SOME ASPECTS OF THE LEXICAL STRUCTURE OF A MAZATEC HISTORICAL TEXT

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Acknowledgements

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1 Lexical Structure

1.1. Descriptive linguistics of recent years has made significant advances in the development of techniques for the discovery and the display of language structure, first, on the phonological level, and more recently, on the grammatical level. This has not been true in the area of lexicon.

Some linguists did not consider lexicon or vocabulary a part of language at all. (Gleason, 1962; p. 86) Others made a passing mention of it but did not consider it a proper subject for, nor indeed amenable to, structural analysis of the kind in which they were primarily interested. The systematic structuring and interrelationship of morpheme and word classes was of interest, but the individual class members, the lexical items themselves, seemed irrelevant and without system. If handled at all, they were simply catalogued by an arbitrary alphabetical listing for easy recovery purposes.[1]

1.2. Lexicographers have always been and are cur-

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[1] De Saussure (1959; p. 86) includes lexicology as a part of language but describes it simply as "words as they are registered in the dictionary." Bloomfield (1933; pp. 269, 274) considers lexicon as simply a "list of morphemes," "really an appendix of the grammar, a list of basic irregularities." Sturtevant (1947; p. 52) says, "in actual practice lexicography treats of the words of a language as separate entities. . . a lexicon contains the material that cannot succinctly be combined into general statements." Gleason (1955) and Hockett (1958), both purporting to give a general introduction to the whole field of descriptive linguistics, give no consideration to lexicon as such.

rently much occupied with the problems related to lexicon and especially the making of dictionaries.[2]   Their work has too often been marked by indefiniteness of methodology and lack of discovery procedures for their semantic descriptions (see Weinreich, 1962; p. 26).   Their main concern has been in the practical aspects of dictionary making and "the semantic description of the individual terms (in such contexts as may be appropriate)" (Weinreich, 1962; p. 26) but with little or no investigation of the lexical structuring of these contexts in text material.[3]

1.3. That there may be a lexical level of linguistic structure distinct from the grammatical and perhaps even distinct from the semantic has been suggested more and more emphatically in recent years by several linguists.[4]   The data itself forced this upon them.

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[2] Note the 1960 conference on lexicography held at Indiana University and the report, Problems in Lexicography, which appeared subsequently.

[3] Weinreich frankly states that "Conventional lexicography is not interested in any 'linguistic meaning' separate from 'cultural meaning.'" He then proceeds to illustrate this very attitude by saying that the theory that "The 'linguistic meaning' of a term is the probability that it will occur, calculated from the context of other forms in the same discourse" is to be excluded. "From the point of view of a dictionary, the probability of a term's occurrence, if at all calculable, measures only its banality or meaninglessness." (p. 28.) Similarly he dismisses the point of view that "the meaning of a term is its use in the language. . . . As a general theory it would require us to renounce dictionaries and to be satisfied, at most, with concordances." (p. 29.) But how many users of dictionaries, especially but not exclusively users of bilingual dictionaries, wish dictionaries would give more help on the probability of use "calculated from the context of other forms." My son, a senior in an American high school, trying to compose an illustrative example for his English teachers of the use of a word such as fuscous, found the dictionary definition gave him no idea what sort of things would be called "fuscous."

[4] Hoenigswald (1962; p. 105) seems to sense that something is there to be discovered and described when he says, ". . . the privileges of occurrence for morphemes are of interest both to the grammarian and to the lexicographer."   Later (pp. 107-8) he asks ". . . how do diction-

Statements of the co-occurrence of grammatical classes
had frequently to be qualified since certain exponents of one
class did not occur, and at times even gave the impression
that they could not occur, with all the members of the other

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aries. . . modify the ideal of listing-plus-indexing?   What information
on grammar or on co-occurrence in general is excerpted and trans-
ferred to the list. . .?"   On another occasion (1960; p. 30) he has com-
mented that "The morphs give the appearance of moving in and out of a
fixed framework of meanings." (Italics mine.)

Pike (1960; pp. 71-74) says: ". . . one of the most crucial ques-
tions of this chapter and of the book as a whole: Can we be certain
that the lexical hierarchy is structurally different from the grammatical
hierarchy? Must we indeed deal with three hierarchies--the lexical, the
phonological, and the grammatical--or could we deal with only two, one
of which is phonological and the other is a composite of grammar with
its manifesting bits?   In our view, the data which have been presented
thus far indicate that the lexical and grammatical hierarchies must indeed
be kept distinct." He then proceeds to give ten reasons, with examples,
of why a lexical as distinct from a grammatical level of linguistic struc-
ture must be postulated.

Gleason (1963; pp. 97-98) also suggests that lexicon may be struc-
tured.   "Perhaps what we have blithely called lexicon is after all a
residuum of unanalyzed material out of which there remain to be sorted
a system, or even a number of systems of diverse types.   This latter I
would consider the most likely situation. . . it may well be that we have
not developed methods of finding those structures which actually exist. . . .
What is required at this stage is not so much a discussion of the relation
of grammar and lexicon, as an effort to bring some order into the chaos
we have been calling lexicon. . . .   The [content] structure as a whole
is related at many points with the grammar, but it is not isomorphic.
The relationships which are pertinent are a different set of relation-
ships and sometimes cut across those which are grammatically pertinent.
They must be analyzed by a different set of comparisons, and the re-
sults must be analyzed in a different way.   But it seems to me that the
differences in analytic method and structure of the resulting statement
are not more different from those of grammatical analysis than are those
of phonological analysis." He goes on to say, with special reference to
dictionary making (p. 102), "Pending the day when we may have content
analyses which are systematic and reasonably complete, we ought to make
maximum use of the available scraps of information about ordered con-
trast, hierarchical substitution relations, and patterned collocations. In

class, even though the construction as such seemed perfectly grammatical, and in fact occurred for other members of the same classes.[5]   Subclassification seemed the only way of handling such refractory materials.[6]   Such situations seemed to involve restrictions definitely of a lexical order, since

particular, the latter notion should give some guidance in the selection of illustrative citations." (Italics mine.)

Halliday (1961; p. 246) distinguishes sharply between grammar and lexis: "Grammar is that level of linguistic form at which operate closed systems. . . . Any part of linguistic form which is not concerned with the operation of closed systems belongs to the level of lexis. . . . So there must be a theory of lexis, to account for that part of linguistic form which grammar cannot handle. . . the theory has to treat them as two distinct types of pattern requiring different categories. For this reason General Linguistic theory must here provide both a theory of grammar and a theory of lexis and also a means of relating the two."

McIntosh (1961; pp. 328-29) is equally insistent that lexicon is a distinct and legitimate part of linguistic interest. "If one sentence differs significantly from another even though their structure is the same, this is a linguistic difference. . . . A merely grammatical description is no more a complete linguistic description than is a merely lexical one. . . . It should not therefore be beneath the dignity of the linguist to try to understand the strictly linguistic problems which are connected with the final selection of particular clusters of lexical items in particular grammatical patterns in a given instance of a sentence as used in a live situation."

Longacre (1964; p. 2) says: "Lexicon is a third mode of linguistic structuring. It is sufficiently separate from grammar that the description of the interplay of item and context, of idiom formation, and of lexical strings. . . is a study within itself."

[5] Pike (1954; p. 110b) points out: "Occasionally words are excluded from certain contexts, . . . because. . . inappropriate. These are the situations where it does not 'make sense' to put certain morphemes together, even though the grammatical conditions and style do not prevent their juxtaposition or use in the same context in that manner." See also his statements on variants of morphemes conditioned by neighboring morphemes (p. 85b) and variants of morpheme classes (p. 109b).

[6] Witness Lees' (1960; p. 17) statement: "Finally, in this section of the. . . grammar there are various detailed rules to develop the many individual verb classes, such as those which take only animate subject. . . animate subject and inanimate object, deletable and non-deletable. . ."

they could not be stated simply in terms of grammatical classes and often not even in terms of neat semantic categories but required the listing of individual lexical items. Then there were cases where the occurrence of certain lexical items, perhaps with certain elements of meaning in common but ultimately only definable by listing, called for certain grammatical structures.[7]

Translators, those engaged in research in both the theoretical and applied aspects of translation, by the very fact that they had to work simultaneously with two language systems became aware of differences in language structures. Some of the differences were grammatical. Languages differed widely in the devices and structures used to communicate the same or nearly equivalent content. They differed in their categories and the lexical exponents of these categories. Finding of lexical equivalents was by no means easy. Beyond that, however, was the fact that the collocational habits of one language were often sharply different from those of another. These differences were not entirely unsystematic. Each language had its own concordances of cer-

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and his enforced listing of different adjective, noun, pronoun, and verb subclasses by specific lexical items in each. (See pp. 22-23.)

McIntosh (1961; p. 325) points out: "Some way of looking at language in which a distinction is made between grammar and lexis seems to be necessary if the patternings are to be economically stated or defined. For there is a difference between speaking about the elegibility of a particular CLASS OF UNIT in some place or places in the grammatical structure of a language and about the elegibility of EXPONENTS of that class of unit in such a place or places in a particular sentence. . . there are lexical factors, factors of collocational elegibility, which. . . tend to rule out of actual use a large number of 'sentences' (and smaller units) even though these seem to conform to all rules of grammatical patterns."

[7] Richard S. Pittman has pointed out that in Spanish after verbs of wishing, wanting, commanding, and desiring, the subordinate clause is in the subjunctive, and that in Swahili, gender in the noun classes is stateable only in terms of lexical lists. Statements of common meaning may be memory aids but are unsatisfactory for definition of the classes.

tain lexical items but these concordances were different, sometimes only partially different, from those of the equivalent lexical items in the other language.[8]   In other words languages differed not only in their lexical inventory but in their lexical structuring.

To say that the limitations of co-occurrence of members of grammatical classes in the same language were purely semantic did not entirely explain the facts.   Some lexical combinations which would make sense and present no particular problem of understanding were not used, nor were they accepted when suggested except under very unusual or special circumstances.[9]   On the other hand, given special circumstances such as a poem, a fairy tale, a punster's repartee, or a linguistic bull session, the very same combinations, including some most unlikely ones[10] might be highly acceptable.   In other words it did not seem that the co-occurrence was semantically limited but lexically and contextually limited.

1.4.   There is a need therefore for statements of lexical distribution on a lexical level since statements of distribution of such items on other levels does not account for all the facts.   But are such statements to be simply a listing again, or is there structure at the lexical level and patternings which will lend themselves to more general and economical statements?   Is there one system, or are there many systems whereby the same data may be variously viewed?

[8] See Longacre (1958; pp. 482-91) and Nida (1961; pp. 313-18).

[9] Harris (1957; p. 285, fn. 3) gives the example of "I saw them off" as acceptable but "I noticed them off," as unacceptable.

McIntosh (1961; p. 335) gives the example of "the rhododendron bush died" as acceptable but "the rhododendron bush passed away," as unacceptable or highly unlikely.

[10] McIntosh (1961; p. 326) suggests reasonable contexts for such sentences as "The flaming waste-basket snored violently," and (p. 329) "This lemon is sweet."

Some have seemed quite pessimistic that much could be done at the lexical level as such.[11]   Others, however, have been probing in various areas of lexicon and with differing approaches, and what they have produced is, in the opinion of the present writer, both stimulating and encouraging.[12] The attempts have been piecemeal but they have displayed evidences of lexical structure. It may well be that no overall comprehensive patterning may be found until many more such attempts have been made. The present study is another such attempt on a limited front.

1.5. It is not easy to define what is meant by lexicon and what should be included in the area of lexicon. It has been traditional to think of a lexicon as a list of morphemes. Grammar was conceived of as the structure in which these occurred.[13]   More recently, however, there has been a growing number who have felt that some morphemes were purely grammatical in function and meaning, should be ac-

[11] Harris (1957; p. 285) says ". . . to describe a language in terms of the co-occurrences of the individual morphemes is virtually impossible; almost each morpheme has a unique set of co-occurrents; the set varies with individual speakers and with time (whereas the [grammatical] class combinations are relatively permanent); it is in general impossible to obtain a complete list of co-occurrents for any morpheme. . ."

[12] See the bibliography under Conklin, Franklin, Harris, Hockett, Landar, Newman, and Voegelin for fruitful attempts to describe lexical hierarchies in folk taxonomies (Conklin, Franklin), elicitation methods and analysis by overlapping, continuous, and discontinuous lexical referents, of a broad sweep of Hopi vocabulary (Voegelin and Voegelin) and by use of matrices (Landar), general aspects of idiom formation (Hockett), and the use of recurring lexical strings and sequence equivalence classes of such strings to get at discourse structure (Harris).

[13] "By the term lexicon we mean the actual stock of all the morphemes, idioms, etc., of a language, while the term dictionary is used to refer to a written file or list of such lexical units." (Elson and Pickett, 1962; p. 7, fn. 1.) ". . . grammar--the study of the functions of lexical units as they are related to each other and as they exhibit grammatical structures." (p. 7)

counted for only in the grammar, and were not properly a part of lexicon.[14] Some have felt that the borderline might not always be too easy to define.[15] Others hold that, in general, closed or limited classes should be handled in grammar (since they carried a relatively high function load as construction markers even though there might be contrasts in "content" between the members of such classes) and open or unlimited classes should be handled in the lexicon (since with these the content load was high and the grammatical function of the individual class member relatively low).[16]

[14] For example the meaning of "to" in English "to sing" can only be defined in terms of the grammatical construction in which it occurs and in terms of the class which it marks. It has no lexical meaning, i.e., "one which may be defined by a non-linguistic referent" (Pittman, 1957; pp. 1-5) and as such would be excluded from lexicon and considered purely and simply a grammatical item. He also cites William Moulton's contrast of lexical and structural (grammatical) on the basis of referent "outside the code" versus "inside the code."

[15] Pittman (1957) also points out that there are morphemes which have a lexical meaning in addition to a class meaning, e.g., -s "plural" in English, which is not only a class marker but also "can be defined or illustrated by numerous non-linguistic parallels." Here is an item which falls in both fields on this type of definition.

Much earlier Sweet (1900; p. 74) had said: "the prepositions and many of the particles belong both to the grammar and the dictionary."

[16] Halliday (1961; p. 246) "Grammar is that level of linguistic form at which operate closed systems. . . 'closed system' . . . the crucial criteria for distinguishing grammar from lexis. . . . Any part of linguistic form which is not concerned with the operation of closed systems belongs to the level of lexis." Then in fn. 60 he quotes Paul Garvin, in Georgetown University Monograph Series No. 9, (1957), p. 55, fn. 11 as saying, "Morphemes of limited class membership should be listed in the grammar and morphemes which belong to classes of unlimited membership should be exemplified in the grammar and listed in the dictionary."

Fries (1952; p. 106) points out that the large open classes also serve as structural signals, and that while certain of the function word classes present great difficulty when one tries to state lexical meaning apart from the structural meaning, there are some, such as English "in," "on," "and," "at" for which meaning differences can be described apart from the structure.

All seem agreed that members of the large open productive word classes are without question to be included in lexicon.

1.6. On the other hand there has been a tendency to confuse lexicon with meaning, and the lexical level with the semantic level.[17] The point of view taken here is that there is a lexical level of linguistic structure of the same status as the phonological level and the grammatical level, and that the semantic level is essentially distinct from the lexical, perhaps not even of the same order. Each level, in its own dimension, and with its own techniques, must account for all the data. Meaning is a composite that draws from all levels,[18] but is not to be equated exclusively with any one level.

[17] Many linguists have ruled semantics as outside the field of their interest. Others have not shunned to try their linguistic tools on certain aspects of it, holding that ultimately in some way it is related and integrated into the total language activity of people. For examples of attempts to develop techniques for discovering and displaying semantic categories see Nida (1951; pp. 1-14) and (1958; pp. 279-92); Newman (1954; pp. 82-91); and Lounsbury (1956; pp. 158-94). In all these there is acknowledgement of lexical and semantic factors but they are usually blended, not distinguished.

[18] Firth (1951) speaks of "the spectrum of descriptive linguistics, which handles and states meaning by dispersing it in a range of techniques working at a series of levels." (p. 125) "Even in a dictionary, the. . . meaning of any given word is achieved by multiple statements of meaning at different levels. First, at the orthographic level. . . . Next by. . . phonetic notation the pronunciation is stated. . . by. . . statements at the grammatical level a further component of meaning is made explicit. Formal and etymological meaning may be added, together with social indications of usage. . ." (pp. 120-21) He also distinguishes the conceptional and collocational levels. "Meaning by collocation. . . is not directly concerned with the conceptual or idea approach to the meaning of words. One of the meanings of <u>night</u> is its collocability with <u>dark</u>, and of <u>dark</u>, of course, collocation with <u>night</u>." (p. 125)

Lees (1957; pp. 375-408) while pointing out that meaning can not be fully accounted for by any one of several proposed definitions or identified with the product of any one of several different procedures, fails to make the point that meaning may well be a composite of all. Strangely enough in his list collocational meaning does not even come in for mention.

The present study therefore will be concerned primarily
with the collocational habits of lexical items in terms of
other lexical items and groupings of such items, both on the
horizontal plane (syntagmatic, lexical strings and construc-
tions) and the vertical plane (paradigmatic, lexical classes).
It will only secondarily be concerned with the more general
aspects of the meaning of such combinations.   Meaning will
be recognized and at times will be invoked even as grammar
is, as a controlling factor, but only collocational or lexical
meaning will be of direct concern.

1.7. Lexical items occur in a number of different con-
texts. [19] The broad cultural context of the political history
of Mexico with its present day carry-over is helpful to an
understanding of our text and many of the lexical items used.
The immediate situational context, the circumstance under
which the narration was given, including the audience to
whom it was given, is also relevant at the lexical level. His
audience not only knew many of the participants personally
but were related to some.   This fact undoubtedly determined
certain lexical choices for the informant as he referred to
them by appropriate kinship terms.   Of even greater impor-
tance, however, is the context of the discourse itself.   The
range and types of synonymity develop as the story pro-
gresses and the same referents are spoken about in new and
different ways.   The discourse itself is structured and lexi-
cal co-occurrence plays a part in establishing and reflecting
the contrastive elements of this structure. The context of
other co-occurring lexical items throughout the discourse,
but especially within the immediate environment of the sen-
tence, clause and phrase will receive most attention of all.

[19] Nida, in the three articles listed in the bibliography, distinguishes
cultural, discourse, and morphemic contexts, but only in "Some Problems
of Semantic Structure," (pp. 314-18) does he enlarge on the distinctly
lexical level matters that are our primary concern here.

2   Methodology

2.1. Methods for discovering and describing lexical structure are not well defined. Attempts to date have included the study of ordered contrasts or antonyms,[1] the study of hierarchical substitutions or synonyms,[2] the analysis of overlapping lexical referents,[3] the categorizations of types of idiom formation,[4] the use of frames and substitutions,[5] the use of recurring lexical strings and sequence equivalence classes,[6] and eliciting by matrix to explore the range of acceptable combinations of lexical items.[7] There is no comprehensive theory of lexicon, nor do the attempts just mentioned fit together easily into one piece.

In the present study a number of different techniques were used, especially frame and substitute item, expanding lexical strings, modified equivalence chain procedures as developed in discourse analysis, and transformational procedures where they helped to keep lexical strings in a more

[1] See Gleason (1962; pp. 97-100), Conklin (1962; pp. 127-28), and Swanson (1962; p. 68).

[2] See Conklin (1962; pp. 128-41) and Franklin (1963; pp. 54-63).

[3] Voegelin and Voegelin, 1957.

[4] Hockett, 1958; pp. 160-73, 303-18.

[5] See Nida (1961) and Harris (1957): "Even for discussion of individual co-occurrence itself, it is convenient to use the framework of classes and constructions." (p. 285)

[6] Harris, 1952a; pp. 1-30 and 1952b; pp. 474-94.

[7] Landar, 1960; pp. 351-54.

comparable form.   It was felt that a broad sampling on many
different fronts, rather than an exhaustive attempt at any one
level using any particular technique would probably be more
rewarding. The utility of the techniques will be evident from
the results obtained.

2.2. In this present study we take as the starting point
a consideration of the lexical associations of the members of
the two largest classes in Mazatec, the nouns and the verbs.[8]
Members of the smaller attributive and particle classes were
not excluded, however, since these also occur as parts of
lexical strings.   Pronouns, whether independent or bound,
as substitutes for lexical items were considered important in
studies at the lexical level, since wherever they occur the
lexical class for which they substitute may be considered to
occur.   Since the study was exploratory, it seemed wisest
not to be too quick to exclude members of any class but
rather to let the analysis as it proceeded show what seemed
more rewarding (and therefore to be included) and what
seemed less rewarding (and perhaps therefore to be excluded).

We began with a rapid reading of the entire text. On the
first reading we were struck by the frequent use of the ex-
pression $v^{?}e^{1}$ $na^{4}jmi^{1}$ 'make conversation', by the different
terms used to describe the combatants and the authorities,
by the variety of lexical terms referring to the fighting, and
by the high frequency of terms referring to the elders of the
tribe.   We began to comb the text for such expressions,
copying them out into lists where they could be compared
more easily.   In the course of doing this we noted other high
frequency items, such as $cjoa^{4}si^{3}$ 'trouble', $ntia^{42}$ 'trail',
$na^{4}xi^{4}na^{3}nta^{1}$ 'town', the reciprocal $xi^{1}ncjin^{1}$ 'each other',
personal names of participants and some of the more or less
fixed collocations such as $ji^{3}cho^{2}ca^{3}$ $ni^{4}\check{c}hjin^{3}$ 'pst:arrive:
it day' (the day came).

[8] See 8.4 for a brief statement of how these classes are identified.

With these several things in mind, the text was then gone through again slowly and carefully, and every repetition of the items mentioned was copied out with text page number and line.[9]   What seemed at the time relevant context was also copied out.   The lists so compiled were in some cases quite extensive, for example, there were close to 300 occurrences of personal names, and sixty-five occurrences of trail names.

These lists were then studied, one by one, noting first the relatively stable elements throughout, then any variations and substitutions within the stable part.   Step by step the immediately larger context was re-examined for other collocations until diminishing returns indicated we had reached either irrelevant context or that our techniques needed changing to handle such larger stretches successfully.   The manner of presentation of the material in the following chapters in many respects reveals the procedure used, i.e., starting with the one high frequency item, then the list of immediate contexts having this item in common, then working out from that step by step in whatever direction seemed profitable.

In the course of doing this, still other things came to light, and notes were made for study of these later.   Some of them were: (1) the asides, where the speaker switched from telling the story to talking directly to his listeners; (2) the rate of introduction of new vocabulary; (3) the collocation of verb roots with stem-forming suffixes, and vice versa; (4) the occurrence of attributives with nouns and verbs; (5) and the co-occurrence of verbs with nouns or their substitutes occurring independently in the same clause.

By the time these various operations were completed,

[9]A loose sheet with numbers on the edge corresponding to the line spacing of the text proved very useful in making references quickly and exactly.   The numbered sheet was easily insertable behind the page being worked on with the numbers protruding.

there was very little lexical material which had not come in
for some degree of attention. The most obvious omissions
from study were lexical strings having to do with time and
instrumental attributives to the verb, and the collocational
habits of clause connectives and sentence particles.

2.3. Some lines of investigation, as was expected,
proved more productive than others. Those that proved most
productive are described in Chapters III to V. The charting
of occurrences of attributives with nouns and verbs and with
other attributives served to show how very seldom in fact
the speaker used such attributives at all. The collocations
within the verb and noun stems of roots with stem-forming
suffixes revealed a very complex pattern of collocations
(sixty-three such suffixes with verb roots, one of which
occurred with nineteen different roots, another with thirteen,
another with eleven; and on the verb root side, one verb
root collocated with thirty-three such suffixes, two other
verb roots with twenty-three each, another with eighteen,
and so on).[10] Fewer in number, but equally complicated to
describe, were noun stems consisting of root plus stem-
forming affixes (one noun cjoa[4] 'abstract thing' occurred
with twenty different lexical items to form complex noun
stems). This material has not been included.

2.4. There were three possible points of departure for
the study of lexicon. One was the grammatical framework in
which the lexical items occurred, another was the semantic
categories represented by the lexical items. The third was
to consider lexical items per se without any reference to
either grammar or semantics. We chose the first because
we were surer of the ground we stood on, grammatical

[10] Cowan and Cowan (1947; pp. 1-9) is a description of one class
of verb stem-forming suffixes, but without attention to lexical structure
as handled here.

procedures being reasonably well defined and the results
verifiable by others.

The study considered horizontal strings and collocations
within the phrase, clause, and sentence.   In vertical sub-
stitutions it was deemed wise to hold the grammatical frame
of the lexical items as constant as possible.   The relation-
ship of the lexical items as such, without respect to gram-
matical relationships was our first concern.   Only after the
lexical study was well advanced did we check to see whether
it was isomorphic with grammatical structure or not.   Where
the grammatical level became pertinent or was crucial to the
description of some lexical strings we did not hesitate to use
it.   We assumed that at many points lexical structure would
parallel grammatical structure, but that at other points it
would not. [11]   Grammatical and phonological structure re-
inforce each other or are askew with respect to each other,
being essentially distinct levels of analysis.   There seemed
no reason to believe that grammatical and lexical levels
would not act similarly. [12]

[11] Pike (1960; pp. 71a-72a) points out: ". . . the borders between
some units of the lexical hierarchy occasionally do not coincide with
some units of the grammatical hierarchy. . . we may observe that there
is a certain control of lexical grouping exerted by grammatical struc-
ture. . . .   The nucleus of a grammatical structure and the nucleus of
the lexical structure are often the same. . . .   In some circumstances
the relation between nucleus of grammar and nucleus of lexical items may
be skewed. . . .   The lexical hierarchy and the grammatical hierarchy
exercise to a considerable extent mutual control over each other's dis-
tributional and semantic characteristics."

[12] Longacre (n.d.) has pointed out: "Just as we begin with phono-
logical strings and extract grammatical strings (with no parallel structure
and disregarding certain phonological features in the process) so in a
parallel way we begin with grammatical strings and extract lexical strings
(disregarding certain grammatical features in the process). . . .   The
same lexical string might be manifested by varied grammatical structures,
e.g., she avoids drafts, her avoidance of drafts, for her to avoid
drafts, and (with deletion of one lexical constituent) avoiding drafts--all
may be one and the same lexical string."

2.5. Transformational procedures proved useful as a tool in comparing, contrasting, or equating strings differing in order of the parts while still keeping the meaningful relationships of the lexical items relatively constant and unchanged.[13]   Transformations by definition keep the lexical inventory of two constructions and the meaning of the whole the same, while changing the grammatical construction. Transformations in this sense serve to highlight and throw into contrast those items in any given construction which are primarily lexical. They also serve to underline the essential sameness or stability of the lexical strings involved regardless of the transformation which takes place at the grammatical level.   Transformations then are a very important part of the evidence that there is a lexical level of structuring distinct from grammar.   Transformations are a device for displaying grammatical structure, not lexical structure as such, however.

2.6. A full scale discourse analysis of the text, following the procedures developed by Harris[14] was not carried

[13] Harris (1957; pp. 339-40) says: "That many sentences which are transforms of each other have more or less the same meaning, except for different external grammatical status. . . is an immediate impression. This is not surprising, since meaning correlates closely with range of occurrence, and transformations maintain the same occurrence range. When we have transformations which are associated with meaning change, it is usually possible to attribute the meaning change to the special morphemes. . . in whose environment the transformation occurs.   To what extent, and in what sense, transformations hold meaning constant is a matter for investigation." We proceeded on the general assumption that genuine transformations which did not introduce new special morphemes did in fact keep the meaning constant for our purposes.

For a description of some of the transformations of Mazatec and their usefulness in discourse analysis, see Gudschinsky (1959a; pp. 81-89) and (1959b; pp. 139-46). Other recognized transformations of Mazatec have been used in the present study where they proved useful.

[14] See 1952a and 1952b for a statement of procedures and application to specific sample texts.

out.[15] Some of the techniques and concepts were used, however, in a study of the collocations of the two major classes, the verbs and the nouns.

By definition every Mazatec clause contains at least one verb. Verb stems fall into three main grammatically defined classes, transitive (may take a direct object), intransitive (do not take a direct object), and impersonal (occur only with third person [zero] subject). Every Mazatec verb has an obligatory subject pronoun suffix.[16] There may also occur in the same clause an independently expressed noun or pronoun subject, in cross reference to the subject pronoun of the verb. In the case of the pronoun, the noun for which it substitutes may be in the same clause, sentence, or in some remoter context. The verbs also have an optional referent pronoun suffix,[17] which usually has an independent noun or pronoun in cross reference in the context. Transitive verbs also may take a direct object. There is no obligatory nor optional substitute for this in the verb.

In order to keep the relationship between the verb and noun constant, and hence have a list of comparable collocations, each occurrence of each verb with one noun at a time was put on a separate file card. These cards were labelled by verb class and noun relationship (e.g., verb plus referent, verb plus object, verb plus subject). A separate division of the file was made for each class of verb under each

[15] For two reasons: Gudschinsky (1959b) had already demonstrated the type of results it gives in Mazateco, and attempts to apply it to the present much larger and structurally much more complicated text proved abortive. The material seemed too much, the amount of repetition sufficient, and the manipulations allowed so numerous that too many things ultimately ended up in one formula. The writer's personal impression was that lexical structure was being obscured more than it was being revealed.

