

THE ANALYSIS OF PREHISPANIC CENTRAL MEXICAN HISTORICAL TEXTS

EDWARD E. CALNEK

Introduction

The great majority of the basic historical texts dealing with pre-Hispanic Central Mexico now exist only in the form of prose manuscripts that were first committed to writing within a century or so of the Spanish conquest.¹ Although it is widely recognized that these are only secondary adaptations from earlier pictorial manuscripts and oral texts, there have been few systematic attempts to determine precisely what occurred when the early chroniclers undertook to transfer basic historical information from the one medium of expression to the other. An essential characteristic of the preconquest histories is that pictorial scenes and oral texts were combined together in the same narrative records. This system engaged eyes and ears at the same time, differing fundamentally in this respect from the linear and sequential exposition of writing. The preconquest histories could not, therefore, be transcribed without first substantially reorganizing and readapting their original content.

This situation raises a double problem for ethnohistorical research. The first question centers on the need to determine the rules and principles of composition most commonly utilized in the combined pictorial-glyphic and oral texts. The second involves the nature of the modifications required so that the original records could be committed to a written form. In practice, both questions must be considered at the same time, and in relation to the same body of textual materials. There are still extant only a small number of pictorial manuscripts which deal with the historical traditions of

¹ See Gibson, 1975 and Gibson and Glass, 1975, for detailed discussion and census of prose manuscripts. Evidence summarized by these authors suggests a heavy clustering of the lengthier chronicles in the period from about 1570 until 1640 or slightly later.

any particular locality.² The corresponding oral texts, as a rule, exist only in prose manuscripts where their original content is already mixed together with information derived from pictorial manuscripts. While there is no doubt that speech and dialogue were invariably conveyed as an oral text, it is uncertain how much else was transmitted in this form. The only available research strategy is to match together specific pictorial scenes with later written versions of the same material. Insofar as any written text can be related to information conveyed in a pictorial scene on a point-by-point basis, the "residue" can be supposed to contain material derived from the oral text.³

There are, unfortunately, a number of pitfalls in this technique, since, as will be shown later, there seems to have been no fixed rule governing the allocation of information to the pictorial and oral components of any single narrative text. Indeed, there are instances where pictorial representations of the same scene differ greatly in the quantity of information conveyed in pictorial-glyphic form in each.⁴ The most that can be achieved given this condition is to establish the upper and lower limits of what might be termed the "information storage capacity" of the pre-Hispanic Central Mexican writing system. This is, however, an empirical problem, which must be considered in relation to some specific group of pictorial source materials.

Documentary sources

An unusually favorable opportunity for an investigation of this type is presented by those pictorial manuscripts and prose texts deal which the Aztec or Mexica *peregrinación* from the general standpoint of the

² See Glass, 1975 and Glass and Robertson, 1975, for a detailed survey and census of pictorial manuscripts. The total number of extant pictorials is impressively large; only a limited proportion, however, deal with specifically historical themes.

³ This "residue" may also contain additions and interpolations by colonial period writers. Whether definite methods for determining precisely which features were conveyed in oral texts can be developed is a problem for future research.

⁴ This implies equivalent variability in the oral texts. See Colston 1973 for a good discussion of variation between oral texts in Durán's *Historia* and Tezozómoc's *Crónica Mexicana*.

"Cronica X" tradition as defined by Barlow.⁵ For reasons of brevity, I consider only those events recorded for the period beginning with the Aztecs' departure from their ancient island homeland of Aztlan, and ending with their arrival at Tollan (modern Tula, Hidalgo). There are several closely related accounts, including two pictorial manuscripts, available for this period. (Specific textual references are given in the following discussion, and in Table 2, below.)

Although these documents clearly derive from the same basic pre-conquest historical tradition, none is an exact replica of any other. Specific historical episodes may appear in some versions, while being omitted in others, and there are a small number of "floating episodes" which do not appear to have been bound to any fixed sequence of presentation. One important problem, therefore, is to develop objective methods for estimating the degree of relatedness between any two or more individual versions of the same original text.

