Mazatec Dialect History: A Study in Miniature

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MAZATEC DIALECT HISTORY

A STUDY IN MINIATURE

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1. Introduction. It is well known that at least two conflicting forces contribute to the development of languages and dialects: regular sound change, which is studied by the techniques of comparative linguistics, and diffusion of linguistic innovations beyond their original source, which is studied by the techniques of linguistic geography.[1] The present paper offers a detailed study of these two forces and their interaction in the dialects of Mazatec.[2]

1.1. A procedure for the subgrouping of related languages or dialects on the basis of exclusively shared innovations was proposed by Brugmann and recently elaborated by Dyen (in a review of Otto Dahl's comparative study of Malagasy and Maanyan.)[3] In the present study of the Mazatec dialects, the procedure is applied to an Amerindian language.

The Mazatec dialects are so closely related that a single phonemic innovation may constitute the entire phonological evidence for the unique common history of a given subgroup. It is this very closeness of relationship and limitation of material that makes possible the main contribution of this paper—namely, a precise analysis, in miniature, of successive dialect splits and of the effects on these splits of the disturbing factors of shift in the boundaries of speech communities. This analysis is supported by a high correlation with the word geography of the area and with what is known of the political history of the Mazatecs.

The lack of a wealth of evidence is offset by a careful sifting of the material. Shared retentions of features of the parent language are excluded from this discussion. As Dyen pointed out, 'if we were to consider retentions, we should be using the criteria of proto-relationship also as evidence of subrelationship.'[4] Trivialities are also excluded—phonetic changes which do not affect the phonemic system, and changes which are likely to have arisen by accidental parallel development, such as the reduction of phoneme clusters by loss.
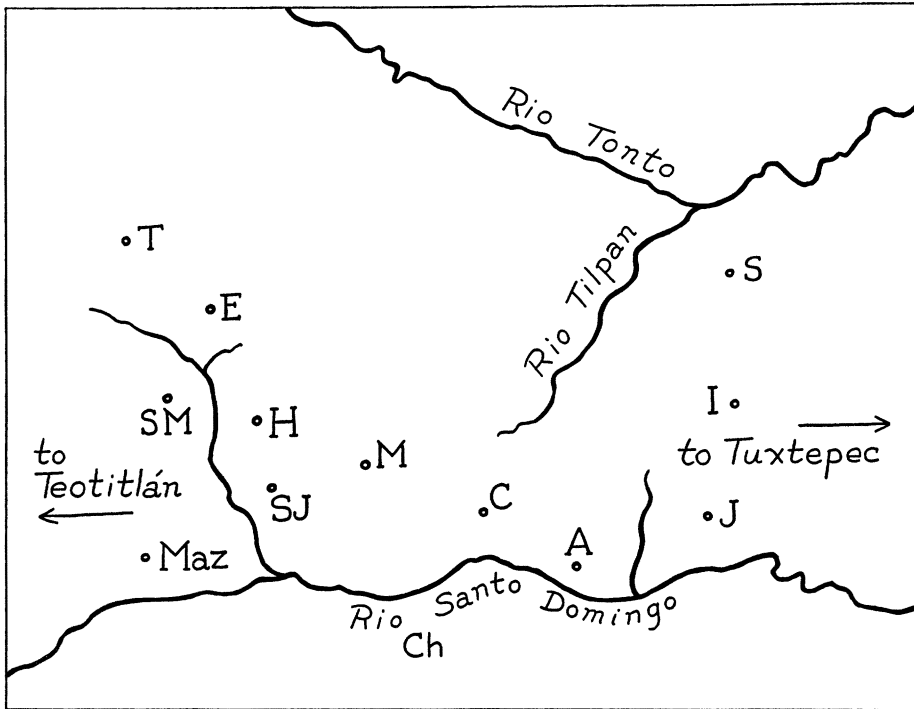
1.2. Mazatec is spoken by nearly 90,000 people in a compact area in the northeastern part of the state of Oaxaca, Mexico. This paper is based on data from ten dialects. Map 1 shows the approximate geographical location of the most prominent village in each dialect area. San Jerónimo Tecoatl, San Antonio Eloxochitlán, San Mateo Huautla, Huautla de Jiménez, Santa María Jiotes,

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MAP. 1. GEOGRAPHICAL LOCATION OF THE MAZATEC DIALECTS

A San Bartolomé Ayautla	I San Pedro Ixcatlán	S San Miguel Soyaltepec
C San Juan Coatzospan	J Jalapa de Díaz	SJ Santa María Jiotes
E San Antonio Eloxochitlán	M San Miguel Huautla	SM San Mateo Huautla
H Huautla de Jiménez	Maz Mazatlán de Flores	T San Jerónimo Tecoatl

and San Miguel Huautla are in mountain country. Mazatlán de Flores, Jalapa de Diaz, San Pedro Ixcatlán, and San Miguel Soyaltepec are in the lowlands in the river basins. In addition to the ten main dialects included in this study, two others are referred to in some of the lexical materials, namely the Ayautla dialect centering in San Bartolomé Ayautla on the edge of the highland, and the Chiquihuitlán dialect centering in the village of Chiquihuitlán de Benito Juarez. Chiquihuitlán is an isolated village with little contact with the rest of the Mazatec dialect area. The village of San Juan Coatzospan, located between San Miguel Huautla (hereafter referred to as San Miguel) and Ayautla, is a Mixtec village established as a colony during a period of Mixtec domination of the area, and now isolated from other Mixtec communities. Teotitlán del Camino to the West is the government seat for the highland area. Tuxtepec to the East is the government seat for the lowland area. Both of these centers are predominately Spanish-speaking.