[16] See 8.4.

[17] See 8.4 including footnotes for explanation of what is meant by the technical label referent as distinct from cross reference of items.

of these categories. Every occurrence of a verb was listed,
even if no independent noun occurred in the immediate con-
text, since it was assumed that it might be of interest to
know how many and which verbs occurred without nouns or
independent pronouns. Our main concern, however, was to
discover which verbs occurred with what nouns, and in
which relationship. Every repetition of the same collocation
was noted, since it was assumed that not only the variety of
collocation but the frequency of occurrence of the same
collocation might prove of interest, too. Once this had been
done for the first half of the text, for each category (e.g.,
transitive verb plus object) the following information was
noted: total number of such collocations occurring, number
of different lexical items occurring as verbs, number of dif-
ferent lexical items occurring as nouns, [18] the high frequency
items of both classes, the set of items that collocated with
each high frequency lexical item, and finally, the equivalence
set, chain class string and partnership picture[19] for the
collocations in that particular grammatical and lexical con-
struction. The lists were then compared to see what if any-
thing characterized, for example, the lexical class of nouns

[18] This and the following operations required simply a reshuffling
of the file cards since each card carried lexical as well as grammatical
information on both the verb and the noun.

[19] We use set to refer to the list of lexical items which actually
co-occur (collocate) with another lexical item in a given context. By
chain we refer to the list of items which co-occur (collocate) with the
same or equivalent lexical items in the same or equivalent contexts.
Chains are formed by the overlapping of sets in at least one member.
By class we refer to the totality of set and chain members collocating
with members of another class in the same type of string having the same
general relationship between the members of the classes collocating. By
string we refer to a structured sequence of lexical items. By partner-
ship we refer to two equivalence chains of the same type of string,
characterized by only partial mutual collocability of the members of the
two chains filling the structural positions in the string, and distinguished
from other partnerships of the same type of string by the fact that there
is no overlap of members of their respective chains.

occurring in object relation to the lexical class of transitive verbs as compared with the class of nouns occurring in subject relationship to the lexical class of impersonal verbs.

The study was limited to the co-occurrence of lexical items of the verb and noun classes within the grammatical clause, broadened, in some cases, to within the sentence. Sentence particles, inflectional affixes, attributives, and expansions were not handled.[20] Only head lexical items were considered.   The results are presented and discussed in Chapter VI.

2.7. A more exhaustive treatment of the items described in the following pages and a more extensive treatment of these items in larger and larger contexts, together with consideration of the items not studied in any detail at all, such as the collocational habits of clause connectives and sentence particles, might be carried out with the aid of punch-card or computer equipment.   This of course would require the coding of the entire text.   From this initial study it would seem the most useful minimal coding needed for each lexical item in Mazatec would include: its grammatical class; the directions of its relevant context; phrase, clause, and sentence boundaries; the specific referent for substitutes; in the case of verbs whether transitive, intransitive, impersonal, passive, or equational; in the case of nouns and their substitutes, whether they functioned as subject, object, referent, or attributive to the verb.   Computer processing of such text material would make it possible to check

[20] Harris (1961) as well as in his other works cited, and Gudschinsky with specific application to Mazatec, follow the general procedure of stripping the head words of peripheral items, or of including such material with the head word, in order to simplify the analysis. Gudschinsky also takes the Mazatec grammatical clause as the focus for establishment of collocations and equivalence classes, although her final charting is of sentences in terms of the classes so established and takes into consideration more than our verb and noun collocations treated here.

more thoroughly for exceptions to generalizations made, to
do the statistical counting needed to determine what impor-
tance frequency of occurrence has in collocational studies,[21]
and to use a much larger corpus, perhaps even to help deter-
mine how large a corpus is needed before generalizations
can be considered to have reasonable validity.

2.8. The descriptive statements made in the following
chapters are valid for this one text of this one speaker.
Their validity for other speakers on the same or different
subject matter, in similar or under different circumstances,
or even for the same speaker or a different subject matter
and under different circumstances remains to be tested.
From knowledge of the language as frequently heard in simi-
lar live situations, and from considerable acquaintance with
other text material given both under similar and dissimilar

[21] Halliday (1961; p. 277): "Formal statement in lexis required
textual studies involving large scale frequency counts: not of course of
the frequency of single items, but of items in collocation. Since these
are no longer difficult to undertake, it should not be long before we find
out much more about how language works at this level."

Pike (1960; p. 87) says: "The frequency of occurrence of items
affects meanings. . . high frequency of the particular morpheme sequence
may lead to the specialization of this particular sequence. When a par-
ticular morpheme sequence occurs with great frequency, the special
characteristics resulting from the particular combination of morphemes
is heightened and tends to be fixed. The end product may be a special
hypermorpheme which becomes rigid so that it reacts as a total idiomatic
unit rather than a regular sequence of substitutable parts."

Ulvestad (1956; p. 44) in his statistical study of syntax variants
has this comment to make: "With the last type of variants we are
approaching the lexical domain, whose unsystematic nature renders a
study of variant forms very difficult. . . statistics, today one of the
main scientific approaches to the social sciences. . . have been used
with considerable success also in the field of linguistics, but predomi-
nantly as a kind of concomitant, corroborative evidence for the conclu-
sions arrived at, not for the distinguishing of levels of linguistic struc-
ture, i.e., as a basis for both classification and conclusions."

circumstances, (but processed with other purposes in mind)[22]
the writer has the feeling that there may be appreciable
situational, stylistic, and individual differences at the lexi-
cal level. That such differences would be more in the choice
of item for collocation than in the structuring of such collo-
cations would seem, on first guess, likely.

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[22] See Florence Hansen Cowan (1952) for a content study of several
texts, delivered perhaps in a similar style, but by different individuals
than the present speaker, and on different subject matter.

3 Lexical Strings: The conversation string

3.1. The morpheme -jmi[1] 'conversation'[1] occurs twenty-two times in the text, twenty-one times in the independent noun stem form na[4]jmi[1] 'conversation' [na[4]- 'nominalizer'], and once as verb stem suffix -jmi[1]. It occurs nineteen times as independent object of a verb and three times as an included object in a complex verb stem: e.g., qui[3]–cja[3]ʔa[1]-jmi[1] (pst:go–accuse2–conversation:he) 'he went to tell on (some-one)', qui[3]–cho[3]va[2]–na[4]jmia[1] (pst-chat-conversation:we) 'we made conversation', and vʔe[1]ya[3]–na[4]jmi[1]-na[3] (makes-conversation-to:me:he) 'he makes conversation with me'. It is not unusual for what otherwise occur as independent noun objects to be included in this way in a complex verb stem.

Of the twenty-one times na[4]jmi[1] occurs in an independent form with a verb, twenty occurrences are with the verb vʔe[1] 'an action that involves some type of repetition', or its compounds. It occurs twelve times with the simple verb stem vʔe[1], four times with an expanded verb stem vʔe[1]nca[1] 'to do again' referring to the same activity on another occasion, and four times with the compound stem vʔe[1]ya[3] (-ya[3] 'in-side'), meaning very little different from vʔe[1].

We shall refer to the fact that na[4]jmi[1] collocates with fa[3]ʔa[1]nqui[3]-, fao[1,2] vʔe[1], vʔe[1]nca[1], and vʔe[1]ya[3] by saying

[1] For explanation of the orthography in Mazatec forms and the conventions in the literal English translation see 8.3 and 8.5 respectively.

[2] The basic forms of -cja[3]ʔa[1]- and cho[3]va[2]- respectively.

it has a collocational range of five, i.e., it occurs with five different lexical items. We shall call the five items the lexical set with which na^4jmi^1 collocates. We shall call na^4jmi^1 the head of the $v?e^1$ na^4jmi^1 collocation. If we take $v?e^1$, $v?e^1nca^1$, and $v?e^1ya^3$ separately the collocational ratio would be twelve out of twenty-two times with $v?e^1$, four out of twenty-two with $v?e^1ya^3$ and four out of twenty-two with $v?e^1nca^3$. If we take $v?e^1$ and its related compounds as a group the collocational ratio with na^4jmi^1 would be twenty out of twenty-two times. We shall refer hereafter to $v?e^1$ na^4jmi^1 as the na^4jmi^1 or conversation string and where necessary to distinguish it from expansions which may collocate with it, we will refer to it as the basic na^4jmi^1 string.

The only morphemes occurring between the verb and the noun are the obligatory closed class subject person suffixes -zero '3rd sg. or pl.' (20X, read "twenty times") and $-a^2$ '1st pl. incl.' (1X) and the optional closed class referent person suffixes (fused with the obligatory subject pronoun suffix in each case) $-na^3$ (to:me:he) (7X), $-na^1$ (to:us:he) (2X), $-le^4$ (to:them:he) (3X). Since for the purposes of our study at the moment we are ignoring these, we shall refer to the collocation of $v?e^1$ and na^4jmi^1 as a close-knit collocation (i.e., not interrupted by the intrusion of other lexical items of the large open class variety).

There is only one instance where na^4jmi^1 precedes the verb, in $to^4-na^4jmi^1$ $tsa^3-c?e^1ya^3-na^3$ nca^3 an^3 (only-conversation [emphatic by position] pst-made-to:me:he me2) 'only conversation he made with me'. This can by a simple transformation be made $tsa^2c?e^1ya^3...na^4jmi^1$ like the rest. Since there is a high regularity in physical order of the lexical items involved in the nonemphatic style we shall refer to such a collocation as a fixed collocation.

3.2. Four times the attributive nta^3 'good' occurs with $v?e^1$ na^4jmi^1. No other attributive occurs with $v?e^1$ na^4jmi^1. nta^3 is in unique collocation with $v?e^1$ na^4jmi^1. Each time

it occurs it immediately precedes, with no other lexical item
of the classes we are considering intervening.   It is thus a
fixed, close-knit expansion of the v?e¹ na⁴jmi¹ string. nta³
collocates with eleven other lexical items of the verb stem
class in the first one-third of the text.   Only once does any-
thing intervene and it is not of the types of lexical items we
are considering.   This is further evidence confirming our
calling this particular collocation close-knit. It is interest-
ing to note that even where na⁴jmi¹ precedes v?e¹, if nta³
did occur in such a case, it would come between na⁴jmi¹ and
v?e¹, that is, it would still display its close-knit, fixed
characteristics.

   3.3. In one example we have the lexical string cjai¹nca³
nta³ v?e¹ na⁴jmi¹ xje¹ mi²yo⁴ (very good makes:he conver-
sation gentleman friend) 'the friend is a good conversation-
alist'.   We will discuss xje¹ mi²yo⁴ later. cjai¹nca³ is
also a lexical member of the general grammatical class of
attributives.   In our sample of the text it occurs three times
preceding nta³, once in the abbreviated form cjai¹.   It also
occurs in the first third of the text with at least one other
attributive tsen³ in the collocation cjai¹nca³ tsen³ 'very
obvious'.   It does not occur in this text immediately adjacent
to a member of the verb class.   It never occurs except in
collocation with nta³ or tsen³, which may occur without it.
cjai¹nca³ will therefore be considered lexically an expansion
of nta³ which we will now call the head of the nta³ string
which in turn is an expansion of the basic na⁴jmi¹ string.
   cjai¹nca³ nta³ is a fixed collocation in that cjai¹nca³
always precedes nta³.   From the data thus far it is also a
close-knit collocation. From knowledge outside this text we
know one other lexical item of the same class can intervene.
This would not disallow the close-knit character, since to
have two of the same lexical class collocate simultaneously
with a third item demands that one precede the other. If a
member of a different class of lexical item intervened, how-

ever, we would not feel justified in considering this a close-knit collocation. cjai^{1}nca^3 nta^3 is not a unique collocation, for nta^3 collocates similarly elsewhere with three other lexical items.

3.4. In the immediate environment of the twenty occurrences of the basic or expanded na^{4}jmi^1 string occur cho^{4}ta^{4}jchi^{1}nca^3 'old people' (7X), cho^{4}ta^4 'people' (1X), jchi^{1}nca^3 'old one' (1X), xje^1 mi^{2}yo^4 'gentleman friend' (2X), nchja^{1}jchi^{1}nca^3 'old men' (1X), nchja^1 'men' (1X), Cipriano García (2X), Margarito Martínez (2X), and je^2 '3rd sg./pl. independent pronoun' (3X). In every instance these were the subject of the verb, independently expressed, standing in cross reference to the obligatory subject person suffix in the verb. The na^{4}jmi^1 string occurs only four times without such a collocation with an independent lexical item standing in this relation to it. It is a convenience, not without other evidence, however, to say that in this set there is a zero member.[3] The range then is ten, the nine listed plus zero.

At first glance it would seem that the range of the na^{4}jmi^1 string here would be ten, and the ratio of cho^{4}ta^4 jchi^{1}nca^3 seven out of twenty. Two other factors, however, should be noted. One is that cho^{4}ta^{4}jchi^{1}nca^3, cho^{4}ta^4, nchja^{1}jchi^{1}nca^4, and nchja^1 all refer to the same unparticularized group of old men of the region, the "elders" of the tribe. One of the zero independent subjects was also cho^{4}ta^{4}jchi^{1}nca^3 which occurred two sentences removed. Thus eleven occurrences of the na^{4}jmi^1 string are with the same real world subject, that is, the actual individuals symbolized in speech by the lexical items. These four terms are members of the same lexical chain, i.e., they occur in iden-

[3] See G. M. Cowan (1948). A zero lexical item will only be postulated where there is an expressed item in the context, but not in the same sentence, in such cross reference to an expressed category in the verb.

tical or highly similar lexical environments.[4]   There is a difference somehow, at the lexical level, between collocations with such related items and collocation with totally unrelated members of a set or chain.   This might be expressed by saying that the na^{4}jmi^1 string has a ratio of eleven out of twenty with members of the cho^{4}ta^4 string[5] rather than simply saying seven out of twenty with the one item cho^{4}ta^{4}jchi^{1}nca^3.   In addition we find that jchi^{1}nca^3 by itself, which we might be strongly inclined to include with the above group because of meaning, acts differently and actually refers to an individual, Pantaleon Guisasola, the name being present in the remote context five sentences previous.   Three of the je^2 refer to Margarito Martínez.   One of the xje^1 mi^{2}yo^4 was Cipriano, one of the je^2 and the other xje^1 mi^{2}yo^4 was a man referred to as cha^1 Velasco, which occurred in the immediately preceding sentence.   One of the zero subjects was either Margarito or Cipriano or both. The other two zero subjects were one specific man. Thus it is interesting to note that while the range of the na^{4}jmi^1 string was ten in terms of different lexical items, the range was only six (five specific individuals and one group) in terms of real world subjects.

The members of the cho^{4}ta^{4}jchi^{1}nca^3 set[6] which collocate with the na^{4}jmi^1 string occur in various positions with

[4] See 4.2 and 7.2 for fuller discussion of the cho^{4}ta^4 and related lexical strings. If we consider the na^{4}jmi^1 string with which the list we are now considering collocate, as the "same" lexical unit in all its variant manifestations, then we have justification for considering all the items in the list as a set since they collocate with the same (and not merely similar) lexical string.

[5] The cho^{4}ta^4 string refers to such lexical combinations as cho^{4}ta^{4}jchi^{1}nca^3, xpe^{1}mi^{2}yo^4, and nchja^{1}jchi^{1}nca^3. (See 4.1 and Chart IV.) Grammatically they are compounds. As a set of lexical items they include in the conversation strings such items as personal names, and also single items such as jchi^{1}nca^3 which technically is not a string.

[6] A set will be designated by one, usually the highest frequency, member.

reference to it. Thirteen times members of the set occur before $v?e^1$ na^4jmi^1 in the immediate context, i.e., in the same sentence, twice in the adjacent context, i.e., the sentence immediately preceding or following, in this case preceding.[7] Four occurrences of members of the class follow $v?e^1$ na^4jmi^1, all in the immediate context. It is worth noting that three of the members of the set, Margarito Martínez, Cipriano García, and xje^1 mi^2yo^4 occur both before and after $v?e^1$ na^4jmi^1 in the immediate context. Of these three members of the class it can be said then that they are free in reference to order with $v?e^1$ na^4jmi^1. In terms of the general patterning one might hazard a guess that other members of the set might also follow. For this particular text and speaker, however, the favored order when members of the $cho^4ta^4jchi^1nca^3$ set collocate with $v?e^1$ na^4jmi^1 is prior to $v?e^1$ na^4jmi^1, since fourteen occurrences precede and only four follow. The members which follow are all specific individuals. $cho^4ta^4jchi^1nca^3$, the general class term, never occurs following $v?e^1$ na^4jmi^1. Parallel facts in other collocations of the $cho^4ta^4jchi^1nca^3$ and other sets occurring in subject relation to other lexical strings does not, however, show similar tendencies. The favored order conclusion here is true of this particular expanded string and marks it as a fairly fixed collocation.

There is only one instance of a member of any of the lexical classes we are studying occurring between the members of the $cho^4ta^4jchi^1nca^3$ set and the na^4jmi^1 string (expanded or unexpanded) either before or after. We therefore consider $cho^4ta^4jchi^1nca^3$ $cjai^1nca^3$ nta^3 $v?e^1$ na^4jmi^1 a

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[7] je^2 as a substitute for its referent is accepted as a bona fide member of the set and is counted as in the immediate context, even though its referent may not be, in fact usually is not. Zero is not included in the thirteen since it is difficult to say where it occurs. It is of interest to note, however, that in the occurrences of zero the lexical referent to the subject expressed in the verb occurs twice in the remote context, once two sentences before, and once five sentences before.

close-knit lexical string.   The one exception is $cjai^1nca^3$ nta^3 $v?e^1$ na^4jmi^1 $c?ia^4$ nca^3 cha^2coa^{42} $jchi^1nca^3$ (very well make:he conversation when2 talk:with:we old:one) 'the old one very well made conversation when we chatted with him' where cha^2coa^{42} (from fa^2cao^4 'talk with') is a member of the open verb class, in a subordinate clause marked by $c?ia^4$ nca^3 'when'.   By a very common transformation $cjai^1nca^3$ nta^3 $v?e^1$ na^4jmi^1 $c?ia^4$ nca^3 cha^2coa^{42} $jchi^1nca^3$ becomes $c?ia^4$ nca^3 cha^2coa^{42} $cjai^1nca^3$ nta^1 $v?e^1$ na^4jmi^1 $jchi^1nca^3$, or it could also be transformed to $c?ia^4$ nca^3 cha^2coa^{42} $jchi^1nca^3$ $cjai^1nca^3$ nta^3 $v?e^1$ na^4jmi^1.   In either case it is no longer an exception.

3.5. Since we have now found two different lexical strings, the nta^3 string and the cho^4ta^4 string, which collocate with $v?e^1$ na^4jmi^1 we might compare or contrast them with each other and in their co-occurrence with the basic na^4jmi^1 string.   With reference to lexical items occurring they are totally different.   The equivalence chains into which their individual members enter are different.   The $cho^4ta^4jchi^1nca^3$ set, in collocation with the na^4jmi^1 string, has a range of ten, the nta^1 set is unique, having only this one member.   With reference to the na^4jmi^1 string, the cho^4ta^4 string is free, the nta^3 string is fixed.   Both are close-knit with respect to the na^4jmi^1 string.   If the nta^3 string occurs it is best considered an expansion of the basic na^4jmi^1 string and the cho^4ta^4 string is still close-knit in relation to the expanded na^4jmi^1 string.   In frequency of occurrence, a cho^4ta^4 string occurs sixteen out of twenty times in overt form in the immediate context, and every time if the total context is considered. The nta^3 string occurs only four out of twenty times and has no contextual counterparts such as the cho^4ta^4 string has. The cho^4ta^4 string has cross reference to an obligatory grammatical category in the verb of the na^4jmi^1 string.   The nta^3 string has no such relationship to the na^4jmi^1 string.   Both cho^4ta^4 and

nta³ strings intersect with other strings, but with different
strings.   In summary, alike in that they both collocate with
na⁴jmi¹ strings, the cho⁴ta⁴ string and the nta³ string are
two contrastive types of lexical strings.

3.6. One sentence includes a repetition of the na⁴jmi¹
string. In v?e¹ya³ na⁴jmi¹ xi³ v?e¹ya³na⁴jmi¹-na³ (make:he
conversation who make:he:conversation-to:me:he) 'he makes
conversation who makes conversation with me', the con-
struction involved is complex. A cho⁴ta⁴ string (zero) plus
a na⁴jmi¹ string, v?e¹ya³ na⁴jmi¹, is followed by another
included cho⁴ta⁴ string (indicated by the grammatical marker
xi³ which here relates what follows it to a preceding member
of the noun class, which in this case is represented only by
a substitute, the obligatory bound subject of the preceding
v?e¹) plus the second na⁴jmi¹ string. The primary string is
the first v?e¹ya³ na⁴jmi¹.   That the second is not merely a
repetition of the first is, in this instance, indicated by the
grammatical marker xi³ which calls for not a na⁴jmi¹ string
but a cho⁴ta⁴ string in the preceding.   In the preceding,
however, the cho⁴ta⁴ string is a zero, but the obligatory
subject pronoun in the verb with which such a cho⁴ta⁴ string
would be in cross reference serves in any case. The second
na⁴jmi¹ string is therefore in an included relationship to the
first na⁴jmi¹ string.   We shall call this complex string the
highlighted actor conversation string.   At this point it is
evident lexical strings do not operate independently of gram-
matical structure but are rather imbedded in it and influenced
by it. It is also evident that there is a hierarchical ordering
of strings within strings. See Chart I.

3.7. Examining the lexical items in the immediate con-
text of the expanded na⁴jmi¹ string we find eight instances
of the verb tso² (3rd sg./pl. say:they) 'they say', all pre-
ceding, one instance of the verb tjin¹jin³-na³ (remember-to:
me:it) 'I remember' preceding, one of the verb cha²coa⁴²

$$v?e^1ya^3 \quad na^4jmi^1 \quad\quad xi^3 \quad v?e^1ya^3 \quad na^4jmi^1$$

makes:he conversation who makes:he conversation

Simple Strings: $(v?e^1ya^3 \;\leftarrow\; na^4jmi^1)$ $(v?e^1ya^3 \;\leftarrow\; na^4jmi^1)$
  Pred.   Obj.   Pred.   Obj.

Expanded Strings: $(v?e^1ya^3 \;\leftarrow\; na^4jmi^1 \; zero)$ $(v?e^1ya^3 \;\leftarrow\; na^4jmi^1 \; zero)$
  Pred.   Obj. Subj.   Pred.   Obj. Subj.

Complex String: $(v?e^1ya^3 \;\leftarrow\; na^4jmi^1 \; [zero]^2 \; xi^3 \quad v?e^1ya^3 \;\leftarrow\; na^4jmi^1]$
  (Pred.   Obj. [Subj)   Pred.   Obj.]

Grammatical String: Predicate $\leftarrow$ Object $\leftarrow$ Subject^3 $[xi^3(v?e^1ya^3 \;\leftarrow\; na^4jmi^1)]^1$

CHART I
Highlighted Actor Conversation String Analysis (See 3.6.)

[1] The entire exocentric clause functions as the grammatical subject of the first $v?e^1ya^3$. The entire sentence says: 'The one who makes conversation makes conversation.'

[2] Any name replacing the zero would function lexically as subject of both verbs.

[3] Note that in the complex string the zero subject is related both ways. In the grammatical string it is related to the first predicate and the xi^3 clause is subordinate to and included in the zero subject.

tjin¹jin³-na³...		tso²	cho⁴ta⁴jchi¹nca³	xi³	.cjai¹nca³	nta³	v?e¹-na³		na⁴jmi¹
remember-to:me:it		say:they	people:old	who	very	good	make-to:me:they		conversation

Class[1]	8?	open	open		?	?	open	6		open
Occur	1	2	10		1	1	5	3		1
Total	7	9	24		3	4	22	13		22

Simple Strings: tso²   (cho⁴ta⁴jchi¹nca³)   (cjai¹nca³ → nta³)   (v?e¹ ← na⁴jmi¹)
                  Pred.   Subj.   Attrib. Attrib.   Pred.   Obj.

Expanded Strings:

                                                        nta³ → (v?e¹ ← na⁴jmi¹)
                                        (cjai¹nca³ → nta³) → (v?e¹ ← na⁴jmi¹)
                  (cho⁴ta⁴jchi¹nca³) →   (cjai¹nca³ → nta³) → (v?e¹ ← na⁴jmi¹)
                        Subj.   Attrib.   Pred.   Obj.

Complex Strings: (cho⁴ta⁴jchi¹nca³) →   ——   ——   (v?e¹ ← na⁴jmi¹)
            (tso² ← [cho⁴ta⁴jchi¹nca³) → xi³ cjai¹nca³   nta³   v?e¹   na⁴jmi¹]
            (Pred. ← [Subj.)   →   Attrib.   Pred.   Obj.]

Grammatical Strings: Pred. ←   {(Subj.   ← xi³ [cjai¹nca³ → nta³) → v?e¹ ← na⁴jmi¹]}[2]

CHART II
Reported Conversation String Analysis (See 3.7.)

[1] The numbers in each column are the number of items in the class represented by the word in the example, the number of different items which occur in this string, and the total number of such occurrences in this text.

[2] The entire string apart from the initial predicate is the grammatical subject (subject plus attributive clause) of the sentence. The sentence says: 'The old people who make good conversation say. . .'

(talk: with: we) 'we talk with' following.[8]   One might think
we had an equivalence chain of three verbs here, all co-
occurring with the expanded na^4jmi^1 string, except for the
fact that in several respects the resultant lexical strings
are not really equivalent. tso^2 collocates with five different
members of the $cho^4ta^4jchi^1nca^3$ set in this context (and many
more times elsewhere in the text).   In each case tso^2 is
immediately followed by the member of the $cho^4ta^4jchi^1nca^3$
set.   It is both a close-knit and a fixed collocation. In each
case the member of the $cho^4ta^4jchi^1nca^3$ set stands in the
relation of subject to tso^2 , the same relationship which it
holds to the $v?e^1$ of the na^4jmi^1 string at one and the same
time.   Thus we have what might be called a lexical hinge, a
lexical item in double function, in a close-knit fixed rela-
tionship with identical meaning relationship both with what
precedes and with what follows.[9] We shall call this complex
string the reported conversation string. See Chart II.

This is partially true of cha^2coa^{42} but not of $tjin^1jin^3-na^3$
which also collocates with the expanded na^4jmi^1 string.   In
the case of cha^2coa^{42} , by the transformation whereby the
sentence concerned becomes $c?ia^4$ nca^3 cha^2coa^{42} $jchi^1nca^3$
$cjai^1nca^3$ nta^3 $v?e^1$ na^4jmi^1 (when2 talk: with: we old: one
very good make: he conversation) 'when we talk with the old
one he converses very well', $jchi^1nca^3$ does in fact function
as the lexical hinge but in this case $jchi^1nca^3$ is the refer-
ent[10] of cha^2coa^{42} but the subject of the co-occurring $v?e^1$

[8] See discussion under 3.4 where by a transformation it may also
precede.

[9] In these cases the cho^4ta^4 string is fixed, not only with respect
to tso^2 but also with respect to $v?e^1$ na^4jmi^1 , which we might have said
in 3.4 (third paragraph) if we had wanted to handle the items with cho^4ta^4
separately from the set as a whole. From other evidence in the language
we know, however, that tso^2 is not so fixed with respect to cho^4ta^4 as
here appears.

[10] Verbs with stem suffix $-cao^4$ do not take the usual third person
referent pronoun, but an independent referent may still occur.

verb. It functions as a lexical hinge but the two relation-
ships are not the same. We shall call this complex string the
dated conversation string. See Chart III.

In the case of $tjin^1jin^3\text{-}na^3$ it does not collocate with
$cho^4ta^4jchi^1nca^3$ words here or elsewhere, and does not
stand in the same relationship of subject, in fact has no
semantic connection stateable as such. Interestingly enough,
however, it does occur six more times in the adjacent con-
text, three before and three following. The significance of
this we shall discuss in 3.8.