For the present, we will be less interested in the objective validity of these sources than in determining what their authors *intended* to say about the historical past. Objective tests of the *truth-value* of pre-Hispanic historical sources can be most usefully devised when the historiographic techniques and objectives characteristic of the Central Mexican region in general are more clearly understood.⁶

Writing systems

The analysis of the pictorial manuscripts necessarily requires a brief discussion of pre-Hispanic Central Mexican writing systems

⁵ Barlow, 1945. The basic content of the "Crónica X" tradition is defined especially by Durán's *Historia de las Indias* (1967)n and Tezozómoc's *Crónica Mexicana*. The *Crónica Mexicáyotl* (Tezozómoc 1949: 26-86) closely parallels the early chapters in the *Mexicana*, and can be regarded as a Nahuatl version of the same material. Otherwise, it is heuristically useful to regard individual episodes with a similar content as derived from or related to a broadly defined "Crónica X" tradition, wherever they happen to be found.

⁶ Whatever may have been their intent, it must be assumed that pre-Hispanic historians knew the difference between actual events and mythological happenings, and used both in ways considered to be appropriate at the time. If it is claimed that the Mexica visited some specific place while enroute from Aztlan, and there experienced some supernatural event, the concept of *truth-value* is relevant only to the first point. With respect to the second, the problem is quite different—namely, why was there an appeal to myth at just this point in any particular text.

in general. These have recently been the subject of detailed studies by Dibble, Nicholson, and other specialists, and relatively little that is new can be added here.⁷ The methods of writing utilized in the historical texts were essentially the same as those found in the tribute records and census lists, but differ somewhat depending on whether they were applied to self-contained or autonomous communications, or whether used in conjunction with an oral text. In the first case, a variety of conventionalized symbols, naturalistically depicted objects, and phonetic glyphs, had to be juxtaposed in a way that would be readily intelligible to any "knowledgeable" reader. It is unusual to find more than two or three glyphs or symbols combined within the framework of a single "message." The longer records or communications in this category relied primarily, as will be shown below, on simple repetition of closely similar and very brief "single message units".⁸

Where the combined pictorial-glyphic and oral texts were involved, the same glyphs and symbols could be used somewhat more freely, since any lack of clarity could be cleared up by additional information carried by the oral text. The "written" component, consequently, could contain any number of diverse and seemingly unrelated points of information, since these would be drawn together and given a definite meaning when combined with a verbal recitation. At the same time, the ease with which the burden of communication could be shifted to the oral component probably deprived the scribes responsible for pictorial records of this type of any strong motive for working out more flexible and efficient scripts.⁹

The contrasting nature of the two systems is of some interest in

⁷ Dibble, 1971; Nicholson, 1973. Nicholson presents a detailed bibliography of past and present research in this highly technical field.

⁸ Each name in a census record is a "single message unit"; if the person is singled out as, for example, head-of-household, the same glyph may carry two independent messages, namely, "This person is named 'X' and 'X' is a head-of-household". The one message may be signalled directly with a name-glyph, while the second is implied by position. In the tribute records the first place-name listed on any page is both a tributary town and the place where the Hueicalpixqui (High Steward) of the entire province was in residence. Considerable ingenuity is sometimes displayed in the positioning of glyphs or symbols so that there are both primary and implied messages in the same text.

⁹ I. J. Gelb, 1963, p. 58-59, argued that the Mesoamerican writing systems were inherently "stagnant", and "could never have developed into real writing without foreign influence." The evidence for Central Mexico suggests instead that interdependence between the pictorial and verbal components of the same texts functioned as a strong inhibiting factor deriving from cultural context rather than inherent weaknesses in the writing system per se.

its own right. The next section describes the most salient characteristics of the "independent" or "self-contained" types of pictorial-glyphic communications.

Annalistic texts and administrative records

The closest approximation to a fully autonomous "writing system" is to be found in the "continuous year-count annals," on the one hand, and in routine fiscal and administrative records, on the other. Nicholson observes that the year-count annals were "distinguished by the recordation of a continuously sequent record of years with picto-ideographic notations of events usually assigned to particular years".¹⁰ It can be added that most entries consist of only one or two glyphs or symbols, and refer only to very simple and highly stereotyped "events", such as wars, migrations, royal marriages, births, deaths, acts of succession, drought, famine, and the like. The basic technique is clearly exemplified in figure 1, from the *Códice Aubin*.¹¹ In this example, the visual format has been modified to leave room for explanatory glosses written in Nahuatl. The essential condition, however, is that events be unambiguously linked to a specific year-glyph, which occupies a correct position in some longer sequence of calendrical glyphs.

