Brinton had in the 1890s, that "*manu*" means anything but "to die." Armentia's short Araona vocabulary includes "*manu : río*," but even if this was truly a free morpheme and one not segmented from place names by Armentia, there is no evidence in Proto-Takanan that "*manu*" meant river. There are many rivers in the general Takanan area (several of them far to the north or west of the traditional territory) in which the segment (-)*manu*(-) figures: *río Manu* (a western tributary of the *Madre de Dios*), another *río Manu* (also known as the *Mapirí*, a tributary of the more easterly *Abuna*), *rio Manupari* (a tributary of the *Manurimi*), *río Manuripi* (a tributary of the *río Tahuamanu*), *río Xipimanu*, a town on the *Madeira* called *Manoa*, etc. That "*manu*" must have something to do with "river" in some language (present or past) is certain; what specific language it is remains a problem. (One might speculate on the Aymara *mayo*.) Therefore, whether "*monas*" is indeed a Spanish plural for any or all of the many *manu*'s mentioned above and whether various alleged Takanan bands utilized this non-Takanan segment to denote, at least in part, specific streams on which they may or may not have lived, is far too speculative to be admitted in serious works. Brinton's speculation is fairly typical, however, of the kind of criteria South American linguistic classifiers have used and continue to perpetuate when they simply copy each other's lists.

0.2.2. A taxonomic approach.

In order that the confusion be lessened, all languages (or groups of languages) used in this paper will be followed in parentheses by the name of the researcher or publisher of these languages. Thus, Tiatinawa (Farabee) is to be interpreted as a language called "Tiatinawa" by Farabee or Tiatinawa in sensu Farabee; Tiatinawa (Créqui-Montfort and Rivet) is to be interpreted as Tiatinawa in sensu Créqui-Montfort and Rivet. This device eliminates the inevitable question: "Whose Tiatinawa are you talking about?" Tiatinawa (F) and Tiatinawa (CM/R) are two different dialects, each of which have been called by other names by other researchers.

0.3. Scope and Content of Part I.

The material used in the reconstruction which follows has been weighted according to the reliability and the volume of the data. Three languages, Takana (Van Wijnen), Kavineño (Key), and Ese'exa (Wyma) were originally used for a preliminary reconstruction, with material from other languages used as complementary information. Since then, however, all the literature available has been studied. Very little change in the preliminary reconstruction was warranted by the short word lists from Reyesano (Van Wijnen), Warayo (Aza), etc. Therefore, the present study differs from the preliminary work mainly in volume and thoroughness: the preliminary contained approximately 200 cognate sets from the three diagnostic languages with material chosen from the other (and older) word lists to check out and confirm reflexes which had rare occurrence. The present reconstruction contains 504 roots, that is, every morpheme, free or bound, that can be identified as cognate from the three diagnostic languages. Every cognate Reyesano form has been included, but the extant vocabulary contains less than 200 words. As much material from Sapibokona (Hervás), Maropa (both Heath and Nordenskiöld), Mabenaro (Farabee), Araona (both Armentia and Robuchon), and Warisa (Teza) has been included, as could reasonably be assigned cognateship, to establish basic sound correspondences for these languages and to support the general reconstruction as well as to aid in the classification of these languages. No attempt to exhaust this literature has been made. Forms from Čama (Firestone) and Warayo (Aza) have been included as complementary. Here again, no attempt at completeness has been made since Čama (Firestone) is very close to or perhaps identical with Ese'exa (Wyma), and Warayo (Aza) is a dialect differing from Ese'exa (Wyma) in only a few minor respects.

Different reconstructions offer different problems to the comparativist. Reconstructions of languages which manifest radical sound change through time pose the problem of establishing sound laws which are valid for (at least a fair proportion of) the alleged cognate material. The difficulty of this problem is in direct proportion to the regularity of the "mapping" of the protophonology onto that of the descendant language. Some languages, however, show relatively simple sound laws in operation through time but relatively radical morphological change. In these instances the major problem of the comparativist is to identify the correct segmentation of words and to map protomorpheme onto that of the descendant languages. As will be seen in the dictionary part of this paper, sound change has been conservative in Takanan, but morphological change (particularly in regard to suffixes or general "root extensions" since it is not always clear what function these extensions have or had) has been relatively radical. Suffixes which may be productive and meaningful in one language and therefore readily segmentable, may in another language be nonproductive and segmentation, as far as semantics is concerned, difficult or impossible to effect with certainty. In a third language, these suffixes may well not exist at all, may be replaced by other suffixes, or may be used in morphological constructions quite different from those of the other daughter languages.

The extensive listing of forms has been dictated therefore not only by a sense of "completeness" but also by a search for proper segmentation. In its extensive listing of forms, this monograph also goes beyond the mere establishing of sound correspondences. It is hoped that the more exhaustive listing of Takanan forms will aid others in their attempts to further South American comparative studies. Thus, the present work is contemplated as a minor reference work as well as a reconstruction of a small family of Bolivian and Peruvian languages.

0.4. Criteria.

Because of the methodological weaknesses of earlier comparative work on the Takanan languages, the present work, in an attempt to employ at least some of the rigor of the traditional comparative method, uses the following criteria:

Regularity of sound correspondence for
the entire phonemic inventory of all
languages under investigation.

Reflexes are regular when they occur in general environments (frequently called "elsewhere") as well as in more restricted environments (*X > Y / . . .).

Reflexes are irregular when no satisfactory proof of an environmental restriction can be given. The present paper contains only cognate sets which are to be considered generally and restrictedly regular. Some irregular forms have occasionally been included; they will be noted as "(cognate?)" or as "(?)." There are also alternating protoforms to be found in the dictionary of cognate sets. These forms have been postulated because it is at present difficult or impossible to determine whether the protolanguage exhibited allomorphy or whether discrepancies are due to restricted conditioning in one or more of the daughter languages.

Elimination of all loans.

The elimination of loan words from the corpus cannot be absolutely guaranteed. All Quechua-Aymara loans which have been recognized as such have been eliminated. However, where Quechua-Aymara phonemes are identical with those of Takanan and where these Takanan phonemes have undergone no change from the protolanguage, there is little hope of identifying borrowings short of comparing every Takanan form with its "potential" Quechua-Aymara equivalent. It should be noted that Ese'exa has borrowed some Arawakan terms. Where these terms have been recognized as indisputably Arawakan in origin, they also have been eliminated. Since the Takanan languages are surrounded by several unrelated linguistic families and since we do not know under what cultural influences the Takanans have been in the past, we can only postulate that the fairly high percentage of noncognate forms existing in all the Takanan languages may ultimately be attributable to borrowing. This hypothesis, however, cannot be proved until similar large-scale reconstructions have been completed for Arawakan, Tupian, Tukanoan, Kariban, etc.

Maintenance of maximal semantic similarity in postulated cognate sets.

There are a number of sets in Takanan which appear to be cognate on the basis of the phonological regularity of the forms, but wide semantic shifts inhibit or prohibit one from assigning them cognateship. "Maximal semantic similarity" is a very subjective criterion. I have insisted that maximal similarity entail or comprise semantic entities lying within one semantic "domain." This criterion as well is not always simple to establish nor to follow: until the researcher has assembled a vast amount of material and is sure about the segmentation of that material, he cannot always be sure what nor how extensive the domain is. For example: *wi- is the protoform for, inter alia, "nose," but its range is not restricted to

what one might call "nose-ness"; it is rather generalized to that of shape and, specifically, to something beaked or pointed. Thus, the domain is (or appears to be) spread out over all that is beak-shaped including the human nose, animal snouts, bird beaks, and pointed objects in general. *ka₄- is a rather good case in hand of uncertain domain and therefore uncertain extension. There is a very high number of Takanan words beginning *ka- which pertain to plants and specifically to the fruits of those plants. It is impossible at present to determine whether *ka₄- pertains to the domain of shape or to the domain of "fruit," "eating," etc. I suspect, and I offer it here as a possibility, that the domain is "shape: tuber or leguminous." *ca₁- is another example which appears in large part to refer to florescence. Because all the alleged cognates (floral and nonfloral) refer to thin objects, I offer as a definition "shape: thin or stringy." Only more research and second-order reconstructions can prove or disprove these assumptions. The reader is therefore forewarned.

Languages which share identical or very
similar reflexes are more closely related
to each other than to those languages which
show different or dissimilar reflexes.

The problem of subgrouping within any language family is always difficult. There is no set of methodological rules by which one can establish intra-relatedness. The rules one must set up are always empirical and will differ from family to family and reconstruction to reconstruction. There is an ever present danger in selecting criteria: if the criteria chosen are not typical, subclassification based on these criteria can be skewed. It is always safer therefore to use all criteria, for one cannot thereby unwittingly weight one's evidence. (The chances are already very good that the vagaries of time and history may have unrandomly selected languages, extinguishing many which would have given a better balanced picture of the protolinguistic complex. But this is a major problem in comparative and historical linguistics. One can only hope that second- and perhaps third-order reconstructions will right any skewed results obtained from groups or families of languages, the extant representatives of which may be atypical.)

While it is possible to use "all criteria" when such criteria constitute a finite set (the phonemic inventory, for example), it is impossible to use criteria when they constitute an infinite (or nearly infinite) set (general morphological phenomena and their changes through time, percentages of loss or retention of vocabulary, etc.). I have chosen phonemic differences as the basis for subclassification. There is also a danger in this: two

languages may have innovated the same change. For example, only Kavineño retains *k; all other Takanan languages have made the change *k > H (here, either h or x). Must we assume therefore that early Takanan broke into two major dialects, Kavineño and Non-Kavineño? If we make this assumption, then, we must state that Ese'exa and Takana (both H-languages) are closer to each other than either or both are to Kavineño. Other sound changes, however, militate against this classification, for, in some respects Ese'exa, despite the change from *k > x, appears phonologically closer to Kavineño than to Takana. The historical truth is probably much more complicated than either postulate.