2. **Dialect splits.** A phonological study of the Mazatec dialects, based on a reconstruction of Proto-Mazatec,[5] yields a 'family tree' picture of their genetic

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[5] The phonological and comparative material in this section is taken from the reconstruction of Proto-Mazatec in my *Proto-Mazatec structure* (University of Pennsylvania master's thesis, 1956).
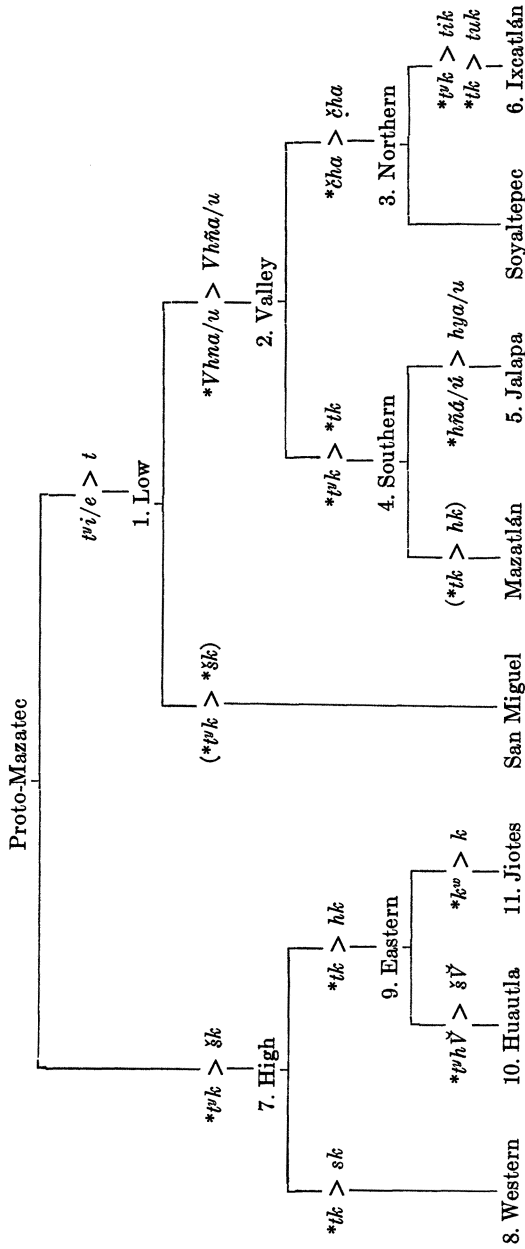
FIGURE 1. STEMMA OF THE MAZATEC DIALECTS

Numbers refer to isoglosses on Map 2

relationships as in Figure 1. The successive dialect splits may be seen most clearly by reading the chart from top to bottom, and correlating each split with the isoglosses on Map 2. These splits are described in detail here.

In **Low Mazatec,** *t^y before front vowels fell together with *$t > t$. On the map the limits of this innovation and therefore the boundary of this dialect are marked by Isogloss 1, which encloses Mazatlán, San Miguel, Jalapa, Ixcatlán, and Soyaltepec.

Low Mazatec further split into Valley and San Miguel dialects. In the **Valley dialect** intervocalic *n in cluster with *h before a back vowel fell together with *$\tilde{n} > \tilde{n}$. On the map, Isogloss 2 marks the limits of this innovation and of the Valley dialect which includes Mazatlán, Jalapa, Ixcatlán, and Soyaltepec.

There is no unique innovation marking the San Miguel dialect; it shares an innovation with the High dialect, which will be discussed later.

The Valley dialect in turn has split into Northern and Southern subdialects. In the **Northern dialect,** *$\check{c}$ in cluster with *h before *a has become $\c{c}$. On the map, Isogloss 3 marks the limits of this innovation and of the Northern dialect, which includes Ixcatlán and Soyaltepec.