It would seem that at this point we have evidence for
postulating a hierarchical structuring of lexicon. Until now
first $cjai^1nca^3$ nta^3 and then $cho^4ta^4jchi^1nca^3$ could be
considered expansions of the simple $v?e^1$ na^4jmi^1 base
string. One or the other or both could occur. They were
different in many ways as we have pointed out, contrastive,
each with its own variants and distribution, but still on the
same plane. Now, however, in the string tso^2 $cho^4ta^4jchi^1nca^3$
$v?e^1$ na^4jmi^1 (say: they old: men make: they conversation) 'the
old men who make conversation say', we have two dif-
ferent strings tso^2 $cho^4ta^4jchi^1nca^3$ 'the old men say' and
$cho^4ta^4jchi^1nca^3$ $v?e^1$ na^4jmi^1 'the old men make conversa-
tion' overlapping in $cho^4ta^4jchi^1nca^3$. This is not simply a
further expansion of the already expanded na^4jmi^1 string
but is the coalescing or intersection of two strings of the
same structure (by transformation of tso^2 $cho^4ta^4jchi^1nca^3$
to $cho^4ta^4jchi^1nca^3$ tso^2 this is more apparent and tso^2
and $v?e^1$ na^4jmi^1 are equivalent, both occurring with
$cho^4ta^4jchi^1nca^3$). In the case of the other example where
two strings intersect in $jchi^1nca^3$, we are again on a higher
plane or at a new complexity of structure. Whether it is the
same or a different, contrastive structure in both of the
above examples is not clear, since $cho^4ta^4jchi^1nca^3$ and
$jchi^1nca^3$ are not in the same relation to the two verbs and
the two strings which intersect are different in other ways
too.

c$?$ia^4 nca^3 cha^{2}coa^{42} jchi^{1}nca^3 cjai^{1}nca^3 nta^3 v$?$e^1-na^3 na^{4}jmi^1

when2   talk:with:we old:one   very   good makes-to:me:he conversation

Simple Strings: (cha^{2}coa^{42} $\leftarrow$ jchi^{1}nca^3) (cjai^{1}nca^3 $\rightarrow$ nta^3)   (v$?$e^1 $\leftarrow$ na^{4}jmi^1)
                   Pred.   Referent   Attrib. Attrib.   Pred.   Obj.

Expanded Strings: (cjai^{1}nca^3 $\rightarrow$ nta^3) $\rightarrow$ (v$?$e^1 $\leftarrow$ na^{4}jmi^1)

                   jchi^{1}nca^3 $\rightarrow$ (cjai^{1}nca^3 $\rightarrow$ nta^3) $\rightarrow$ (v$?$e^1 $\leftarrow$ na^{4}jmi^1)
                   Subj.   Attrib.   Pred.   Obj.

Complex Strings: (cha^{2}coa^{42} $\leftarrow$ [jchi^{1}nca^3)^1 $\rightarrow$ v$?$e^1 $\leftarrow$ na^{4}jmi^1]
                   (Pred. $\leftarrow$ Ref. [)Subj. $\rightarrow$ Pred.   Obj.]

Grammatical Strings:
[c$?$ia^{4}nca^3 (cha^{2}coa^{42} $\leftarrow$ jchi^{1}nca^3)]^2[(cjai^{1}nca^3 $\rightarrow$ nta^3) $\rightarrow$ v$?$e^1 $\leftarrow$ na^{4}jmi^1]
                                   . . . .

CHART III
Dated Conversation String Analysis (See 3.7.)

[1] Note that jchi^{1}nca^3 lexically has relationship in two directions, and each a different relationship.
[2] Grammatically jchi^{1}nca^3 is referent to a verb in a clause which is subordinate to the main clause
verb. The sentence says: 'When we talk with the old man he makes very good conversation.'

3.8. In the seventy minute text there are fifty-eight asides, or passages which are not part of the narrative proper. In these Isauro is talking about himself, his authority for the facts, or directly to his listeners about the story or about present day affairs or circumstances related in some way to the facts.[11] These passages are distinguished by the occurrence of first person singular and second person plural pronouns (which occur,nowhere else in the text except in quoted direct discourse included as part of the narration), the entire narration otherwise being given in the third person or first plural inclusive. The asides are also set off by the sharp break in continuity of statements, by resumptive phrases used once the aside is completed, and by the fact that eighteen out of the twenty-two occurrences of na^4jmi^1 occur in these passages. Two occurrences of $v?e^1$ na^4jmi^1 (marked as somehow different by the fact they intersect with the xi^1ncjin^1 strings) are integral parts of the narrative itself, as well as the other two occurrences of $-jmi^1$ in $qui^3cho^3va^2na^4jmia^1$ 'we conversed' and $qui^3cja^3?a^1nqui^3jmi^1$ 'he went to tell on (someone)'.

Within the asides in the sentences adjacent to the eighteen sentences in which the na^4jmi^1 string occurs $tjin^1jin^3$- 'remember' occurs six times, three preceding and three following, which together with the one occurrence within the same sentence mentioned in 3.7 makes a total of seven; $c?oa^4$ $coan^3$ 'thus it happened' occurs three times, twice before, once following; and coi^3 $cjoa^4$ 'specific affair' occurs twice, once preceding, once following. The collocations are loose, members of the open classes frequently intervene. They are free, the order seems almost equally balanced preceding and following. The items in the list seem to have very little in common lexically, grammatically, or semantically. They occur in collocation with many other

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[11] See for examples, sentences marked by brackets in the Mazatec text attached.

items elsewhere, so that their collocation with na^4jmi^1
strings, except in the case of $tjin^1jin^3$-na^3, is not charac-
teristic. The relationship of the lexical items to the na^4jmi^1
strings are not without meaning. Isauro is saying either that
he remembers or doesn't remember what the old men told
him, that it happened as they told him, and that the very
affairs they told him are what he is now relating again. That
the collocation of these strings is significant seems apparent.
It also seems evident that we have moved up the hierarchy of
collocation, beyond that represented by tso^2, and essentially
different in kind.

3.9. It is of interest to compare the strings at the lexi-
cal level with structures at the grammatical level, noting
their similarities and dissimilarities.

In the twenty-two instances of the occurrence of the
string involving na^4jmi^1 the string was composed of the verb
lexical item (either $v?e^1$, $v?e^1ya^3$, $v?e^1nca^1$, $qui^3cho^3va^2$
or $qui^3cja^3?a^1nqui^3$) plus na^4jmi^1. At the grammatical level
in twenty instances the structure was verb plus independent
object. In two instances it was simply verb, the object being
incorporated into the verb stem, and followed by the fused
subject pronouns which mark the end of the verb structure
proper. Lexically the string was uniform. Grammatically
the same lexical string was distributed over two different
grammatical structures, one a single word clause (predicate),
the other a two word clause (predicate plus object). These
are relatable by transformation in Mazatec grammar (e.g.,
qui^3-$tsjoa^3$-le^4 $nca^3n?ion^1$ (pst-give-to:them:he help) 'he
helped them' and qui^3-$tsjoa^3$-$nca^3n?ion^1$-le^4 (pst-give-help-
to:them:he) 'he helped them' are lexically and semantically
the same but grammatically different).

The one lexical string represented by $cho^4ta^4jchi^1nca^3$
$v?e^1$ na^4jmi^1 (3.4) in all its occurrences has the same rela-
tionship throughout between the member of the $cho^4ta^4jchi^1nca^3$
set and the member of the $v?e^1$ set, namely subject to predi-

cate.   Grammatically, however, this was distributed over
three different structures.   In three examples the lexical
subject was an independent subject in the same grammatical
clause as the predicate of which it was the subject, e.g.,
$v?e^1$ na^4jmi^1 xje^1 mi^2yo^4 (make:he conversation Mr. friend)
'the gentleman friend made conversation'.   In one instance
($jchi^1nca^3$ in 3.4) the lexical subject was in a different sub-
ordinate $c?la^4$ nca^3 clause, functioning lexically as a hinge
between the two.   In twelve instances the verb was in a xi^3
clause subordinate to the lexical subject.   (cho^4ta^4 xi^3
$v?e^1$-na^3 na^4jmi^1 (persons xi^3 make-to:me:they conversation)
'the people who converse with me' where xi^3 is a purely
grammatical marker which indicates that what follows it is
descriptive of what precedes the xi^3 and that what precedes
it is of the noun class. [12]   The entire thing can be an entire
Mazatec sentence as it stands or included in a larger sen-
tence as subject, object, or referent to another predicate.)
In no instance did these different grammatical structures
disturb the relationship of the lexical items. Mazatec predi-
cates have an obligatory subject pronoun bound and fused to
the verb and independent subjects are always in cross
reference to these. Only if we grant to the bound subject
pronouns in the verb the same lexical status as the verb
stem itself could we consider the lexicon and grammar in
any sense isomorphic. This, however, is to equate grammar
and lexicon to a larger degree than we are willing, particu-
larly since independent lexical subjects occur quite frequently.

In the case of the collocation of $cho^4ta^4jchi^1nca^3$ $v?e^1$
na^4jmi^1 with tso^2, $tjin^1jin^3$-, and cha^2coa^{42} (3.7) we find
three different grammatical structures and three different
distributions of the lexical items.   The tso^2 has as subject

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[12] There is one exception, a construction (e.g., xi^3 $coan^3$ $nchaon^3$
(which pst-become tomorrow) 'on the day following') which as a whole
functions as attributive to the predicate, and is not related to any pre-
ceding noun.

the cho⁴ta⁴jchi¹nca³ set member. Both are in the same grammatical clause, the na⁴jmi¹ string being in an included clause subordinate to the cho⁴ta⁴ string. In the case of cha²coa⁴², it and jchi¹nca³ were in a c?ia⁴ nca³ clause subordinate to the na⁴jmi¹ string. tjin¹jin³- was the main verb of the sentence but the rest of the lexical string was in a c?ia⁴ nca³ clause subordinate to it.

It should be pointed out that the cjai¹nca³ nta³ string is an expansion on the lexical level of the na⁴jmi¹ string and on the grammatical level of the verb phrase. Here the lexical and grammatical structuring are parallel.

3.10. In our examination of the twenty-two occurrences of the conversation string in our text we have found three simple contrastive lexical strings: cho⁴ta⁴jchi¹nca³, cjai¹nca³ nta³, and v?e¹ na⁴jmi¹. The first two are expansions of the basic string v?e¹ na⁴jmi¹ but quite different in function. We have found evidence of hierarchical ordering of strings in larger complex layerings in contrast to simple strings and linear expansions of such strings. In two cases strings were united by a lexical hinge, one a zero. We have found collocation of lexical items and strings significant at the highest structural level of the alternation of narrative and aside in the text itself. We have found that the structure of a lexical string may parallel the grammatical structure, or that the same lexical string may be superimposed on a number of contrasting grammatical structures. We have found lexical sets of one, five, and ten members. We have found that collocating lexical items may be in fixed or free, close-knit or loose-knit relationship to each other.

In Charts I, II, and III we have tried to display in a graphic way the features described.

4 Lexical Strings: The name and naming strings

4.1. The class name strings. In the text the lexical item cho^{4}ta^4 'person/persons'[1] of the noun class occurs with twelve other members of the noun class and seven members of various attributive subclasses to form the following series of compound lexical items, each such compound being the general designation of a class of people rather than a personal name. (See column 1 of Chart IV items 1 to 20.) By virtue of their occurrence with the same lexical item cho^{4}ta^4, jchi^{1}nca^3, and the rest of the nineteen lexical items which so occur constitute a lexical set. The lexical item cha^1 'man' occurs with eleven such items, seven of them the same as those that occur with cho^{4}ta^4 and four different. (See Chart IV second column.) Similarly the eleven lexical items which occur with cha^1 constitute a set. nchja^1 'men' occurs with five such items, four of them the same as with cho^{4}ta^4 and four the same as with cha^1. (See Chart IV third column.) xje^1 'gentleman/Mr.' occurs with only one, mi^{2}yo^4, which also occurs with both cho^{4}ta^4 and cha^1.

cho^{4}ta^4, cha^1, and nchja^1, constitute a set since they

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[1] In Mazatec nouns and pronouns are not generally distinguished for number or for sex. There are a very few exceptions: chjon^{42} 'woman' vs. ya^{1}nchjin^1 'women', cha^1 'gentleman/Mr.' vs. nchja^1 'gentlemen/Messrs', where number distinctions are carried by lexically different items--but there is no category of plural as distinct from singular. In verbs a similar situation exists--a very few by different stems distinguish singular or plural.

<u>With</u> cho⁴ta⁴ 'person(s)'

cho⁴ta⁴-jchi⁴nca³ old
'old person(s)'

  –che¹ thieving
'thief/thieves'

  –chji⁴ne⁴ wise
'wise/educated person(s)'

  –mi²yo⁴ friend
'friend(s)'

  –xo³mbe³te³ broad hat
'broad brim person(s)'

  –chji⁴ntjai⁴ Mazatlán
'person/people of Mazatlán'

  –nqui³xo¹ San Antonio
'person/people of San Antonio'

  –charro horseman
'horseman/-men'

  –xa¹ town work
'official(s)'

  –t?a³xin² separate
'private citizen(s)'

  –nta³ good
'good person(s)'

  –yo⁴ma⁴ poor
'poor person(s)'

  –nchi⁴na¹ rich
'rich person(s)'

  –na⁴xi⁴na³nta¹ town
'citizen/townspeople'

  –infantería infantry
'infantryman/-men'

  –xi¹nojin¹ relative
'relative(s)'

  –na³nqui³-na¹ ' land–our
'citizen/townspeople'

  –ni³?yo³ ancient
'ancient person(s)'

  –te⁴jao⁴ Huautla
'Huauteco(s)'

<u>With</u> cha¹ 'man'

cha¹-jchi⁴nca³ old
'old man'

  –che¹ thieving
'thief' (male)

  –chji⁴ne⁴ wise
'wise/educated man'

  –mi²yo⁴ friend
'friend' (male)

  –xo³mbe³te³ broad hat
'broad brim man'

  –chji⁴ntjai⁴ Mazatlán
'man of Mazatlán'

  –charro horseman
'horseman'

  –cho⁴ta⁴ person
'Mr. person'

  –ti⁴tjon² first
'town official/leader'

  –cjin³ far
'foreigner'

  –ts?en⁴ bad
'bad man'

<u>With</u> nchja¹ 'men'

nchja¹-jchi⁴nca³ old
'old men'

  ●

  –xo³mbe³te³ broad hat
'broad brim men'

  –nqui³xo¹ San Antonio
'men of San Antonio'

  –charro horseman
'horsemen'

  –cho⁴ta⁴ person
'Messrs. persons'

*<u>With</u> xje¹ 'gentleman'

xje¹-mi²yo⁴ friend
'gentleman friend'

CHART IV
Class Name Strings (See 4.1.)

all occur with $jchi^1nca^3$ (also with $xo^3mbe^3te^3$ and charro). cho^4ta^4, cha^1, and xje^1 constitute a set since they all occur with mi^2yo^4. It is possible then to unite all four, cho^4ta^4, cha^1, $nchja^1$, and xje^1, in an equivalence chain since they all in one collocation or another occur with lexical items with which the other members of the equivalence chain also occur. Similarly all of the lexical items in the second position in each collocation constitute an equivalence chain, since they all (including the three which occur below the line in column two, which occur only with cha^1, and cho^4ta^4 as a second member which occurs only with cha^1 and $nchja^1$) also occur in one collocation or another with lexical items with which the other members of the equivalence chain also occur. We thus have a type of lexical matrix[2] display of the class person strings in this text. Each collocation consists of two positions. The first position is filled by an equivalence chain of four members (terms or exponents), not identical in co-occurrence nor meaning, but similar in both. The second position is filled by an equivalence chain of twenty-three members, not identical in co-occurrence, but similar, with great diversity of meaning among the members. The collocations thus described are close-knit and fixed and indicate a class of person or persons or a person or persons so classified.

4.2. The personal name strings. In 4.1 cho^4ta^4 and $nchja^1$ collocated with names designating groups (i.e., general class names like cho^4ta^4 charro 'horsemen', cho^4ta^4 $xo^3mbe^3te^3$ 'broad brim people', i.e., people who wore this style of hat, and cho^4ta^4 $chji^4ntjai^4$ 'people of Mazatlán'). The full collocation is the name of such a group and the means by which the group or an individual member of the group is designated.

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[2] See Pike (1962) and (1963b) for development and application of matrix theory to linguistic structures on different levels.

In the case of strictly personal names we have such strings as Adolfo Pineda, Gustavo Quiroga, of two members, and Lorenzo Solis Sandoval, Maximiano Cid Cerqueda of three members, following the naming custom common to Mexico. In our text such individuals were also referred to by an abbreviation of such a string, that is, Gustavo Quiroga appeared frequently as Gustavo only, or Quiroga only. The text also gives examples of strings composed of the Christian name plus a place name, e.g., José ya^{1}na^{4}xo^4 (ya^{1}na^{4}xo^4 being the name of a particular place, here used as a common and frequent designation of this particular José). Such lexical strings collocate with and may be expanded by adding a title (e.g., Coronel Gustavo Quiroga), a relationship term (e.g., nts?e^3 Villavaldo Nava (brother:my Villavaldo Nava) 'my brother Villavaldo Nava'), the descriptive term jchi^{1}nca^3 (e.g., jchi^{1}nca^3 Pérez 'old Pérez' a designation of respect), and cha^1 and nchja^1 of the cho^{4}ta^4 set (e.g., cha^1 Erasto 'Mr. Erasto').

The named individual strings and class name strings may replace each other in reference to the same person in consecutive sentences (e.g., ?nti^{1}jchi^{1}nca^3 Juan 'respected old John' and ?nti^{1}cho^{4}ta^{4}jchi^{1}nca^3 'respected old person'). They may also occur in series, usually in circumstances to be described in 4.5 and 4.8.

4.3. A further expansion of this string occurs very frequently in this text. The Mazatecs are usually careful in speaking about a person to indicate whether he is already dead and off the scene. So we have c?en^3 General Juan Hernández 'the:dead General Juan Hernández', ?nti^{1}c?en^3 General Adolfo Pineda 'respected dead General Adolfo Pineda', and ?nti^{1}c?en^3 nts?e^4 Juan Allende 'the respected dead brother of Juan Allende'.

?nti^1- is an extremely high frequency collocation with c?en^3 (forty-six times in this text). c?en^3 only occurs twelve times in this type of string without it. Because of this

frequency factor there is a strong tendency to think of ʔnti^1 as an expansion of a string with cʔen^3 as the head, the cʔen^3 string in turn being an expansion of the personal name string. ʔnti^1-, however, also occurs with first order of expansion members, too (e.g., ʔnti^{1}jchi^{1}nca^3 Juan nta^{1}ni^{3}sen^3 (respected:old:one Juan water:rat) 'the respected old Juan [from] rat water'), for which reason we treat it as an expansion on the same level as the others.

ʔnti^1 and especially ʔnti^{1}cʔen^3 when they occur serve as inner string markers[3] of the named individual string. When repeated, e.g., ʔnti^{1}cʔen^3 nts ʔe^4, ʔnti^{1}cʔen^3 Emiliano Morelos (respected:dead brother:his, respected:dead Emiliano Morelos) 'his respected dead brother, the respected dead Emiliano', and ʔnti^{1}cʔen^3, ʔnti^{1}cʔen^3 general, ʔnti^{1}cʔen^3 General Adolfo Pineda (respected:dead, respected:dead general, respected:dead General Adolfo Pineda) 'the respected dead, the respected dead general, the respected dead General Adolfo Pineda', it is noteworthy that it is the string, either in whole or in part, beginning with this marker which is repeated. Similar evidence that it serves as a lexical opening marker for a personal name string is seen in the sentence je^2 coi^3 general General Erasto Quiroga ʔnti^{1}cʔen^3 Erasto ʔnti^1 ʔmi^2-le^{42} (that specific general General Erasto Quiroga respected:dead Erasto:little is:named-to:him:we) 'that particular general, General Erasto Quiroga, we call him the respected dead little Erasto'. When the speaker stuttered or hesitated while trying to recall the name of a deceased individual, it was on this particular name string opener he hesitated (e.g., ʔnti^{1}cʔen^3--ʔnti^{1}cʔen^3--Erasto Quiroga, and ʔnti^{1}cʔen^3--ʔnti^{1}cʔen^3--ʔnti^{1}cʔen^3--Román).

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[3] This does not mean everything these occur with are personal names, for they have other collocations. Rather, when they occur with a personal name, the full name and title of the deceased person begins with and includes them. (See under the naming string 4.4.)

Basic String: Erasto Quiroga

Expanded Strings: General Erasto Quiroga
     General Erasto Quiroga

Inner Strings: (c?en^3 Erasto Quiroga)
     deceased Erasto Quiroga

     (?nti^{1}c?en^3 General Erasto Quiroga)
     respected:dead General Erasto Quiroga

Outer Strings: je^2 (Erasto Quiroga)
     that Erasto Quiroga

je^2 coî^3 (?nti^{1}c?en^3 General Erasto Quiroga)
that   specific   respected:dead Gen. Erasto Quiroga

As Included Strings:

-in Naming String: je^2 coî^3 (?nti^{1}c?en^3 General Erasto Quiroga)^1 ?mi^2
     that   specific   (respected:dead Gen.   Erasto Quiroga)   is:named

-in Repetitive String:
     je^2 coî^3 general, General Erasto Quiroga,   (?nti^{1}c?en^3 Erasto   ?nti^1)^2 ?mi^2
     that   specific general, Gen. Erasto Quiroga (respected:dead Erasto the small) is:named

CHART V

Personal Name Strings: Expanded (See 4.2 and 4.3.) and Repetitive (See 4.8.)

[1] This is part of proof of need for distinguishing inner and outer expansions of the personal name strings. Only what is included in the () is used as the name.

[2] Note that in each case ?nti^{1}c?en^3 marks the beginning of the actual name occurring in the naming string with ?mi^2. It so marks it even when ?mi^2 does not occur.

The personal name string has one, perhaps two, further expansions, which as we have already seen are not part of the name or title of the individual. They are je^2 'that' and coi^3 'specific'. Both or either may occur (e.g., je^2 coi^3 General Erasto Quiroga 'that specific General Erasto Quiroga', je^2 coi^3 Margarito 'that specific Margarito', and je^2 $?nti^1c?en^3$ José Rocha 'that respected dead José Rocha'). They are the only two members of a closed class of deictic particles. They are outer string markers[4] and are never part of the person's name. They serve a grammatical function and, as here, a lexical one, too. (See Chart V.)

4.4. <u>The naming string</u>. The personal name string collocates, in whole or in part, at least seventy-five times with the naming verb $?mi^2$ 'is named'. Some examples are: Adolfo Pineda $?mi^2$ (Adolfo Pineda is:named) 'he is called Adolfo Pineda', $?nti^1c?en^3$ Emiliano Morelos tsa^3-$c?in^2$ (respected:dead Emiliano Morelos pst–is:named) 'he is called the respected dead Emiliano Morelos', cha^1 Lorenzo Solis $?mi^2$ (Mr. Lorenzo Solis is:named) 'he is called Mr. Lorenzo Solis', and in each case the entire personal name string is in fact used when speaking about, and, in the case of those living, when addressing the individual involved.

The naming string collocation is close-knit and fixed. There is one exception to the latter in the text, $?mi^2$ $cho^4ta^4jchi^1nca^3$, Primera Agente Municipal (is:called an: elder [technical term for member of ruling town council], First Agent Municipal) 'the old man is called the First Municipal Agent'. This, on the level we are describing now, is not really an exception. By a very simple transformation the $?mi^2$ can be placed following the rest of the series, e.g., $cho^4ta^4jchi^1nca^3$, Primera Agente Municipal $?mi^2$. $cho^4ta^4jchi^1nca^3$ may occur by itself as the included name in the $?mi^2$ string, but it is not part of the name otherwise,

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[4]So called to distinguish them from the inner string markers.

Naming String (Class Name Included):

$(cho^4ta^4jchi^1nca^3)$ $?mi^2$
(old:person)   is:named

$(cho^4ta^4te^4jao^4)^1$ $?mi^2$
(Huauteco)   is:named

$(cho^4ta^4zapatista)$ $?mi^2$
(Zapatista)   is:named

Class Name Plus Naming String (Class or Personal
   Name Included):

-with grammatical marker xi^3

cho^4ta^4 xi^3 (zapatista) $?mi^2$
people   who   (Zapatista)   are:named

$?nti^1cho^4ta^4jchi^1nca^3$ xi^3 (zapatista) $?mi^2$
respected:old:people   who   (Zapatista)   are:named

xje^1 xi^3 $(cha^1Velasco)$ $?mi^2$
gentleman   who   (man:Velasco)   are:named

$nchja^1charro$ xi^3 $(nchja^1xo^3mbe^3te^3)$ $?mi^2$
men:horseman   who   (men:broad:brim:hat)   are:named

$?nti^1xon^4$ xi^3 $(ta̰on^4)$ $qui^3-tso^2-le^4$
respected:paper   which   (money)   pst–say–to:it:they

-without grammatical marker xi^3 but with potential
   phonological marker

$cho^4ta^4jchi^1nca^3$,   (Primera Agente Municipal) $?mi^2$
old:person,   (First   Agent Municipal)   is:named

CHART VI
The Naming String (See 4.4 and 4.5.)

[1] In each case the parentheses enclose the actual name. In each case the
person (or persons) outside the parentheses is the same as the one named.

i.e., when occurring before another name in a series with $?mi^2$. In such cases there is a potential pause (indicated by a comma) after $cho^4ta^4jchi^1nca^3$.

$?mi^2$ in its various grammatical forms is by far the most frequent verb in the text which occurs with the personal name string. It has an extremely broad range of items with which it collocates. Any word or expression in the language theoretically can occur with it.

The active verb tso^2 'they say' also occurs three times in a naming string, e.g., $?nti^1xon^4$ xi^3 $taon^4$ qui^3-tso^2-le^4 (respected:paper which money pst-say-to:it:they) 'the paper they call money', and billete provisional tso^2-le^4 (bill provisional say-to:it:they) 'they call it provisional money'. That this is equivalent to $?mi^2$ is shown in that the last expression also occurs in the same sentence as billete provisional $?mi^2$-le^4.

Also collocating with $?mi^2$ in this same string are the different class person strings described in 4.1, e.g., $cho^4ta^4te^4jao^4$ $?mi^2$ (Huautecos are:called) 'they are called Huautecos', $chji^4ne^4chjao^3$ tsa^3-$c?in^2$ (wise:instrument pst-is:called) 'musician [bugler in this context] he was called', and the general noun class lexical items, such as: tjo^4 $?mi^2$ (gun it:is:called) 'it is called a gun', $cjoa^4sontado$ $?mi^2$ (abstract:affair:soldier it:is:called) 'it is called soldier affair'. Foreign words often occur in it by way of explanation. policía $?mi^2$ (police they:are:called) 'they are called police', xi^3 división $?mi^2$...nca^3 en^1 español (which división is:called in language Spanish) 'which is called división in Spanish'. See Chart VI.

4.5. xi^3 is a purely grammatical marker, of the type we have been largely ignoring until now in our attempt to see what structure might be revealed by the lexical items themselves on a strictly lexical level. In the strings we are considering it relates what follows it, in some descriptive or aclarative way, to a noun or noun substitute which pre-

cedes it.[5] Both what precedes and follows are the same real
world person or people. The presence of xi^3 is crucial to
the structure of many lexically identical strings. Some of
these include members of the cho^4ta^4 and $jchi^1nca^3$ equiva-
lence chains in strings with personal names and $?mi^2$. We
find in the text such forms as: cha^1 Lorenzo 'Mr. Lorenzo'
and cha^1 Lorenzo $?mi^2$ 'he is called Mr. Lorenzo'. We
might therefore consider that cho^4ta^4 Adolfo $?mi^2$ was also
a possible form meaning 'he is called person Adolfo'. It
does not, however, so occur. cho^4ta^4 never occurs in the
text with personal names without xi^3 intervening, even
though cha^1, a member of the same lexical set, as we have
seen, does (see 4.2). cho^4ta^4 xi^3 Adolfo $?mi^2$ does occur
and means 'the person who is named Adolfo'. xi^3 in fact
makes this lexically as well as grammatically two strings,
cho^4ta^4 and Adolfo $?mi^2$. The naming string here is simply
Adolfo $?mi^2$, and this string is descriptive of cho^4ta^4.

In cho^4ta^4 Zapatista $?mi^2$ no xi^3 intervenes. cho^4ta^4
does occur in close-knit collocation with general class
names such as Zapatista. This time there is but one lexical
string. The name is the entire string, cho^4ta^4 Zapatista
'Zapatista person(s)' or 'followers of Zapata'. In cho^4ta^4
xi^3 Zapatista $?mi^2$, xi^3 occurs again. Although the com-
bination cho^4ta^4 Zapatista 'Zapatista people' is possible,
as we have seen, it is ruled out here by the occurrence of
xi^3. The people are simply named 'Zapatistas'.

In the example xje^1 xi^3 cha^1 Velasco $?mi^2$ we have
the occurrence of xi^3, and the name is cha^1 Velasco. The
lexical pair xje^1 plus cha^1 never occur in a close-knit
string. Thus there is negative lexical collocation informa-
tion, in addition to the grammatical marker xi^3 to tell what
the structure is here. The string means 'the gentleman who
is called cha^1 Velasco'. cho^4ta^4 xi^3 $nchja^1$ charro $?mi^2$,
is the same. cho^4ta^4 and $nchja^1$ do not occur in a close-

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[5] With exception noted in 3.9.

knit string, but the two do occur with a xi^3 intervening. The example means 'the people who are called gentlemen horsemen'.