Retention or loss of certain common
morphemes among all languages under
investigation support subclassification.

The classification which I have arrived at is to some extent a conglomeration: phonemic similarity or dissimilarity and vocabulary retention or loss. A much better classification could be established if we had grammatical material from each of these languages and, until we do, the classification that is offered in this monograph is to be considered as preliminary or tentative. A discussion of adjectival suffixes and a list of protoforms found only in one or more of the Takanan subgroups will have to suffice at present.

0.5. Proto-Pano-Takanan, Part II.

Part II of this monograph contains a tentative second-order reconstruction of the Panoan and Takanan languages. As stated above, morphological change in Takanan has been relatively radical. Comparison of the two families shows even more radical morphological change while sound change—although admittedly knotty and in a few instances insoluble—has been relatively conservative.

The reconstruction is intended rather as a schema in which to work when more (particularly Panoan) material is available. Therefore, many of the Proto-Pano-Takanan "phonemes" are to be understood as symbols representing sets of correspondences; they have little or no phonological reality.

PART I

I. PRIOR RESEARCH

1.1. Proposed Interrelationships.

Daniel Brinton (1891, 1892) was the first to unite the scanty lexical material which had been obtained from various peoples of Bolivia and Peru into the "Tacana group," "Tacana linguistic stock," or "Takanan dialects." His original list contained fourteen names: Araonas, Atenes, Cavinas, Equaris, Isuiamas, Lecos, Maracanis, Maropas, Pukapakaris, Sapiboconas, Tacanas, Toromonas, Tumupasa, and Tuyumiris. In his 1892 work, he struck out Atenes and Lecos and added the Guarizas, Carangues, Chumanos, Poromonas, Samachuanes, Uchupiamonas, and Yubamonas, the last six of which were "located on old maps within Tacana territory and have Tacana names" (p. 46). In this latter work as well, he specifically compared Takana (Weddell, Heath, and Armentia), Maropa (Heath), Araona (Armentia), Kavineño (Armentia), and Sapibokona (Hervás). With the exception of the foregoing languages and of Isuiamas (read probably Ixiamas) and Tumupasa which are dialects of Takana or, more accurately, are towns in which two dialects of Takana are spoken, and of Guarisa (Teza), all other names in his list are *nomina nuda*, that is, names of clans/bands/tribes and/or languages/dialects for which he had no linguistic material and for which, as far as I am aware, we still have no linguistic material.

Chamberlain's classification (1913) was largely in agreement with that of Brinton. Both Brinton and Chamberlain accorded Takanan independent status.

Créqui-Montfort and Rivet (1921-23), however, in a lengthy and rather haphazard study in which Takanan material was compared with that from Quechua-Aymara, Panoan, and Arawakan, concluded "que le Takana [read Takanan] est une langue d'origine arawak, dont la grammaire a été modifiée secondairement par des langues pano" (p. 147).

In their survey of Brinton's revised list of Takanan languages, they discarded the "Tuyumiri," assuming it to be a typographical error for Tuyuneiri; the "Pukapakuri," stating they were an Arawakan group; the "Chumano," a Mosetenan group; the "Poromona," assuming it also to be a typographical error for Toromona; and the Samachuane which were, in their opinion, outside the Takanan area. To my knowledge there is scanty linguistic material only for the Tuyuneiri.

They subdivided the Takanan family into:

1. The Araona and Kavina who "vivent si étroitement mélangés qu'il est impossible de ne pas les étudier ensemble." They reproduce Armentia's list of 43 "principales tribus," none of which for some inexplicable reason do they include in their definitive list of Takanan tribes.
2. The Arasa who "selon toute vraisemblance" are identical to the Arazaire, although they admit that "le vocabulaire arasa recueilli par Norderskiöld ... est nettement un dialecte takana, tandis que le vocabulaire arazaire, recueilli par Llosa, est sans aucun doute pano."
3. The Guakanahua who lived in or near Isiamas and the Cavinás for whom "nous n'avons aucun document relatif à leur langue" but whose "affinité avec le takana sont affirmées par Cardús et par Nordenskiöld, qui a récemment visité une de leurs tribus du Madidi, les Čama." Créqui-Montfort and Rivet then identify the Guakanahua with the Guarayo of the Madidi.
4. The Guarayo of the Tambopata, or Tiatinagua, or Baguja, or Bagua-jairi, or Mohino, or Čunčo, or Echoja. They are identical with the Tiatinagua (according to Hassel) and to the Guarayo, or Huanayo, or Quinaqui.
5. The Kavineño who "sont évidemment des Kavina [of 1 above] transplantés et christianisés, de même que les Kavina actuellement installés sur la rive droite du Béni dans la nouvelle mission de Cavinás."
6. The Maropa who were brought to the mission at Reyes. The Čiriba or Čirigua, also united with the Maropa at Reyes, are to be "classés à côté des Maropa."
7. The Takana, which according to Orbigny, is the name of a tribe that includes the Kavina, the Tumupasa, the Isiama and the Toromona.
8. The Toromona.
9. The Guariza and Sapibocona whom "nous ne pouvons localiser avec certitude."

They stated (p. 96) "en définitive, on peut, à l'heure actuelle, classer dans le groupe takana les tribus suivantes":

les Araona ou Arahuna, les Arasa, les Babayana (cf. Takana), les Baguaja ou Baguajairi (cf. Tiatinagua), les Čama (cf. Guakanahua), les Čiliubo ou Čiliubo (cf. Takana), les Čiragua ou Čiraba (cf. Takana), les Čunčo (cf. Tiatinagua), les Echoja (cf. Tiatinagua), les Guakanahua, les Guarayo du Madidi (cf. Guakanahua), les Guarayo du Tambopata (cf. Tiatinagua), les Guariza, les Huanayo (cf. Tiatinagua), les Isiama (cf. Takana), les Kapaheni (Kapačene ?) (cf. Araona), les Kavina ou Kaviña (cf. Araona), les Kavineño, les Mačui ou Mačuvi (cf. Araona), les Markana ou Marakani (cf. Takana), les Maropa, les Mohino (cf. Tiatinagua), les Pamaino (cf. Takana), les Pasaramona (cf. Takana), les Quinaqui (cf. Tiatinagua), les Saparuna (cf. Takana), les Sapibokona, les Siliama (cf. Takana), les Takana, les Tiatinagua, les Toromona, les Turamona (cf. Takana), les Tumupasa (cf. Takana), les Učupiamona (cf. Takana), les Yabapura (cf. Takana), les Ydiamá (cf. Takana), et les Yubamona (cf. Takana)."

Note should be made that Créqui-Montfort and Rivet stated (p. 95): "le dialect d'Isiamas est désigné sous le nom d'Ydiamá, celui de Tumupasa sous celui de Marakáni." All four names however are included in their list.

Rivet and Loukotka (1952, p. 1106 ff.) reiterated the Arawakan origin of Takanan, stating "si ces langues ont une grammaire qui présente de grandes analogies morphologiques avec celles de la famille Pano, leur vocabulaire est en grande partie d'origine arawak." Their subclassification, greatly simplified from that published in 1921-23, included:

(1) the Araona and the Kavina; (2) the Mabenaro; (3) the Tiatinagua (Baguaja, Baguajairi, Mohino, Čunčo, Echoja, Guarayo, Huanayo, Quiniqui of the Tambopata and Heath; (4) the Toromona; (5) the Guakanahua (Guarayo) of the Madidi, among which are the Čama; (6) the Kavineño; (7) the Takana consisting of two dialects Isiamas (Ydiamá) and Tumupasa (Marakáni); (8) the Maropa which include the Čiriba, and (9) the Sapibokona and the Guariza.

These Takanan languages Rivet and Loukotka placed in the twenty-third group of Arawakan dialects: "Langues différenciées du groupe Takana, influencées par le Pano."

Pericot y García (1936) and Loukotka (1935) maintained the Arawakan origin of the Takanan family. Schmidt (1926), Krickeberg (1922), and Grubb (1927), however, preferred to treat Takanan as independent and unclassified.

Schuller (1933) concluded on the basis of very meager evidence, mainly grammatical and morphological, that Takanan was related to Panoan.

Mason (1950) also chose independent status for the family. With regard to the alleged Arawakan relationships, he stated "no rules of sound change are suggested and none are apparent. The genetic relationship of Tacanan to Arawakan requires much more careful study before it can be accepted." Paradoxically, however, he included Takanan under the section "Languages of probable Arawakan affinities."

Mason makes a number of misdirected statements: "Caviña and Cavineño are not synonymous, according to Rivet, and the latter not a subdivision of Araona" (p. 219). One can only assume that Mason was referring to Rivet's "list" in which he, in equally paradoxical fashion, kept Caviña and Cavineño separate, and not to Rivet's text in which he states that the Cavineño are merely christianized Cavinas: "Rivet does not group Guacanagua, Sapibocona or Maropa with any other languages" (p. 219). Rivet specifically allied the Guacanahua with the Guarayo of the Madidi and the Maropa with the Čiriba. It is true however that Rivet did not, despite the fact that he had for once specific linguistic material, attempt to classify the Sapibokona. Mason continued: "No one has attempted to subdivide the Tacana group or to classify the component languages on a scientific linguistic basis. The following table incorporates the opinions of all authorities consulted, and greatly contravenes none" (p. 220):

- A. Araona, Arauna, Arahuna
 - 1. Capachene (Kapaheni)
 - 2. Caviña (Kavina)
 - 3. Cavineño
 - 4. Mabenaro
 - 5. Machui (Machuvi)
- B. Arasa
- C. Chirigua (Chiriba, Tširigua, Tširiba)
 - 1. Chumana
 - 2. Maropa
 - 3. Sapibocona (Sapiboka)
- D. Guariza (Guaziza)
- E. Tacana (Takana, Tucana)
 - 1. Ayaychuna
 - 2. Babayana
 - 3. Chiliuvo
 - 4. Chivamona
 - 5. Idiama, Isiama
 - 6. Pamaino
 - 7. Pasaramona
 - 8. Saparuna
 - 9. Siliama
 - 10. Tumupasa or Maracani
 - 11. Turamona (Toromona)
 - 12. Uchupiamona
 - 13. Yabaypura
 - 14. Yubamona

F. Tiatinagua (*Tambopata-Guarayo*)

1. Guacanahua (*Guana canahua*, *Guarayo non Tupi*)
2. Chama
3. Baguaja (*Baguajairi*)
4. Chunchu
5. Echoja
6. Huanayo
7. Kinaki
8. Mohino

G. Yamaluba

McQuown (1955) chose to include Takanan as an independent family.