In the first frame, representing the year "9 Calli" (A.D. 1501) there are two separate entries: 1) a composite glyph dealing with the quarrying of stone at Malinalco; and 2) a shrouded figure, symbolizing death, attached to a nameglyph for the Tenochcan ruler, Ahuitzotl. The other entries were glossed as follows (translation by C. E. Dibble):

- | | |
|-------------------|--|
| 10 Tochtli (1502) | Y luego se asentó Moctecuzomatzin como noveno señor. |
| 11 Acatl (1503) | Aquí otra vez fueron a excavar piedra en Malinalco. |
| 12 Tecpatl (1504) | Aquí llegó el cacao. |
| 13 Calli (1505) | Aquí bajó el tzitzímitl. ¹² |

¹⁰ Nicholson, 1969, p. 45-49. Nicholson identifies "sporadically dated or undated annals" as a separate category, but his examples appear to be drawn from the pictorial segments of combined pictorial-glyphic and oral texts.

¹¹ Dibble, 1963.

¹² *Ibid.*, p. 50-51.



FIG. 1. A page from the *Códice Aubin* (Dibble, 1963, p. 77).

It might be noted that a certain amount of new information has been smuggled into the glosses by the annotator. The pictorial text records the succession of Moctezuma, but does not indicate that he was the ninth ruler of Tenochtitlan. Whether the "coming down (to earth)" of the *tzitzimiltl* should be inferred from the glyph itself is uncertain, but seems rather to have been something of a natural inference.

In any case, the salient characteristic of the year-count annals is that, while any number of events could be represented for any particular year, not very much could be said about any specific occurrence. If it had been necessary or desirable to add that Ahuitzotl had been a ruler of good character, wise, generous, and beloved by his people, the task would have been handed over to another group of historians responsible for the preparation of a combined pictorial-glyphic and oral text.

The system utilized in tribute lists, census records, and other documents for administrative use was closely similar, in that only very simple and stereotyped messages were used. The well-known *Maguey Plan*, for example, is both a map of some as yet unidentified community, and a record of approximately four hundred householders who owned or occupied the individual residential sites and chinampa gardens shown on the map.¹³ The basic message is very simple: namely, that "Householder 'X' resided at *this* location". The only variable element, apart from physical topography, involved the representation of personal names and titles of office.

The informational structure of the tribute records is only slightly more complex. In the *Matrícula de Tributos* and the *Codex Mendoza*, the individual "pages" each list the principal towns comprising a single tributary province, and specify the kinds and quantities of goods owed by the province as a whole.¹⁴ The message is that "*These* towns owed *this* tribute". In this case, however, the list of place names probably had a double function: 1) to identify the towns (or city-states) comprising a tributary province; and 2) to indicate the places where tribute records utilized at the next lower level of organization would be found.¹⁵

¹³ Calnek, 1973.

¹⁴ See Robertson, 1959, for technical descriptions of both manuscripts.

¹⁵ The tributary provinces included variable numbers of previously autonomous political units, each of which have negotiated its own agreement on tribute payments with Tenochtitlan. There were, accordingly, separate records representing the obligations of each previously independent *cabecera*.

Both the census records and the tribute lists were functionally specialized to accomplish specific tasks or objectives of interest primarily to the governing elite. They were characterized especially by a constant repetition of the same types of information, and required great flexibility only for the recording of proper names for persons, places, and titles. This was achieved mainly by means of the well-known "rebus" method of glyph formation, which, according to both Dibble and Nicholson, was used with increasing frequency in the last half-century or so before the Spanish conquest.¹⁶

Combined pictorial-glyphic and oral records

The sharply contrasting methods employed in historical records of the composite or combined type are clearly illustrated if figure 1 is compared with those which follow. In figure 2, for example, it might be easily concluded that a simple record of the annalistic type was intended. There are only four significant "facts" or units of information presented: 1) a broken tree; 2) five dots (probably an unfinished glyph for the year "5 Tecpatl");¹⁷ 3) an altar with the god Huitzilopochtli; and 4) a group of people engaged in a meal. It is, nonetheless, fundamentally different from figure 1, since all of the pictorial components can be correctly identified without providing us with the least idea of what this particular scene is about. This is not, therefore, a complete and intelligible message in its own