Not only the single lexical items cho^4ta^4 and xje^1 occur with xi^3 plus a naming string but the class name strings also so occur in series with a naming string (e.g., $?nti^1cho^4ta^4jchi^1nca^3$ xi^3 Zapatista $?mi^2$ 'the respected old man who is called a Zapatista'), with a personal name string (e.g., $cho^4ta^4nqui^3xo^1$ xi^3 Juan Hernández 'the San Antonio man who is Juan Hernández'), or with another class name string (e.g., $nchja^1$ charro xi^3 $nchja^1$ $xo^3mbe^3te^3$ $?mi^2$). In the last illustration $nchja^1$ charro and $nchja^1$ $xo^3mbe^3te^3$ are both general names, but in this particular construction the xi^3 makes it clear that it is the $nchja^1$ charro who are being called $nchja^1$ $xo^3mbe^3te^3$.

xi^3 as a grammatical device permits lexical recursiveness, i.e., a repetition of the class person string, e.g., $?nti^1c?en^3$ $nts?e^4$ Juan Allende xi^3 Fermín Allende $?mi^2$ (respected:dead brother:his Juan Allende who Fermín Allende is:named) 'the respected dead brother of Juan Allende is called Fermín Allende'. Such recursiveness does not occur in the close-knit naming string with $?mi^2$.

The grammatical xi^3 and the lexical $?nti^1c?en^3$ may re-enforce each other in the naming string (e.g., $?nti^1c?en^3$ $nts?e^4-ve^4$ xi^3 $?nti^1c?en^3$ Emiliano Morelos $?mi^2-ve^4$ (respected:dead brother:his-there who respected Emiliano Morelos is:named-there) 'his dead brother is called the respected dead Emiliano Morelos'), clearly indicating how much is to be included in the name and what is not. (See Chart VI.)

4.6. There are fifteen other occurrences of cho^4ta^4 with names of specific individuals. Examples of these are: $cho^4ta^4-le^4$ Adolfo Pineda 'the people (followers) of Adolfo Pineda', $cho^4ta^4-le^4$ General Macario Hernández 'the followers of General Macario Hernández', $cho^4ta^4-le^4$ cha^1 Quiroga

Possessor Name String

cho⁴ta⁴-le⁴   cha¹   Quiroga

people-his   man   Quiroga

Grammatical Analysis:

possessed $\leftarrow$ [le⁴ $\leftarrow$ (possessor's name)]¹

Possessor Name String Included in Naming String

(cho⁴ta⁴-le⁴   Coronel   Gustavo   Quiroga)²   ʔmi²

(people-his   Colonel   Gustavo   Quiroga)   are:named

Grammatical Analysis:

[possessed $\leftarrow$ (le⁴ $\leftarrow$ possessor's name)] $\rightarrow$ Pred.

Possessor Name String Plus Naming String With Name of the Possessed

ʔnti¹cʔen³   ntsʔe⁴   Juan Allende xi³   (Fermín Allende)   ʔmi²

respected:dead brother:his Juan Allende who (Fermín Allende)   is:named

Grammatical Analysis: [attrib. $\rightarrow$ possessed $\leftarrow$ (possessor³ $\leftarrow$ name of possessor)] $\leftarrow$ [(name of possessed) $\rightarrow$ pred.]

Lexically and Grammatically Ambiguous: ʔnti¹cʔen³   ntsʔe⁴   xi³   (ʔnti¹cʔen³   Emiliano Morelos)   ʔmi²

respected:dead brother:his who (respected:dead Emiliano Morelos)   is:named

(attrib. $\rightarrow$ possessed) $\leftarrow$ {possessor⁴ $\leftarrow$ xi³ [(attrib. $\rightarrow$ name of possessor) $\rightarrow$ pred.]}

or   (attrib. $\rightarrow$ possessed $\leftarrow$ possessor) $\leftarrow$ [xi³   (attrib. $\rightarrow$ name of possessed) $\rightarrow$ pred.]

CHART VII

Possessor and Naming Strings (See 4.7.)

[1] Person before -le⁴ different from person after it.

[2] Parentheses enclose actual name. They are called 'the followers of Colonel Gustavo Quiroga'.

[3] The tone 4 on ntsʔe⁴ indicates third person possessive pronoun. Note ntsʔe⁴ and Juan Allende are different persons, ntsʔe⁴ and Fermín Allende, linked by xi³ are the same. The sentence is: 'Juan Allende's respected deceased brother is called Fermín Allende'.

[4] Tone 4 is third person possessive pronoun. Since both possessor and possessed are third person, the name could apply to either. The first says: 'The dead brother of him who is called the deceased Emiliano Morelos'. The second says: 'His deceased brother who is called the deceased Emiliano Morelos'. Lexical data (e.g., a different name, as in the example above) would clear up the grammatical ambiguity and it would mean the second. If the same name occurred it would mean only the former.

'the followers of Mr. Quiroga', and cho⁴ta⁴jchi¹nca³-na¹
Adolfo Pineda 'our elder Adolfo Pineda'.   Note the differ-
ence again in the collocation of cha¹ and cho⁴ta⁴ with per-
sonal names; cha¹ links directly whereas cho⁴ta⁴ does not.
In these examples the grammatical marker and relator -le⁴
'3rd person possessive pronoun' or -na¹ '1st person inclu-
sive possessive pronoun' are both members of the personal
possessive pronoun closed class (six members).   They mark
the lexical item following or its substitute.   We shall call
this the possessor name string. (See Chart VII.)

Here again the two levels interact.   The grammatical
relator is crucial. The two levels cannot be handled entirely
separate.   Thus we see that the lexical strings operate up to
certain limits or under certain conditions governed by the
grammatical structure.   cho⁴ta⁴ xi³ Adolfo and cho⁴ta⁴-le⁴
Adolfo contrast, but the contrast is grammatical, not lexi-
cal, and one lexical string is distributed over two gram-
matical constructions.

4.7. Lexical strings may be imbedded in other lexical
strings and structures.   We find for example cho⁴ta⁴-le⁴
Coronel Gustavo Quiroga ?mi² (person-his Colonel Gustavo
Quiroga is:called) 'he is called a follower of Colonel Gustavo
Quiroga' referring not to the name of the Colonel but refer-
ring to the designation of his follower.   Contrast this with
cho⁴ta⁴ xi³ Coronel Gustavo Quiroga ?mi² 'the person who
is called Colonel Gustavo Quiroga' where the same lexical
items occur and the collocation is broken at the same point,
but the meaning of the collocation across the breakpoint is
determined solely by the grammatical structural signals and
relators.   We can also contrast this with the possible (al-
though an example not found in this text) cho⁴ta⁴-le⁴ Coronel
xi³ Gustavo Quiroga ?mi² 'the follower of the Colonel who
is called Gustavo Quiroga' where again the same lexical
string is now distributed by two grammatical relators into
three pieces, cho⁴ta⁴, Coronel, and Gustavo Quiroga ?mi²,

in which the person is possessed by the Colonel and the
Colonel is named Gustavo Quiroga.   Colonel is the common
link in the two lexical (lexico-grammatical) chains but stands
in contrasting relationship to them.   A further permutation
could be made: cho^{4}ta^4(-le^4 xi^3) Coronel Gustavo Quiroga
ʔmi^2 'the followers (of the one who) is called Colonel Gustavo
Quiroga'.   Which items co-occur is certainly a part of lexi-
cal patterning and can be stated up to a certain point apart
from grammatical statements.   What the meaningful relation-
ship is between the lexical items, however, in the above
examples, is dependent upon grammatical factors.   (See
Chart VII.)

    4.8. Lexical strings involving multiple occurrences in
paratactic relationship without either xi^3 or -le^4 or -na^1
occur in the text.   je^2 cho^{4}ta^4, cho^{4}ta^{4}te^{4}jao^4, General
Quiroga 'that person, a Huauteco, General Quiroga' is a
paratactic series which functions as one multiple string in
larger lexical collocations.   Intonational breaks (indicated
by commas) plus the repetition of the lexical item cho^{4}ta^4
show that this is a repetition of name strings (we shall call
it a repetitive name string) and not a simple expansion.   All
refer to the same person.   Similarly je^2 coi^3 general,
General Erasto Quiroga, ʔnti^{1}cʔen^3 Erasto ʔnti^1 ʔmi^2-le^{42}
(that specific general, General Erasto Quiroga, respected:
dead Erasto:the:small is:named-to:him:we) 'that general,
General Erasto Quiroga, the respected dead little Erasto we
call him' is marked as another series by the repetition of
general, the presence of the lexical marker ʔnti^{1}cʔen^3, and
the intonation breaks.   In the foregoing illustrations only one
personal name string occurs in each or if two it is the same
personal name and the whole series is referring to one and
the same individual.   Other examples are cha^{1}nqui^{3}xo^1
General Juan Hernández 'the San Antonio man, General
Juan Hernández' (contrast this with cho^{4}ta^{4}nqui^{3}xo^1 xi^3
Juan Hernández in 4.5) and cho^{4}ta^4-chji^{4}ntjai^4 Carranzista

'the Mazatlán people, Carranzistas'. ?nti^{1}c?en^3 Bernardo, Celso Ramírez, Marcial Carrera ?mi^2 nchja^1-ve^4 (respected:dead Bernardo, Celso Ramírez, Marcial Carrera are:called men-those) 'those who are called: the dead Bernardo, Celso Ramírez, Marcial Carrera' is a multiple series referring to three different people (indicated by three personal name strings), collocating with ?mi^2 in the naming string. Since the ?mi^2 string is a fixed order string nchja^1 which follows ?mi^2 is ruled out as being part of the name.

It is to be noted that in these the phonological pause marker functions much as the grammatical markers in 4.5 and 4.6 at the lexical level.

4.9. We have found basic strings, combinations and expansions of such strings, and repetitions of such strings in series in our text. We have found lexical markers indicating differing degrees of cohesiveness within expanded strings. We have found strings within strings. We have found that grammatical markers are crucial at certain points to identification of lexical string boundaries and that grammatical and lexical markers may re-enforce each other.

The class name and personal name strings are not two different types but variant forms of one basic type, which we shall call the name string. The personal name string has a personal name in the head spot. The class name string has one of the chain of general class names as head. However, class name items with certain restrictions also occur with personal names and may be considered expansions of the personal name string. cho^{4}ta^4 is an exception occurring with class names (e.g., cho^{4}ta^4 Zapatista) but not with personal names except with a xi^3 intervening. This can be treated simply as a grammatical variant of the same lexical string or as a sequence of two strings, i.e., a class name followed by a personal name string. Thus we do not find

sufficient evidence to consider the class and personal name strings as two contrasting types.[6]

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[6] Longacre's minimum requirement is that there must be at least two contrasts to establish structural difference between strings.   See Longacre (1964; pp. 10-11).

5 Lexical Strings: The place strings

5.1. <u>Place strings</u>. Mazatec place names in the text are numerous. Many are single morphemes, e.g., jnchi^4 'Teotitlán del Camino'. Others are Spanish names, e.g., San Miguel. Many, however, are fixed, close-knit lexical strings consisting of a general term as the first item followed by a more specific second lexical item. The commonest general terms occurring in this text are the lexical items for spring, tree, region, mountain, hill, and town. na^{3}nta^1 (na^3- 'nominalizer', -nta^1 'water' usually occurring as nta^1-) occurs in strings naming springs or waterholes. Examples are: nta^{1}chi^{4}nca^4 'pig water' (chi^{4}nca^4 'pig'), nta^{1}jña^1 'woods water' (jña^1 'woods'), nta^{1}qui^{4}cha^4 'metal water' (qui^{4}cha^4 'metal'). ya^1 'tree' occurs in strings naming towns or places on trails located by prominent trees. Examples are: ya^{1}je^3 'big tree' (je^3 'big'), ya^{1}xi^{3}ʔnčha^1 'Carrizal' (-xi^{3}ʔnčha^1 meaning unknown). na^{3}nqui^3 'land' occurs in strings naming municipal lands or more general territories. Examples are: na^{3}nqui^{3}sjoe^2 'hotland' (sjoe^2 'hot'), na^{3}nqui^{3}te^{4}jao^4 'Huautla land or municipio' (te^{4}jao^4 'Huautla'). ni^{3}nto^3 'mountain' occurs in strings naming mountains. An example in the text is: ni^{2}nto^{3}to^{3}co^{2}xo^4 'mountain of the old man with the dog' (-to^{3}co^{2}xo^4 meaning unknown). xi^{4}nqui^4 'little hill' occurs in strings naming smaller hills. An example is: xi^{4}nqui^{4}lao^{4}tse^3 'little hill of the big rock' (lao^4 'rock', tse^3 'big').

One other general term, na^{4}xi^{4}na^{3}nta^1 'town/towns-

people/country', occurs twenty-six times in the text. It collocates with specific place names, in place name strings. It is used in reference once to Mexico, (the country or Mexico City), and once each of Santa Cruz de Juarez, and San Antonio, all towns in the general region of Huautla de Jiménez. The remaining twenty-two occurrences refer to Huautla de Jiménez, the town where the fighting centered, the focus of interest in the narrative. In this text it occurs only once with te^4jao^4, the specific name for Huautla de Jiménez, in the string $na^4xi^4na^3nta^1$ te^4jao^4 (town Huautla) 'the city of Huautla', and this string only occurs once. Paralleling this occurrence of the place name string are nineteen occurrences with $-na^1$, the first person plural inclusive possessive pronoun 'our' (the inclusive including the person or persons spoken to), as in $na^4xi^4na^3nta^1-na^1$ (town-our) 'our town'. Also occurring are $?nte^3-na^1$ (place-our) 'our place' (1X), $na^3nqui^3-na^1$ (land/territory-our) 'our land' (1X), and $tsan^{42}$ (independent first person plural possessive pronoun) 'ours' (5X). Lexically this set of five items $na^4xi^4na^3nta^1$ te^4jao^4, $na^4xi^4na^3nta^1-na^1$, $?nte^3-na^1$, $na^3nqui^3-na^1$, and $tsan^{42}$ are a mutually substitutable equivalence class. They account for all the specific references to the town as such.

5.2. **Trail strings.** The above place names and place name strings constitute a set of thirty-eight different place names which collocate with the lexical item $ntia^{42}$ 'trail' a total of sixty-five times. Examples are: $ntia^{42}$ $nta^1chi^4nca^4$ 'the pig water trail', $ntia^{42}$ $na^3nqui^3sjoe^2$ 'the hot land trail', $ntia^{42}$ $nch?oa^1$ 'the cemetery trail' ($nch?oa^1$ 'cemetery').

Trail strings, involving the names of ten different towns occur more than twenty times. In no case is the general term $na^4xi^4na^3nta^1$ used. The trail string consists of $ntia^{42}$ plus the specific town name. An example is: $ntia^{42}$ $nqui^3xo^1$ 'the San Antonio trail' ($nqui^3xo^1$ 'San Antonio', $nqui^3$

'under', xo¹ 'foam' probably referring to a waterfall near-
by). These collocations are close-knit and fixed. Trail
strings then are expansions of place name strings. We shall
refer to them hereafter as one basic type, the place string.

5.3. The locational string. Two three-member closed
class lexical locational sets collocate with place strings.
They are i⁴ 'here', ya⁴ 'there', and jan¹ 'distant' which
precede, and -vi⁴ 'here', -ve⁴ 'there' and jan¹ 'distant'
which follow. The two sets collocate with each other as
follows: i⁴-vi⁴ 'here', ya⁴-ve⁴ 'there', and jan¹jan¹ 'dis-
tant'. These collocations are frequent but not obligatory,
for the first member of each can occur without the second
and vice versa. As collocations they are fixed, in that the
order of elements never varies. They are loose-knit collo-
cations, for although they may occur with nothing intervening,
as above, this is relatively rare. ya⁴ occasionally collo-
cates with -jan¹, and i⁴ with -ve⁴, in which cases they are
always loose-knit with a shorter or longer string intervening.

The strings with which they collocate most frequently
are the specific place names i⁴-México-vi⁴ (here-Mexico-
here) 'here in Mexico', ya⁴ nqui³xo¹-ve⁴ 'there [at]
nqui³xo¹'; the place names marked by general geographic
terms i⁴ nta¹cho⁴-vi⁴ 'here [at the] animal water'; the
general geographic terms themselves i⁴ na⁴xi⁴na³nta¹ (here
town-our) 'our town here', i⁴ ʔnte³-na¹ (here place-our)
'our place here', na³nqui³-na¹-vi⁴ (land-our-here) 'our
land here'; independent possessive pronoun replacives i⁴
tsan⁴²-vi⁴ (here ours-here) 'ours here'; and the ntia⁴²
strings i⁴ ntia⁴² na³nqui³sjoe²-vi⁴ 'here [on] the hot land
trail'. With the last they occur at least thirty-seven times
in this text, either singly or as a pair. See Chart VIII. The
relationship of the members of the locational collocation sets
is often very loose with respect to the string with which it
collocates, and may in fact allow for considerable inter-
vening lexical material, as for example: jan¹-xo¹ ntia⁴²

Expanded Place String: (Place) plus [trail] plus {locative}   (See 5.3.)

$$\{i^4 \quad [ntia^{42} \quad (na^3nqui^3sjoe^2)] \quad -vi^4\ \}$$

here   trail   land:hot   –here

Expanded Place String with Included Naming String: (See 5.7.)

$$\{i^4 \quad [(ntia^{42} \quad ya^1chi^4ts\,?e^1) \quad ?mi^2]\}$$

here   trail tree:pheasant is:named

Sequence of Two Strings:
  Second Explanatory of First: (See 5.5.)

$$ja^3?ai^3si^1c?en^3 -na^1 \quad (ya^4 \quad ntia^{42} \quad finca)\ (i^4 \quad ntia^{42} \quad na^3nqui^3sjoe^2 \quad -vi^4\ )$$

They arrived to kill us (there trail ranch) (here trail   land:hot   –here)

The 'as far as' String:

$$ja^3?a^3t?a^3 \ (i^4 \quad ntia^{42} \quad ya^1xi^3?n\check{c}ha^1) \quad sa^3?nta^3 \qquad (ni^3nto^3to^3co^2xo^4)$$

He passed near (here trail   Carrizal) as far as (mountain $to^3co^2xo^4$)

$$qui^3c?e^1tji^3 \ -xo^1 \qquad\qquad (zero) \qquad ?nta^3 \qquad (ntia^{42} \quad lo^3vi^2ya^4)$$

They circled, they say   as far as   (trail   Córdoba)

CHART VIII
Place String Types (See 5.3, 5.5, 5.7.)

$ja^3ʔa^3to^3tʔa^3$ $ntia^{42}squi^4ʔya^{43}$-jan^1 (distant–quoted trail pst:
pass:close:by:they trail:$squi^4ʔya^{43}$- distant) 'in the dis-
tance they passed close by on the $squi^4ʔya^{43}$ trail'.

The place strings are fixed in order. The locational
strings are also fixed in order. There is no instance of -vi^4
or -ve^4, for example, preceding either i^4 or ya^4. Other-
wise the locational strings contrast with place strings. They
are quite dissimilar types of lexical strings collocating with
each other. The place strings are close-knit. The locational
strings are loose-knit.   The place strings are a very large
open class.   The locational strings are a closed class, and
a very small one at that. The place strings have little gram-
matical function as markers of constructions. Grammatically
they may be subject or object of a verb or nominal attribu-
tives to verbs and have no fixed position relative to verbs.
The locational strings, since they are so loose-knit, occur
with considerable freedom juxtaposed to the major open
classes, and have very little if any genuine class-marker
function at the grammatical level.   Both seem to be most
significant at the lexical level. The place strings occur with
or without the locational string.   The locational strings can,
but seldom do, occur when no place string also occurs in the
immediate context.   When both strings occur, the locational
string seems peripheral to the place string, not only
bracketing it but more often than not being immediately
adjacent to it, especially following.   The locational strings
also at times act like pro-place strings.

5.4. In still broader collocations within the sentence,
trail expansions of the place strings, with or without a
satellite locational string, occur in the text with twenty-six
different verbs.   The principal verb stems collocating with
these strings were: fi^2 'go' (10X), $fa^3ʔa^3$ 'pass' (9X),
$fa^3ʔai^3$ 'arrive from' (8X), $vʔe^2jna^3/va^3tio^2$ 'be located'
(7X), $co^3tʔa^3ya^3$ 'study/practice' (5X), ma^3nca^3 'flee'
(2X), $si^1cʔen^3$ 'kill' (2X), fi^3cho^2 'arrive at' (2X).   The

verbs seem to occur equally before or after the trail string.
Thirty-one precede, twenty-six follow.   Several identical
collocations of verb and trail string reverse in order in
consecutive or adjacent sentences.   The factors involved
seem of a different order or level than the one we are now
discussing. (See 7.5.)

No lexical items of the types we are considering inter-
vene between the verb and the trail string, regardless of
whether the verb precedes or follows.   Lexically there is a
very definite and close affinity between the verb and the
trail string.   This is true even when the locational string
also occurs.   In only ten of the thirty-seven instances when
a locational string in whole or part also occurs does a mem-
ber of the locational string come between the verb and the
trail string.   Examples are: ja^3?ai^3-ni^3 ntia^{42} jncha^4-ve^4
(pst:arrive:from-origin:he trail city-there) 'he arrived
from there on the city trail', i^4 ntia^{42} jnchi^4 ja^3?ai^3-ni^3
(here trail Teotitlán pst:arrived:from-origin:he) 'he ar-
rived here on the Teotitlán trail', ja^3?ai^{3}si^{1}c?en^3-na^1 ya^4
ntia^{42} finca (pst:arrive:from:to:kill-us:they there trail
ranch) 'they came to kill us there on the ranch trail'.

5.5. Sequences of two or more place strings (or trail
expansions) occur with one verb. There are eleven examples
in the text of expanded strings composed of a verb plus two
place strings.   These fall into three groups.

The first group includes six such strings. ja^3?ai^{3}si^{1}c?en^3-
na^1 ya^4 ntia^{42} finca i^4 ntia^{42} na^{3}nqui^{3}sjoe^2-vi^4 (pst:arrive:
to:kill-us:he there trail ranch here trail hot:land-here)
'he arrived to kill us there at the finca trail, here at the hot
land trail' is a verb followed by two strings.   The verb may
also occur between the two strings: ntia^{42} nta^{1}qui^{4}cha^4
ja^3?ai^3 ntia^{42} nqui^{3}jao^{3}choa^3 (trail metal:water pst:arrive:
he trail white:cave) 'he arrived at the iron water trail, the
white cave trail'.   The two strings may occur preceding the
verb.   i^4 ntia^{42} nqui^{3}na^{4}xi^4 ntia^{42} San Miguel qui^{3}ca^{3}tio^2

(here trail under:cliff trail San Miguel pst:be:located:
they) 'here on the Santa María trail, the San Miguel trail
they stayed'. In each instance the total string is continuous,
unbroken by any other elements. It is not a fixed string but
it is close-knit. Mazatec trails have general names for the
entire trail and names for more specific parts of or places
on such trails involving usually such landmarks as springs,
rocks, trees, caves, and hills. In each case the second
string is explanatory of the first in that it adds an even more
specific trail location on the same trail. In some cases, if
the first involves a Spanish word, the second adds the
Mazatec name for the trail.

The text also includes two examples which follow the
above pattern where the first is not a trail string but simply
the general word for trail and the second adds the specific
name, for example: i^4-xo^1-na^1 $ntia^{42}$ ji^3nčhoa^3-ni^3 [...]
$ntia^{42}$ nta^1chi^{4}nca^4 (here-quoted-remote trail pst:come-
origin:he [...] trail pig:water) 'here on this trail he came
[...] the pig water trail'. The lexical string we are dis-
cussing now is continuous; the aside (indicated by brackets)
is not part of the narrative proper. (See 3.8.)

The second group includes four strings, for example:
va^3se^{3}ts?ia^4-ni^3 $ntia^{42}$ son^{2}ni^{3}nto^3 ?nta^3 na^{4}xi^{4}čhjao^3 (begin-
origin:it trail ridge:of:mountain as:far:as cliff:musical:
instrument) 'it begins from the mountain ridge trail as far as
the hill Clarín', ja^3?a^{3}t?a^3 i^4 $ntia^{42}$ ya^{1}xi^{32} ?nčha^1 sa^3?nta^3
ni^{3}nto^{3}to^{3}co^{2}xo^4 (pst:pass:near:he here trail tree:xi^3?nčha^1
as:far:as mountain:to^{3}co^{2}xo^4) 'he passed near the Carrizal
trail here as far as the mountain of the old man with the
dogs'. Four of these verbs plus two strings are marked by
the occurrence of sa^3?nta^3 or its abbreviated form ?nta^3
'as far as' which always occurs between the two strings.

The remaining example is tsa^{3}ca^{3}tio^2 ya^4 $ntia^{42}$ i^4
comandancia-vi^4 cao^4 son^{2}ni^{3}nto^3-vi^4 (pst:be:located:they
there trail here comandancia-here with mountain:ridge-
here) 'they were located there at the trail [by] the command-

er's place here and on the ridge of the mountain'. This seems a parallel situation to the previous four with this difference, however, that cao^4 'and' occurs instead of ʔnta^3 'as far as' with a corresponding difference in relationship between the two included strings.

In addition to the eleven cases of verb plus two strings there are four other examples with verb plus ʔnta^3 plus one string which seem a variation of the last type above. Examples are: qui^{3}cʔe^{1}tji^3-xo^1 ʔnta^3 ntia^{42} lo^{3}vi^{2}ya^4 (pst:go: make:circle-quoted:they as:far:as trail lo^{3}vi^{2}ya^4) 'they went in a circle as far as the road to Cordoba', and ji^{3}cho^2-la^4 ʔnta^3 na^{4}jnca^4 (pst:arrive:at-prob:they as:far:as na^{4}jnca^4) 'they went as far as San Andres'. These seem very much like the second group with the first of the two strings missing.

5.6. We have here two contrasting lexical structures, both consisting of a sequence of two place strings. In group one, where the second place string is explanatory of the first, the full string consists of the verb lexical item plus two place strings, with no intrusion of other elements. In the second group we have the verb lexical item plus two place strings with ʔnta^3 'as far as' (a unique item if we treat cao^4 separately, or member of a very limited class if we include cao^4) always occurring between the two place strings. In the explanatory string the verb lexical item may occur before, after, or between the two other strings. In the second group the verb occurs three times before, once after, but there is no example of it occurring between the two. The two groups also differ in their potential transformations. In the first group the full string can be transformed to two separate strings by repetition of the verb, and with no change of meaning. For example: ntia^{42} nta^{1}qui^{4}cha^4 ja^{3}ʔai^3 ntia^{42} nqui^{3}jao^{3}choa^3 'he arrived at the iron water trail, the white cave trail' can be transformed to: ntia^{42} nta^{1}qui^{4}cha^4 ja^{3}ʔai^3, ntia^{42} nqui^{3}jao^{3}choa^3 ja^{3}ʔai^3 'he arrived at the iron

water trail, he arrived at the white cave trail'. But the full lexical strings of group two cannot be thus transformed. To say va³se³tsʔia⁴-ni³ ntia⁴² son²ni³nto³ va³se³tsʔia⁴-ni³ ntia⁴² na⁴xi⁴čhjao³ 'it begins from the mountain ridge trail it begins from the hill Clarín' is not the same as saying 'it begins from the mountain ridge trail as far as the hill Clarín'. Nor does it mean the same to say va³se³tsʔia⁴-ni³ ʔnta³ son²ni³nto³, va³se³tsʔia⁴-ni³ ʔnta³ na⁴xi⁴čhjao³ 'it begins as far as the mountain ridge, it begins as far as the hill Clarín'. Both fail to make clear that the entire stretch from the mountain ridge to the hill Clarín was involved, for son²ni³nto³ ʔnta³ na⁴xi⁴čhjao³ means 'mountain ridge as far as the hill Clarín'. The two sequences of two strings also differ in the meaningful relationship of the strings.

Here then we have four differences: absence versus presence of ʔnta³; in the first the sequence of two strings can be interrupted, whereas this does not occur in the second; different transformations; and different meaningful relationship of strings. We therefore consider the explanatory and the 'as far as' sequences contrastive lexical strings.

Each of these structures has variants.[1] The first of the two strings in the explanatory construction, in two instances, is simply a general geographic term with no specific reference. The lexical items filling the strings vary. The positions of the two strings are fixed in order but vary in position with respect to the verb with which they collocate. The second or ʔnta³ string has variants, too. In four instances the first member is lacking. The lexical items occurring vary. There is variation in the form of sa³ʔnta³. They both vary with respect to the presence or absence of

[1] Difference in variants might be considered another difference between the two constructions, but is not of the kind that should be used as a basis for establishing them as contrastive structures. At this level variants are nonsignificant, except that at times they do show which of two contrasting structures is occurring.

members of the locational string in collocation with the place
strings.

Each structure has a distribution with respect to the
lexical items with which it collocates, e.g., the verbs. The
first or explanatory construction occurs with six different
verbs, the second group with four, two of which are closely
related in meaning to two which occur with the first, for
example: $ja^3?a^3t?a^3$ 'pass close' occurs with the second
type, $ja^3?a^3to^3t?a^3$ 'pass by close' with the first. $ja^3?ai^3$
'arrive from' occurs in both types in its simple form and as
an auxiliary verb in a two-verb complex.