Greenberg (1956) allied the Takanan and Panoan families into a Pano-Tacana stock and chose the name Macro-Panoan (IIIB) to include (a) Pano-Tacana; (b) Mosetene family; (c) Matacoan family; (d) Lule; (e) Vilela; (f) Mascoi; (g) Garrúa; and (h) Opayé-Guaicurú.

Swadesh (1959) also allied Takanan and Panoan into a stock and included it in his W7 major division which included (1) Quechua-Aymara; (2) Uru-Chipayo; (3) Pano-Tacana; (4) Mosetenan; and (5) Ona-Tehuelche. Still more remote relationships were suggested by Swadesh (1954) between Panoan, Chibchan, and Uto-Aztecan.

Tovar (1961) included Takanan with other "independent" languages of Bolivia.

The Voegelins (1965) following Greenberg (1956) included the Tacana branch of the Tacana-Pano family in a Macro-Panoan phylum which included Tacana-Pano, the Moseten family, the Mataco family, Lule-Vilela-Charrua family. The Macro-Panoan phylum was in turn part of the Ge-Pano-Carib macro-phylum XI. The list of Takanan names included in the Voegelins' work is from Mason. Perhaps by oversight, Guariza is omitted.

Shell (1955) in her reconstruction of Proto-Panoan or "Reconstructed Panoan," although recognizing the possible relationship of Takanan with Panoan, included no Takanan material in her sets.

Kaufman (1966) included Panoan and Takanan as a stock in his SA III Macro-Panoan superstock which included (26) Mapuche; (27) Alacaluf; (28) Yámana; (29) Mosetén-Ona stock; (30) Pano-Tacana stock; (31) Guachi; (32) Lule-Vilela-Charrúa stock; (33) Yurumanguí; (34) Opayé-Guaicurú; (35) Mascoi; and (36) Matacoan family. Kaufman's classification is by and large a redaction of the opinions of Greenberg and Swadesh. He states "this classification is an attempt at a synthesis of the two most recent classifications (and) it does not necessarily represent what my own views would be were I to undertake a task similar to Greenberg's or Swadesh's" (p. 4).

Key (1968, but based on her 1963 Ph.D. dissertation), in the first and only attempt to date of a serious comparative study where sound laws are established, concluded that Takanan and Panoan are related. She included

considerable Panoan lexical material in her Takanan cognate sets and reconstructed provisional sound correspondences.

1.2. Intrarelationships.

While many researchers have included in their lists various and sundry names as allegedly comprising the Takanan family, the only attempts to subclassify the Takanan languages are those by Rivet and Mason. Their lists have been included in toto in 1.1 because they have exerted considerable influence on later researchers. Both Rivet's and Mason's lists contain approximately the same number of names. Mason's lists, for example, contain thirty-seven names which he has divided into seven different groups. His subdivision mainly stems from that of Créqui-Montfort and Rivet.

Of these thirty-seven names, linguistic material exists only for the following names: Araona, Arasa, Čama, Ese?exa, Kavineño, Mabenaro, Maropa, Reyesano, Sapibokona, Takana, Tiatinawa, Warayo, and Warisa. Several of these names, as will be shown, are actually different names for the same language and some names encompass different languages under the same name.

1.2.1. Araona.

Rivet in all his work classified "Cavina" with Araona because, as he stated (1921-23) the two groups live so close together that it is impossible to separate them. One can only suspect that Rivet here as well as elsewhere was mixing cultural and linguistic criteria. One can also suspect that he interpreted Armentia (1887) too literally when the latter (as quoted by Lafone Quevedo (1906, p. 4) said of the "Nación Cavina ó Araona":

Se habla de estas dos tribus en un mismo capítulo por cuanto están mezclados que es imposible distinguirlos, y aun cuando existen ranchos de puros Cavinas, como también de Araonas puros, viven por los general mezclados y confundidos. Tienen un mismo idioma

Armentia's statement must not be misunderstood. By "un mismo idioma" he did not mean one and the same language, but rather two dialects (or languages) very similar and belonging to one and the same family. His statement is perhaps better explained by an excerpt from p. 16:

Tres son las lenguas de las tribus que habitan la parte baja del Madre de Dios, ó mejor dicho dos: Araona y Pacaguara. Como ya se ha dicho en otro lugar, el Araona no es más que el Tacana, bastante variado para que no puedan sostener un conversación seguida entre Tacanas y Araonas.

. . . Pero si bien no pueden sostener una conversación seguida se entienden en las cosas más usuales y necesarias a la vida; y un Tacana aprende en muy poco tiempo el Araona y viceversa. El Pacaguara es una lengua bastante extendida . . . con poca diferencia ó variación, por la mayor parte de las tribus del Ucayali.

It is obvious here that Armentia was making note of the difference between the Takanan and Panoan families, that is, Kavina-Araona-Takanan versus Pakawara-Panoan. However, one must admit that it is not always easy to understand whether "el Tacana" is to be interpreted as the language Takana or the family Takanan. There is, nonetheless, nothing in the material which Armentia published which would warrant stating that Kavina and Araona are indeed "un mismo idioma" in the sense of the same language. While very similar (as indeed all the Takanan languages are to one another), they do show striking differences in morphology, vocabulary, and phonology. In fact, phonological and lexical resemblances would place Araona closer to Takana than to Kavineño.

1.2.2. Arasa.

The sole source of information is Nordenskiöld (1905) and Nordenskiöld in Créqui-Montfort and Rivet (1921-23).

Nordenskiöld himself stated (1905) "die Arasa sprechen Tacana mit Atsahuacawörtern. Die Atsahuaca sprechen eine Panosprache." If we accept Nordenskiöld at face value, as apparently Rivet did (1910), we must conclude from his statement that Arasa is genetically a Takanan language with Panoan loans. As we have little or no grammatical material from Arasa, the entire problem of confirmed genetic relationship must be held in abeyance. A discussion of some of the vocabulary we have will be found in 5.2.5.

Čama. See Warayo.

Ese?exa. See Warayo.

Kavina. See Kavineño.

1.2.3. Kavineño.

Much confusion has existed between Kavina and Kavineño. Rivet, for some inexplicable reason, kept them separate in his classification. Mason lists both of them stating (p. 219) "Caviña and Cavineño are not synonymous, according to Rivet, and the latter not a subdivision of Araona." Créqui-Montfort and Rivet (1921-23) say quite explicitly however (p. 94):

Le nom de Kavineño a été appliqué par les Espagnols à des Indiens réunis en mission dans l'ancien Cavinás sur le Madidi, mais originaires de la rive gauche du Madre de Dios. . . . Ce sont évidemment des Kavina transplantés et christianisés, de même que les Kavina actuellement installés sur la rive droite du Béni dans la nouvelle mission de Cavinás.

Rivet and Loukotka (1952, p. 1107) state:

les Kavineño, qui sont les Kavina christianisés de la mission de Cavinás, fondée d'abord sur le Madidi, actuellement sur la rive droite du Béni. . . .

Until we have proof to the contrary, I see no reason for their not being made synonymous. Certainly Armentia made no distinction between the terms: his Cavina was an ethnic label, his Kavineño (or "lengua cavineña") a linguistic label. If Kavina and Kavineño then are synonymous, they are most assuredly not identical with Araona. Even the most superficial look at Armentia's comparative vocabulary and paradigms will immediately prove this point.

1.2.4. Mabenaro.

The sole source is Farabee (1922), a vocabulary of fifty-four items elicited from a boy and a girl (brother and sister) of about 12 and 10 years of age. As with all of Farabee's linguistic material, his transcriptions are not to be trusted. We know virtually nothing about the tribe; the children had been kidnapped and were separated from their people.

1.2.5. Maropa.

Maropa is one of the names given to the peoples who were brought to the Misión at Reyes. Hervás, in the 18th century, called at least one group of them Sapibocona; Heath, in the 19th century, and Nordenskiöld, early 20th century, called them Maropa; Van Wynan, about 1960, called them (or their language) Reyesano. While the material is certainly not voluminous for any of these names, comparison points to the fact that they are one and the same language or possibly dialects differing from each other in virtually insignificant ways.

'Sapibokona. See Maropa.

1.2.6. Takana.

The main vocabulary sources under this name are from Armentia (Lafone-Quevedo, 1902) and Van Wynen (1962b). Numerous texts have been published since 1859. There are apparently at least two dialects.

Van Wynen states in the preface to his Tacana dictionary (p. 7):

El vocabulario en esta diccionario indica la pronunciación de la gente tacana que vive en el pueblo de Ixiamas, Iturralde. Hay ciertas diferencias en la forma de hablar el tacana en el pueblo Tumupasa.

From what Tumupasa material Van Wynen included in his dictionary, differences between the dialects would appear to be minimal.