In the **Southern dialect,** I postulate as a common innovation that *t^yk fell together with *tk, although neither of the living dialects at present has a tk cluster. Isogloss 4 shows the limits of this postulated innovation, and indicates
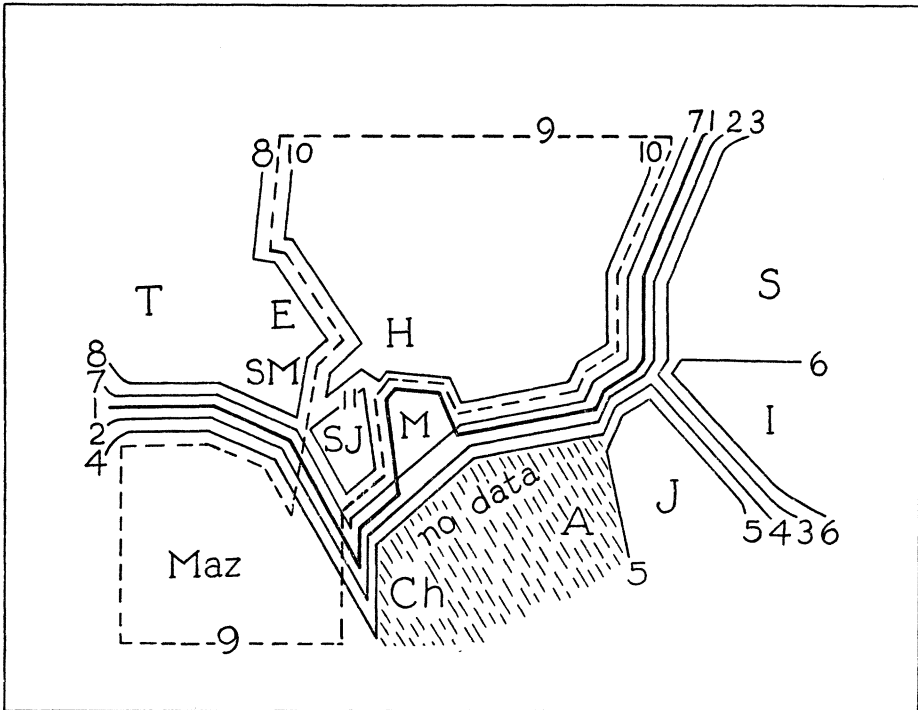
MAP. 2. PHONOLOGICAL ISOGLOSSES
The numbers of the isoglosses correspond to the numbering
of successive splits in Figure 1.

that the dialects of Mazatlán and Jalapa together constitute the Southern dialect. In Mazatlán both *$t^y k$ and *tk have now fallen together with *$hk > hk$; in Jalapa both have fallen together with simple k. As will be seen later, the development of the Mazatlán dialect requires an intermediate stage in which *t^y and *t had fallen together in this environment. Since it is only in these two dialects that *t^y and *t in this environment have identical reflexes, I postulate this as a common development.

The Southern dialect in turn split into the Mazatlán and Jalapa dialects. In the **Jalapa dialect** initial *$\tilde{n}$ in cluster with *h before stressed back vowel fell together with *$y > y$. On the map Isogloss 5 marks the limits of this innovation and of the Jalapa dialect, which includes only the village of Jalapa.

There is no unique innovation marking the Mazatlán dialect; it shares a later innovation with the Eastern High dialect, which is discussed below.

The **Northern dialect** split into the Soyaltepec and Ixcatlán dialects. In Ixcatlán alone, a vowel u has developed between the *t and *k of the *tk cluster, and an i has developed between the t and k of the *$t^y k$ cluster. Isogloss 6 marks the limits of this innovation and of the Ixcatlán dialect, which includes only the village of Ixcatlán.

This concludes the definition of subgroups in Low Mazatec.

In the **High dialect,** *t^y before *k fell together with *$\check{s} > \check{s}$. Isogloss 7 on the map marks the limits of this innovation, which occurred in Tecoatl, Eloxochitlán, San Mateo Huautla (hereafter called San Mateo), Huautla, Jiotes, and San Miguel. The inclusion of San Miguel within this High dialect area involves an apparent contradiction, since San Miguel has already been defined as part of the Low dialect. Since our procedure requires that we regard any (nonaccidental) exclusively shared innovation as evidence of common history, we are forced to conclude that the dialect of San Miguel has a common history with both the High and the Low dialect. But the assignment of the San Miguel dialect to two different subgroups would destroy the 'family tree' which has been postulated.

This seeming contradiction is most satisfactorily resolved by the hypothesis that a shift occurred in the lines of communication and therefore in the boundaries of the speech community. We postulate that the San Miguel dialect, originally a part of the Low Mazatec speech community, became effectively separated from that dialect and finally entered the speech community of the High dialect, sharing in the innovation which defines the latter.

High Mazatec further split into an Eastern and a Western dialect. In the **Western dialect,** *t before *k fell together with *$s > s$. On the map, Isogloss 8 marks the limits of this innovation and of the Western dialect, which includes Tecoatl, Eloxochitlán, and San Mateo.

In the **Eastern dialect,** *t in cluster with following *k fell together with *$h > h$. The dotted Isogloss 9 encloses the area in which this innovation has taken place, including Mazatlán, Jiotes, and Huautla. But Mazatlán has already been defined as a part of Low Mazatec. This problem, like that of San Miguel already discussed, can be resolved by considering the chronological order of the crucial innovations, which in this case is clear. *t^y as well as *t, in cluster before *k, fell together as h in the Mazatlán dialect. From this we conclude that the falling

together of $*t^y$ with $*t$ in that position must have preceded the falling together of every $*t$ from both sources with $*h$. This order of innovations permits us to assign the Mazatlán dialect to Southern Valley Low Mazatec on the basis of an early period of common development, and to consider the more recent innovation, shared with the Eastern High dialect, as the defining feature which separates the Mazatlán dialect from the rest of the Southern Valley Low dialect.

Alternatively the same conclusion may be stated in another way: the sound change $*tk > hk$ is an innovation that has spread across established dialect boundaries marked by the limits of older innovations.

The Eastern dialect further split into the Huautla and Jiotes dialects. In the **Huautla dialect** alone, $*t^yh$ in an unstressed syllable has fallen together with $*š > š$. On the map, Isogloss 10 marks the limits of this innovation and of the Huautla dialect.

In **Jiotes** alone, $*k^w$ has completely fallen together with $*k > k$. In all other dialects, $*k^w$ has fallen together either with a cluster kw, or with k followed by a vowel cluster beginning with u. Isogloss 11 marks the limits of this innovation and of the Jiotes dialect, which includes only Jiotes itself.