There is no real evidence of contrast between the two
constructions based on contrastive distribution with other
lexical units of the verb class as such. The contrast is es-
tablished on the grounds of internal not external distribution.

5.7. The place strings also collocate with $?mi^2$ 'is
named' in the naming string. In each case, the place name
includes the general term plus the specific name. (Here, as
in 5.1, strings with $na^4xi^4na^3nta^1$ act differently.) If it is a
trail name, it includes the trail term plus the place string.
Examples are: $ni^3nto^3squi^4?ya^4$ $?mi^2-le^{42}$ (mountain: $squi^4?ya^4$
is: named-to: it: we) 'we call it Mountain $squi^4?ya^4$',
$nta^1n\check{c}ho^3?ya^3$ $?mi^2-le^{42}$ (water: $n\check{c}ho^3?ya^3$ is: named-to: it: we)
'we call it the Spring $n\check{c}ho^3?ya^3$', i^4 $ntia^{42}$ $ya^1chi^4ts?e^1$
$?mi^2-le^4$ (here trail tree: pheasant is: named-to: it) 'here it
is called Trail of the Pheasant Tree', Santana $?mi^2-ve^4$
$na^4xi^4na^3nta^1$ (Santana is: named-there town) 'the town is
called Santana'. In the last illustration the general term
follows the $?mi^2$, is separated from the specific name, and
is not included in the name since the naming string always
has the actual name preceding the $?mi^2$. $ntia^{42}$, if it occurs,
otherwise the general place term, acts as the lexical bound-
ary of the name. The locational expansion is an outer layer,
and not included in the naming string. See Chart VIII.

5.8. The conversation or na^{4}jmi^1 string (Chapter III), the name string, the naming string (Chapter IV), and the place string are four contrastive lexical string types. cho^{4}ta^{4}jchi^{1}nca^3 cjai^{1}nca^3 nta^1 v?e^1 na^{4}jmi^1 is representative of the conversation string. je^2 ?nti^{1}c?en^3 cho^{4}ta^{4}jchi^{1}nca^3 and je^2 ?nti^{1}c?en^3 cha^1 Adolfo Pineda are representative of the name string. Adolfo ?mi^2 is representative of the naming string. i^4 ntia^{42} nta^{1}qui^{4}cha^4-vi^4 is representative of the place string.

The conversation string contrasts with the name strings in that the lexical sets and equivalence classes that occur in the first expanded form of the conversation string cjai^{1}nca^3 nta^3 v?e^1 na^{4}jmi^1 do not occur in the name string at all. The relationships between these sets and classes are also different. cjai^{1}nca^3 nta^3 is attributive to v?e^1 na^{4}jmi^1, na^{4}jmi^1 is object of v?e^1. cho^{4}ta^{4}jchi^{1}nca^3 which occurs in the further expansion of the conversation string also occurs in the name string. In the conversation string it is as subject in cross reference to the subject of the verb. In the name string (class name variant) it is the basic lexical item on which the string is built. These differences cause us therefore to consider the conversation string and the name string different and contrastive.

The name string contrasts with the place string in that the basic list of lexical names or entries is different. The ?nti^{1}c?en^3 expansion of the name strings does not occur with the place strings nor does the locational string occur with the name strings (although -vi^4 and -ve^4 do, but in a different collocation with je^2 'that'). The lexical sets and chains that co-occur with the basic name string are different. We therefore treat the name strings as different and in contrast to the place strings.

The naming string is also in contrast to the other strings considered, in that it has a unique basic class, the ?mi^2/tso^2 class, which does not occur in the others. The

class of items (strings) that occurs with ?mi^2 is different
from that which occurs with the base classes of the other
strings in that it includes the various strings themselves as
members.   Thus we have a two-fold difference[2] and another
string type.

5.9. In the place strings we have found one basic string
(the place name) with two expansions (the trail expansion and
the locative string expansion). The place string and its trail
expansion may occur included in the naming string. There
are two contrastive types of sequences of two place strings,
the explanatory sequence and the 'as far as' sequence. The
'as far as' sequence has one main noncontrastive variant.

On the level of the simple basic strings and their ex-
pansions we have now found at least four main contrastive
types: the conversation string, the name string, the naming
string, and the place string. We have also noted an attribu-
tive string (Chapter III) and a locative string (Chapter V)
which function as expansions of other basic strings.

6 Lexical Classes: Equivalence sets and chains

6.1. Following the procedures outlined in 2.6 a study was made of the collocational habits of the members of the two large open classes of lexical items, the verbs and the nouns.[1] We took the lexical members of the grammatically defined class of verbs, and the four subdivisions of this class, transitive, intransitive impersonal, and passive, and noted the collocation in our text of the members of these verb groups with nouns in three different string relationships: verb plus noun as referent, verb plus noun as object, verb plus noun as subject.

The verb-referent string relationship. With transitive verbs, there were thirty-six collocations (e.g., $tsa^3nca^3tjen^4nqui^3$-le^4 cho^4ta^4 (pst:run:after-to:them:they people) 'they pursued the people') representing twenty-three verbs and eleven nouns. The majority of these, on the basis of occurrence in identical or equivalent environments, were assignable to two equivalence chains as follows:

Verbs	Nouns
$fi^2tjen^4nqui^3co^2ntran^4$ 'to follow after an enemy'	xi^1ncjin^1 'each other' (reciprocal) (13X)

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[1] See 8.4 (including footnotes) for explanation of verb, noun, and referent, and p. 18, fn. 19 for other terms used throughout this chapter.

fi^{2}cao^4 'to go with'

tsjoa^1 'to give' (2X)

tsjoa^{1}nca^{3}n?ion^1 'to give help'

ma^{3}nca^{3}tjen^{4}nquỉ^3 'to chase' (3X)

si^{1}cjan^{1}cao^4 'to cause to fight with'

si^{1}je^1 'to beg'

s?in^1 'to do'

v?a^{3}tjen^{4}nquỉ^3 'to follow'

v?e^{1}t?a^3 'inscribe'

v?e^{1}xco^4 'to gather'

v?e^{1}jna^3 'to leave'

v?e^1 'to hit'

tso^{2}ya^3 'to teach' (2X)

tso^2 'to say'

si^{1}c?en^3 'to kill'

cho^{4}ta^4 'person(s)' (3X)

gobierno 'government'

general 'general'

The residue fell into five sets: the cho^{4}ta^{4}che^1 'thief', xi^{3}c?a^3 'others', and Carranzista set occurring with tsjoa^1?nte^3 'permit'; the fa^3?ai^{3}si^{1}che^1 'come to rob' and fa^3?ai^{3}si^{1}ma^4 'come to impoverish' set occurring with ña^1 'we (incl.)'; the nchja^{4}jin^3 'speak to' and va^{3}te^{1}xo^{3}ma^3 'rule' set with na^{4}xi^{4}na^{3}nta^1 'town/townspeople'; and the si^{1}toan^{1}ntjai^2 'to defend/avenge' and ve^3 'recognize' set with cho^{4}ta^{4}yo^{4}ma^4 'poor people'. All the nouns standing in

referent relationship to a transitive verb were lexical items referring to people.

With intransitive verbs in the same string, there were seven collocations (e.g., $coan^3$-le^4 $chji^4ne^4\check{c}hjao^3$ (become-to:him bugler) 'he became the bugler') representing six verbs and six nouns. Members of three of the seven collocations were assignable to two equivalence chains as follows:

Verbs	Nouns
$ma^3xin^2con^3que^3$ 'to be envious' (2X)	xi^1ncjin^1 'each other' (reciprocal) (2X)
$ti^1jna^3t?a^3xin^2$ 'be located apart'	Adolfo

All the lexical items of the noun class were with reference to persons.

With impersonal verbs, there were thirty-four collocations representing sixteen verbs and fifteen nouns. The majority of these, on the basis of their co-occurrence, were assignable to equivalence chains as follows:

Verbs	Nouns
ma^3 'to be able/become' (9X)	cho^4ta^4 'person' (10X)
$s?e^3$ 'to possess' (6X)	$jco^4cho^4ta^4$ 'individual' (3X)
$tjin^1$ 'to have' (5X)	$cho^4ta^4jchi^1nca^3$ 'old person' (3X)
me^3 'to want' (2X)	$?ya^3$ 'whoever'
$ma^3cho^4ya^3?i^4tse^1$ 'to understand a little' (2X)	xje^1 'gentleman'
$ncha^3nta^3$ 'to be ready' (2X)	$xi^3c?a^3$ 'the other'
	Maximiliano

sa^{3}co^1 'to find/secure' José García

sa^{3}sen^1 'to like' Gustavo Quiroga

tsin^2 'to have not' chji^{4}ne^{4}chjao^3 'bugler'

na^{4}xi^{4}na^{3}nta^1 'town/ townspeople'

jnco^{1}jnco^1 'each'

cho^{4}ta^{4}ti^{1}tjon^2 'leader'

cho^{4}ta^{4}jcha^1 'ancient'

All the lexical items of the noun class in this relationship were people except one, cjoa^{4}jchan^1 'war'.[2]

6.2. Collocations in the verb-object string relationship.

With transitive verbs there were ninety-one collocations (e.g., coi^{4}nta^1 tjo^4 (fut:buy:we guns) 'we will buy guns') representing fifty-five verbs and forty-seven nouns. The majority were assignable to six partnerships of equivalence chains as follows:

Verbs Nouns

Partnership I

v?a^3 'to carry' (7X) tjo^4 'gun' (7X)

v?e^1 'to hit' (6X) ch?i^{4}sa^1 'shell' (8X)

si^{1}cao^4 'to touch' chjoa^{4}ch?i^{4}sa^1 'bullet holder'

[2] From other information it is known that other than persons may collocate with the impersonal verbs as referents. It may be true, as in the case of this informant, that nonpersonal referents are much less frequent.

si^{1}tsin^3 'to explode (a gun)'

tso^2 'to say' (3X)

tso^{2}ya^3 'to teach'

va^{3}tse^3 'to buy' (2X)

si^{1}c?en^3 'to kill'

ca^{3}ni^1 'to throw'

cjoe^1 'to take'

v?e^{2}jna^{3}ta^{2}ja^3 'to resist'

v?e^{1}ña^3 'to collect'

s?in^1 'to do' (2X)

si^{1}jao^{2}ya^3 'to divide in two'

si^{1}coi^{2}nta^4 'to care for' (2X)

grado 'rank' (2X)

Carranzista 'Carranza follower'

gobierno 'government'

cho^{4}ta^{4}jchi^{1}nca^3 'old person'

taon^4 'money' (2X)

xi^{3}jnco^3 'the other'

che^1 'thief'

xi^{1}ncjin^1 'each other'

Adolfo

yao^3 'flesh/self' (3X)

viva 'hurrah'

Partnership II

v?e^{1}ma^{3}jin^3 'to walk among' (3X)

si^{1}xa^1 'to work'

v?e^{1}xco^4 'to gather'

vi^{3}so^{1}tjen^{4}cao^4 'raise (insurrection)'

tjen^{4}cao^4 'go with' (4X)

fao^{1}ya^3 'chat'

nčh?oe^1 'to hear'

cjoa^4 'abstract thing' (7X)

cjoa^{4}si^3 'trouble' (5X)

cjoa^{4}jchan^1 'war'

en^1 'word/language' (2X)

escuela 'school'

cjoa^{4}sontado 'soldier's business'

instrucción militar 'military training' (2X)

co^{3}t?a^{3}ya^3 'study/
  practice'

v?e^{1}ts?ia^{4}cao^4 'to
  start with'

Partnership III

cjen^{2}ntjai^2 'to jump over'

v?e^{1}te^3?ma^3 'to herd
  secretly'

fa^3?ai^{3}si^{1}che^1 'to arrive
  to rob'

vi^{3}ncha^{1}nta^3 'to make
  ready'

nča^{4}ja^4 'cow' (5X)

tso^{3}jmi^2 'material things'

na^{4}xin^1 'horse'

Partnership IV

tsjoa^1 'to give' (4X)

si^{1}qui^{3}njen^3 'to win' (2X)

nca^{3}n?ion^1 'strength/help'
  (2X)

chji^1 'wages' (2X)

bandera 'flag'

contraseña 'countersign'

Partnership V

v?e^{1}t?a^3 'to inscribe'

si^{1}ncha^3 'to form'

ntia^{42} 'trail'

xon^4 'paper'

Partnership VI

cji^3?ntia^1 'to make a
  noise'

música 'music'

corneta 'cornet/bugle'

Members of thirteen other collocations were not assign-
able to any of the above partnerships and equivalence chains.

Comparing the equivalence chain and partnership array
here with those of all other relationships with the various
classes of verbs, one is struck by the fact that here the
lexical items fractured into several different groups none of
which was outstandingly large, whereas in most other cases
there was one large group including the great majority of the
lexical items in two equivalence chains of verbs and nouns.

Of the forty-seven lexical items occurring in the object
relationship to the transitive verbs, only eleven were lexical
items referring to people.

Comparing the complete list of eleven lexical items that
occurred in the referent relationship with the transitive
verbs, to the forty-seven which occurred in the object
relationship to the same verbs, it was discovered that only
three lexical items were common to the two lists.   These
were: gobierno 'government' (2X in each list), cho⁴ta⁴che³
'thief' and Carranzista 'follower of Carranza'. This is of
interest, for it would seem to indicate that on the lexical
level of analysis the grammatical categories of referent and
object, with respect to transitive verbs at least, may be
distinguished (a) by a much greater frequency of colloca-
tional occurrence in the case of the object relationship,
(b) by a much greater range of lexical items collocating in
the object relationship, and (c) by an almost complete lack
of overlap in the items collocating in the two relationships.

6.3. Collocations in the verb-subject string relation-
ship. ·

With transitive verbs there were 101 collocations (e.g.,
tsa³c?a³ cha¹jchi¹nca³ jva³ (pst:carry:he Mr.:old John)
'old John carried [it]') representing forty-one verbs and
thirty-nine nouns.   These were all assignable (except for
the members of thirteen collocations) to two equivalence
chains, the most frequent members of which were as follows:

Verbs	Nouns
tso^2 'to say' (11X)	cho^{4}ta^4 'person(s)' (28X)
tso^{2}ya^3 'to teach' (5X)	cho^{4}ta^{4}jchi^{1}nca^3 'old man/ man' (14X)
co^{3}t?a^{3}ya^3 'to practice/ study' (7X)	cho^{4}ta^{4}mi^{2}yo^4 'friend' (3X)
fao^1 'to talk' (5X)	
fa^3?ai^{3}si^{1}che^1 'arrive to rob' (2X)	
tsoa^3 'to seize' (2X)	
tsjoa^1 'to give' (3X)	
si^{1}c?en^3 'to kill' (4X)	
si^{1}cao^4 'to touch' (4X)	
v?a^3 'to carry' (4X)	
si^{1}xa^1 'to work' (3X)	
v?e^1 'to hit' (2X)	
s?in^1 'to do' (2X)	
v?e^{1}ma^{3}jin^3 'to walk among' (3X)	

Comparing the list of lexical items that collocate with the transitive verbs, but in the two contrasting relationships of object and subject, one is struck by the fact that although there were thirty-nine different nouns in subject relationship and forty-seven in object relationship the overlap in lists included only eleven items: Adolfo, billete 'paper money', Carranzista 'follower of Carranza', cho^{4}ta^{4}jchi^{1}nca^3 'old person', ch?i^{4}sa^1 'bullet', cjoa^4 'abstract thing', cjoa^{4}si^3 'trouble', en^1 'word/language', gobierno 'government', xon^4 'paper', and xi^{3}jnco^3 'the other'. The two

lists also differ in that nouns in object relationship included eleven which were people, thirty-six not, and nouns in subject relationship, thirty-two were people and seventeen were not.   No pronouns occurred in object relationship.   Again there seems to be some degree of lexical differentiation, a trend more than a clear-cut case, paralleling the grammatical categories.

With intransitive verbs there were seventy-eight collocations (e.g., $cjoa^4ts?en^4$ $ja^3?a^3s?en^3jin^3-le^4$ (trouble pst: enter:among-to:them:it) 'trouble came among them') representing forty-three verbs and forty-six nouns.   These were all assignable (except in ten collocations) to two equivalence chains, the most frequent members of which were as follows:

<table>
<tr><td style="text-align:center">Verbs</td><td style="text-align:center">Nouns</td></tr>
</table>

Verbs	Nouns
$fa^3?a^3$ 'to pass' (2X)	cho^4ta^4 'person(s)' (16X)
$fa^3?a^3to^3$ 'to pass by' (4X)	$cho^4ta^4jchi^1nca^3$ 'old person' (5X)
$fa^1?a^3s?en^3$ 'to enter' (7X)	Emiliano (4X)
fi^2 'to go' (5X)	Quiroga (4X)
$nčhoa^1$ 'to come' (5X)	$xi^3c?a^3$ 'other(s)' (4X)
$fa^3?ai^3$ 'to arrive from' (6X)	
ti^1jna^3 'to be present' (8X)	
$v?e^2jna^3$ 'to be located' (11X)	
$ti^1jna^3?ya^3$ 'to be present inside' (2X)	
$fi^3cho^2ca^3$ 'to arrive' (3X)	

vi^{3}so^{1}tjen^4 'to rise up'
(2X)

ma^{3}nca^3 'flee' (3X)

Of the forty- six nouns or noun substitutes collocating in a subject relationship with the intransitive verbs, all but fourteen were lexical items referring to people.

Comparing the list of lexical items in the same relationship of subject, but with different classes of verbs, transitive and intransitive, the lists had considerable overlap, at least seventeen items were the same, and these were the high frequency items in both lists. All but one (cjoa^4 'abstract thing') referred to persons. At this point it would appear therefore that at the lexical level in the subject relationship, the grammatical distinction between transitive and intransitive would be largely, if not entirely, irrelevant.

With impersonal verbs there were 100 collocations (e.g., tsin^2 na^{4}xin^1 (there:is:not horse) 'there are no horses') representing nineteen verbs and fifty- one nouns. All but the members of four were assignable to two equivalence chains, the most frequent members of which were as follows:

Verbs	Nouns
tjin^1 'there is' (24X)	tjo^4 'gun' (7X)
ma^3 'to become/be able' (31X)	cjoa^{4}chji^{4}ne^4 'wisdom/ education' (7X)
s?e^3 'to possess' (15X)	cho^{4}ta^4 'person(s)' (6X)
tsin^2 'there is not' (4X)	cjoa^4 'abstract thing' (6X)
?mi^2 'is called' (4X)	chji^{4}ne^{4}chjao^3 'musician' (4X)
ma^{3}ncjin^{2}con^3 'to become great' (2X)	cjoa^{4}ts?en^4 'evil' (3X)

tjin^{1}jin^3 'to remember'   Zapatista 'followers of
   (2X)   Zapata' (3X)

sa^{3}co^1 'to secure/   nca^{3}n?ion^1 'strength/
   obtain' (2X)   help' (3X)

                                       ch?i^{4}sa^1 'bullet' (2X)

    Of the fifty-one nouns collocating in a subject relation-
ship with the impersonal verbs only twenty-three were lexi-
cal items referring to people. Eighteen lexical items in this
list of nouns did not appear at all in the noun lists in subject
relationship to transitive and intransitive verbs. These
items were: ch?i^{4}sa^1 'bullet', cjoa^{4}chji^{4}ne^4 'wisdom/edu-
cation', tjo^4 'gun', na^{4}xa^4 'salt', nto^{4}jo^4 'soap', xa^1
'work', qui^{4}cha^4 'metal', nčha^{4}ja^4 'cow', nca^{3}n?ion^1
'strength/help', música 'music', grado 'rank', finca
'ranch', escuela 'school', cjoa^{4}ma^4 'poverty', cjoa^{4}jchan^1
'war', cji^{3}nčha^1 'famine', bo^{1}rro^1 'burro', cho^{4}ta^{2}ja^3
'mule'. There seems clear evidence therefore that at the
lexical level in the subject relationship there is a distinction
between transitive-intransitive and impersonal verbs, not
only in that the lexical items in the verb classes themselves
are completely different, but also in that the lexical items
with which they collocate are considerably different. The
two lists do overlap, however, mainly in cho^{4}ta^4 'person'
(sixteen times with intransitive, twenty-eight times with
transitive, and six times with impersonal), cho^{4}ta^{4}jchi^{1}nca^3
'old person' (five times with intransitive, fourteen times
with transitive, and once with impersonal), cjoa^4 'abstract
thing' (two times with intransitive, four times with transi-
tive, and five times with impersonal) and in a few where the
overlap is with transitive or intransitive, but not with both,
e.g., cjoa^{4}si^3 'trouble' (six times with transitive, two
times with impersonal, but not with intransitive).
    The list of lexical items occurring in the subject rela-

tionship with the impersonal verbs and object relationship with the transitive verbs showed the two lists had seventeen items in common, and a very similar frequency for the same item in the two different relationships and collocations. The list included: tjo^4 'gun' (seven times in each), $n\check{c}ha^4ja^4$ 'cow', nto^4jo^4 'soap', na^4xa^4 'salt', música 'music', grado 'rank', escuela 'school', $cjoa^4x?in^4$ 'manliness', $cjoa^4si^3$ 'trouble', $cjoa^4$ 'abstract thing' (five times in one, seven times in other), $cji^3n\check{c}ha^1$ 'famine', $ch?i^4sa^1$ 'bullet' (two times with impersonal verbs, eight times with transitive), $cho^4ta^4jchi^1nca^3$ 'old person'. This emphasizes the fact that it is necessary in collocational studies to keep the meaningful relationships as steady as possible, for, disregarding the difference here between object and subject relationship, it would be possible to unite many of the impersonal and transitive verbs in one large equivalence chain, since their collocational sets and equivalence chains would overlap at many points. This might make for a simpler picture but would obscure the fact, as we have pointed out, that there is a definite cleavage on the lexical level between these two groups of lexical items, and that collocations in subject relationship and object relationship, with the grammatical-lexical verb classes differing too, has gone outside the bounds of a genuinely comparable situation.

With passive verbs there were seventeen collocations (e.g., tjo^4 $qui^3ni^2c?a^3$ (gun pst:cause:to:carry:it) 'the gun was carried') representing fourteen verbs and eleven nouns. There were three sets:

with tjo^4 'gun' $ch?a^2$ 'was carried'
                    ni^2cao^4 'was handled'
                    $ni^2xa^1cao^4$ 'was worked with'
                    ni^2tsin^3 'was exploded'
                    $ni^2c?a^3$ 'be caused to carry'

with qui^{3}s^{7}e^{3}jna^3 'to be placed' cjoa^{4}si^3 'trouble'
jme^3 'whatever'
commandancia militar
'military commander'
trinchera 'trenches'

and

with qui^{3}ni^{2}c^{7}en^3 'to be killed' cho^{4}ta^4 'person(s)'
je^2 'that (person)'.

The passive construction is not of high frequency in the text. By transformation it can be made active, for example, grado c^{7}oai^4-le^4 cho^{4}ta^4 (rank fut:is:given-to:him person) 'a rank will be given to the person' transforms to tsjoa^1-le^4 grado cho^{4}ta^4 (give-to:him:they rank person) 'they give a rank to the person' where the referent 'person' remains unchanged but the grado switches from being subject of the passive to being object of the active transitive verb, and a new subject is required for the active verb. ^{7}nti^{1}c^{7}en^3 Adolfo Pineda cho^{4}ta^4-le^4 qui^3-si^{3}c^{7}en^3-ni^3 (respected: dead Adolfo Pineda person-his pst-kill-origin:him:he) 'his own follower killed the deceased Adolfo Pineda' transforms to ^{7}nti^{1}c^{7}en^3 Adolfo Pineda qui^{3}ni^{2}c^{7}en^3-ni^3 cho^{4}ta^4-le^4 'the deceased Adolfo Pineda was killed by his own follower'.

In the light of this possibility, it was noteworthy that of the eleven lexical items occurring as subject of a passive verb and the forty-seven lexical items occurring as object of a transitive verb only four were the same. They were: cji^{3}nčha^1 'famine', cjoa^{4}si^3 'trouble', en^1 'word/language', and tjo^4 'gun'. Of the fourteen passive verbs only four did not also occur in active form.

6.4. We may summarize our observations concerning collocations of lexical items in the three string relationships as follows (see also Chart IX):

Strings	Verb plus Noun as Referent	Verb plus Noun as Object	Verb plus Noun as Subject
Transitive	36 collocations 23 verbs, 11 nouns majority in 2 chains → residue in 5 sets all nouns people	91 collocations 55 verbs, 47 nouns 7 partnerships A← 13 collocations residue 11 nouns people, 36 not	101 collocations 41 verbs, 39 nouns → majority in 2 chains B← 13 collocations residue 32 nouns people, 17 not ↑C↓
Intransitive	7 collocations 6 verbs, 6 nouns 2 chains of 2 each all nouns people		78 collocations 43 verbs, 46 nouns majority in 2 chains 10 collocations residue 32 nouns people, 14 not ↑D↓
Impersonal	34 collocations 16 verbs, 15 nouns majority in 2 chains all nouns people ex- cept one	↑ E →	100 collocations 19 verbs, 51 nouns majority in 2 chains residue of 4 only 23 nouns people, 28 not
Passive		↑ F →	17 collocations 11 verbs, 11 nouns 3 sets

A. Only 3 nouns in common. Object more frequent and has greater range of items.
B. Only 11 nouns in common. No pronouns as object.
C. 17 nouns, same high frequency items. All but one people. No Tr-Intr contrast.
D. 18 of nouns only with impersonal. Overlap in few high frequency items with Tr-Intr. Considerable lexical difference in nouns between Imp vs. Tr-Intr.
E. 17 nouns in common at same frequency. If it were not for string difference, could thereby unite most verbs in one equivalence chain.
F. Only 4 nouns same. Contrary to transform potential with corresponding actives.

CHART IX
Referent, Object, and Subject Strings

Transitive verb plus noun as referent and plus noun as object are lexically different but not entirely so in the nouns which occur; the object nouns are more numerous and more frequent. The verbs have considerable overlap.

Transitive verb plus noun as object and plus noun as subject are lexically different but not entirely so in the nouns. No pronouns occur as object. There is considerable overlap in the verbs.

Transitive verb plus subject and intransitive verb plus subject have practically no contrast in the nouns but they differ completely in the verbs.

Intransitive and transitive verb plus subject and impersonal verb plus subject differ considerably in the nouns and completely in the verbs.

Transitive verb plus object and impersonal verb plus subject have considerable overlap of nouns but differ completely in the verbs.

Passive verb plus subject and transitive verb (active) plus object have almost no overlap in the nouns but all but four of the passive verbs also occur in active form.

The writer is not at all certain how this evidence should be interpreted with respect to establishing contrastive referent, object, and subject lexical strings. Certain tendencies may be observed, but there are no clear-cut contrasts due to overlap in greater or less degree in almost all cases. Perhaps this simply means that such distinctions are not really relevant at the lexical level at all.

6.5. There is a marked difference in the information provided by equivalence chains and equivalence sets. A set by definition is the list of lexical items which actually occur in collocation with the same lexical partner. An equivalence chain consists of the list of lexical items which occur with the same or equivalent lexical partners. For example ma^3 'become' has the collocation set in the referent string relationship in this text of cho^4ta^4 'person', $?ya^3$ 'who-

ever', xje^1 'gentleman', $xi^3c?a^3$ 'the other', Maximiliano, $chji^4ne^4\check{c}hjao^3$ 'musician'. $s?e^3$ 'possess' has the colloca-
tion set $na^4xi^4na^3nta^1$ 'town', $jnco^1jnco^1$ 'each', cho^4ta^4
'person', Gustavo, $jco^4cho^4ta^4$ 'individual person'. Since
both ma^3 and $s?e^3$ occur with cho^4ta^4, the only member of
both lists they both do occur with, they are therefore equiva-
lent, and constitute a collocation set with cho^4ta^4. But
since all other members of both lists occur either with ma^3
or $s?e^3$, and these are now equivalent, they all collocate
with equivalents and are therefore part of the same equiva-
lence chain, although the only one that occurs with both ma^3
and $s?e^3$ is cho^4ta^4. In other words, equivalence sets
unite in equivalence chains by virtue of overlap in any single
member.

An equivalence set tells what actually occurs, an
equivalence class does not. It simply indicates that each
item in the list has at least one collocational partner in
common with at least one other item in the same list. It does
not tell with which or with how many of the partnership chain
any given item collocates. For example, this obscures the
fact that $v?e^1ma^3jin^3$ 'to walk among', out of the seven part-
ners in the equivalence chain with which it collocates,
occurs with only two, and that the specific two are $cjoa^4si^3$
'trouble' and $cjoa^4$ 'affair/matter'. It might, we assume,
occur with some others, but very unlikely with en^1 'word/
language'. That $v?e^1ma^3jin^3$ $cjoa^4si^3$ is the more frequent
of its collocations tells us nothing.