It is not clear from what community Armentia took his Takana since he speaks of both the villages of Ixiamas and Tumupasa. Of these two places, he says that the people

han hablado y hablen el Tacana, aunque con alguna variación como es consiguiente en lenguas no escritas, y entre tribus que han interrumpido sus comunicaciones durante dos siglos. . . .

Armentia's dictionary agrees in virtually every respect with that of Van Wynen. Lafone Quevedo's publication (1906) of Armentia's work leaves much to be desired: there are numerous typographical errors and great confusion among the Takanan phonemes /d/, /ř/, and /č/. Many of these errors may well be due to the difficulty which Lafone Quevedo encountered in reading Armentia's manuscript.

1.2.7. Tiatinawa.

The only source under this name is from Farabee (1922) which includes material of a dialect differing from that called "Tiatinagua" by Créqui-Montfort and Rivet. It should be borne in mind that Créqui-Montfort and Rivet's "Tiatinagua" is actually unpublished material collected by Nordenskiöld which he did not include in his 1905 article. The material which Nordenskiöld did publish he called Tambopata-Guarayo. The term "Tiatinagua" as used by Créqui-Montfort and Rivet appears to have been a cover term for what, in this paper, is called the "Čamik" subdivision of Takanan.

1.2.8. Warayo.

The people and their languages in this "dialect" area are known under many names. There are essentially two major dialects or languages which can be differentiated by their treatment of *t:

(1) *t > t

(2) *t > k

Tambopata-Guarayo (Nordenskiöld).....	1
Tiatinagua (Nordenskiöld in CM and R).....	1
Huarayo (Aza, Alvarez, Fast/Hart, Key)	1
Tiatinagua (Farabee).....	2
Heath-Huarayo (Aza).....	2
Ese?ejja (Wyma)	2
Chama (Firestone, Key, Wyma).....	2
Tschama (Tessmann)	Pano

Note should be made of the fact that there is a Tupian language of Bolivia also called "Guarayo."

1.2.9. Warisa.

The sole source is a Pater Noster, Ave Maria, and Credo without translation taken from the posthumous papers of Cardinal Mezzofanti and published by Teza (1868). Warisa would appear to be closely related to the Sapibokona complex.

1.3. Nomina nuda.

The following names in Mason's classification are therefore nomina nuda:

Capachene	Turamona
Machui	Uchupiamona
Chirigua	Yabaypura
Chumana	Yubamona
Ayaychuna	Guacanahua
Babayana	Baguaja
Chiliuvo	Chunchu
Chivamona	Échoja (unless equal to Ese?exa)
Pamaino	Huanayo (unless a form of "Guarayo")
Pasaramona	Kinaki
Saparuna	Mohino
Siliama	Yamaluba

2. SYNCHRONIC DESCRIPTION OF DIAGNOSTIC LANGUAGES

2.1. Takana Phonemics (according to Van Wynen).

p	t	c < c >	č	k	k ^w	?
b	d					
(v)		d < dh >				
w	y				h	
m	n	s	š	r	ř < d' >	

v and w are actually allophones, the regularity of which has been disturbed by a half-dozen morphemes, one of which is a Spanish loan, oveja : Tak. wiša <huisha>. The other instances could also and with greater economy be analyzed as a sequence of /u/ before /V/. Therefore, the allophony is identical with that of Kavineño /w/ : [β] / {eⁱ [w] / elsewhere

2.2. Kavineño Phonemics (according to Key).

p	t	(t ^y)	c < c >	č	k	k ^w	?
b	d	(d ^y)					
w		y					
m	n		s	š	r		
					l	(l ^y)	

t^y, d^y, l^y, n^y might also be analyzed as /CiV/, thus avoiding the complication of setting up four new phonemes. Spanish loans, however, containing ñ and ll have somewhat skewed the regularity.

2.3. Ese'exa Phonemics (according to Wyma).

p	t	č	k	k^w	?
b	d	s	š	x <jj>	h <j>
w			y		
m	n		(n ^y)		

n and n^y are actually allophones. /n/ : [n^y] / i ; iV
 [n] / elsewhere.

The regularity of this allophony is disturbed by two words, one either from a Panoan loan or from an underlying nio (cf. Cashibo ñoo and Warayo (Aza) nío ~ní'o). For rules of palatalization in general (viewed diachronically) see section 4.1.5.b of this monograph.

3. PROTO-TAKANAN AS PER KEY

Key's reconstruction (1968) differs somewhat from that of the present study. She postulates the following protophonemes:

*p	*t		*k
*b	*d		
	*c	*č	*č
	*s	*š	*x
*m	*n		
*w	*r	*ř	*y
			*?

The following list incorporates all those protophonemes which were reconstructed by Key and the present study and which are identical. By identical is meant that Key's postulated protophoneme and that of the present study subsume the following set of reflexes in the diagnostic languages:

<u>Key</u>	<u>Girard</u>	<u>Tak.</u>	<u>Kav.</u>	<u>Ese.</u>
*p	*p	p	p	p
*t	*t	t	t	k
*k	*k ^w	k ^w /k	k ^w	k ^w
*b	*b	b	b	b
*d	*d	d	d	d/?
*č	*j	ř	h	š
*s	*z	đ	s	s/t/č
*š	*s	s	h	h ~ x
*x	*k	h ~ Ø	k	x
*m	*m	m	m	m
*n	*n	n	n	n/ñ
*w	*w	w/v	w	w
*ř	*r	Ø	r	Ø
*r	*ř	r	r	Ø
*y	*y	č	y	y ~ w
?	()	(?)	(?)	(?)

Note, identical are:

*c	c	c	s
*č	c/č	č	s/č
*š	š	š	š

I have reconstructed a *c which includes Tak. c, Kav. č / _i and c/elsewhere, and Ese. š/i and s/elsewhere. My set corresponds to Key's *c-set in toto and to Key's *č set only where the reflexes pattern out as Tak. c, Kav. č(i), and Ese s. This would include her diagnostic sets 'foot' Tak. waci, Kav. wači, and Ese. wasi; 'late' Tak. cine-kwa, Kav. čine-keha, and Ese. sine-kwa; 'robber' Tak. cii-po(h)i, Kav. čiri-pohi, and Ese. sii-poxi. 'Hook' which gives Tak. ceve, Kav. čewe, and Ese. sewe- is the only occurrence of č in Kavineño before a vowel other than i which can be attributed to my *c.

My set does not correspond to Key's *č in the pattern Tak. č, Kav. č, Ese. č. Her diagnostic sets include 'fault' Tak. hoča, Kav. hoča-ki (both from the Quechua huča); 'grandmother'² Tak. aviča, Kav. awiča, Ese. awiča (all from Quechua-Aymara awiča). Included in Key but not in the present work is 'sore' Tak. čadi, Kav. čadi. It does not appear to be from Quechua or Aymara, and I cannot give an explanation for the reflexes. There are other instances of Key's set of č-reflexes which she does not include in her work, nor do I in mine, which must be eventually dealt with: Tak. čamakama 'recién, por fino!' Kav. čamakama 'de apenas,' Ese. čamá 'no hay,' xa-čama-ki- 'ya no haber.' I suspect they are loans: I have been unable to find any substantive proof of the existence of Tak. č : Kav. č (: Ese. č) nor of Tak. k : Kav. k, except in loans.

Key has set up a *š to include Tak. š, Kav. š and Ese. š. Her diagnostic sets include 'banana'² Tak. kaši, Kav. kaši, Ese. weši (called 'irregular' by her); 'blanket' Tak. maša, Kav. maša; 'earring' Tak. šaporo, Kav. šaporo, Ese. šaxaba(?)ewanaxi. I cannot explain these sets. 'Five' Tak. pišika, Kav. pišika (from Quechua-Aymara piscca, phescca); 'flower' Tak. šaša, Kav. šaša (transcribed <saisa> by Armentia!), Ese. šaša (from Aymara sisa?); 'four' Tak. puši, Kav. poši (from Aymara pusi); 'three' Tak. kimiša, Kav. kimiša (from Quechua-Aymara kimsa); and 'sugar cane' Tak. šita, Kav. šita (from Pakawara šita or borrowed by them all from some other source?).

There are a few more sets not included in Key which show this set of correspondences: 'woolly, hairy' Tak. šakašaka, Kav. šakašaka; 'raft' Tak. šitara, Kav. šitara. I suspect they may all be loans and have not set up a protophoneme to include such a set of reflexes.

There is also the matter of choice of symbols to represent protophonemes:

Key	Girard
*k	*k ^w
*x	*k

I have set up *k and *k^w because of their obvious relationship to the Proto-Panoan *k and *k^w. However, it seems to me that even without resorting to Panoan evidence, one would be forced, because of the evidence in Kavineño, to postulate both a Proto-Takanan *k and *k^w. While it is true that only Kavineño retained *k as k, all other languages having evolved a spirant, there is incontrovertible evidence in all languages of the reality of /k^w/.

4. THE PROTO-LANGUAGE

4.1. Vowels.

*i	*u
*e	*a

4.1.1. In consonant + vowel + consonant . . . sequences.

All vowels in the diagnostic languages have remained those of the proto-language. Note should be made of the fact that *u is manifested in Takana (VW) as /u/, in Kavineño (K) as /o/, and in Ese'exa (W) as /o/. Takana /u/ actually represents a vowel lying somewhere in the vicinity of [i ~ u]; Kavineño /o/, a vowel midway between [o] and [u]; while Ese'exa /o/ appears to represent [o]. Key's phonemic transcription (1968) of Takana has changed Van Wijnen's /u/ to /o/.

In all other languages, the proto-vowel system appears to have remained intact, but because of the vagaries of transcription, one can only make rather general statements.