One additional isogloss, not included on the map, seems to contradict the family tree just outlined. sh in the dialects of Huautla and Jiotes (of the High dialect) and of San Miguel, Jalapa, and Ixcatlán (of the Low dialect) corresponds to ch in the dialects of Tecoatl, Eloxochitlán, and San Mateo (of the High dialect) and of Mazatlán and Soyaltepec (of the Low dialect). This apparent contradiction is resolved by noting that sh and ch are reflexes of Proto-Popolocan $*ch$. The innovating area in which $*c$ fell together with $*s$ is a central area. The retention of $*c$ occurs in the peripheral areas. We have here the typical picture of an innovation spreading from a central area and leaving conservative islands on the margins. This development is tentatively ascribed to a period preceding the family-tree development already discussed, though it may rather represent a period more recent than that in which the dialect boundaries were established. Nothing in the linguistic data as they are now known forces a choice between these hypotheses.

3. Word geography. For establishing linguistic subgroups, lexical isoglosses are less reliable than phonological isoglosses because (a) lexical items spread more easily than the results of phonemic changes, (b) it is difficult to determine whether a given lexical item is an innovation or a retention, and (c) it is often impossible to demonstrate the nonoccurrence of competing items. For these reasons the dialect divisions established by the phonological study of §2 are considered to be basic.

A number of the lexical isoglosses closely approximate the dialect boundaries established by the phonological isoglosses, except that there is more diffusion of lexical items, especially from the High dialect to Mazatlán and San Miguel (§3.1). Other lexical isoglosses reflect innovations which spread leaving peripheral relic areas (§3.2). Some isoglosses enclosing small areas may indicate either local innovations or relic areas; in some cases the evidence is ambiguous (§3.3). One set of isoglosses reflects an ancient competition of forms over the entire Mazatec area (§3.4).

3.1. The distributions of **he* and **kʷi* 'he', **cʔį* and **htų* 'back', **čahu* and **-su* 'ashes', and **čahu*, **skʷạ*, and **ša* 'dust' are shown on Map 3. Solid, broken, and dotted lines, lettered a, b, c, and d, enclose the areas in which the variants of these terms occur, as specified in the legend below the map itself. In all these cases San Miguel is included in the High dialect area. Mazatlán has the Low dialect forms for 'back' and 'he', the High dialect form for 'ashes', and both the High and Low dialect forms for 'dust'. Soyaltepec has the High dialect form for 'dust', but Low dialect forms for all of the others.

*n, **l*, and **nt* are Proto-Mazatec reflexes of preposed items which constituted a Proto-Popotecan[6] noun paradigm. These preposed items are no longer productive in the daughter languages, but the ancient alternation is reflected in the regularization of different items in different dialects. The present data include three nouns from this paradigm, shown on Map 4. The distribution of **lihi* or **ntihi*[7] 'grass' is shown by the lines lettered a. (Note that these isoglosses include only a small part of the speech community. San Mateo, Ayautla, and Eloxochitlán are excluded for lack of data; Tecoatl, Mazatlán, Jalapa, Ixcatlán, and Soyaltepec have unrelated forms.) The distribution of **liʔi* or **ntiʔi* or **niʔi* 'fire' is shown by the lines lettered b, that of **lahu* or **ntʸuhu* or **nuhu* 'stone' by the lines lettered c. In each case a solid line encloses the areas of **l* forms, a broken line the areas of **n* forms, and a dotted line the area of **nt* forms. It is evident that the **l* forms occur in the Eastern High Mazatec area (Huautla and Jiotes) with spread to the San Miguel dialect, the Mazatlán dialect, and the San Mateo dialect; the **ñ* forms occur in the Eastern High dialect (Tecoatl and Eloxochitlán), but have been replaced by **l* forms in San Mateo, and in one case by an **nt* form in Tecoatl; the **nt* forms occur in the Valley Low dialects, with the exception of Mazatlán.

3.2. Four words in the Western High dialect have *ʔi* as an innovating preposed item replacing some member of the Proto-Popotecan paradigm: **ya* in the High dialect, **nkV* in the Low. Map 5 shows the distribution of **ʔincuʔwa*, **(n)kancuʔwa*, and **ncuʔwa* 'belly' by the lines lettered a; the distribution of **ʔisį*, **yasį*, **nkisį*, **kasį* 'neck' by the lines lettered b; the distribution of **ʔicʔį*, **yacʔį*, **nkahtų* 'back' by the lines lettered c; and the distribution of **ʔihña*,

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[6] The term 'Popotecan' was coined from Popolocan and Mixtecan. Proto-Popotecan is the reconstructed parent of Mixtecan and Popolocan: Mazatec is a Popolocan language. The relationships are roughly as follows:

$$\text{Proto-Popotecan} \begin{cases} \text{Mixtecan} \\ \text{Popolocan} \begin{cases} \text{Mazatec} \\ \text{Ixcatec} \\ \text{Popoloc} \\ \text{Chocho} \end{cases} \end{cases}$$
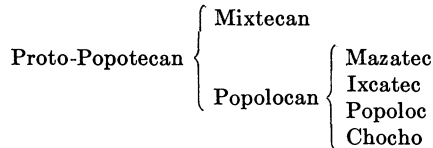
The detailed reconstruction of Proto-Popolocan and Proto-Popotecan may be found in my *Proto-Popotecan: A comparative study of Popolocan and Mixtecan* (University of Pennsylvania doctoral dissertation, 1958).