On the other hand $ji^3cho^2ca^3$ 'it arrives' with its collo-
cation set $ni^4\check{c}hjin^3$ 'day', hora 'hour', and las cuatro
'four o'clock' cannot be linked with any other equivalence
chain, in spite of the fact that it is a high frequency colloca-
tion throughout the entire text. This may be relevant to the
fact that it is a very fixed collocation and occurs only with
time words. In setting up equivalence classes, frequency of
collocation is nonsignificant, whereas range of collocation is
highly significant.

6.6. The people who talk about collocations have not told us what is significant nor how to measure or define its significance. What is the importance of frequency at the collocational level?[3]   High frequency with one partner, coupled with a small set of partners, as in the case of $ji^3cho^2ca^3$ $ni^{4\check{v}}chjin^3$ in the preceding paragraph, makes for an idiom, not in the sense that its meaning is distinct from the sum of its parts, but in the sense that it is a common collocation. Or is its real importance at a higher or different level altogether, that of style perhaps? What is the significance of the fact that cho^4ta^4 occurs sixty-four times, $cho^4ta^4jchi^1nca^3$ twenty-three times, $cjoa^4$ nineteen times, and tjo^4 seventeen times? Yet that this impresses one as he reads the text and has significance at some level, one can hardly doubt.

What is the significance of range? What is the comparative significance of the fact that cho^4ta^4 occurs with forty-nine different verbs, $cho^4ta^4jchi^1nca^3$ with twenty, $cjoa^4$ with twelve, tjo^4 with thirteen?

What is the significance of difference in range? Of the four words just mentioned, chosen because of their frequency and range, no one verb occurs with all four. s^2e^2 'possess' and $si^1c^2en^3$ 'kill' occur with cho^4ta^4 'person' and tjo^4 'gun'; ma^3 'become' and $co^3t^2a^3ya^3$ 'study/practice' with cho^4ta^4 and $cjoa^4$ 'abstract thing'; $tjin^1$ 'there is' with cho^4ta^4, $cjoa^4$, and tjo^4; va^3tio^2 'is located' with cho^4ta^4 and $cho^4ta^4jchi^1nca^3$ 'old person'; tso^2 'say' and fao^1 'chat' with cho^4ta^4, $cho^4ta^4jchi^1nca^3$, and $cjoa^4$; si^1cao^4 'touch' with cho^4ta^4, $cho^4ta^4jchi^1nca^3$, and tjo^4; and $fa^3a^3to^3$ 'pass by' with $cho^4ta^4jchi^1nca^3$ and $cjoa^4$.

What is the significance of string relationship? cho^4ta^4 occurs in referent and subject, but not in object relationship, $cho^4ta^4jchi^1nca^3$ in all three, $cjoa^4$ as object and

[3] See p. 20, fn. 21.

	cho^4ta^4 'person(s)'	$cho^4ta^4jchi^1nca^3$ 'old person(s)'	$cjoa^4$ 'abstract thing'	tjo^4 'gun'
Number of Occurrences	64x	23x	19x	17x
Referent String	13x	3x		
Object String		1x	7x	7x
Subject String	51x	19x	12x	10x
Number of Different Verbs	49	20	12	13
Specific Collocations				
$s\text{?}e^3$ 'to possess'	x			x
$si^1c\text{?}en$ 'to kill'	x			x
ma 'to become'	x		x	
$co^3t\text{?}a^3ya^3$ 'to study/practice'	x		x	
tjin 'there is'			x	x
va^2tio^2 'to be located'	x	x		
tso^2 'to say'	x	x	x	
fao^1 'to talk'	x	x	x	
si^1cao^4 'to touch'	x	x		x
$fa^3\text{?}a^3to^3$ 'to pass by'		x	x	

CHART X

Collocation of High Frequency Nouns and Verbs in First Twenty Minutes of Text

subject, tjo[4] as object and subject.   (For summary of the above see Chart X.)

Phonology has its consonant and vowel (CV) patterns. Grammar has its subject, predicate, object (S.P.O.) patterns.   Are equivalence chains the counterpart for lexicon? We have dealt only with two-at-a-time collocations (partnerships). Are there three- or four-unit collocations? Expanding strings often grow by the accretion of individual units or of other strings, often of a partnership (dual) kind (e.g., the locative string and the attributive string).   These are questions still to be explored.

7 Summary

7.1. Lexical classes. Following a vertical, paradigmatic, frame and substitution technique we have found various types of lexical classes in the text. Some are large, open lexical classes (such as the class names, Zapatista 'follower of Zapata', the personal names, Adolfo Pineda, the place names, te^4jao^4 'Huautla', the general nouns, tjo^4 'gun', and the verbs, si^1xa^1 'they work'). These classes include collocation sets (e.g., the five item set including $v?e^1$ 'he makes' that occurs with na^4jmi^1 'conversation' in the conversation string). Some are equivalence chains (e.g., the four item chain, including cho^4ta^4 'person' that occurs with the partner equivalence chain which includes $jchi^1nca^3$ 'old'). There are also closed classes (e.g., $?mi^2$ and tso^2 as a class of two which act as head of the naming string).

On the basis of different collocations the members of the large general classes divide quite differently into equivalence sets and equivalence chains. Each new collocation has its own sets and chains. The collocability of all members of two partner equivalence chains was inferred, but no easy way was found to indicate the limitations and the actually occurring collocations, except by reverting to statements of the equivalence sets from which the equivalence chains were built up.

7.2. Synonymy. Synonyms are a special situation within a lexical set or chain. Synonyms are lexical items which not

only can occur in the same context but have the same referent or basic meaning in that context.[1] The more contexts in which this can be done, the more synonymous they are. Synonymy is lexical replaceability with a semantic control. Lexical replaceability in a given context is a matter of lexical collocability.

$cho^4ta^4jchi^1nca^3$ 'old person(s)' and $cha^1jchi^1nca^3$ 'old man' in 4.1 are synonyms (in a singular context), $cho^4ta^4jchi^1nca^3$ 'old person(s)' and $nchja^1jchi^1nca^3$ 'old men' are synonyms in a plural context. These terms are used frequently and interchangeably in many different contexts in the text.

The set of five terms referring to Huautla de Jiménez in 5.1 is a set of synonyms. Note that the set includes items of differing grammatical structure, a two-noun compound $(na^4xi^4na^3nta^1$ te^4jao^4 'town Huautla'), three possessed nouns (e.g., $?nte^3-na^1$ 'our place'), and an independent possessive pronoun $(tsan^{42}$ 'ours').

Another extensive set of synonyms includes: $cjoa^4jchan^1$ 'war', $cjoa^4-le^4$ tjo^4 'affair of guns', $cjoa^4-le^4$ sontado 'affair of soldiers', $cjoa^4-le^4$ revolución 'affair of the revolution', $cjoa^4-le^4$ cha^1sontado 'affair of soldier', $cjoa^4-le^4$ milicia 'affair of the military', instrucción

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[1] Nida (1961; pp. 4-6) does not distinguish semantic and lexical levels, but most of his discussion is of collocational limitations with a semantic control, i.e., the same referent. He says: "The substitution which we employ in semantic analysis is of a very specialized type and as such differs to some extent from that employed in structural analysis, in which a structural substitution is regarded as correct when it does not alter the relationship between parts of a construction. . . . In semantic analysis, however, our substitutions are right if the substitution in question serves to identify the same constituent without introducing contradictory or additional features, not already implied in the original context. . . . The degree of synonymity between terms (or phrases) may be determined by the extent to which their ranges of occurrence are identical. . . the most synonymous. . . occur with more different words. . . we want to consider just those units which may be employed to identify essentially the same referent."

militar 'military instruction', $cjoa^4ts?en^4$ 'evil', $cjoa^4si^3$ 'trouble', coi^3 $cjoa^4$ je^2-ve^4 'that specific thing', $cjoa^4$-le^4 $cjoa^4$-si^3 'affair of the trouble'. Not all are equally synonymous. The informant used two lexical devices to make clear that he was using them as synonyms. The first was by putting them consecutively into the naming string, xi^3 instrucción $?mi^2$-ve^4 xi^3 $cjoa^4$ sontado $?mi^2$-le^{42} 'which (military) instruction is called, which we call soldier business', where instrucción is an abbreviation of the already used full form instrucción militar. The other device was by serial repetition in the same lexical frame, as in $tjin^1$-le^4 valor $t?a^3ts?e^4$ $cjoa^4jchan^1$ $t?a^3ts?e^4$ $cjoa^4si^3$ 'he has daring for war, for trouble'.

    7.3. <u>Lexical strings</u>.   Using a horizontal, syntagmatic approach we have found contrastive lexical structures.   We found that lexical strings had basic strings (e.g., $v?e^1$ na^4jmi^1 'they make conversation'), and expansions (nta^3 'well'). Basic strings might have a series of expansions (e.g., $?nti^1$ 'respected', $c?en^3$ 'dead', and $nts?e^4$ 'brother' in the personal name string). Some expansions might have high frequency collocations among themselves (e.g., $?nti^1c?en^2$ 'respected dead'). Some are strings themselves with head and expansion (e.g., $cjai^1nca^3$ nta^3 in the conversation string). Some expansions are coordinate optional collocation closed classes (e.g., i^4...vi^4 'here... here' of the locational string). Some strings were fixed and some were free. Some were close-knit and some were loose-knit.
    We found contrasting single strings, such as the conversation string, the name string, and the place string. There are contrasting types of multiple strings such as the explanatory and the 'as far as' place constructions of two strings.
    We found variant types of one and the same string (the trail string was simply an expansion of the place string, and

the personal name string was not in two-fold contrast with the class name string, but rather a variant of it).

Strings also have a distribution with respect to lexical classes and other lexical strings with which they occur.

Some strings have lexical boundary markers. In the personal name string $?nti^1c?en^3$ 'respected dead' might be considered an inner one marking the beginning of the name proper, while je^2 'that' was an outer marker marking the outer limit of the expanded string.

7.4. Lexical hierarchy. We began with basic strings and their expansions. We found, however, such strings occurring with other strings in larger and different constructions of a hierarchical nature. When tso^2 $cho^4ta^4jchi^1nca^3$ 'the old people say' (which we may call the "reporting" string) intersects with the conversational string, $cho^4ta^4jchi^1nca^3$ $v?e^1$ na^4jmi^1 'the old people make conversation', $cho^4ta^4jchi^1nca^3$ 'old people' functions as a hinge between the two strings. The whole is a larger, more inclusive construction of lexical strings, which we might call the "reported conversation" string. We found recursiveness of strings (e.g., the naming strings repeating up to three times). This might be handled as a type of expansion, but of a different type and place in the hierarchy than the simple expansion of a single string. We found strings included within strings (e.g., two place strings occur in a special construction with verb and $?nta^3$ 'as far as') giving a further degree of complexity of lexical structure.

Collocations of simple string with simple string (e.g., tso^2 $cho^4ta^4jchi^1nca^3$ 'the old people say' with $cho^4ta^4jchi^1nca^3$ $v?e^1$ na^4jmi^1 'the old people make conversation'), and of more complex strings (e.g., the $tjin^1jin^3-na^3$ string and the tso^2 $cho^4ta^4jchi^1nca^3$ xi^3 $v?e^1$ na^4jmi^1 string) is significant at still higher points in the hierarchical structure.

The highest point of contrast and of collocation is the series of asides alternating with the narrative at the peak of

the hierarchy, the text as a whole. The asides contrast with the narrative in the choice of lexically contrastive items from the personal referent pronoun closed class (e.g., $-na^3$ '1st sg.' and $-no^3$ '2nd pl.') in the characteristic recurrence of the $tjin^1jin^3-na^3...v?e^1$ na^4jmi^1 string,[2] and are marked by a specific group of lexical items collocating with the personal pronouns mentioned (e.g., the verbs $tjin^1jin^3$ 'remember' (38X), ma^3cjain^1- 'believe' (9X), xin^2- 'say' (3X), cha^3jin^3 'forget' (2X), $fa^3?ai^3tsjen^3$ 'remember', $?ve^3$ 'I know', and xin^2ya^3- 'teach').

   7.5. Style. Style, whether it is to be considered a separate level or not, is partly a matter of lexicon. In this text several things contribute to style. Only a few examples can be given. The speaker tends to repeat personal names with high frequency and whenever he uses names he tends to repeat the fully expanded personal name string or some variant of it. At times he repeats the entire naming string, not just the personal name string itself. Examples are (to cite but a few repetitions of one name in the order they occur, but at widely spaced intervals): cho^4ta^4 xi^3...Erasto Quiroga $?mi^2$ 'the man who is called Erasto Quiroga'; General Erasto Quiroga 'General Erasto Quiroga'; je^2 coi^3 general xi^3 Erasto Quiroga, $?nti^1c?en^3$ Erasto $?nti^1$ $?mi^2-le^{42}$ 'that specific General Erasto Quiroga, the dead Erasto the small we call him'; je^2 cho^4ta^4, $cho^4ta^4te^4jao^4$, General Quiroga 'that man, a Huauteco, General Quiroga'; Zapatista-jin^2 $?nti^1c?en^3$ $?nti^1c?en^3$ Erasto Quiroga 'a follower of Zapata indeed, the dead the dead Erasto Quiroga'.
   The repetition of a collocation serves as a link between

   [2] At this level the two instances of $v?e^1$ na^4jmi^1 with the reciprocal xi^1ncjin^1 become relevant. These occur in the narrative portions in contrast to those which occur in the asides, none of which occur with xi^1ncjin^1, and in both cases the personal referent pronouns are third person, not 1st sg. or 2nd pl. as in the asides.

sentences. The repetition of $qui^3s?e^3-le^4$ $cjoa^4chji^4ne^4$
'they acquired wisdom or education' is such a link in
$ca^2t?in^2-la^4le^4$ $nqui^2sa^4-jin^2$ $qui^3-s?e^3-le^4$ $cjoa^4chji^4ne^4$.
$Qui^3-s?e^3-le^4$ $cjoa^4chji^4ne^4$ nca^3 $jnco^1jnco^1$ 'Let it be
reckoned that they acquired even more wisdom. They
acquired wisdom each one of them. '

Series of parallel clauses involving a repetition of one
lexical item may collocate with a succession of others.

$to^4-c?ia^{42}-xo^1$ $tsin^2$ tsa^2 bo^1rro^1.

$to^4-c?ia^{42}-xo^1$ $tsin^2$ tsa^2 $n\check{c}ha^4ja^4$.

$to^4-c?ia^{42}-xo^1$ $tsin^2$ tsa^2 $cho^4ta^2ja^4$.

'Only then they say there were no burros.

Only then they say there were no cows.

Only then they say there were no mules. '

Sometimes such clauses, when juxtaposed, involve a reversal
of order, $tjin^1-le^4$ tjo^4, tjo^4 $y?a^3$ 'they have guns, they
carry guns'.

These features may be combined. In the following note
parallel clauses and reversal of the order of the verb and
locative $ntia^{42}$ string.

1a. $Jnco^3$ $c?a^2-xo^1$ $qui^3sco^2t?a^3ya^3$ $ntia^{42}$ $nch?oa^1$ $c?oa^4$

'One group practiced on the cemetery trail and

1b. $jnco^3$ $c?a^2$ $qui^3sco^3t?a^3ya^3$ $ntia^{42}$ $nta^1jña^1$

one group practiced on the woods/water trail

2b. $jnco^3-xo^1$ infantería $c?oa^4$

one was infantry and

2a. jnco^3-xo^1 caballería c?oa^4 ne^3

     one was cavalry and look

3a. je^2 xi^3 caballería ntia^{42} nch?oa^1-xo^1 qui^{3}sco^{3}t?a^{3}ya^3
     c?oa^4

     the cavalry on the cemetery road practiced and

3b. xi^3 infantería ntia^{42} nta^{1}si^{1}ch?oan^1-xo^1 qui^{3}sco^{3}t?a^{3}ya^3.

     the infantry on the si^{1}ch?oan^1 trail practiced. '

The order within the 1a. and 1b. strings is subject, predicate, locative, with complete lexical parallelism except for the specific name in the locative trail string. 2a. and 2b. are similarly parallel, in this case supplying the specific names for the prolexical item jnco^3 c?a^2 'one group' of 1a. and 1b. respectively. 3a. and 3b. are repetitions of 1a. and 1b., with the lexical "antecedents" of 2a. and 2b. replacing the prolexical forms of 1a. and 1b. Upon repetition, however, both 3a. and 3b. reverse the order of the predicate and locative from that in 1a. and 1b. so that the lexical items are in subject, locative, predicate order.

The entire series is linked in another way--1a. and 1b. match 2b. and 2a.; the order of the parallel sentence is reversed so that 2b. immediately follows 1b. (both are the same lexical item), and similarly 2a. is followed immediately by 3a. (both are the same lexical item). The sequence then in terms of lexical link between consecutive sentences is a b-b a-a b. Finally the replacement of ntia^{42} nta^{1}jña^1 with nta^1 ntia^{42} si^{1}ch?oan^1 is the general followed by the more specific trail name, similar to what was found in the two-trail string construction.

From the foregoing it would appear that Mazatec oral narration has stylistic features which might be considered a high level of lexical collocation and structuring.

7.6. The lexical level of linguistic structure. While
using the grammatical level as a starting point and the gram-
matical and semantic levels as controls we have found a dis-
tinctive layer of language structure, describable in its own
right, contributing to the display and the understanding of
the whole.

Structure at the lexical level is not identical with struc-
ture at the grammatical. There are, however, many places
where the two coincide. The classes of verbs for example
can be defined equally well at the grammatical or lexical
level. It is more economical to do so on grammatical rather
than lexical grounds but it is no more accurate a definition.
Ultimately grammar is forced to subdivision of classes, such
subdivision often having to be stated in terms of specific
lexical items, and even beyond that, in terms of collocations
of those items, in equivalence chains, and even beyond that,
in terms of equivalence sets as such. Thus an adequate
description of linguistic structure requires a lexical level.

We have found that a single lexical class may contain
members representing diverse grammatical categories and
structures. (Cf. na⁴xi⁴na³nta¹ te⁴jao⁴ and substitutes in
5.1, cjoa⁴jchan¹ and substitutes in 7.) The same lexical
strings may be distributed over a variety of grammatical
structure. There is no neat one to one correlation between
grammatical and lexical structure. The two are essentially
different. Transformations highlight this from the side of
grammar (where the lexicon is kept constant), equivalence
set and chain techniques from the lexical side (where the
grammatical relationship is kept constant).

7.7. Collocation and meaning. Collocation at the lexical
level contributes to meaning. The areas and subareas of
meaning of specific items are correlated closely with the
collocability of the item with other items.³ na⁴xi⁴na³nta¹ has

³ Fries (1954; pp. 65-66) says: "One layer of the meaning of an

at least two areas of meaning 'town' (the physical, political entity) and 'townspeople' (the citizenry). In collocation with nchja^{4}jin^3 'speak among' it means the latter, with fa^{3}ʔai^3 'arrive' it means the former.[4] Its almost exclusive and frequent collocation with -na^1 'our (inclusive)' adds another significant component of meaning to na^{4}xi^{4}na^{3}nta^1. The full meaning of na^{4}xi^{4}na^{3}nta^1, however, is not stated at the lexical or collocational level.[5]

The collocation sets described for lexical items in the present paper are essential to the definition of the meaning of the items as well as to the use or potential for occurrence of the items. It is not clear as to what the importance of the

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utterance is determined and signaled by the particular lexical items selected. . . . In addition to the recognition of the shape or forms of the lexical item itself, identified by contrastive patterns of sound sequences, there is also the automatic (and sometimes more conscious) recognition of the distribution of each lexical item with 'sets' of other lexical items as they occur in the complete utterance unit. . . . It is the recognition of the particular set in which the lexical item occurs that stimulates the selection of the specific 'sense' in which that item is to be taken. . ."

[4] Joos (1958; pp. 53-70) says: "a collocation is a word combination which throws light on the meanings of the words involved." He defines it briefly as a "concurrence of morphemes which eliminates meanings (others than those surviving)." Congruence he defines as the "matching of surviving meanings between morphemes within a collocation." He points out how collocation gives a breakthrough in the semantic level of analysis of allosemes, denotation, and connotation. He says "almost any linguistic item is 'vague' not because it doesn't mean enough, but because it could mean any number of things. . . . By means of collocations, the meaning of the single item is restricted by elimination of allosemes. . ."

[5] Fries (1954) says: "In addition to the layer of lexical meaning there is the automatic recognition of the contrastive features of arrangement in which the lexical items occur. . . . Together, lexical meanings and structural meanings constitute the linguistic meaning of our utterances. Linguistic meaning thus consists of lexical meanings within a frame of structural meanings--that is, of the stimulus-response features that accompany contrastive structural arrangements of lexical items. . . . But the linguistic meaning is only part of the total meaning of our utterances."

partner equivalence chain is in this regard (see 6.5 discussion) since it also involves associated items and contexts, not merely actual collocations.

7.8. Lexical field. Lexical items in each occurrence occupy significant positions relative to other such positions in lexical strings, and collocate with other lexical items filling those positions. Such lexical strings intersect, overlap, and collocate with still other lexical strings in higher level structures in broader and broader collocations. This is the horizontal or syntagmatic dimension. For example na⁴jmi¹ is thus related in some degree (some very remotely) in this plane to most of the other items in the following string: li²coi³ nta³ tjin¹jin³-na³ jo³ qui³tso² cho⁴ta⁴jchi¹nca³ xi³ nta³ v?e¹-na³ na⁴jmi¹ (not well remember-I what they: said old:people who well make-with:me:they conversation) 'I do not remember well what the old people who make conversation well with me said'. It is most closely linked to v?e¹, to nta³ only through v?e¹, to tjin¹jin³-na³ and qui³tso² more closely than at first might appear since these occur in certain equivalence chains with v?e¹, and it is linked with cho⁴ta⁴jchi¹nca³ by frequent co-occurrence in the same environment.

Lexical items by collocation are members of lexical equivalence sets, chains, and classes. At each position in a given string there is a lexical class (identical with grammatical class in the sense used here) of a definite (closed class) or indefinite (open class) number of items. Each lexical item occurs with certain but not necessarily with all of the concomitant class members. (See Chart X.) Each lexical item is related to each other lexical item in terms of its collocability with such an item in any given string. This is the vertical or paradigmatic dimension. (See Chart II, fn. 1 for an example of one sentence with statistics.)

7.9. Possible applications. It is hoped that the present
study may not only be a contribution to knowledge concerning
the structure of the Mazatec language, but that it may en-
courage the development of methods and techniques for the
analysis and description of structure at the lexical level.
There are some practical applications one can foresee of
such studies.   They should help in the preparation of drill
material for actual language learning.   Drills, for example,
should be based on lexical sets, so that the learner would
not only be gaining command of grammatical structure but
also gaining familiarity with the most common collocations.

There are favorite collocations, there are frozen collo-
cations, there are lexical structures to be mastered by the
learner of another language.   Descriptive studies in the
field of lexicon would do much to improve the study manual
drills, basing the material on the highest frequency collo-
cations but also including something of the range of each to
build up a much better feel for the lexical items and their
approved associations.[6] Many courses, even some prepared
by linguists, still include grammatically acceptable but
collocationally unacceptable forms.   The grammatical frame
is an easy trap for the skilled grammarian who is lexically
naive or nodding.

More could be done with transformation drills whereby,
given a situation and the lexical items needed to discuss it,
the various grammatical arrangements of such items could be
mastered.   Then holding the grammatical structure constant
the lexically acceptable substitutes and synonyms could be
drilled along with any other vocabulary changes demanded by
collocational restrictions.   Good text books now often do

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[6] Fries (1954; p. 66, fn. 32) says: "As we record more specifically
the details of the experience of language learning, we realize increasingly
that we 'learn' not only the shape of a lexical item and the recurrent
stimulus-response features that correlate with it, but also the sets of
other lexical items with which it usually occurs."

SUMMARY

this--but not always deliberately and its full potential has
not been exploited for the learner's advantage.

Dictionary makers should profit, for with such studies,
the examples needed to give the maximum help in knowing not
merely what an item means but with what it is most charac-
teristically used, could be improved and the choices based
on research and less arbitrariness. It would not add much
to bulk but would add considerable to the dictionary user's
feel for the meaning and range of an item to have say a list-
ing of three or four of the highest frequency collocations.

Those engaged in translation from one language to
another stand to be helped by a lexical analysis of both. A
translation can be no more accurate than the exegesis of the
passage to be translated. Attention to collocations is impor-
tant since this largely determines nuances and subareas of
meanings of lexical terms.

It is also necessary for the translator to know, for the
target language, not only which items collocate, but which
types of items enter into certain types of collocations since
the collocations of the language to be translated can lead one
to some very unusual or totally unacceptable new colloca-
tions in the other. Familiarity, however, with the lexical
resources and its combinatory potential could make not only
for accuracy but power in a translation. In this respect,
for example, the one translating "grace, mercy, and peace
be with you" and "psalms, hymns, and spiritual songs" might
find it helpful to find out if three term collocations of this
type ever occur in the target language, and if they do, are
they of this kind, or does the language use some other device
such as individual item with repeated verb in parallel
clauses to achieve the same effect?

The translator needs to keep one eye on the grammar
and one eye on the lexicon. The Mazatec text for example
reveals in the first few pages two or three different devices
or frames to handle needed collocation of parallel items.

Example 1: Sequence of items in the same clause, no con-
            nectives.

   na⁴xin¹-xo¹na¹ ncha⁴ja⁴-xo¹na¹ fa³ʔaⁱ³si¹chje¹

   'horses they say cows they say they came to steal'

Example 2: Parallel clauses in 7.5 (the first set).

Example 3: Sequence with grammatical frame repetition (xi³
            plus item).

   coi⁴nta¹ xi³ tjo⁴ xi³ quí⁴cha⁴

   'we will buy guns arms'

Example 4: Parallel clauses in sequence in the same sen-
            tence with repetition of common item.

   cʔoe¹ taon⁴ cʔoe¹ña² taon⁴

   'we will give money we will collect money'

Example 5:

   quí³sco²tʔa³ya³   'they practiced'

       jo³-sʔin² nca³ ni²cao⁴ tjo⁴   'how guns are handled'

                  nca³ ni²xi¹cao⁴   '(how) (guns) are
                                            worked with'

                  nca³ ni²tsin³   '(how) (guns) are
                                            discharged'

       jo³-sʔin² nca³ vi³ncha³nta³   'how bullets are
              chʔi⁴sa¹   loaded'

       jo³-sʔin² nca³ chʔa²   'how we carry'

       jo³-sʔin² nca³ mai¹coa⁴²   'how we walk with'

       jo³-sʔin² nca³ vi³ncha³ntia⁴²   'how we march'

In this example we have the occurrence of seven verbs in collocation with $qui^3sco^2t?a^3ya^3$ 'they practiced' and with tjo^4 'guns' or $ch?i^4sa^1$ 'bullets'. All seven are $jo^3\text{-}s?in^2$ nca^3 clauses (without repetition of the $jo^3s?in^2$, only the nca^3 in two instances). The subject of the passive verb is stated only once so long as it stays the same. With change of subject to $ch?i^4sa^1$ 'bullets' the full clause is repeated. The last three give the impression of being parallel with each other, but distinct from the first four in that they all are first person plural subject, are not passives, and have no other noun collocating.

Where the concordance of certain items is not possible to duplicate in the target language, perhaps the equivalence chain items would be the most likely place to start searching for the needed terms and permitted collocations. An awareness of the collocational range of items would not only suggest possibilities, but would be a safeguard on the use of grammatically possible but lexically unacceptable translation forms.

8 Mazatec Historical Text

8.1. The following is the first ten minutes of the full
seventy minute text upon which the study was based. The
narration was tape-recorded in March, 1951, in Mexico
City. The speaker was Isauro Nava García of Huautla de
Jiménez, Oaxaca, Mexico. His audience was Bernardo Nava
Allende, Herminio Figueroa and Eduardo (surname unknown),
the parties occasionally addressed directly in the text.   All
four were born in Huautla de Jiménez or its environs. Isauro
thus was talking to his own townspeople, hence the inclusive
first person plural "we" is used throughout. Isauro put him-
self into the situation with amazing naturalness, speaking as
a Mazatec to Mazatecs in a genuinely intimate familiar style.
He spoke as though they were all in Huautla de Jiménez (some
200 miles away actually), and the geographical references to
Mexico City itself are usually given as from Huautla de
Jiménez.[1]

The text deals with that part of the Mexican Revolution
and the events leading up to it which took place in and around
Huautla de Jiménez, during the years 1910 and following.
Isauro was born in 1916 and as a boy heard many times over
the events of those days vividly described by members of his
own family as well as by neighbors who participated.   Many
of the scenes of battle recounted took place on or within

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[1] On one occasion, having begun to refer to Mexico City as 'there'
he hesitated realizing he was in fact in Mexico City, and switched to
the 'here' form.

view of his family's ranch. Several of the men mentioned in the text were still alive and often retold the stories of those days to the younger generations of Mazatec men.

8.2. The text is presented in the following form. The Mazatec text is divided into stretches of arbitrary length-- usually one or more sentences in each stretch--which are numbered serially throughout. A literal translation in English parallels the Mazatec. A free translation in English, correspondingly numbered, is given at the bottom of each page.