4.1.2. In (consonant +) vowel + vowel . . . sequences.

4.1.2.1. In #*e before a vowel:

	<u>Ese.</u>	<u>Tak.</u>	<u>Kav.</u>
(a)	*e → e / —	*e → y / __a,e	*e → y / __a,e
(b)	. . .	e / __u,i	i (~e) / __i,y e ~ y / __o
(c)	i + i → i

Examples:

Takana: rules (a) and (b) hold for the entire corpus, whether proven cognate or not.

- *e-ana > yana 'tongue'
- *ree- > ye 'this' (where *r became Ø)
- *ree-peia > yepia 'this other'
- *e-uba > euba 'foam'
- *e-ijaka > eiřaha 'ear'

Kavineño: rule (a) holds for entire corpus.

*e-ana > yana 'tongue'

*e-enei(-na) > yenina 'correction'

Rule (b) shows some erratic correspondences.

*e-ijaka > ihaka 'ear'

*e-ije(-weke) > eiheweke 'thrown'

*e-(?)usi(-ke) > e?ohike 'older brother'

*e-ucek^wa(-ke) > yocek^wake 'grandson'

Armentia shows both y- and e-, although y- prevails.

4.1.2.2. *ei ~ *i.

Alternations between a posited *ei and *i exist here and there in all the languages.

Examples:

*bei- ~ *bi-

Tak. beidahi 'happy'

biřida puhi 'gay'

Kav. bibiaki 'fortunate (one)', butbihida 'wanted, desired'

Ese. kea-beinee 'content'

kea-biwi 'content'

*k^we ~ *k^wi-

Tak. keda 'beard'

ekedi 'saliva'

Ese. ek^weša 'beard'

k^wičo 'saliva'

Kav. k^wesa 'beard' (no forms from *k^wi-)

There is some problem involving *ei and *i. In almost every example in which alternating forms exist in Takana and Ese?exa for which alternating protoforms must be set up, Kavineño shows no alternation. However, Kavineño shows alternating ei~i forms for which evidence in the other diagnostic languages is virtually nil: see 4.1.4.c.

4.1.3. Restricted (special) Takana rules.

- (a) *a > u /
- _r
- e

Examples:

*mare > mue 'chima (tree sp.)'

*barepa > buepa 'sky'

*bawei- > bue- 'teach, learn'

Note should be made of the fact that Armentia consistently shows . . . a(w)e . . . and not . . . ue . . . for such sequences. Whether we have an example of sound change since the 1880s or whether Van Wijnen's allophony is skewed, that is, whatever phone is in question should have been assigned to /a/ and not to /u/, is impossible to say until we obtain a modern phonetic transcription of these forms. Van Wijnen (1962) tells us that final /a/ "varia de calidad baja a media," that is, [a ~ ə]; and since /u/ equals [u], could /a/ before /e/ be [u ~ ə]?

- (b) *e > i / (C)
- _
- a

Examples:

*peia- > piada 'one'

*bea- > ebiahé 'above'

Armentia is inconsistent, showing now . . . ia . . . now . . . ea . . .

(c) A notable exception to the sound rules established here is Tak. mueta 'tomorrow, morning' (Armentia <maeta>), which must be derived from *meta and not *mueta. A comparison with Proto-Panoan *yamita may indicate metathesis of the first syllable at a fairly early stage of Proto-Takanan. Only Takana retains a vestige of this hypothesized metathesis however, Kavineño and Ese?exa showing meta and meka, respectively.

4.1.4. Restricted Kavineño rules.

- (a) *u > Ø / C
- _
- e
-
- o / #
- _
- e

Examples:

*due-da > deda 'deep' (cf. Tak. dueda, Ese. kea-doe)

*ue-da > oda- 'to lighten' (cf. Tak. weda)

- (b) *a > e / i
 ei > ei ~ i / passim (see also 4.1.2.2)

Examples:

- *bai > bei 'lake' (cf. Tak. bai, Ese. bai)
 - *nai > nei 'water' (cf. Tak. nai)
 - *wa(?)i > we(?)i 'dove' (cf. Tak. wai, Ese. wa?yoxo)
 - *makai > makei 'enemy' (cf. Tak. mahai)
 - *pei > pei- ~ epiki 'to fan, a fan' (cf. Ese. epexi 'fan')
 - *sai-da > hida 'good' (cf. Tak. saida, Ese. keahai)
 - *e-bai > ebi 'arm' (cf. Tak. eba 'arm', Ese. ebašo 'elbow')
 - *ei-ra > era 'I (erg.)'
 - *ei-ke > ike 'I (obj.)'
- } (cf. Tak. and Ese. e- ~ y-)

(c) Palatalization

Unstressed *i and *e before another vowel cause palatalization of immediately preceding consonant. This rule is nearly identical with that described in 4.1.2.1. The palatalizations will be detailed in 4.2.1.

4.1.5. Restricted Ese?exa rules.

(a) Final vowels

There are several instances where Ese?exa final vowels do not quite tally with those of the reconstruction. No explanation at present can be given for such sets as:

	Tak.	Kav.	Ese.
*bui	bui	. . .	boe 'cousin'
*suse	suse	hohe	xoxi 'duck'
*bijí	biři	bihi	bišé 'canoe'
*mare	mue	mare	mai 'chima (fruit)'

Final vowels when stressed indicate two underlying "like" vowels in sequence. In some forms these vowels appear to have contracted, while in other forms they have remained distinct. This inconsistency may, however, be due rather to the transcription:

Ese. -é ~ -ei < *eri

*dok ^W eri	Ese. dok ^W é 'deer'
*ceri	esei 'fat'
*k ^W eri	k ^W ei 'river'

Ese. -í < *i(?)i

*di?i	{ di 'mosquito' kea-dii-mo 'many mosquitos'
-------	--

Ese. -á < *au

*cau	esá 'bone'
------	------------

Ese. -ó < *u(?)u

*du(?)u	dó 'monkey sp.'
---------	-----------------

Some of the variant forms listed above may well represent contractions of final vowel clusters (especially the form bišé), but the evidence for such vowel clusters is totally lacking in all the other languages.

(b) Palatalization.

As in Kavineño, but under different conditions, palatalization takes place:

*i in sequences (C)iCV_{back} causes palatalization of the consonant immediately following.

*i in sequences (C)V_iCV_{back} causes palatalization and becomes absorbed in the palatalization of the consonant immediately following. A terse statement is difficult to make because of the inconsistencies and method of phonemic analysis or transcription. For details, see 4.2.2.

4.2. Consonants.

*p	*t	*c	*k	*k ^w	*(?)
*b	*d	*j			
		*s			
		*z			
		*ř			
		*r			
*m	*n				
*w			*y		

Of these protophonemes, the phonetic value of all but *z, *j and *r are assured. *z and *j are here used as symbols for sets of correspondences. The actual value of *r, retained only in Kavineño, can be determined as a "variant" of **n in Proto-Pano-Takanan.

A more detailed description of these consonants will be found in Part II.

TABLE 1
Takanan Consonant Correspondences

Proto-Takan. (G)	Takanik						Čamik						
	Tak. (W)	Rey. (VW)	Mar. (H/N)	Was. (T)	Sap. (H)	Aro. (A)	Mab. (F)	Kav. (K)	Ese. (W)	Čam. (F)	Tia. (F)	War. (A)	War. (N)
*p	p	p	p	p	p	p	p	p	p	p	p	p	p
*t	t	t	t	t	{t č}	θ	t	k	k	{t (k)}	t	t	t
*c	c	{c č}	<tr>	č	č	c	c	{s š}	s	s	s	s	s
*k	{h ∅}	h	h	h	{h ∅}	h	h	k	{x h}	x	h	h	h
*k ^w	{k ^w k}	k ^w	{k ^w k}	k ^w									
(*?)	(?)					(?)	(?)						
*b	b	mb	{mb b}	v	v	b	b	b	b	b	b	b	b
*d	d	[ndz]	{ndr dr}	<r'>	r	d	d	d	{d ɾ}	d	d	d	{d l}
*j	ř	{š č l}	{c š}	s	s	<z>	θ	h	š	š	š	š	š
*s	s	d	θ	s	...	{x h}	h	h	{h x}	x	h	h	h
*θ	d	s	{š s}	{s <c>}	<ss>	s	...	{s (t)}	{t č}	t	t	{s č}	
*ř	r	r	r	r	r	r	r	r	{∅ y}	∅	∅	∅	∅
*r	∅	∅	∅	∅	∅	∅	∅	r	∅	∅	∅	∅	∅
*w	{w v h}	{w b v}	<gu>	{w v}	{w v}	w	{w h}	{w b}	w	w	w	w	w
*y	č	č	č	č	č	y	y	y	{y w}	y	y	y	y
*m	m	m	m	m	m	m	m	m	m	m	m	m	m
*n	n	n	n	n	n	n	n	{n ñ}	n	n	n	n	n

*p remained p in all languages.

Aza, however (1930-32, p. 183), stated: "Entre los diversos grupos de huarayos se encuentran diferencias muy notables en el empleo de ciertas letras. Los huarayos del Heath o Sonene hacen sonar como f la letra que los huarayos del río Tambopata pronuncian como p," for example, 'Tengo hambre' Tambopata Bobijo-taña pane and Heath Bobijo-kaña fane.

*t remained t in all languages but Mabenaro (Farabee) and the Čama complex (Girard), where in the former it became θ and in the latter k. On the Mabenaro reflex see 5.2.2.