[7] All lexical items are quoted in their reconstructed Proto-Mazatec shapes, since the point in question is the distribution of the lexical items as such rather than of phonological variants.
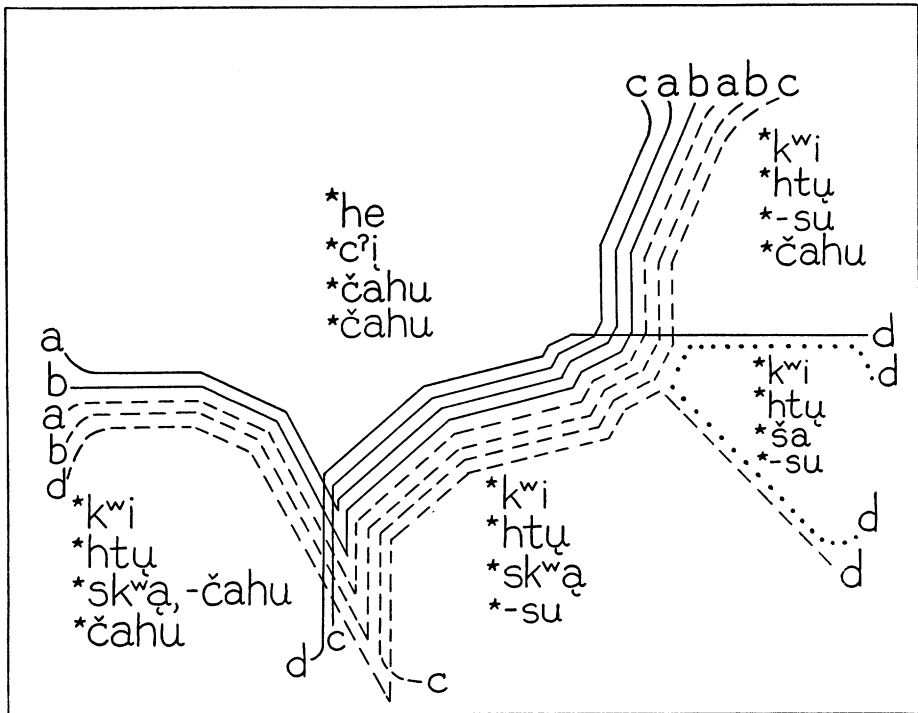
MAP 3. DISTRIBUTION OF LEXICAL PROTO-FORMS

FOR 'HE', 'BACK', 'ASHES', AND 'DUST'

line a:	solid *he	broken *kʷi		'he'
line b:	solid *cʔị	broken *htụ		'back'
line c:	solid *čahu	broken *-su		'ashes'
line d:	solid *čahu	broken *skʷạ	dotted *ša	'dust'

*nkihña 'grass' by the lines lettered d. In each case a solid line encloses the areas of *ʔi forms, a broken line the areas of *ya or zero forms, and a dotted line the areas of *nk forms.

The distribution of *ʔani, *ʔini, *ni 'red' and *ʔasu, *ʔisu, *su 'warm' shows a wider distribution of the *ʔi forms overlaid by a more recent innovation—complete loss of the preposed item—spreading from the Huautla dialect. This distribution is seen on Map 6. The solid line shows the farthest spread of the forms without pre-position; the broken line shows the farthest spread of the forms with *ʔi. The successive layerings are seen (a) in areas such as Huautla, having only forms without pre-position; (b) in areas such as San Mateo or Jiotes, having one form with *ʔi and one without pre-position; (c) in areas such as Ixcatlán, having one *ʔi form and one *ʔa form; and (d) in areas such as Mazatlán, San Miguel, or Soyaltepec, having only *ʔa forms. Unfortunately the data for Tecoatl, Ayautla, and Jalapa are incomplete. From the available data it is impossible to decide whether the *ʔa form was originally distributed over the entire Mazatec area or was limited to the Low dialect.
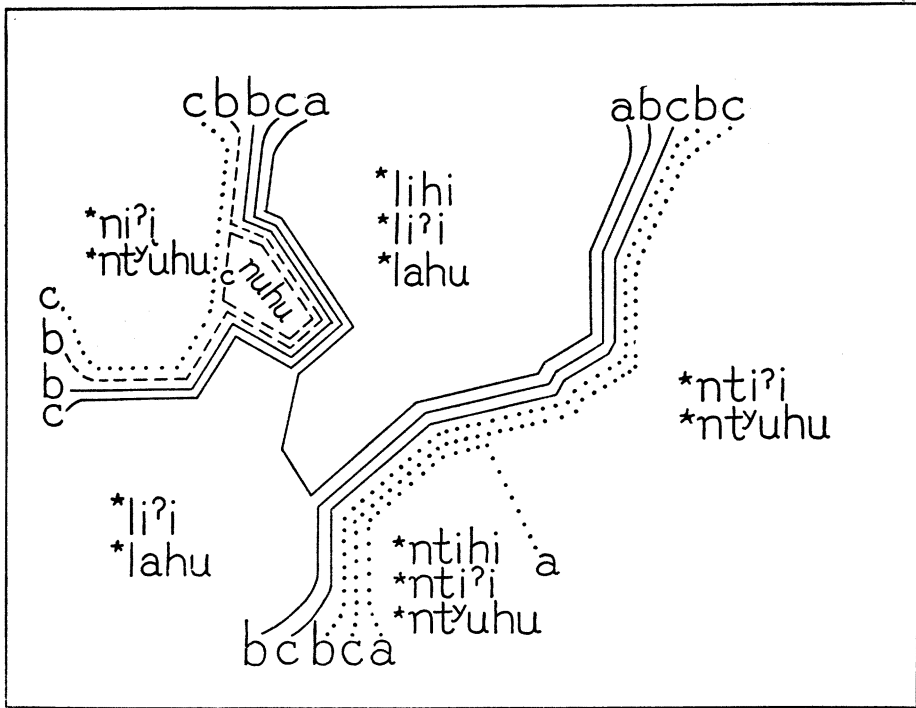
MAP 4. DISTRIBUTION OF *l, *n, *nt