¹⁶ Dibble, 1971: 331, p. 331, notes that "In a half-century the Aztec had advanced from a picto-ideographic system with the beginnings of phonetic writing to syllabic writing". The immature Central Mexican system, however, could not compete effectively with Roman script, which was quickly adapted to Nahuatl and other indigenous languages. Nicholson, 1973, p. 35, observes that individual scribes quite frequently employed "different graphemes and grapheme combinations to produce the same results" (*i.e.* within the framework of the "rebus" system). This seems to have been occurring particularly in routine administrative documents, where personal names, place names, and titles of office were repetitively and routinely recorded in large numbers. The fact that the professional scribes (*tlacuiloque*) had begun to experiment rather freely with the writing system, and most notably with techniques of phonetization, suggests that administrative pressures for "cost efficiency" were beginning to override aesthetic preferences. Once engaged in economic transactions on a routine basis, the *tlacuiloque* themselves become a cost to be taken into consideration.

¹⁷ Tezozómoc, 1949, p. 20, and Chimalpahin, 1965, p. 66-67, both date this episode to a year named "5 Técpatl". As shown in this figure from the *Tira* the number five, taken by itself, has no apparent relevance to the scene.



FIG. 2. Fragment from the *Tira de la Peregrinación* (reproduced from Seler, 1902-23, v. 1, Abb. 2, p. 35) (tracing).

right, and it acquires a definite meaning only when some version of the following episode from the Mexica peregrination is known:

Cuando llegaron a donde se alza un árbol muy grueso, un ahuehuete, se asentaron inmediatamente a su pie; luego levantaron allá un pequeño altar, en el que pusieron y asentaron también al "Tetzáhuitl Huitzilopochtli"; después de hallarse allí por varios días le ofrendaron luego sus provisiones e inmediatamente, cuando ya iban a comer, oyeron que alguien, desde lo alto del ahuehuete, les hablaba, les decía: "Venid acá quienes ahí estáis, no sea que caiga sobre vosotros, ya que mañana se derrumbará el árbol; por esto dejaron de inmediato lo que comían... y sucedió que, cuando amaneció, se desgajó y rompió sobre de ellos el árbol, el ahuehuete."¹⁸

There are two points to be noted in connection with this specific pictorial scene. It is primarily mnemonic in purpose, in that very little concrete information, other than that required to elicit a specific oral recitation, has been represented in pictorial form. At the

¹⁸ Tezozómoc, 1949, p. 19-20. See below for alternative written versions of the same incident.

same time, there is more information than would, strictly speaking, be required for this purpose. The *broken tree*, taken by itself, would have been sufficient as a mnemonic device, since there is no other known instance in which another incident of this kind can be found in the Mesoamerican literature. In all probability, the "author" or "authors" of this account sought to achieve a particular aesthetic balance between the pictorial and oral components. The psychological effect produced by the scene varies according to whether the oral narration has been previously heard (or for ourselves, read) or not. For the naive viewer, the scene by itself could be expected only to arouse curiosity; once the corresponding narrative is heard, the separate elements fall into place, and function to illustrate a dramatic and action-filled episode from Mexica history.¹⁹

In figure 3, however, the pictorial scene itself includes a great deal of factual information, represented by means of complexly articulated glyphs, symbols, human figures, and the like. The scene as a whole is dominated by the "twisted hill" on the left, which is a name-glyph for Colhuacan (Teocolhuacan or Hueicolhuacan in some sources); the god Huitzilopochtli figures prominently as the sole occupant of a cave or sanctuary within the hill. The date 1 Tecpatl, glossed as meaning A.D. 1168, appears just above the "twisted hill" glyph. The area to the right is divided into upper and lower registers. The upper register includes a temple-pyramid; a row of eight *calli*-glyphs, which here mean to group called "calpulli";²⁰ and individual name-glyphs for each of the eight calpullis. The meaning of this pictorial grouping seems to be that the eight named calpullis were subdivisions of the same political-religious unit symbolized by the temple — presumably Colhuacan.²¹ The lower register has eleven persons divided into a group of four on the left, and seven on the right. Nine of the eleven persons carry sacred bundles, identified by name-glyphs for various deities just above.²² Additional information about the group has been encoded in such

¹⁹ The *gestalt* or pattern characteristics of historical texts which combined pictorial-glyphic and oral segments are difficult to appreciate from the frequently awkward and aesthetically unconvincing written versions prepared in colonial times. It must be remembered that the original texts were composed for public or semi-public gatherings, where skillful modulation of the human voice would have been an important factor.