While *t > k in Čama (G), Aza's dictionary of Warayo (1924) also contains alternate forms, those containing only t, and others containing only k, where *t is certain or conjecturable, for example, etajaja ~ ekajaja 'throat,' etiboshoshaji ~ ekiboshoshaji 'ankle'; only etoja 'eye' (cf. Ese?exa (W) ekoxa), only eti 'house' (cf. Ese. ekí); only kia- 'give' (cf. Ese. kia-), only ekiyotehue 'coal' (cf. Ese. kiyo 'to heat'). Elsewhere in Aza's work, however, one finds tiyo- 'heat,' kiatiyone 'hot,' etc. In the same work, quoted above, he stated: "Cosa parecida [as above] ocurre con la t y la k; lo cual es más de extrañar, puesto que la primera es dental y la segunda gutural," for example, 'No puede bajar' Tambopata Otetiaja-taña but Heath okekiaja-kaña. Either Aza's Huarayo contained a dialect mixture [between Čama (G) and Warayo (G)] or else Aza attempted to include forms, in a somewhat hit-or-miss way, from both the Tambopata and Heath dialects. He did not, however, list any Heath forms with f (from *p).

Other works on the Čamik (G) languages are quite consistent: *t > t in Warayo complex and *t > k in Čama complex.

*ç became an affricate ç or č in all languages but Čamik (G) where it became a sibilant.

In Takana (VW), /c/ actually represents [ç]; Heath's transcription of Maropa, <tr>, is doubtless an attempt to represent retroflexion. Since Maropa and Reyesano appear to be conspecific, we can assume retroflexion in the latter, although we have no definite statement to this effect. Both Maropa and Reyesano manifest a dissimilatory phenomenon: *c remained ç (or c) everywhere except when followed (in the next syllable) by [ndz], where it became č, for example, R čondzi 'armadillo,' R ečendzo, M ečentru 'chest.' Other occurrences of Reyesano č are from *y.

/c/ in Kavineño (K) "may have a retroflexed quality [ts]." Kavineño shows palatal subreflexes, a fuller description of which will be found in 4.1.4 and 4.2.1; however, in brief, č occurs before i or when unaccented in segments $c_e^i V$. See *ciri-, *cea-, etc.

Čama (Firestone) /s/ is described as "dental with light friction" and no mention of retroflection is made here or for other Čamik languages. Čamik (G) shows a palatal subreflex š when following *i; see 4.2.2.

*k became a spirant h or x in all languages but Kavineño (K) where it remained k.

h in Takana (VW), as well as in other Takanik (G) languages, often became \emptyset , especially in unstressed intervocalic position; cf. Tak. deha 'man' but /ediave/ (<*e-deka-we) 'boy' Maropa <drex> 'man,' <drexave> 'boy,' but <drianikwána> 'people' (all forms from Heath).

*k^w from the data available appears to have remained k^w in all languages but Takana (VW) and (specially) in Ese?exa (W). In Takana *k^w split into three allophones: [k^y] before i or e; [k] before u, and remained [k^w] only before a. This allophony has been obscured by Quechua-Aymara and Spanish loans, for example, kaču-, 'chew' (from Quechua kachu or khachuy), pišika 'five' (from Quechua phescca or more likely Aymara piscca), kawayu 'horse' (from Spanish caballo), etc.

In Ese?exa (W) *k^w became palatalized k when preceded by *i, for example, *bik^we > /bike/ which is properly (?) bikie, that is, [bikye].

*? must surely be reconstructed for the proto-language. Its status, however, in Takana (VW), Kavineño (K) and Ese?exa (W) [as well as in Warayo (Aza)] is so unsure and its appearance so erratic that it is impossible to determine at this stage of the reconstruction what glottal stops may be reflexes to a *? and what may have been innovated. One can only make general and rather impressionistic statements: in Takana (VW) *? appears in most instances to have become \emptyset ; in Kavineño (K) *? appears to be in free variation with ? and \emptyset ; and in Ese?exa (W) *? appears to be either ? or \emptyset . Aza's Huarayo also shows alternations between ? and \emptyset .

All Čamik languages have innovated a ? for *-d-.

*b appears in all languages as a voiced bilabial stop.

In Reyesano (VW) and in Maropa (H), it appears prenasalized. Note should here be made that a phonetic representation of Reyesano shows the following forms lacking prenasalization: bendzo 'buzzard,' beni 'wind,'

bina 'bat,' biwa 'spider monkey,' biya 'lice,' bȏe 'cane!' Heath's materials show b quite consistently as initial, and mb quite consistently as medial reflexes. Whether the mb ~ b variations in Reyesano are innovative or whether they are vestiges of earlier contrasts, cannot be determined at present. However, both R biya from pT *bira and embiti from pT *e-bití are cognate with proto-Panoan *bina and *biči, respectively.

In Ese?exa (W) b is described as imploded and at times preglottalized.

*d appears in all languages as a voiced alveolar stop, except in Reyesano and in part in Ese?exa.

In Reyesano *d appears as a prenasalized, voiced alveolar affricate [ndz]. Heath's Maropa transcription is generally <(n)dr> or <ntr>, parallel to or identical with his transcription of the Maropa reflex to *č. There is no indication from any phonemic-phonetic studies of Takana (W) or Kavineño (K) that /d/ is retroflexed.

In Ese?exa (W) /d/ is a voiced imploded alveolar stop and as with /b/ sometimes preglottalized. In all Čamik languages, *d in medial position is -?--. It should be noted that the glottal stop arising from inter-vocalic *d never appears to be in free variation with Ø while that arising from *? appears to fluctuate between ? and Ø.

*j is here meant rather as a symbol for a set of reflexes and not as having any inherent phonetic value. It shows a variety of reflexes within and between groups.

In Takana ſ̄ (or d' as symbolized by Van Wynen or ð by Key) is described as consisting of "flap articulation simultaneous with friction made by the tongue blade." The phonetic representation in Reyesano (VW) is š or l, the alternation for which at present cannot be accounted for. Maropa is transcribed generally š (also č and šx, etc.) Warisa and Sapi-bokona show <s>. Araona is transcribed by Armentia as <z>.

Mabenaro (F) has θ regularly, but on this, see 5.2.2.

Kavineño (K) has h, merging with the reflex to *s.

All the Čamik languages have š consistently.

*s remained a dental or alveolar spirant in Takanik (G): Takana /s/, Reyesano (VW) d and Maropa θ (symbolized by Heath as <z>). Warisa is transcribed as <s> or <z>; Sapibokona evidence is unfortunately lacking.

Araona, which in almost all other phonetic respects belongs to the Takanik (G) group, here "crosses over" to the Kavineño-Čamik (G) and shows quite regularly an aspirate.

Kavineño (K) and Čamik (G) all show an aspirate consistently. Ese?exa what is more shows certain assimilatory phenomena between /h/ and /x/. See 4.2.2.

*z, as *j, should properly be read as a symbol for a set of reflexes. Its status is problematic since in both Ese?exa and Kavineño (Armentia, but not Key) reflexes to *z appear to be both s and t, sometimes in what appears to be the same root. Examples will be seen throughout the dictionary which follows, typical of which are:

- *zere Ese. see 'tripe' and e-tee-xani 'intestines'
*zawa Kav. (A) sawa- 'to dye,' sawa-da 'green, blue,' but Kav. (A) <zauada> and <sauada> 'blue,' as well as <tahua-daha> 'to make blue, "azulear"'

There is the distinct possibility that two different morphemes are involved here: from the Kav. (A) evidence *zawa and *tawa, which would have yielded, respectively, Kav. sawa and tawa. If there was a *tawa with this general meaning, it is represented only in Kavineño, no other cognates being found in the other languages. However, two allomorphs appear to be involved in Čamik (G): Ese. tawa and War. (A) tawa and sawa. These forms, unless we assume one or the other to be loans, can only come from *zawa with double reflexes s ~ t as in *zere above. A *tawa would presumably have yielded kawa in Ese?exa, no such form, however, being attested.

In general, Armentia's Kavineño dictionary shows erratic reflexes for *z: <s>, <c> (before front vowels) and <t>; some words, as in the example above, can be found in three different places. One must bear in mind, however, that while Armentia's work is usually exceptionally accurate and differs very little from the equally excellent dictionary of Key, Armentia's work was published posthumously by Lafone Quevedo. It is apparent from Lafone Quevedo's queries throughout his edition of Armentia's work that he was not always able to read Armentia's manuscript with ease. Some (perhaps all?) of these erratic transcriptions may be due to Lafone Quevedo's errors, but since I do not know of a facsimile of Armentia's handwriting to check whether he wrote his s's and t's in such a way that they might confuse one, this problem must be held in abeyance.

The Ese?exa reflexes however cannot be explained in any way other than historically. The relatively few cognates which pT shares with pP in which this phoneme appears, present even more problems. Panoan forms show, themselves, difficult alternations: cf. Cashibo masá 'bad'

which can only, on the basis of Shell's reconstruction, come from *masaCV, Atsahuaca mastara, if we assume the Atsahuaca form to be phonetically accurate, providing still another example of pP *s ~ *st or as Shell has usually symbolized it *s(t).

Both *j and *z would appear—although the evidence at present is very slim—to have been involved in allomorphy, the conditioning of which is still unknown and, from contemporary evidence unpredictable, which may extend back into proto-Pano-Takanan.

*r became \emptyset in all languages but Kavineño (K) where it remained /r/. Ese?exa (W) presents some difficulty of analysis. One can say that *r became \emptyset and, depending on the vowels involved, intervocalic glides w and y were innovated. Wyma's transcription of Ese?exa is not always consistent. There are numerous erratic reflexes (cf. *saruna) for which there is at present no truly satisfactory explanation.

pT *r always corresponds to some pP *n under as yet unpredictable and unknown circumstances.

*ř became r in all languages but the Čamik where it, as *r above, became \emptyset ~ w ~ y. This is a relatively rare phoneme in Takanan and the Ese?exa cognates are few and not always totally convincing.

*w remained a bilabial continuant in all languages except in Takana and Kavineño where it became h preceding u, or o.

In Takana (VW) and Kavineño (K) (and probably in the other languages as well) *w remained [w] before a and became [b] before front vowels. Van Wijnen chose to analyze [w] and [b] as two phonemes /w/ and /v/, since there are a few sequences in his corpus of [wi] and [we] as contrasted with [bi] and [be]. It appears from historical evidence that sequences [wi] and [we] in Takana are from *ui and *ue, while sequences [bi] and [be] are from *wi and *we, respectively.