line a:	solid *lihi		dotted *ntihi	'grass'
line b:	solid *li?i	broken *ni?i	dotted *nti?i	'fire'
line c:	solid *lahu	broken *nuhu	dotted *nt ͭuhu	'stone'

Several other lexical isoglosses cut across the dialect boundaries established by phonological criteria. They provide a typical picture of marginal relic areas on the periphery of central innovation areas.

*ntahi̧ 'not good' is found as a relic in the Mazatlán and Northern Low dialects. The innovation *č?o 'bad' occurs elsewhere.

*yahuhi̧ 'not dull' is found as a relic in Soyaltepec, Tecoatl, and Mazatlán dialects. Three innovating forms meaning 'sharp' compete in the rest of the area.

*hñu 'night' occurs in the Jalapa and Mazatlán dialects, and competes with the innovation *ništhȩ in Tecoatl and Eloxochitlán dialects. Elsewhere the innovating form occurs alone.

There are apparently two relic forms for 'little': *či occurs in the Soyaltepec, Ixcatlán, Jalapa, and San Miguel dialects; *ce occurs as a relic in the Tecoatl, Eloxochitlán, and Mazatlán dialects. The innovation *nti occurs elsewhere.

*t ͭhu?mi 'leg' occurs as a relic in the Tecoatl, Eloxochitlán, and Ixcatlán dialects. The innovation *nkasu occurs everywhere else except in Soyaltepec, where a special innovation occurs.

In addition, several items occurring in single limited areas appear, on the basis of linguistic evidence, to be relics rather than limited innovations: *chai alternat-
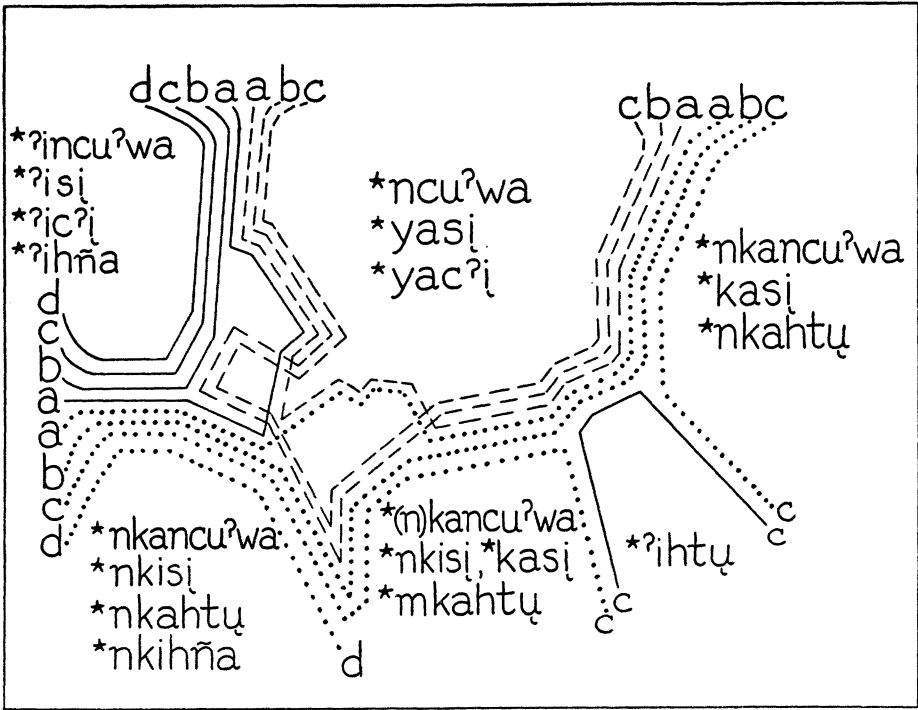
MAP 5. DISTRIBUTION OF *ʔi-, *ya-, *(n)ka/i-

line a:	solid *ʔincuʔwa	broken *ncuʔwa	dotted *(n)kancuʔwa	'belly'
line b:	solid *ʔisį	broken *yasį	dotted *nkisį, *kasį	'neck'
line c:	solid *ʔicʔį, *ʔihtų	broken *yacʔį	dotted *nkahtų	'back'
line d:	solid *ʔihña	broken *nkihña		'grass'

ing with *saʔą 'foot' occurs only in the Soyaltepec dialect, whereas the innovation *ncaku occurs elsewhere; *čika 'ear' occurs as a relic in the Tecoatl and Eloxochitlán dialects, whereas variants of *tʲhawañuhų 'skin of the ear' occur elsewhere.