²⁰ See, for example, Seler, 1902-23, x, 1, p. 45.

²¹ See Dibble, 1953, p. 19, where the eight calpullis are identified as "habitantes de Colhuacan".

²² See Tezozómoc, 1944, p. 8, and discussion below in this paper.

things as personal dress, stance, and ornamentation. All members of the group are identified by name-glyphs which are sometimes titles of office. If evidence from other sources is taken into consideration, we are justified in identifying the four individuals on the left as *teomama* or "god-bearers", responsible for the cult of Huitzilopochtli, while the seven persons on the right are probably the seven leaders of the seven calpullis into which the Mexica were divided at that time.²³ In short, the lower register conveys a good deal of technical information about the social and religious organization of the Mexica at an early stage in their long peregrination from Aztlán to Tenochtitlán.

If this line of interpretation is correct, the pictorial scene as a whole can be divided into three main components: 1) *left side*: "twisted hill," cave, Huitzilopochtli, etc.; 2) *upper register*: eight named calpullis pertaining to Colhuacan; and 3) *lower register*: four *teomama*, seven calpulli leaders, etc. These and related "facts" about the episode represented in the scene as a whole can be readily identified and, to a certain extent, related to each other within each of the three components listed above. As was the case when considering figure 2, however, we remain in the dark as to just *why* these particular "facts" have been combined in just this particular way.

The pictorial scene begins to *acquire* a definite meaning only when

²³ See discussion later in this paper. I suspect that the *Códice Azcatitlan*, which may, according to Robertson (1959, p. 184, n. 16) be a seventeenth or eighteenth century copy of a much earlier manuscript, omits important material in this page or section. The first scenes in the codex, incidentally, closely parallel the beginning text of Chimalpahin's *Tercera Relación* (1965, p. 63 ff.), which incidentally helps to clear up the rather misleading name—Azcatitlán—indicated by a gloss to the pictorial scene which represents the Mexica homeland of Aztlán (Barlow, 1949, Planche II). Barlow (*ibid.*, p. 103) took the wellknown ant-hill glyph, representing the sound *azca-* (from *azcall*) as a phonetic glyph to be completed with the suffix *-tilan*. Chimalpahin (1965, p. 65), however, draws attention to a large tree—also shown in the codex—and comments that "la razón de que la llamen Aztlán era que en el centro de la isla se levantaba un hermoso y enorme azcahuítl, por lo cual la nombraban Aztlán." If this hypothesis, which is as good as any, is correct, then the juxtaposition of an *azcahuítl* tree and an *azcall* glyph seems to be a rather inept way of representing the sound "az-", which is properly completed with the suffix *-tilan*, and it is merely unfortunate that the most logical reading is "Azcatitlán". There is no doubt whatever that Aztlán is intended. (See also Torquemada, 1969, v. 1, p. 78, where after referring to certain *pinturas* representing Aztlán, he speaks of a tree from which a bird—presumably a hummingbird— instructs Huitziton to mobilize his people to abandon Aztlán.)

additional information of a type that would have been conveyed as an oral text is made available. The *Códice Aubin* and several other sources deal with events said to have occurred at Colhuacan — the first stopping-place after the Aztecs had actually departed from Aztlan.²⁴ The following dialogue, from the *Códice Aubin*, adequately explains the juxtaposition of upper and lower registers as sub-components of the same pictorial scene (the eight calpullis are the first *speakers*):

—Señores nuestros, ¿a dónde vais? Nosotros estamos dispuestos a acompañaros.

Luego les dijeron los aztecas:

—¿A dónde os vamos a llevar?

Luego dijeron los ocho calpulli:

—No importa, señores nuestros, pues os acompañaremos.

Y luego dijeron los aztecas:

—¡Está bien, acompañadnos!²⁵

This very brief interchange immediately justifies and explains the overall composition of the scene by reference to a new social relationship established between the eight calpullis and the Mexica at Colhuacan. Once this is known, a number of more subtly contrived meanings of the text as a whole can be at least partially identified.

The eight calpullis, for example, are cast in the role of eager supplicants for Mexica leadership at a key point in their own early history, with the implied obligation to accept the superiority of Huitzilopochtli, as the principal deity of their "chosen leaders". Huitzilopochtli's sole occupancy of the central cave or shrine at Colhuacan acquires a special significance of its own in this context, and while we cannot be entirely certain, it is probable that the complete oral text (not available in the *Códice Aubin*) would have included some version of a well-known oration in which he promises future wealth beyond measure and world domination to his own devoted followers, the Mexica.²⁶ Since this "world dominion" was achieved by the

²⁴ Dibble, 1963.