8.3. The Mazatec transcription is that in current use in materials published for the Mazatec reader. The alphabet is based on a phonemic analysis but with symbols chosen for practical purposes from the Spanish alphabet.[2] Spanish words and proper names used in the text which are unadapted to Mazatec are written with the usual Spanish orthography. Spanish loans only partially conformed to Mazatec are written following Mazatec usage but without tone, e.g., Mazatec sontado for Spanish soldado 'soldier'. Spanish

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[2] Mazatec t, c/qu (the Spanish convention of qu before i and e, c otherwise, is followed in Mazatec), are voiceless, unaspirated stops, alveolar and velar respectively, voiced following n. ts, ch, čh are voiceless, unaspirated affricates, alveolar, alveopalatal, and alveopalatal retroflexed respectively, also voiced following n. m, n, ñ are bilabial, alveolar, and alveopalatal nasals. s, x are alveolar and alveopalatal voiceless retroflexed grooved fricatives. f, v are labiodental fricatives, voiceless and voiced respectively. ? is glottal stop word initial, between vowels, before consonants, laryngealization of following vowel otherwise. j is aspiration following consonants, voiceless homorganic nasal preceding nasals, voiceless glide preceding glide, voiceless laryngeal otherwise. y is a voiced glide. l is a voiced lateral. r is a flap. The vowels are i, e, a, o. An n following a vowel and in the same syllable (indicated by the fact it is written before a tone number) indicates that the preceding vowel(s) are nasalized. Tone numbers are [1] high, [2] semi-high, [3] semi-low, and [4] low. p, b, d, g, and rr occur only in Spanish loans.

loans completely adapted to the Mazatec system are written according to the Mazatec system, e.g., Mazatec tai^{2}nco^4 for Spanish domingo 'Sunday'.

8.4. Noun, verb, attributive, and particle classes are defined at the grammatical level,[3] and the validity and usefulness of such classes is assumed for our purposes here.

Nouns are marked by the optional possessive pronoun suffix series: -na^4 '1st sg.', -li^4 '2nd sg.', -le^4 '3rd sg. and pl.', -na^1 '1st pl. inclusive', -na^{4}jin^4 '1st pl. exclusive', -no^3 '2nd pl.'; or in the case of the personal nouns the occurrence of the fused affixes: -a^3 '1st sg.', -i^3 '2nd sg.', zero '3rd sg. and pl.', -a^2 '1st pl. inclusive', -i^{4}jin^4 '1st pl. exclusive', -o^3 '2nd pl.'

Personal verbs are marked by the obligatory fused subject pronoun suffixes: -a^3 '1st sg.', -i^3 '2nd sg.', zero '3rd sg. and pl.', -a^2 '1st pl. inclusive', -i^{4}jin^4 '1st pl. exclusive', and -o^3 '2nd pl.' and by the optional referent[4]

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[3] For a fuller definition and description of the noun and verb classes see Pike (1948; pp. 95-165).

[4] Note that we call here the referent person pronoun what Pike calls dependent object pronoun. The Mazatec referent pronoun includes many things which in meaning are like the objects and indirect objects of English (e.g., co^{3}tsen^3-le^4 na^{3}xo^1 (see-to:it:he flower) 'he sees the flower' where the 3rd person referent and 3rd person subject fused form is -le^4 and the referent is indicated in the verb by -le^4 and in independent form by na^{3}xo^1). The literal English translates the referent and the subject in the fused form -le^4 by 'to:it:he'. In the case of impersonal verbs the referent is often similar to the subject of English (e.g., me^3-na^3 to^3 (want-to:me:it fruit) 'I want fruit' where the Mazatec subject is 3rd person and Mazatec referent is 1st sg. An un-English translation would be 'the fruit it is wanted to/by me'. The referent, in meaning, may overlap with English subject, object, or indirect object, but in Mazatec structure is quite distinct, for example qui^3-tsjoa^3-le^4 nca^{3}n?ion^1 cho^{4}ta^{4}na^{4}xi^{4}na^{3}nta^1-na^1 gobierno (pst-give-to:them:they help townspeople-our government) 'the government gave our townspeople help' where gobierno is subject in cross reference to the 3rd subject pronoun in the -le^4, the cho^{4}ta^{4}na^{4}xi^{4}na^{3}nta^1-na^1 is referent in cross reference to the 3rd person referent in the -le^4, and nca^{3}n?ion^1 is object with

person pronoun suffix[5] series: -na^3 '1st sg.', -li^2 '2nd sg.', zero '3rd sg. and pl.', -na^1 '1st pl. inclusive', -na^{3}jin^4 '1st pl. exclusive', -no^3 '2nd pl.' Impersonal verbs are marked by obligatory 3rd person subject (zero) and the optional referent person pronoun series as given.

Attributives may conjugate as verbs with the fused subject pronouns, but usually occur simply in attributive position to nouns, verbs, or other attributives. Particles are undeclined.

8.5. Conventions used are as follows:

[ ] Square brackets enclose Isauro's asides, comments directed to his listeners apart from the narrative itself.

" " enclose quotations.

- indicates, in Mazatec, division of affixes and/or clitics from stems. It serves the same purpose in the English literal translation.

: between words in the English literal translation indicates that the English words so joined translate one Mazatec word or morpheme (e.g., ?nta^3 'as:far:as').

A number written word final as part of the English translation word indicates the number of Mazatec words and/or morphemes translated by the one English word (e.g., c?ia^4 nca^3 'when2').

It will be noted in the English literal translation that at times certain items, particularly tense, subject and referent person markers on verbs, and possessive pronouns on nouns,

---

no cross reference in the verb. Compare also c?oe^1-le^{42} ch?i^{4}sa^1 je^2 cho^{4}ta^4-ve^4 (fut:fire-to:them:we bullets those people-there) 'we will fire bullets at those people there' where 1st pl. inclusive is subject, and cho^{4}ta^4 is referent, both being expressed in the fused suffix -le^{42}. ch?i^{4}sa^1 is the object.

[5] The forms given here are only those occurring with the zero third person subject. With all other subject persons there is considerable fusion (see Pike's chart, 1948; p. 123).

are separated from the stem by -; other times the same
items are joined by : . Mazatec is characterized by con-
siderable fusion of these items, especially on verbs, so that
it is impossible in a transcription of this sort always to
separate neatly the different affixes from the stem or from
one another. Where it is possible the - is used, where it is
not the : is used.

Verbs with no subject indicated in the translation are
impersonal verbs. Verbs not otherwise indicated are in the
timeless tense.

Noun and verb stems are underlined in the English
literal translation.

Commas usually, but not always, coincide with major
clause breaks. They are inserted mainly to help the reader
in comparing the literal translation with the Mazatec.

-- represents a hesitation break or hesitation stutter.

Abbreviations used in the literal translation are as
follows:

pst	past time
fut	future time
interr	interrogative
cont	continuative aspect
imp	imperative aspect
emph	emphatic
prob	probability
instr	instrumental
hesit	hesitation form

Pronouns as subject, referent, object, and possessive
are indicated respectively in the literal English translation
as follows:

	With Verb Stems			With Noun Stems
	Subject	Referent	Object	Possessive
1 sing.	I	to:me	me	my
2 sing.	you	to:you	you(ob	your
3 sing. and pl.	he/they	to:him/them	him/them	his/theirs
1 incl.	we	to:us	us	our
1 excl.	we(ex	to:us(ex	us(ex	our(ex
2 pl.	you(pl	to:you(pl	you(ob(pl	your(pl

8.6. Mazatec text.

[1. A^3-tjin^{1}jin^3-no^3 coento   xi^3 ts?e^4

   Interr-is:remembered-to:you(pl   story   which   its

c?ia^4 nca^3 qui^3-s?e^{3}jna^3 cjoa^{4}si^3 na^{4}xi^{4}na^{3}nta^1-na^1.

when2   pst-is:present   trouble   town-our.

2. I^4-na^1 tso^2 cho^{4}ta^{4}jchi^{1}nca^3 xi^3 v?e^{1}ya^3-

   Here-remote   say:they   old:people   who   carry:on-

[1. Do you remember the story of the time when there
was trouble in our town? 2. Here is what the old people

na^1 na^{4}jmi^1.   3. Cjai^{1}nca^3 nta^3 va^{2}sen^{4}ts?ia^4

to:us:they <u>conversation</u>.   Very   good   <u>begin</u>:I

an^3 xi^3 cjoa^4-le^4 je^2 xi^3 coí^3 cjoa^4

I   which   <u>thing</u>-its   that   which   specific   <u>abstract</u>:thing

je^2-ve^4,   c?ia^4 nca^3 qui^3-s?e^3 cjoa^{4}si^3 na^{4}xi^{4}na^{3}nta^1-na^1,

that-there,   when2   pst-<u>become</u>   <u>trouble</u>   <u>town</u>-our,

jo^3 coan^3-ni^3 nca^3 c?i^{3}ts?ia^4 jña^3-le^4

how   <u>was</u>-origin   when   pst:<u>begin</u>:it   whichever-its

xi^3 qui^3-scan^{3}ya^3-ni^3 cho^{4}ta^{4}jchi^{1}nca^3-na^1,   c?oa^4

which   pst-<u>fight</u>:<u>among</u>-origin:they   <u>old</u>:<u>people</u>-our,   also

jña^3-le^4 xi^3 tsi^2 tsa^2 coí^3 sa^{3}sen^1-le^4

whichever-its   which   not   if   specific:thing   <u>like</u>-to:them

nca^3 jnco^{1}jnco^1,   jo^3 tjin^1 cjoa^{4}te^{1}xo^{3}ma^3 xi^3 t?a^{3}ts?e^4

each:one2,   how   <u>is</u>   <u>law</u>   which   concerns

---

say who tell us about it.   3. I'll best begin about this
matter, when our town had trouble, (by telling) how it came
to start, something which our old people fought over and
something which they all did not like as it concerned a

jña³ nca³ cjin³ jan¹. 4. Je² cho⁴ta⁴jchi¹nca³ xi³

where far2 distant. Those old:people who

qui³-tso²ya³-na³ Juan Allende, Crescencio Flores,

pst-teach-to:me:they Juan Allende, Cresencio Flores,

nts?e³ Villavaldo Nava. 5. Ncjin²⁴-sa⁴

brother:my Villavaldo Nava. Many-more

cho⁴ta⁴jchi¹nca³ xi³ fao¹, c?ia⁴ nca³ qui³-nč?oe³-le⁴

old:people who chat:they, when2 pst-listen-to:them:I

nca³ qui³--tsa³-c?in²ya³n?ioan¹³ en¹ je²-vi⁴.]

when hesit--pst-am:taught:thoroughly:I word this-here.

6. Mil novecientos diez c?ia⁴ nca³ c?i¹ts?ia⁴-

Thousand nine:hundred ten when2 pst:begin-

ni³ cjoa⁴si³, no¹-le⁴ Madero xi³

origin:it trouble, year-his Madero who

---

government far away. 4. The old people who taught me
were Juan Allende, Crescencio Flores, and my brother
Villavaldo Nava. 5. Many more old people were chatting
when I listened to them as I thoroughly absorbed these
words.]

tsa³-c?e²jna³ México President de la República.

pst-<u>is</u>:<u>present</u>:he Mexico <u>President</u> of the <u>Republic</u>.

7. Ne³ ja³?ai³ nta³tsa² i⁴ ?nte³-na¹

  Look <u>arrived</u>:it even here <u>place</u>-our

na⁴xi⁴na³nta¹-na¹-?ni³.

<u>town</u>-our-indeed.

  [8. To⁴nca³ c?oi⁴² coan³-ni³ nca³ s?a⁴

    But thus pst:<u>is</u>-origin when scarcely

c?i¹ts?ia⁴-ni³ coi³ cjoa⁴ je²-ve⁴,

pst:<u>begin</u>-origin:it specific <u>abstract</u>:<u>thing</u> that-there,

jo³ tso² cho⁴ta⁴ xi³ v?e¹-na³ na⁴jmi¹.]

how <u>say</u>:they pe<u>ople</u> who <u>make</u>-to:me:they <u>conversation</u>.

  9. Je²-xo¹-na¹ cha¹ Lorenzo Solis, Lorenzo

    That-quoted-remote <u>man</u> <u>Lorenzo</u> <u>Solis</u>, <u>Lorenzo</u>

---

6. It was 1910 when the trouble began, the year Madero was in Mexico as President of the Republic. 7. See, it came even to our region, to our town.

[8. It happened like this when it was just beginning, according to the people who tell me.]

Solis   Sandoval   xi³   tsa³-c?e²jna³   nqui³xo¹,

Solis   Sandoval   who   pst-is:present:he   San:Antonio,

ja³?ai³si¹chje¹-xo¹-na¹   na⁴xi⁴na³nta¹-na¹.

pst:arrive:to:steal-quoted-remote:he⁶   town-our.

10. Na⁴xin¹-xo¹-na¹   nčhja⁴ja⁴-xo¹-na¹

Horses-quoted-remote   cows-quoted-remote

ja³?ai³si¹chje¹.

pst:arrive:to:steal:he.

11. To⁴-c?ia⁴²-xo¹   tsin²   tsa²   bo¹rro¹.

Only-then-quoted   is:not   such:as   burros.

12. To⁴-c?ia⁴²-xo¹   tsin²   tsa²   nčha⁴ja⁴.

Only-then-quoted   is:not   such:as   cows.

----

9. They say that Lorenzo Solis Sandoval who lived at
San Antonio came to rob our town.   10. They say that he
came to steal horses and cows.

11. They say that then there were no burros.   12. They

⁶ The morpheme for "remote" is homophonous with "to:us" and "our"
which would also make good sense here in these contexts. The choice
of "remote" was based on "that-quoted-remote" at the beginning of 9
where it can only be this, and gives the effect that it is this which is
being repeated.

13. To⁴-c?ia⁴²-xo¹ tsin² tsa² cho⁴ta²ja⁴.

   Only-then-quoted <u>is</u>:<u>not</u> such:as <u>mules</u>.

14. Nca³njion²-xo¹ fa³?ai³c?a¹.

   <u>Night</u>-quoted <u>arrives</u>:<u>to</u>:<u>carry</u>:<u>away</u>:he.

15. Fi²cao⁴-xo¹ ya⁴ ntia⁴² nqui³xo¹ je²

   <u>Goes</u>:<u>with</u>-quoted:he there road <u>San</u>:<u>Antonio</u> that

xi³ cha¹ Lorenzo Solis Sandoval ?mi²-ve⁴.

who <u>man</u> <u>Lorenzo</u> <u>Solis</u> <u>Sandoval</u> <u>is</u>:<u>named</u>-there.

16. C?oa⁴ to⁴nca³ cho⁴ta⁴jchi¹nca³-na¹-?ni³ yo⁴ma⁴ ni¹,

   Thus but <u>old</u>:<u>people</u>-our-indeed poor <u>are</u>:<u>they</u>,

tsa² cje³-jin² tsin²-le⁴ xi³ cjoa⁴ts?en⁴,

if not:yet-emph <u>is</u>:<u>not</u>-to:them which <u>daring</u>,

cje³-jin² tsin²-le⁴ tsa² xi³ tjo⁴

not:yet-emph <u>is</u>:<u>not</u>-to:them such:as which <u>guns</u>

---

say that then there were no cows.   13. They say that then
there were no mules.   14. They say he came by night to
take them away.   15. They say he went with them on the
San Antonio trail, this man, Lorenzo Solis Sandoval by name.
16. But our old people were poor; they did not yet have much

$?mi^2-le^{42}$.   17. $To^4-nch?an^1-jin^2$ $tjio^1$.

is : named-to : them ; we.   Only-peaceful-emph are : they.

18. $C?oa^4-xo^1$ $qui^3-s?in^3-ni^3$ je^2 cho^4ta^4 xi^3

    Thus-quoted pst-do-origin : they that person who

Lorenzo Solis $?mi^2-ve^4$.   19. $Ncjin^2-la^4$ ma^3

Lorenzo Solis is : named-there.   Many-prob become

$tsa^3-ca^1jta^4$ tsa^2 ma^3 tsa^2 te^3 tsa^2 $chja^3?aon^2$ nca^3

pst-pledge : they if become if ten if fifteen when

$ja^3?ai^3$ $na^4xi^4na^3nta^1-na^1$ i^4 nca^3njion^{23}. 20. $C?oa^4$

pst : arrive : they town-our here night.   Thus

$jnco^3-xo^1-le^4$ cho^4ta^4-- $c?ia^{42}-xo^1$

one-quoted-his person--(false start) Then-quoted

$ja^3?ai^3tsjen^3-le^4$ presidente-na^1 xi^3 tsa^3-

pst : remember-to : him president-our who pst-

---

daring; they did not yet possess what we refer to as guns.
17. They lived in peace.   18. Thus he did, they say, this
person who is called Lorenzo Solis.   19. Many, perhaps
ten or fifteen, grouped together to come to our town here by
night.   20. So one of his people they say--(false start).

c?e²jna³ coi³ ni⁴čhjin³-ve⁴-?ni³.

is:present:he   specific   day-there-indeed.

[21. A³li²coi³-na¹ nta³ fa³?ai³tsjen³-na³,   a³-je²

Not⁷-remote   good   remember-to:me,   interr-that

xi³--xi³--c?en³ a³-je² xi³ c?en³ José

who--hesit--died:he   interr-that   who   died:he   José

ya¹na⁴xo⁴ a³xo⁴ je² xi³ c?en³ Gregorio ya¹na⁴xo⁴

carrizo   or   that   who   died:he   Gregorio   carrizo

qui³-c?in²,   xi³ tjin¹-le⁴ presidente coi³

pst-is:named:he,   who   is-to:him   president   specific

ni⁴čhjin³-ve⁴.]

day-there.

Then, they say, our president who was in office at that time
recalled.

[21. I do not remember well, was it the late José
Carrizo or was it the late Gregorio Carrizo as he was
called, who was president at that time?]

⁷A³li²coi³ is an alternate form of li²coi³ 'not'. The a³ here seems
to have nothing in common with the interrogative a³ which does occur a
few words later.

22. Ji³cho²ca³-xo¹-ni³   ni⁴čhjin³   nca³

Pst: <u>arrive</u>-quoted-instr: it   <u>da</u>y   when

qui³-nchja⁴jin³-le⁴   na⁴xi⁴na³nta¹.

pst-<u>talk</u>: <u>among</u>-to: them: he   town.

23. "A¹coan³-ʔni³   nca³   cʔoi⁴   coan³

"Interr: pst: <u>become</u>-indeed   that   thus   pst: <u>become</u>

to⁴-nta³   si¹chje¹-na¹   cho⁴ta⁴   xi³

only-good   <u>steal</u>-from: us: they   <u>people</u>   who

fa³ʔai³si¹chje¹-na¹.   24. A³-tsi²   coan⁴

<u>arrive</u>: <u>to</u>: <u>steal</u>-from: us: they.   Interr-not   fut: <u>become</u>

tsa²   cʔoe⁴²   taon⁴   cʔoe¹ña²   taon⁴   nca³   ña¹-vi⁴.

if   fut: <u>throw</u>: we   <u>money</u>   fut: <u>collect</u>: we   <u>money</u>   we2-here.

25. A³-tsi²   tjin¹-na¹   cjoa⁴xʔin⁴   xi³   cho⁴ta⁴te⁴jao⁴

Interr-not   <u>is</u>-to: us   <u>manhood</u>   who   <u>Huautecos</u>

---

22. The day came, they say, when he addressed the town: 23. "Has it thus come to pass that they rob us so much, the people who come to rob us?   24. Is it not possible for us to give money and to collect money?   25. Do we not have manliness, we who are called Huautecos?   26. We'll

ʔmi²-na¹.   26. Coi⁴nta¹ tjo⁴ si⁴je¹-le⁴²

is:named-to:us.   Fut:buy:we   guns   fut:ask–of:it:we

gobierno, jme¹-ni³ nca³ sʔe⁴-si¹ni³-na¹ nca³nʔion¹.

government, in:order:that3 fut:become-⁸-to:us strength.

27. Cʔoa⁴-ti⁴ si⁴cjan³coa⁴² coi⁴yo³tjen⁴nqui³-

    Thus–same fut:fight:with:we fut:chase:after–

le⁴² cho⁴ta⁴ xi³ ña¹ fa³ʔai³si¹chje¹-na¹.

to:them:we people who we arrive:to:steal-from:us:they.

28. Li²coi³-na¹ nta³ si¹cao⁴-na¹ nca³ tso³jmi²-na¹

    Not–remote good treat-to:us:they that property–our

fa³ʔai³si¹chje¹ je² cho⁴ta⁴, xi³ cho⁴

arrive:to:steal:they those people, who animals

---

buy guns. We'll ask the government in order to get help.
27. Also we'll fight with and pursue after the people who
come to rob us. 28. They do not treat us right, these
people who come to steal our property, who come to take
away all sorts of animals. 29. It is necessary that we rise

    ⁸jme¹-ni³ nca³. . . si¹ni³ is a discontinuous whole meaning "in
order that".

xi³ cjoan³ xi³ ma³ fa³ʔai³cʔa¹-ve⁴.

of:all:sorts4   <u>arrive</u>:<u>to</u>:<u>carry</u>:<u>away</u>:they-there.

29. Ma³chjen¹ ntʔai⁴-vi⁴ nca³ coi⁴so¹tjen⁴² nca³

    <u>Is</u>:<u>necessary</u> now-here that fut:<u>arise</u>:we that

coi⁴nta¹ xi³ tjo⁴ xi³ qui⁴cha⁴ ʔmi² nca³

fut:<u>buy</u>:we which <u>gun</u> which <u>arms</u> <u>is</u>:<u>named</u> that

cʔoa⁴-ti⁴ coi⁴yo³toan¹.   30. Cʔoa⁴-ti⁴ si⁴cjan³coa⁴²

thus-same fut:<u>fight</u>:we.   Thus-same fut:<u>fight</u>:<u>with</u>:we

cho⁴ta⁴ xi³ ña¹ fa³ʔai³si¹ma⁴-na¹ i⁴

<u>people</u> who we <u>arrive</u>:<u>to</u>:<u>make</u>:<u>poor</u>-to:us:they here

na⁴xi⁴na³nta¹-na¹.   31. A³li²coi³ tsjoa³ʔnte³ ti²jna⁴nta³

town-our.   Not <u>permit</u>:I <u>am</u>:<u>ready</u>:I

cʔia⁴ nca³ cʔoa⁴-coan³ cjoa⁴tsʔen⁴," qui³-tso²-xo¹

when2 thus-pst:<u>become</u> <u>evil</u>," pst-<u>say</u>-quoted:he

---

up and buy guns and armaments, as they are called, that we
also fight. 30. We will fight with people who come to im-
poverish us here in our town. 31. I will not permit it.
I am ready when evil has thus happened," said the town
authority at that time, they say.

cho⁴ta⁴ xi³ tjin¹-le⁴ xa¹ coi³ ni⁴chjin³ je²-ve⁴.

person who is-to:him work specific day that-there.

[32. A³li²coi³-na¹ nta³ tjin¹jin³-na³

Not-remote good remember-to:me

a³-noveciento diez a³-noveciento once

interr-nine:hundred ten interr-nine:hundred eleven

noveciento doce jme³ no¹ ni¹ coi³

nine:hundred twelve whatever year is specific:thing

c?oa⁴ coan³-ve⁴, to⁴nca³ tsa³-ca³sen²n?ion¹-na³

thus pst:become-there, but pst-assure-to:me:they

nca³ c?oa⁴-qui³-tso²-na³ xi³ cho⁴ta⁴mi²yo⁴ xi³

when thus-pst-say-to:me:they who friends who

qui³-tso²ya³-na³ je²--je² jo³ coan³-ni³

pst-teach-to:me:they that--that how pst:become-origin

_____

[32. I do not remember well. Was it the year 1910,
1911, 1912 that this happened? But they assured me when
they told me, the friends who told me, how it was when the
trouble began which took place here in our town.]

nca^3 c?i^{3}ts?ia^4 cjoa^{4}si^3 xi^3 qui^3-s?e^{3}jna^3

when   pst:<u>begin</u>:it   <u>trouble</u>   which   pst-<u>is</u>:<u>present</u>

na^{4}xi^{4}na^{3}nta^1-na^1-vi^4.]

town-our-here.

33. C?oa^4 xi^3 coan^3-ve^4-?ni^3 nca^3

Thus   what   pst:<u>become</u>-there-indeed   when

je^3-qui^3-s?e^3-le^4 tjo^4 na^{4}xi^{4}na^{3}nta^1-na^1 xi^3

already-pst-<u>become</u>-to:them   <u>guns</u>   <u>town</u>-our   which

ncha^{3}nta^3-la^4-le^4 cho^{4}ta^4 xi^3 qui^3-ni^{2}c?a^3

<u>are</u>:<u>ready</u>-prob-to:them   <u>people</u>   who   pst-<u>are</u>:<u>delivered</u>

tjo^4.   34. Ne^3 chon^3 tsa^2 nt?ai^4 ntai^4-vi^4 nca^3

<u>guns</u>.   Look   circumstances   even   right:now3   when

policía   ?mi^2-le^{42} policía   municipal,   c?oa^4

<u>police</u>   <u>is</u>:<u>named</u>-to:them:we   <u>police</u>   municipal,   thus

---

33. Thus it happened that our town had already obtained
guns which were kept ready for the people who were to
carry the guns. 34. Look, it's just like now, when the
local police as we call them, are also those among the people

tsa² ncha³jin³ cho⁴ta⁴ xi³ tsa³-c?a³ tjo⁴,

even present:among people who pst-carry:they gun,

xi³ ya⁴ nt?ia³va³sen³ ji³tjo³-ve⁴-?ni³.

who there town:hall pst:come:out:they-there-indeed.

35. Ji³cho²ca³-xo¹-ni³ ni⁴chjin³ nca³ qui³-tjo³-

Pst:arrive-quoted-instr day when pst-come:out-

le⁴ nca³n?ion¹ cho⁴ta⁴xa¹-na¹ presidente-na¹.

to:them strength town:officials-our president-our.

36. Qui³-tsjoa³-la⁴-le⁴ nca³n?ion¹ gobierno,

Pst-give-prob-to:them:it strength government,

tsa³nca³tjen⁴nqui³-xo¹-le⁴ je² cho⁴ta⁴ xi³ Lorenzo

pst:chase-quoted-to:him:they that person who Lorenzo

Solis Sandoval ?mi²-ve⁴.   37. C?oa⁴ jnco³-xo¹

Solis Sandoval is:named-there.   Thus one-quoted

---

who carry guns, (and) those who come out of the town hall
(on duty).   35. The day arrived, they say, when our offi-
cials and our president received help.

36. The government gave them help. They chased this
man who is called Lorenzo Solis Sandoval.   37. And there

chi³con³ xi³ tsa³-c?e²jna³ ya⁴ nqui³xo¹-
foreigner who pst-is:present:he there San:Antonio-

ve⁴ xi³ ya⁴-la⁴ tsa³-ca¹jta⁴-?ni³ xi³ cao⁴
there who there-prob pst-pledge:he-indeed who with

xi³ Lorenzo Solis ?mi²-ve⁴.   38. Na³-c?a³-xo¹
who Lorenzo Solis is:named-there.   One-time-quoted

qui³yo³tjen⁴nqui³-le⁴ nca³ tai²nco⁴ ni⁴chjin³.
pst:continue:to:follow-to:him:they when Sunday day.

39. Ji³cho²c?a³tjen⁴nqui³-xo¹-le⁴
      Pst:overtake:to:apprehend-quoted-to:him:they

?nta³ nqui³xo¹ nca³ts?i³ cho⁴ta⁴na⁴xi⁴na³nta¹-na¹-vi⁴.
as:far:as San:Antonio all townspeople-our-here.

40. Je²-xo¹ cho⁴ta⁴ xi³ chi³con³ Tio³va³
      That-quoted person who foreigner Tiova

---

was one foreigner who lived at San Antonio who joined him-
self with the one called Lorenzo Solis.   38. One time, they
say, they continued following them on Sunday.   39. All our
townspeople went after them even to San Antonio.   40. The
foreigner, they say, was called Tiova.   41. Away off there

tsa³-c?in².   41. Jan¹-xo¹ ya⁴ tjo³?nte³t?a³

pst–<u>is</u>:<u>named</u>.   Distant–quoted there in:front:of

fi²nca⁴ jan¹ ya⁴-xo¹ ti¹-vi³tjo³jen³ya³-

<u>finca</u> distant there–quoted cont–<u>come</u>:<u>out</u>:<u>down</u>:<u>in</u>-

ni³ n?o¹ xca⁴to³tse⁴² nca³ qui³-tsoa³

instr:it <u>rope</u> <u>grapevine</u> when pst–<u>seize</u>:they

cho⁴ta⁴-na¹ xi³ i⁴ qui³-ni³ i⁴-vi⁴.

p<u>eople</u>-our who here pst:g<u>o</u>-from:they here-here.