Both allophones [w] and [b] are analyzed as /w/ in Kavineño (K) as well as in Ese?exa (W).

*y became a palatal affricate in Takanik (G) and remained y in all other languages.

Ese?exa again presents some erratic treatment, cf. *yuka Ese. ewoxa, but note Aza's Warayo eyoha.

*m remained m in all languages, but manifests several allophones in Ese'exa (W) [m, mb, b]. This would appear to be an Ese'exa innovation, since Aza never confuses bilabial nasals with bilabial stops.

*n remained n in all languages. Again, Ese'exa shows allophones [n, nd, d, ð, l, nl]. No such allophony appears to have taken place in Warayo (Aza).

4.2.1. Restricted Kavineño rules.

(a) Palatalization.

As mentioned in 4.1.4.c, *i and occasionally *e in unstressed position before another vowel, palatalize the consonant immediately preceding.

Examples:

- *c *cea-cea > Kav. čača 'alive, healthy'
- *buce+a- > boča 'appears, seems'
- *t *bute+a- > botya- 'to lower' (cf. ani-bote- 'to sit down').
- *n *buni+ari > boñari 'partridge' (i.e., 'partridge + big')
- *r *tiri+a- > /tilyá-/ 'to finish, do, clean'

There are numerous instances of /d^y/ in Kavineño (Key) which doubtless are derived from sequences of *dⁱ_eV..., but no sure cognates are known.

There is an extraordinary similarity of forms in which Kav. d^y seems to be derived from *bⁱ_eV...; see questioned cognates under *bea-.

(b) Metathesis.

A number of forms for which one, on the basis of evidence from the other daughter languages, would reconstruct *t- show reflexes /t^y/ in Kavineño (K) and in all instances the vowel immediately following this phenomenon is *u. See *tubu, *tu(?)i, and *tunu. Compare Kav. tobo- 'to cut, clear (land)' and t^yobo 'cut, short!' From the evidence, it would appear that Kavineño has metathesized the absolutive prefix.

4.2.2. Restricted Ese?exa rules.

(a) Palatalization.

As indicated in 4.1.5b *i in sequences (C)iCV_{back} causes palatalization of the consonant immediately following; *i in sequences (C)ViCV_{back} causes palatalization and becomes absorbed in the palatalization of the following consonant. The following palatalizations are known:

*p	*a(?)i-puki >	Ese. /apioxi/ 'why? for what reason?'
*t	*bita >	/bikia/ 'sweet!'
*k	*ik(i)a- >	/ixia-/ 'eat, bite' (uncertain because of doubtful Kavineño cognate)
*k ^w	*a(?)i-k ^w ana >	/akiana/ 'thing(s)'
	*bik ^w e >	/bike/ 'heavy,' rather /bikie/
*b	*iba >	/ibia/ 'jaguar' (but note the lack of palatalization in Warayo (A): ibá!)
*z	*bizu >	/bičo/ 'shame!'
*n	*ina >	/iňa/ 'to grasp'
	*e-ina >	/eňa/ 'hair'

Palatalization does not take place in sequences CiCV_{front} or CViCV_{front}; compare Ese. siňá and sine (from *cine). Nor does palatalization take place in compounds in which reduplication is involved, cf. Ese. kwikwi (and not kwiki) 'to drip' or in general where morpheme boundaries still operate, cf. Ese. kwakimaxo 'embers,' siipoxi 'thief!' Compare *ciri+puki > Ese. siipoxi and *a(?)i+puki > Ese. apioxi.

(b) Assimilation.

There is one instance where assimilation appears to operate: *seke gives Ese. xexe and not hexe. Here C₁ assimilates to C₂.

4.3. Problematic Reflexes.

*y.

There is as good a reason for setting up a *č as there is a *y since the Takanan languages are neatly split into two divisions: the Takanik manifesting č, and all the others y.

The choice here of *y is one primarily of convenience. There are a few would-be cognates which show č in all languages. Most of these forms are loans from Quechua-Aymara, but a few cannot as yet be so attributed. For example:

(*čama...?) Tak. čamakama 'recién, por fino, con dificultad, apenas,' čaha ~ ča?A 'inútilmente, hecho in vano'; Kav. čamakama 'de apenas, como quiera, con trabajo'; Ese. čamá 'no hay,' xa-čama-ki- 'ya no había,' čaha 'no!'

The fact that Tak. k here corresponds with Kav. k immediately throws suspicion on the forms as non-Takanan in origin. There is a Quechua root, for example, čama 'trabajoso, que cuesta esfuerzo,' čamáka 'trabajador' as well as a čáma 'albricia, contento de sí' and čamákuy 'contentamiento, estar satisfecho de sí propio' in which Tak. and Kav. -ma could be taken as the privative. The Aymara has, as far as I am aware, only a form čama meaning 'power, strength.' The glossing presents difficulties.

(*cadi?) Tak. čadi 'llaga, caracha,' Kav. čadi 'viruela, caracha.'

Here no corresponding forms are to be found in either Quechua or Aymara.

(*čidi?) Tak. -čidi 'diminutive suffix,' čidi-taname_A 'acortar, achicar,' Mar. <chintri> 'my younger brother'; Ese. xa-či?i-ki- 'acortar,' kea-či?a 'corto!'

Again no corresponding forms in Quechua-Aymara are known.

There is, therefore, the possibility that pT had a *č, but the evidence is either slight or very uncertain. I have therefore decided not to include a *č in the phonemic table of pT at the present time.

*j.

Except where it occurs initially, *j is nearly always found with a following *i. One would expect conditioning of some sort or another and the possibility of allomorphy. But no allomorphs are certain. It is not certain whether allomorphy or different morphemes are contained in such forms as *meci and *meji. The same question exists with forms *waci and *wazi.

*e.

Because the sources of Takanan have not been morphologically analyzed, it is with extreme difficulty that one can be sure when any root actually begins with e and when the absolute prefix is involved. There are only two roots which one can be sure begin with *e, that is,

the absolutive prefix itself *e- and the first person pronominal form *ei-. Surely, there are other roots so beginning: *(e)ne(i)ri- is a case in hand, but this form has other problems as well and all forms listed as related may well not be.

4.4. Unidentified "Reflexes."

A relatively rare phoneme in Kavineño is š; however, there appears to be no such phoneme in Armentia's transcription of the same language. For Takana Armentia used <ch> to represent č and <čh> to represent š. He did not employ the same system for Kavineño however and one is tempted to speculate whether Kavineño š is not a development since Armentia's time. The problem here is that no conditioning environment can be determined to account for this supposed change.

No Kavineño word containing š appears to be cognate with any other Takanan word.

A relatively frequent phoneme in Kavineño is s which is the regular reflex to PT *z, but *z is a relatively rare phoneme. Therefore, a large number of Kavineño words with /s/ are not as yet accounted for.

Similarly, Ese?exa /š/ is a frequent phoneme, but *j and *...ic... are of relatively rare occurrence.

5. CLASSIFICATION OF THE TAKANAN LANGUAGES

5.1. Classification.

1. Takanik (Girard)

1.1 Takana (Weddell 1853)

syn: Anonymous (Comas 1859)

Gili 1862

Cardús 1886

Armentia 1887-88

Sanjines 1891

Hissink 1958-61

Van Wijnen 1962

Key 1963

Ottaviano 1965

1.2 Sapibokona complex (Girard)

syn: Sapibocona (Hervás 1796)

Guariza (Teza 1868)

Maropa (Heath 1883)

Maropa (Nordenskiöld 1911)

Reyesano (Van Wijnen 1961)

1.3 Araona (Armentia 1887)

syn: Robuchon 1921-23

2. Mabenaro (Farabee 1922)

3. Kavinik (Girard)

3.1 Kavineño (Cardús 1886)

syn: Armentia 1887

Key 1963

4. Čamik (Girard)

4.1 Čama (complex) (Girard)

syn: Tiatinagua (Farabee 1922)

(Heath-)Huarayo (Aza 1930-32)

Chama (Firestone)

Chama (Key 1960-63)

Ese'ejja (Wyma 1962)

Ese'ejja (Shoemaker 1965)

4.2 Warayo (complex) (Girard)

syn: (?) Guarayo (Cardús 1883)

Tambopata-Guarayo (Nordenskiöld

1905 : Tiatinagua in

Créqui-Montfort/Rivet 1921-23)

Huarayo (Aza 1924 ... 1932)

Guarayo (and Huarayo) (Alvarez

1932 ... 1960)

Huarayo (Fast/Hart 1958)

5.2. Criteria.

5.2.1. Takanik (Girard) can be subdivided into

1. Takana
2. Sapibokona complex
3. Araona, and possibly
4. Mabenaro.

From the literature available Takana is a well-defined linguistic entity consisting of at least two dialects, that spoken in the village of Ixiamas and that spoken in the village of Tumupasa, the two dialects differing from each other in only slight (phonemic) ways.

The data for what I have called here the "Sapibokona complex" are scanty and inadequate; from what materials do exist, it would appear that Warisa (Teza), Maropa (Heath and Nordenskiöld) and Reyesano (Van Wynen) all represent the same language or nearly identical dialects. Because of the possibility that these names actually represent (or once represented) a dialect area rather than a unified linguistic entity through time, I have chosen the term "complex."

The Takanik group differs from the other groups in the following criteria:

Phonological:

Takana and Sapibokona complex show identical (or nearly identical) reflexes for *k, *r, *c, *ř, *y, and *s (see table 2 for specifics). In these reflexes they show a distinct difference from Kavinik and Čamik.