²⁵ *Ibid.*, p. 19.

²⁶ Cristóbal del Castillo, 1966, p. 82 ff., records one of the lengthier and most interesting versions of this speech. The context is somewhat indeterminate, but seems to involve events in Teocolhuacan.

Mexica only after a prolonged and bitterly fought series of military conflicts extending into the mid-fifteenth century, in which the eight calpullis—in reality, large and powerful ethnic groups in their own right—were eventually subdued, this scene from the *Códice Azcatlan* begins to look like political propaganda, intended to justify current realities by reference to a long distant historical past. Viewed from this standpoint, the apparent simplicity of the surface structure of this episode is found to dissolve into ‘meanings within meanings’ and in this sense, begins to resemble the complexly structured levels of meaning of poetic texts of the kind previously analyzed by Garibay.²⁷

The episode as a whole, therefore, is not *merely historical*, or even a form of pseudo-history, but carries a definite lesson: probably, that the same eight calpullis who had sought out Mexica leadership long before ought to welcome an imposed Mexica leadership *now!*

The characteristic structure achieved by combining pictorial-glyphic and oral texts reflects the very close interdependency of the separate components. The pictorial segment of any specific episode necessarily included sufficient information to elicit a particular oral text; it might also carry much of the burden of simple *information storage* as well. Whatever the actual distribution of information between the pictorial and oral segments, however, the individual *episode* emerges with special clarity as the principal unit of narrative organization. This was particularly congenial to the static and tableau-like quality of the individual pictorial scenes, and leads to formats of the general type illustrated in figures 2 and 4, both taken from the *Tira de la Peregrinación*.

It is obvious that this manuscript consists of a definite series of well-defined pictorial scenes, which are to be “read” in orderly sequence from left to right. Each scene groups together human figures, deities, glyphs, symbols, and the like in varying combinations. An extremely important characteristic of the manuscript as a whole, and one of great value for coordinating pictorial texts with later written versions of the same episodes, is that individual scenes are both linked together and separated from each other by simple transitional devices, such as conventionalized footprints indicating movement in space, or calendrical glyphs denoting the passage of time. These provide the pictorial manuscripts with a kind of syntactical

²⁷ Garibay, 1964.