42. C?oa⁴ tjin¹-xo¹ c?a³ xi³--xi³--xi³

    Thus <u>is</u>–quoted some who--hesit--who

qui³-tji²sin³ ya⁴ xo⁴nca¹ nqui³xo¹-ve⁴.

pst-<u>beheaded</u> there <u>river</u> <u>San</u>:<u>Antonio</u>-there.

43. Ya⁴-xo¹ qui³-čhja³ nji̦n¹-le⁴ cho⁴ta⁴

    There-quoted pst-<u>carry</u>:<u>by</u>:<u>water</u> blood-their people

---

across from the finca, they say, he was letting himself down
by a grapevine, they say, when our people who had gone
from here seized him. 42. There were some, they say,
who were beheaded there by the San Antonio river. 43. The
blood of the people killed was carried away by the water.

xi³--xi³-- qui³-ni²c?ên³-ve⁴. 44. C?oa⁴ nta³ cha¹

who--hesit-- pst-<u>are</u>:<u>killed</u>-there. Thus good <u>man</u>

Lorenzo Solis-ve⁴ tsa³nca³-xo¹ cjai¹-xo¹nca³

<u>Lorenzo</u> <u>Solis</u>-there pst:<u>flee</u>-quoted:he very-quoted⁹

chji³nca³, ntia⁴² nta¹chi⁴nca⁴-xo¹ qui³.

agile, <u>road</u> (pig:water)-quoted pst:g<u>o</u>:he.

45. C?oa⁴-xo¹ coan³-ni³ nca³ c?i³ts?ia⁴-

    Thus-quoted pst:<u>become</u>-origin when pst:<u>begin</u>-

ni³ cjoa⁴si³-?ni³.

origin:it <u>trouble</u>-indeed.

    46. C?oa⁴ ne³ xi³ coan²-ve⁴ ntai⁴ nca³

    Thus look what pst:<u>become</u>-there now when

cjoa⁴si³-la⁴ tjin¹ México jo³ nca³ chon³ jo³ nca³

<u>trouble</u>-prob is Mexico how that <u>looks</u>:it how that

44. Lorenzo Solis, they say, fled. (He was) exceedingly
agile. He went by the road to Coyomeapan. 45. Thus it
happened, they say, when the trouble began.

    46. Look, this is what happened when there was trouble

⁹cjai¹. . . nca³ together mean "very".

ma³ cjoa⁴ c?ia⁴ nca³ cjoa⁴si³ v?e¹ts?ia⁴.
becomes abstract:thing when2 trouble start:it.

47. To⁴-chan⁴²-la⁴ coan⁴ncjin²con³
    Only-little:by:little-prob   fut:become:wiser:it

na⁴xi⁴na³nta¹-na¹-vi⁴-?ni³.   48. Tsa³-c?e¹ts?ia⁴cao⁴-xo¹
town-our-here-indeed.   Pst-begin:with-quoted:they

xi³   instrucción   militar   ?mi²,   xi³
what instruction military is:named, which

qui³-sco²t?a³ya³   jo³-s?in²   nca³   ni²cao⁴   tjo⁴   nca³
pst-study:they   how3   is:handled   gun   when

ni²xa¹cao⁴   nca³   ni²tsin³,   jo³-s?in²   nca³   vi³ncha³nta³
is:worked:with:it   when   is:fired:it,   how3   is:inserted

ch?i⁴sa¹   jo³-s?in²   nca³   ch?a²   jo³-s?in²   nca³   mai¹coa⁴²,
bullet   how3   carry:we   how3   walk:with:we,

in Mexico, what the situation was like, how things were when
trouble started.   47. Only little by little our town got
wiser.   48. They began with what is called military instruc-
tion, they studied how guns are handled, worked with, and
fired, how bullets are loaded, how we carry them, how we

jo³-s?in²   nca³   vi³ncha³ntia⁴². 49. C?oa⁴-xo¹s?in²
how3   march:we.   Thus-quoted¹⁰

qui³-tso²ya³-la⁴-le⁴   xi¹ncjin¹   cho⁴ta⁴jchi¹nca³-na¹-
pst-teach-prob-to:them:they   each:other   old:people-our-

ve⁴-?ni³   nca³   je³-qui³-s?e³-le⁴   tjo⁴
there-indeed   when   already-pst-is:become-to:them   guns

nca³   je³-tsa³-ca³tio²nta³   nca³   je³-
when   already-pst-stand:ready:they   when   already-

tsa³-ve³   ntai⁴.   50. Ne³   cjoa⁴   xi³   tjin¹
pst-know:they   now.   Look   abstract:thing   which   is

jña³   nca³   cjin³   jan¹,   a³   cjoa⁴jchan¹   ni¹   a³xo⁴
where2   far   distant,   interr   war   is:it   or

t?a³ts?e⁴   gobierno   tsa³-ca³te²yo³   coi³
concerning   government   pst-be:subordinate:they   specific

walk with them, and how we march.   49. Thus our old peo-
ple, they say, taught each other once they obtained guns,
once they were prepared, once they knew.   50. Look this
thing which was far away, was it (better to have) war or to

¹⁰ C?oa⁴. . . s?in² function together meaning "thus".

ní⁴chjin³-ve⁴.   51. Quí³-sco²t?a³ya³-xo¹   xi³

day-there.   Pst-<u>study</u>-quoted:they   which

instrucción   ?mi²-ve⁴   xi³   cjoa⁴   sontado

instruction   <u>is</u>:<u>named</u>-there   which   <u>abstract</u>:<u>thing</u>   soldier

?mi²-le⁴²   nca³   ña¹   xi³   cho⁴ta⁴yo⁴ma⁴².

<u>is</u>:<u>named</u>-to:it:we   we2   who   <u>poor</u>:<u>people</u>:we. [11]

52. Jnco³   c?a²-xo¹   quí³-sco²t?a³ya³   ntia⁴²   nch?oa¹,

   One   <u>part</u>-quoted   pst-<u>study</u>:it   <u>road</u>   <u>cemetery</u>,

c?oa⁴   jnco³   c?a²   quí³-sco²t?a³ya³   ntia⁴²   nta¹jña¹.

and   one   <u>part</u>   pst-<u>study</u>:it   <u>road</u>   <u>woodswater</u>.

53. Jnco³-xo¹   infantería,   c?oa⁴   jnco³-xo¹   caballería.

   One-quoted   <u>infantry</u>,   and   one-quoted   <u>cavalry</u>.

---

be subordinate to the government in those days?   51. They
studied, they say, what is called (military) instruction,
soldier's affairs we call it we who are humble people.
52. One part, they say, practiced on the cemetery road,
one part practiced on the woodswater road.   53. One (part)
they say was the infantry, and one, they say, the cavalry.

54. C$?$oa^4 ne^3 je^2 xi^3 caballería ntia^{42} nch$?$oa^1-

Also look that which <u>cavalry</u> <u>road</u> <u>cemetery</u>-

xo^1 qui^3-sco^{2}t$?$a^{3}ya^3, c$?$oa^4 xi^3 infantería ntia^{42}--ntia^{42}

quoted pst-<u>study</u>:it, and which <u>infan</u>try <u>road</u>--<u>road</u>

nta^{1}si^{1}ch$?$oan^1-xo^1 qui^3-sco^{2}t$?$a^{3}ya^3.   55. Cjai^1-xo^{1}nca^3

<u>waters</u>i^1<u>ch</u>$?$<u>oan</u>^{1}-quoted pst-<u>study</u>:it.   Very-quoted

nta^3 qui^3-sco^{2}t$?$a^{3}ya^3 cho^{4}ta^4 je^2-ve^4.

good pst-<u>study</u>:they p<u>eople</u> those-there.

56. Qui^3-sco^{2}t$?$a^{3}ya^3-la^4 xi^3 chji^{4}ne^{4}chjao^3 xi^3 tjin^1 xi^3

Pst-<u>study</u>:they-prob who <u>bugler</u>^{12} who <u>is</u> who

ma^3-ni^3 xi^3 ma^{3}chjen^1-le^4 cjoa^{4}jchan^1-ve^4-$?$ni^3.

<u>become</u>-origin who <u>is</u>:<u>necessary</u>-to:it <u>war</u>-there-indeed.

---

54. And see, the cavalry practiced on the cemetery road, and the infantry on the si^{1}ch$?$oan^1 road.   55. Those people, they say, practiced very well.   56. There are buglers who are necessary in a war and they probably practiced.

^{12} chji^{4}ne^{4}chjao^3 is used of any musician; see sentence 74 where term is defined. In this context it is translated "bugler" throughout.

57. Coi³-jin² cjoa⁴ xi³ qui³-sco²t?a³ya³-

Specific-emph abstract:thing which pst-study-

ni³ [jo³ nca³ tso² cho⁴ta⁴jchi¹nca³-na¹-vi⁴ xi³

instr:they how2 say:they old:people-our-here who

v?e¹ na⁴jmi¹], c?oa⁴-xo¹ coan³

make:they conversation, thus-quoted pst:become

coi³ ni⁴c̆hjin³-ve⁴ je²-ve⁴-?ni³.   58. To⁴nca³

specific day-there that-there-indeed.   But

ji³cho²ca³-xo¹ ni⁴c̆hjin³ jo³ ma³ nca³ nta³

pst:arrive-quoted day how become when good

sa³c?oa⁴ co²t?a³ya³ cho⁴ta⁴, ne³ s?ian⁴² tsa²

at:times study:they people, look fut:do:we if

escuela cjai¹ nca³ nta³ cho¹t?a³ya³². 59. Tjin¹ c?a³

school very2 good fut:study:we.   Is some

---

57. These are the things they studied about [as our old peo-
ple say who tell], thus it happened, they say, in those days.
58. But they say, the day came, as it does when people
study at times, look, like we do if we study hard at school.

cho⁴ta⁴ xi³ n?ion¹ nta³ ma³-le⁴ escuela-

people who exceedingly good become-to:them school-

ve⁴, c?oa⁴ tjin¹ c?a³ xi³ va³tio²tjen⁴nqui³.

there, also is some who are:behind:they.

60. C?oa⁴-jin² coan³-?ni³ instrucción militar

    Thus-emph pst:become-indeed instruction military

cjoa⁴ sontado xi³ qui³-sco²t?a³ya³-ve⁴,

abstract:thing soldier which pst-study:they-there,

nta³-jin² coan³-le⁴ xi³c?a³, c?oa⁴

good-emph pst:become-to:them others, and

tsa³-ca³tio²tjen⁴nqui³ xi³c?a³-?ni³.   61. Chji⁴ne⁴chjao³-la⁴

pst-are:behind:they others-indeed.   Bugler-prob

coan³-ni³ xi³ tjin¹ xi³ ma³-la⁴-le⁴

pst:become-origin who is who become-prob-to:him

---

59. There are some people who do well in school, there are
others who are behind.   60. So it was with the military
instruction, the soldier's affairs which they studied; some
did very well, others were behind.   61. (Some) became
buglers for there are such among those who know soldier's

ntai⁴   xi³   cjoa⁴-le⁴   sontado-ve⁴-ʔni⁴.

now   who   <u>abstract</u>:<u>thing</u>-his   soldier-there-indeed.

62. Cʔoa⁴-xo¹   coan³-ʔni³   nca³   je²-xo¹   ntai⁴

Thus-quoted   pst:<u>become</u>-indeed   he2-quoted   now

xi³   cho⁴ta⁴   xi³   tsʔe⁴   xi³   Erasto   Quiroga

who   <u>person</u>   who   <u>brother</u>:his   who   <u>Erasto   Quiroga</u>

ʔmi²   xi³   nquí²sa⁴   nta³   coan³-le⁴-ʔni³.

<u>is</u>:<u>named</u>   who   more   good   pst:<u>become</u>-to:him-indeed.

63. Cho⁴ta⁴   infantería,   cho⁴ta⁴   ntso⁴co⁴-jin²

<u>People</u>   <u>infantry</u>,   <u>people</u>   <u>foot</u>:their-emph

fi²-ni³   ntai⁴   nca³   sontado   ni¹,

<u>go</u>-instr:they   now   when   <u>soldiers</u>   <u>are</u>:they,

tso²-jin²   cjoa⁴.   64. Cʔoa⁴   ne³

<u>say</u>-it:emph   <u>abstract</u>:<u>thing</u>.   And   look

---

affairs.   62. It happened, they say, that those who were
Erasto Quiroga's people did best.   63. The infantry (are)
the people who go on foot when they are soldiers, report
says.   64. See now, the cavalry, those (with) Adolfo Pineda,

cjoa^4 ntai^4 xi^3 caballería nt?ai^4, je^2 xi^3

<u>abstract</u>:<u>thing</u> now which <u>cavalry</u> now, that which

Adolfo Pineda-xo^1 ?mi^2 xi^3 qui^3-sco^{2}t?a^{3}ya^3

<u>Adolfo</u> <u>Pineda</u>-quoted <u>is</u>:<u>named</u> who pst-<u>study</u>:they

ntia^{42} nch?oa^1-?ni^3.   65. Ne^3 xi^3

<u>road</u> <u>cemetery</u>-indeed.   Look which

tsa^3-ve^3-le^{4}con^3-la^4 nca^3 nqui^{2}sa^4

pst-<u>know</u>/<u>recognize</u>-to:them:within-prob:they   that   more

nta^3 co^{3}t?a^{3}ya^3 cho^{4}ta^4 xi^3 infantería-ve^4 ntai^4.

good <u>study</u>:they <u>people</u> who <u>infantry</u>-there   now.

66. Jme^3-la^2-ve^4 xi^3 qui^3-s?e^{3}jna^3-le^4

      Whatever-prob-there   which   pst-<u>is</u>:<u>present</u>-to:them

ntai^4 coi^3 ni^{4}chjin^3-ve^4 ya^4 nqui^{3}ya^{1}nca^3-ve^4

now specific <u>day</u>-there   there   under:<u>tree</u>:ya^{1}nca^3-there

---

practiced on the cemetery road. 65. It was recognized that
the infantry practiced better. 66. Something took place
that day there in the school patio (under the tree) where they

ya^4 jña^1 nca^3 tsa^3-cjao^1, tsa^3-cjao^1-ni^3 jnco^3

there where2 pst-<u>chat</u>:they, pst-<u>chat</u>-origin:they one

cjoa^4 xi^3 t?a^{3}ts?e^4 abanderado-

<u>abstract</u>:<u>thing</u> which concerns <u>standard</u>:<u>bearer</u>-

xo^1?mi^2 xi^3 qui^3-ni^3.   67. Je^2-xo^1

quoted:<u>is</u>:<u>named</u> who pst:g<u>o</u>-instr:he.   That-quoted

cho^{4}ta^4 xi^3 ts?e^4 abanderado ?mi^2 xi^3

<u>person</u> who his <u>standard</u>:<u>bearer</u> <u>is</u>:<u>named</u> who

qui^3-ni^3-ve^4 nca^3-- jo^3-la^2-s?in^2, ?ya^3-ni^3

pst:g<u>o</u>-instr:he-there when-- as-prob-(as), whoever2

xi^3 si^{1}qui^{3}njen^3 jnco^3 bandera xi^3 ti^1-jco^{3}ya^{13}

who <u>win</u>:he one <u>flag</u> which cont-<u>is</u>:<u>at</u>:<u>head</u>:<u>of</u>:<u>pole</u>

nca^3 cho^{4}va^1-nia^3 ?ya^3-ni^3 xi^3 nqui^{2}sa^4 nta^3,

when fut:<u>chat</u>-origin:we whoever2 who more good,

---

chatted.   They discussed the matter of the one called the
standard bearer who carried (the flag).   67. The person,
they say, who as standard bearer went with (the flag) as they
do it, whoever captures a flag which is floating on a pole,

?ya³-ni³ xi³ nqui²sa⁴ ma³-le⁴ jo³ nca³ s?in¹.

whoever2 more <u>become</u>-to:him how2 <u>do</u>:they.

68. C?oa⁴ je²-xo¹ qui³-tjo³jin³ jnco³

    Thus that–quoted pst-<u>come</u>:<u>out</u>:<u>among</u> one

cho⁴ta⁴-le⁴ xi³ abanderado Juan Filogonio

<u>person</u>-his who <u>standard</u>:<u>bearer</u> <u>Juan</u> <u>Filogonio</u>

Martínez ?mi².

<u>Martínez</u> is:named.

    [69. Filogonio Martínez ?ya³-

    <u>Filogonio</u> <u>Martínez</u> <u>is</u>:known-

jin²nio¹³.   70. To⁴jo³ ti¹jna³

emph:origin:to:you(pl.   Still <u>is</u>:<u>present</u>:he

xje¹-ve⁴ nt?ai⁴ ntai⁴ xi³ Filogonio Martínez

<u>gentleman</u>-there now2 who <u>Filogonio</u> <u>Martínez</u>

---

as we say, whoever is better, whoever knows better how to do it.

    68. And so, they say, one person was chosen as standard bearer, named Juan Filogonio Martínez. [69. You know Filogonio Martínez. 70. The gentleman is still here

ʔmi²-ve⁴,   xje¹ tja⁴yao³,   cjai¹ nca³ tsen³

is:named-there,   gentleman athletic,   very2   obviously

chji³nca³   ma³-le⁴   jo³-sʔin²   nca³   si¹xa¹   xi³

agile   become-to:him   how3   works:he   who

cjoa⁴-le⁴   sontado.]

abstract:thing-his   soldier.

    71. Je³-xo¹   qui³-njen²-le⁴-ʔni,   ne³

       That-quoted   pst-is:won-to:him-indeed,   look

cʔoa⁴-jin²   coan³   nca³   ji³tjo³ncʔa³

thus-emph   pst:become   when   pst:come:out:exalted:they

xi³   infantería-ve⁴-ʔni³,   cho⁴ta⁴   xi³   to⁴-ntso⁴co⁴

who   infantry-there-indeed,   people   who   only-foot:their

fi²-ni³-ve⁴-ʔni³   nca³   sontado-ʔni³.

go-instr:they-there-indeed   as   soldiers-indeed.

---

now who is known as Filogonio Martínez, an athletic fellow,
very well known for his agility; he knows how to work as a
soldier.]

    71. He, they say, won. See thus it happened that the
infantry excelled, the people who go on foot as soldiers.

72. Qui^3-si^{3}cha^3-jin^2 xi^{3}c?a^3 tso^2-jin^3

   Pst-<u>lose</u>-emph:they   <u>others</u>   <u>say</u>-emph:it

cjoa^4-ni^3.   73. N?ion^1-xo^1 nta^3

<u>abstract</u>:<u>thing</u>-origin.   Exceedingly-quoted   good

coan^3-le^4 chji^{4}ne^{4}čhjao^3,   ?nta^3 je^2 xi^3 Erasto

pst:<u>become</u>-to:him   <u>bugler</u>,   even   that   who   <u>Erasto</u>

?mi^2-ve^4 ntai^4.   74. Chji^{4}ne^{4}čhjao^3-xo^1

<u>is</u>:<u>named</u>-there   now.   <u>Skilled</u>:<u>in</u>:<u>music</u>-quoted

tsa^3-c?in^3-le^4 nca^3 música-la^4

pst-<u>is</u>:<u>named</u>-to:them   because   <u>music</u>-prob

coan^3-le^4 coi^3 ni^{4}čhjin^3 je^2-ve^4-?ni^3.

pst:<u>become</u>-to:them   specific   <u>day</u>   that-there-indeed.

75. Coan^3-jin^2-le^4 xi^3--xi^3--jo^3 xi^3

   Pst:<u>become</u>-emph-to:them   who--hesit--how   which

---

72. The others lost is the report.   73. They became very
good buglers, even he whose name was Erasto.   74. "Skilled-
in-music" they called them because they were good at music
in those days.   75. They were capable who--who--as those

tsa³-ʔya³-jin²-le⁴   nca³   je³-qui³-njen³-

pst-<u>is</u>:<u>known</u>-emph-to:them   when   already-pst-<u>is</u>:<u>won</u>-

le⁴   nca³   je²   nta³   si¹xa¹,   tso²-jin²

to:them   because   that   good   <u>works</u>:he,   <u>say</u>-emph:it

cjoa⁴   xi³   cjoa⁴-le⁴   tjo⁴,   xi³

<u>abstract</u>:<u>thing</u>   which   <u>abstract</u>:<u>thing</u>-its   gun,   which

cjoa⁴-le⁴   milicia   ʔmi²-le⁴²,

<u>abstract</u>:<u>thing</u>-its   <u>military</u>   <u>is</u>:<u>named</u>-to:it:we,

cjoa⁴-le⁴   nchja¹   sontado-ve⁴.

<u>abstract</u>:<u>thing</u>-their   <u>men</u>   <u>soldier</u>-there.

    76. Ne³   cʔoa⁴-jin²   coan³-ni³,   nca³

        Look   thus-emph   pst:<u>become</u>-origin,   that

ji³-nčhoa³-ni³-le⁴   cjoa⁴xin²ta³con²-le⁴   je²   xi³

pst-<u>come</u>-origin-to:them:it   <u>envy</u>-their   those   who

---

who were well known as already having won because "they
work well," is the report of the gun's matter, of the military
matter as we call it, the soldiers' matter.

    76. Thus it happened that they were envied, the infan-

infantería-ve⁴-ʔni³.   77. Qui³tjen⁴nqui³co²ntran⁴-xo¹-

<u>infantr</u>y-there-indeed.   Pst:<u>follow</u>:<u>against</u>-quoted-

le⁴   xi¹ncjin¹-le⁴   cho⁴ta⁴-le⁴   Adolfo

to:them:they   <u>each</u>:<u>other</u>¹³   people-his   <u>Adolfo</u>

Pineda-ʔni³.   78. Je² Adolfo Pineda ntai⁴   ne³

<u>Pineda</u>-indeed.   That <u>Adolfo</u>   <u>Pineda</u>   now   look

cʔoa⁴²-jin²   ti⁴-nta³   ti¹-si¹xa¹,   cha¹chji⁴ne⁴-jin².

thus-emph   still-good   cont-<u>works</u>:he,   <u>wise</u>:<u>man</u>-emph.

79. Qui³-sʔe³-le⁴   xi³   cjoa⁴chji⁴ne⁴   cho⁴ta⁴

    Pst-<u>is</u>:<u>present</u>-to:him   which   <u>wisdom</u>   <u>person</u>

je²-ve⁴,   nta³   tsa²   je²,   nta³   qui³-sʔe³-le⁴

that-there,   even2   that,   good   pst-<u>is</u>:<u>present</u>-to:him

---

try.   77. They went against each other, the men of Adolfo
Pineda.   78. This Adolfo Pineda now, see he also worked
well, (and was) a skilled man.   79. He obtained wisdom
(education) that person, even he.   He had good relations with

¹³ xi¹ncjin¹ by itself following a verb is the reciprocal. With a
-le⁴ 'possessive' it would go with what follows except that it does not
usually take -le⁴ being a 3rd person possessed form without it meaning
"their relatives". The construction is not clear.

relación t?a³ts?e⁴ gobierno, c?oa⁴ ma³-le⁴

<u>relations</u> concerning government, thus <u>become</u>-to:him

jo³ nca³ s?in¹, cho⁴ta⁴ xi²nquia⁴²-na¹.   80. Nco⁴

how2 <u>do</u>:he, <u>person</u> <u>relative</u>:ours –ours.   Indeed

ti⁴-ña¹ ti⁴-ma³-nia¹ cho⁴ta⁴ je²-ve⁴,

ourselves–we still-<u>become</u>-origin:we <u>person</u> that–there,

nchja¹ mi²yo⁴-na¹ nca³ts?i³, c?oa⁴ mi²yo⁴-le⁴ nca³ts?i³

<u>men</u> <u>friend</u>-our all, and <u>friend</u>-their all

cho⁴ta⁴jchi¹nca³-na¹ jo³-s?in³ nca³ tsa³-cjao¹.

<u>old</u>:<u>people</u>-our as2 when pst-<u>chat</u>:they.

81. To⁴nca³ li²coi³ ?ya³²-na¹ jo³ coan³-ni³

    But not <u>is</u>:<u>known</u>-to:us how pst:<u>become</u>-origin

nca³ ji³-nčhoa³-ni³ jme³-ve⁴ xi³ qui³-scan³ya³-

when pst-<u>come</u>-origin whatever–there which pst-<u>fight</u>-

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the government and knew how to do things. He is our rela-
tive.   80. Indeed, he is like one of us, that person, a real
good friend of all of us, and friend of all our old people, as
they talked.   81. But we do not know what happened that

ni³-ʔni³.   82. Qui³-so³co³   cjoa⁴si³-ʔni³

origin:they-indeed.   Pst-is:obtained   trouble-indeed

qui³-si³jao²ya³   yao³-le⁴-ʔni³.   83. Qui³-sʔe³-

pst-divide:they   self-their-indeed.   Pst-is:present-

le⁴ xi³ división ʔmi²-le⁴² ntai⁴ nca³

to:them which division is:named-to:it:we now in

en¹ español-ʔni³.   84. Cʔoa⁴² coan³-ve⁴

language Spanish-indeed.   Thus pst:become-there

ntʔai⁴ nca³ tsa³-ca³tio²jchan¹-le⁴

now when pst-are:present:fighting-to:them:they

xi¹ncjin¹, tsa³nca³va³, to⁴-cja⁴ʔai¹⁴-nca¹

each:other, pst:flee:scattered:they, only-different-again

to⁴-coan³-ni³ li²jme³ cjoa⁴qui²xi⁴ xi³

only-pst:become-origin nothing right:thing which

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caused them to fight. 82. Trouble came. They divided
themselves into two (groups). 83. Thus came about a divi-
sion as we call it in the Spanish language. 84. Thus they
were at war with each other. They fled scattered. Things
became perverted. Nothing was right.

qui^3-s^{7}e^3-^{7}ni^3.

pst-<u>is</u>:<u>present</u>-indeed.

85. To^4-ya^{42}-jin^2 qui^3-ti^{2}ca^{1}ya^3-le^4

Only-there-emph   pst-<u>leave</u>:<u>suspended</u>-to:him

coi^3 cjoa^4 je^2-vi^4 ntai^4 jo^3 ^{7}nta^3

specific   <u>abstract</u>:<u>thing</u>   that-here   now   as   until

nqui^2 jnco^3 c^{7}a^2 c^{7}i^{3}ts^{7}ia^4 cjoa^4 je^2-ve^4.

another:time3   pst:<u>begin</u>:they   <u>abstract</u>:<u>thing</u>   that-there.

86. Ne^3 c^{7}oi^4-na^1 tso^2-ni^3 nchja^{1}jchi^{1}nca^3-ve^4

Look   thus-remote   <u>say</u>-origin:they   <u>men</u>:<u>old</u>-there

mil-noveciento-once-xo^1-na^1 nca^3

thousand-nine:hundred-eleven-quoted-remote   when

tsa^3-ca^{3}s^{7}e^{2}ts^{7}ia^4-ni^3 cjoa^{4}si^3 ya^4 jncha^4

pst-<u>begin</u>-origin   <u>trouble</u>   there   <u>town</u>:<u>center</u>

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85. At that point this matter was left unresolved until
again it started up. 86. See, thus the old men say, 1911
when the trouble started away off there in the city of Mexico.

jan^{1}ʔni^3 ya^4 México.   87. Je^2 xi^3 cjoa^{4}si^3

distant-indeed   there   <u>Mexico</u>.   That   which   <u>trouble</u>

xi^3 ya^4 cʔi^{3}tsʔia^4-ni^3-ve^4 ne^3 tsʔe^4 Madero

which   there   pst:<u>begin</u>-origin:it-there   look   his   <u>Madero</u>

xi^3 ʔmi^2-le^{42}-ʔni^3 cao^4 tsʔe^4 Porfirio

who   <u>is:named</u>-to:him:we-indeed   with   his   <u>Porfirio</u>

Díaz.   88. Porfirio · Díaz   Presidente   de   la

<u>Díaz</u>.   <u>Porfirio</u> <u>Díaz</u>   <u>President</u>   of   the

República-xo^1 ti^{1}jna^3 México   cʔoa^4 Madero

<u>Republic</u>-quoted   <u>is:present</u>:he   <u>Mexico</u>   also   <u>Madero</u>

ntʔai^4 cho^{4}ta^4 tʔa^{3}xin^2 ni^1.   89. To^4-cjoa^{4}si^3-jin^2

now   <u>person</u>   separate   <u>is</u>:he.   Only-trouble-emph

xi^3 tsa^3-qui^{3}so^{1}tjen^{4}cao^4 nca^3 cʔaon^{4}sje^3 Porfirio

which   pst-<u>rise</u>:<u>with</u>:he   when   fut:<u>throw</u>:<u>out</u>   <u>Porfirio</u>

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87. The trouble which broke out pertained to the one we call
Madero, and to Porfirio Díaz.   88. Porfirio Díaz, they
say, was President of the Republic, in Mexico and Madero
then was a private citizen.   89. He only stirred up trouble

Díaz   coi³   ni⁴chjin³   je²-ve⁴.

D͟í͟a͟z͟   specific   d͟a͟y͟   that-there.

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when he wanted to oust Porfirio Díaz at that time.

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