Araona and Mabenaro manifest reflexes identical with those of Takana and the Sapibokona complex for *k, *r, *c, and *ř. Araona shows a closer affinity to Takanik in its reflex to *y but to Kavinik and Čamik in its reflex to *s; in these two reflexes Mabenaro shows closer affinity to Kavinik and Čamik.

TABLE 2
Takanan Diagnostic Reflexes

PT	Tak.	Rey.	Mar.	Was.	Sap.	Aro.	Mab.	Kav.	Ese.	War.A	Ara.
*k	h	h	h	h	h	h	h	k	{ ^w h}	h	-š-
*r	ø	ø	ø	ø	ø	ø	ø	r	ø	ø	ø
*c	c	{ ^c č}	c	č	č	c	c	{ ^c č}	{ ^s š}	s	s
*ř	r	r	r	r	r	r	r	r	{ ^ø y}	ø	(ø)
*y	č	č	č	č	č	č	y	y	{ ^y (w)}	y	y
*s	s	ə	θ	s	...	h	h	h	h	h	h
*t	t	t	t	t	t	t	t	t	k	{ ^t (k)}	t

Morphological:

Takana appears somewhat differentiated from the other languages of the group in having a productive adjective marker -da (in which it resembles Kavineño); all other Takanik languages (with the exception of Mabenaro for which we have no adjectives at all) show a productive suffix -me. It should be noted that while -da is the productive marker in Takana, other non-productive suffixes can be found as well: -me is found in very rare instances (see 5.3); -ne and -na also mark adjectives, notably "color" adjectives. While the materials for the Sapibokona complex are scanty, no adjective marker other than -me is found. The one adjective in the Araona corpus, <masadave>, can be segmented with some certainty as masa- 'bad' + -da- 'adjective' + -ve 'intensive!'

Lexical:

Certain lexical items appear to be exclusive to Takanik. While occasionally cognates can be found in the other groups, much of this vocabulary seems to be unique to a particular group.

chin	*zawi:	exclusive to Takanik (evidence only from Takana and Reyesano). It is especially noteworthy that Mabenaro, which shows some phonological affinity with the non-Takanik groups, here shows <ithawi>.
leg	*ta-:	exclusive to Takanik (evidence only from Takana and Mabenaro). Kavineño has a form awa-taka 'tapir foot (name of a tree).' Identical Panoan forms exist (cf. Shipibo awa-ta?i), but the morpheme in Kavineño does not appear to be productive.
food	*kana:	exclusive to Takanik (evidence only from Takana, Araona and Maropa (Cardús)).
think	*piba:	exclusive to Takanik (evidence only from Takana and Araona).
do	*pu-:	in this form, it is exclusive to Takanik with the meaning 'to do, make!' There is a Čamik cognate with the same meaning. Only the form *puti appears in Kavineño (as it does also in Takanik and Čamik with however slight differences in meaning).
neck	*tipi:	in this form exclusive to Takanik (evidence only from Takana, Maropa (Heath), and Sapibokona (Hervás)).
	*piti	in this form exclusive to Kavineño and Čamik. Whether two morphemes are involved here or whether we have evidence of metathesis of syllables, I am unable to say.
water	*na (or specifically *e-na):	appears to have the meaning 'river' in Takanik, 'water' in Kavineño, and 'water, rain and/or river' in Čamik. 'Water' in Takanik is based on *e-awi/e-uwi and is found exclusively in that group. Here again Mabenaro <eowi> would place it closer to the Takanik group than to the others.

5.2.2. Mabenaro.

The problem of classifying Mabenaro satisfactorily is in part due to Farabee's short 54-word vocabulary. Farabee was not a particularly good phonetician; one can only get a rather general idea of what Mabenaro is (or was) really like.

In one respect Mabenaro differs from all other Takanan languages: $*t > \theta$. There are however instances of $*j > \theta$ and $*s > \theta$. Whether these reflexes were a feature of "real" Mabenaro is impossible to say, Farabee's vocabulary being the only one extant. One must bear in mind that Farabee's informants were a boy about 12 years old and his sister about 10 years who had been kidnapped by rubber men and transported to a plantation where Farabee discovered and interviewed them. The tribe (or the people who were called Mabenaro) had, like the Pakawara of today, disappeared into the forests. One should on the basis of the age of the informants consider the possibility of infantile speech patterns.

Beyond these anomalies, Mabenaro seems to "straddle" the Takanik and Kavinik groups, showing however in certain lexical items a closer affinity with Takanik than with Kavinik.

Because the Mabenaro material is poorly transcribed, because of the age of the informants, and because the evidence is lacking in some truly diagnostic features (adjectives, for example), I have chosen to give Mabenaro "species" rank. Further fieldwork must be done before we can make a finer classification of the language.

5.2.3. Kavinik (Girard).

The Kavinik group is composed of but one language for which we have any material, Kavineño. It is differentiated from the other groups as follows:

Phonological:

$*k$ and $*r$ have unique reflexes, all other Takanan languages differing from them. In the Kavineño reflexes to $*c$ and $*\check{r}$, it shows a closer affinity to Takanik, but in its reflexes to $*y$ and $*s$, it appears closer to Čamik.

Morphological:

The only adjective marker in Kavineño is -da. In this respect, Kavineño and Takana (with possibly Araona) show affinity.

Lexical:

Kavineño contains a high percentage of non-cognate (or apparently non-cognate) material. Lexical items exclusive to Kavineño have not, of course, been included in the dictionary. Comparisons however can be made with Takanik above: 'food' in Kavineño is based on (*)ara and/or (*)duka; 'think' is based on (*)adeba, both of which appear to have no cognates in any of the other Takanan languages.

Mabenaro, although showing fairly close affinity to Takanik, does "cross over" into Kavinik on occasion, cf. Mab. <ibibakwa> 'back' and Kavineño ebebakwa 'back' which exist in these two languages only in this particular composition.

5.2.4. Čamik (Girard).

The Čamik group can be divided into two languages or probably two dialects or two groups of dialects. While they are almost identical phonologically, and lexically, there is no grammatical material to indicate the degree of mutual intelligibility between them. I have chosen to use the term "complex" again. Firestone's Čama shows a slightly different phonology from that of Wyma's Ese?exa. How much of this difference is true phonological difference and how much is merely difference in phonemization is difficult to say.

Phonological:

Reflexes to *k and *r are shared with Takanik; but reflexes to *y and *s are shared with Kavinik. Reflexes to *č and *ř are, however, unique to Čamik. Čama (Girard) is differentiated from Warayo (Girard) by treatment of *t: in Čama *t > k, in Warayo *t > t. For a fuller discussion of Aza's treatment of Warayo, see *t in 4.2.

Morphological:

The productive adjective marker in Čamik is the prefix kea-. From the point of view of phonology, this form offers some problems. *t gives k in Čama and t in Warayo; *k gives x in both languages. What then is the origin of this prefix which shows k in both languages?

Lexical:

There is more noncognate material in Čamik than in any of the other Takanan groups. Part of this low cognate ratio is doubtless due to my inability to recognize cognates, but certainly the greater part of the Čamik vocabulary is noncognate with other Takanan languages. A rough

estimate of the number of cognates, based on my original slip file, would put Takana well over 50 per cent, Kavineño somewhat under 50 per cent, and Ese'exa about 30 per cent.

5.2.5. Arasa.

I have not chosen to classify Arasa. From the point of view of vocabulary, the language is a mixture of Panoan, Takanan, and Wačipaeri or one of the languages related to Wačipaeri, Tuyuneiri, Amarakaeri, etc. In vocabulary and morphology it is identical to Warayo (Girard), for example, *<kiwuene>* 'cold' and *<kihevene>* 'dirty' in which the Čamik adjectival prefix can be noted. All the vocabulary related to the Takanan languages is Čamik in origin. Nordenskiöld's vocabulary contains two imperatives: 'carry!' *<ätkiagui>* where -gui might be compared to the Panoan imperative suffix *-wi; the Takanan imperative is *k^We. The other imperative is a peculiar Čamik form *<čemo>*, 'give me!' Arasa also contains the Arawakan loan, found only in Čamik, 'woman' *<činani>*. Note also the zeroing out of medial *d, characteristic of the Čamik group, *<eséo>* 'breast' (from *e-cedu).

Arasa contains only one 'reflex' which would distinguish it from Warayo (Girard), *k > š, cf. 'eye' *<étoša>* (< *e-tuka), 'thief' < sipoši> (< *ciri-puki), 'corn' *<šiše>* (< *jike), etc.

Three forms however are definitely related to Wačipaeri: 'one' *<nončina>* (cf. Wač. nončina), 'two' *<bota>* (cf. Wač. bota and pT *beta), and 'old' *<huaton^ei>* (cf. Wač. watone).

In brief, from the material assembled by Nordenskiöld and Robuchon, it is impossible to place the language as assuredly Takanan or Panoan. The Arasa vocabulary is composed of items which are identical to Takanan and Panoan items and to Wačipaeri as well. Which of these items is original and which is borrowed cannot be stated at present.

5.3. Adjective Markers.

The following is a sample of common adjectives and affixes pertinent to the various groups.

	Tak.	Sap. complex	Kav.	Čam.
*bata-	bata-me	...	bata-ki	...
'resembling'				
*pasa-	pasa-ne	R pada-me	paha-da-ke	...
'white'		M } paza-me S }	'gringo'	

	<u>Tak.</u>	<u>Sap. complex</u>	<u>Kav.</u>	<u>Čam.</u>
*zawa-	dawa-ne	R sawa-me M sava-me	sawa-da	kea-tawa/-sawa
'green, blue, clear'				
*maza-	mada-da	. . .	masa-da	. . .
'bad'				
*bita-	bita-da	S vita-me	. . .	kea-bikia
'sweet'				
*apu-	apu-da	R apo-me M apu-me S appu-me	apo-da	kea-?apo
'dark'				