3.3. A number of lexical isoglosses show innovations limited to one or two local dialects: *kayu 'dull' occurs only in the Jiotes dialect. *thęį 'dull' occurs only in the Jalapa dialect. *ncaku 'leg' occurs only in the Soyaltepec dialect; elsewhere the word means 'foot'. *čaku 'sun' occurs only in the Mazatlán dialect; elsewhere the word means 'holy'. *ninti 'cloud' occurs only in the Jalapa and Ixcatlán dialects; elsewhere the word means 'smoke'. *the 'dirty' occurs only in the Western High dialect; elsewhere the word means 'rubbish'. *čʔo 'dirty' occurs only in the dialect of Ayautla; elsewhere the word means 'ugly' or 'bad'. *ša 'dust' occurs only in the Ixcatlán dialect. *ša 'dirty' occurs only in the Mazatlán and Chiquihuitlán dialects.

Among the various competing words for 'grass' it is difficult to decide which are innovations and which are relics. *hña occurs in the Mazatlán and Tecoatl dialects; elsewhere it is used for 'woods' or 'brush'. *ška occurs in the Jalapa
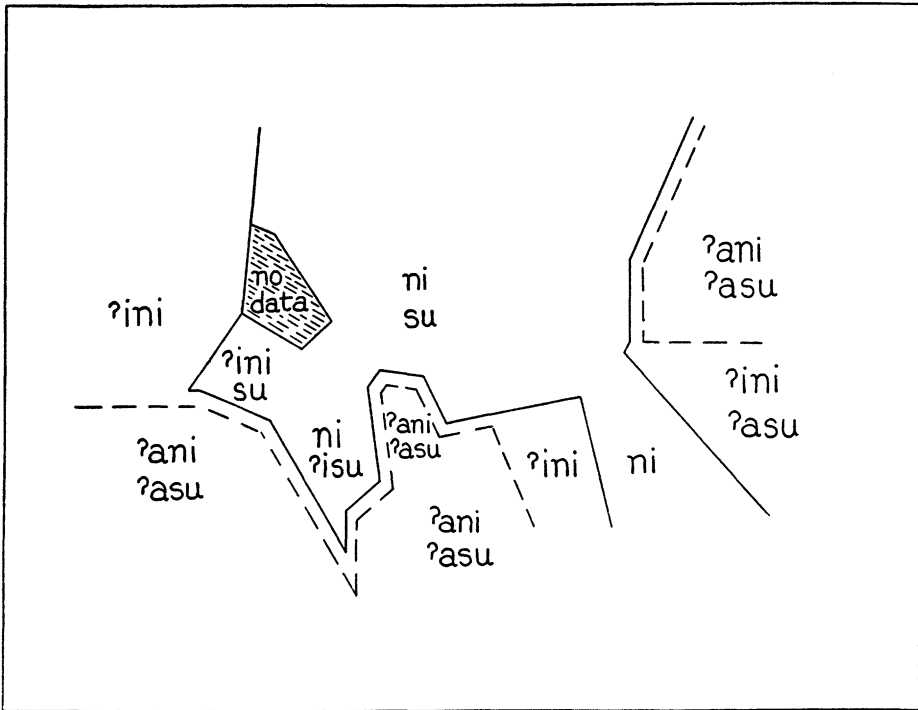
MAP 6. DISTRIBUTION OF *ʔi-, *ʔa-, *ϴ-

solid line: limits of zero pre-position spreading from H
dashed line: limits of *ʔi- pre-position spreading from T

and Ixcatlán dialects; elsewhere it is used for 'leaf' or 'herb'. *the occurs in the Soyaltepec dialect; elsewhere it is used for 'rubbish' or 'dirty'. *lihi or *ntihi occurs in the Huautla, Jiotes, San Miguel, and Chiquihuitlán dialects.

3.4. A feature of Proto-Popolocan, and perhaps also of Proto-Popotecan, is an alternation of *u and *a in the initial syllables of nouns. The material includes seven words showing this alternation: *šuʔma, *šaʔma 'bridge'; *ncuku, *ncaku 'foot'; *šuʔwe, *šaʔwe 'wasp'; *suse, *sase 'green'; *kutu, *katu 'round'; *šuʔnta, *šaʔnta 'chicken'; and *ntuwa, *ntawa 'sunshine'. The isoglosses are so confused as to make mapping impracticable. Tecoatl has *u in 'green', 'foot', 'bridge', and 'sunshine', but *a alternating with *u in 'chicken'; San Mateo has *u in 'foot', but *a in 'green' and 'round'; Huautla has *u in 'foot', 'bridge', 'sunshine', 'wasp', and 'round', but *a in 'green', and *u alternating with *a in 'chicken'; Jiotes has *u in 'foot', 'bridge', and 'round', but *a in 'wasp', 'green', and 'chicken'; San Miguel has *u in 'green', but *a in 'chicken', 'wasp', 'sunshine', 'bridge', and 'foot'; Mazatlán has *u in 'green', but *a in 'foot', 'bridge', 'sunshine', and 'chicken'; Jalapa has *u in 'foot', 'sunshine', 'wasp', and 'round', but *a in 'green' and 'chicken'; Ixcatlán has *u in 'foot' and 'wasp', but *a in 'green' and 'round', and *u alternating with *a in 'chicken'; Soyaltepec has *u in 'wasp', 'green', 'round', but *a in 'chicken' and 'sunshine'. From this irregular crosshatch of

isoglosses, we conclude that free alternation of *u and *a in this position was a widespread feature of Proto-Mazatec before the development of the subdialects.

4. Political history. We may now compare this outline of linguistic development with what little is known of Mazatec political history. From a brief summary by Alfonso Villa Rojas[8] I glean the following highlights.

From 890 to 1170 A.D. there was a lowland Mazatec nation united under a single ruler. This nation included what is now Jalapa, Ixcatlán, Soyaltepec, and Ayautla. Mazatlán is not mentioned by name, but its location on the Santo Domingo river, upstream from the main body of the lowland settlement, makes it possible that it was either an outpost of the early kingdom or settled by migrants from the kingdom. A similar supposition applies to San Miguel, which is also missing from the list of Lowland communities but is in the mountains not far above Ayautla.

From 1170 to 1300 the area seems to have been under the domination of invaders whose exact origin and identity are unknown. At this time the highland villages are mentioned for the first time.

From 1300 to 1456 the Mazatecs had two kingdoms, a Lowland kingdom and a Highland kingdom which specifically included Mazatlán. It was during this period that the Mazatecs were for a time ruled by the Mixtecs, and it may have been during this period of domination that the village of San Juan was established. If so, that may have been the factor that isolated San Miguel from the Low kingdom and made it a part of the High kingdom.

In 1456 the Mazatecs were conquered by the Aztecs. This produced little change in political boundaries; the territory continued to be ruled as two separate districts. The High country, including Mazatlán, was under the government seat at Teotitlán, west of the limits of Map 1, and the Low country was under a government seat at Tuxtepec, off the map to the east. This political organization has continued under the Mexican government to the present time.

5. Linguistic history. On the basis of the foregoing comparative, historical, and geographical data, the history of the Mazatec dialects can be summarized as a succession of seven periods.

(A) A period of relative homogeneity, in which the free alternation of *a and *u in initial syllables occurred over the entire area.

(B) A period in which minor innovations, including phonological and lexical changes, spread from the central area, leaving relic islands on the periphery. It is probable that periods (A) and (B) preceded the period in which a lowland nation first flourished.

(C) A period in which Low Mazatec developed its characteristic phonological and lexical features. Apparently the speakers of the Mazatlán and San Miguel

[8] Alfonso Villa Rojas, Los Mazatecos y el problema indígena de la Cuenca del Papaloapan, *Memorias del Instituto Nacional Indigenista* 7.61–74 (Mexico, 1955). Villa Rojas' outline of Mazatec history depends largely upon Mariano Espinosa, *Apuntes históricos de los tribus Chinantecas, Mazatecas y Popolucas* (Mexico, 1910). Espinosa appears to have spent a great deal of time with the Indians, and claimed to have access to genealogies, maps, documents, and paintings which were at that time in the Indians' hands. The date, nature, and reliability of these sources is not known.

dialects were part of the Lowland group at that time. This period probably corresponds to the era of the Lowland Mazatec Nation.

(D) A period in which the Valley dialect developed the characteristic features which distinguish it from the San Miguel dialect. It may have been later in the same period that the Southern Valley developed the features which differentiate it from the Northern Valley dialect. This period probably corresponds to the period of foreign domination.

(E) A period in which the High dialect developed its characteristic features, shared by the San Miguel and Mazatlán dialects. This period seems to have coincided with the historical period from 1300 to 1456, during which two kingdoms were set up and Mazatlán was joined to the highland. It was apparently also during this period that the Mixtec village which cuts off San Miguel from Low country was established.

(F) A period in which the Western High, San Miguel, and Northern Low dialects were differentiated. This period probably coincided with the period of Aztec rule.

(G) A period in which recent developments took place in individual dialects. This may overlap the end of the Aztec rule and the beginning of Spanish rule.

In a previous article[9] I presented a contrast between the development of Mazatec dialects as implied by a lexicostatistical study, and the development implied by the comparative method. In that article, the lexical material was dealt with only statistically: the comparative data were scanty; and the criterion of exclusively shared innovations was not used, so that trivial changes and retentions were taken into consideration. Moreover, the earlier study was able to draw on data from only six dialects instead of the present ten. The question arises, how do the conclusions of that article compare with the conclusions of this more thorough study?

The two analyses are basically similar; the difference is one of detail and supporting evidence. The earlier article postulated only three historical periods. The first, 'an early period in which there was lexical and phonological differentiation of Huautla from the other areas', corresponds to period C of this study. (The heavy emphasis in the earlier article on the Huautla dialect is due largely to the fact that data from Tecoatl, Eloxochitlán, and Jiotes were not available, so that the unity of the High dialect was not apparent.) The second, 'lexical and phonological differentiation within the non-Huautla dialects', corresponds to period D of this study. And the third, 'a later period during which there was a great deal of lexical borrowing by San Miguel from Huautla', corresponds to period E of this study. Periods A, B, F, and G are the result of the greater detail of this study, and the greater quantity of material available for it.

[9] Lexico-statistical skewing from dialect borrowing, *IJAL* 21.138–49 (1955).