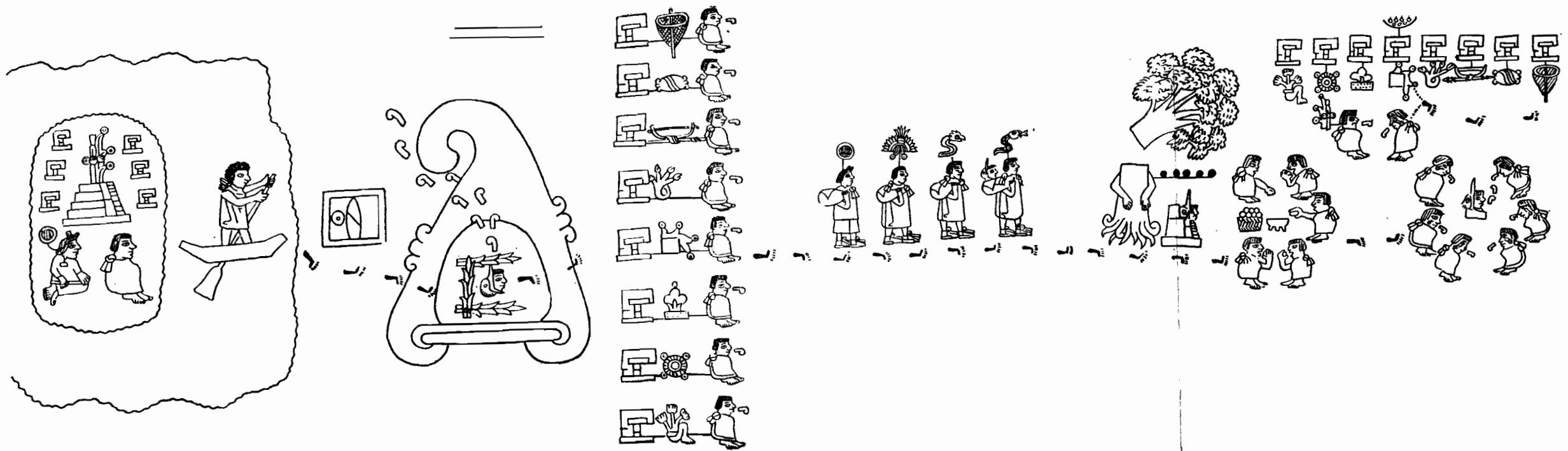


FIG. 4. First section of the *Tira de la Peregrinación* (reproduced from Seler, 1902-23, v. 1, Abb. 1 & 2, p. 34-35) (tracing).

structure which should, as will be noted in examples discussed below, be clearly recognizable in the written chronicles as well.²⁸

Each of the pictorial scenes, together with the corresponding oral text, represents a single "historical" episode, and the primary unit of organization for the combined pictorial-glyphic and oral texts. The pictorial manuscript as a whole, however, determined both the selection of episodes, and the specific sequence in which they were to be *seen* and *heard*. This system lends itself readily to the following simplified formula:

$$\text{EPISODE}_1 \left\{ \begin{array}{l} \text{Scene} \\ \text{Narration} \end{array} \right\} + (\text{transition}) + \text{EPISODE}_2 \left\{ \begin{array}{l} \text{Scene} \\ \text{Narration} \end{array} \right\} + (\text{transition}), \text{ etc.}$$

For certain purposes, this can be further abbreviated to the form:

$$E_1 + (t) + E_2 + (t), \text{ etc.}$$

The most important point is that the individual episode is singled out as the primary structural unit in the lengthier historical texts, while the transitions function partly in a manner that is analogous to punctuation in a written text.

Any specific episode is defined especially by its informational content. The rules and principles which determined how particular units of information were to be distributed between the pictorial and oral segments appear to have been somewhat variable, and may, to some extent, have depended on the aesthetic preferences and personal skills of individual authors. There were, however, two limiting factors: 1) speech and dialogue were necessarily assigned to the oral component; and 2) the pictorial segment necessarily contained enough concrete factual information to unambiguously label the episode to which it referred.

Analyzing written versions of pre-Hispanic historical texts

The formula outlined above provides a flexible means for analyzing either written or pictorial manuscripts, or for making detailed

²⁸ The reader should be cautioned that key features in the pre-Hispanic narratives may be difficult to recognize in those colonial period chronicles where several originally distinct local traditions have been amalgamated into a single text. The *Anales de Cuauhtitlan* and the *Relaciones* of Chimalpahin both present substantial technical difficulties in this respect.

comparisons between the members of any group of closely related texts. Whatever the concrete objective, the first task is to make provisional identifications of single episodes to be used for experimental comparisons. This offers no difficulties where pictorial manuscripts are available, or at least will offer no significant difficulties once the nature of all commonly used transitional devices is adequately known. Where it is necessary to work with a written text, episode boundaries can usually be established by noting the written equivalents of the pictorial transitions, as well as by criteria of internal coherence and general narrative continuity. It should be kept in mind, however, that the early chroniclers did not necessarily recognize the syntactic functions of the transitions, and sometimes wholly omit or merely imply motion in space or the passage of time. The appearance of a new calendrical date may signal the end of one episode and the beginning of another, or we may find stock phrases such as "partieron de allí," "pasados algunos años," "después de haber comenzado año nuevo," and so forth, each followed by some new sequence of acts and events.

So far as the work of practical analysis is concerned, however, virtually any tentative division of a particular text into separate episodes will eventually yield good results, since the more serious errors will tend to be self-correcting as analysis and comparison proceeds. To exemplify the results that can be obtained by applying the formula stated above to specific textual materials, I will first compare the occurrence and relative positioning of fifteen more or less well-defined episodes from several closely related texts, and then provide a detailed analytic comparison of one set composed of different versions of the same episode. It must be emphasized that the procedures demonstrated here are still somewhat experimental, and should be used heuristically for the purpose of *discovering* previously unknown characteristics of the historical texts under discussion.

For purposes of illustration, Table 1 [at the end of this paper], lists fifteen episodes which appear in documents derived from or related to the "Cronica X" tradition. Thirteen of the fifteen occupy a *fixed* position relative to each other, and are reparted by transitions which involve movement in space. There are also two "floating episodes" (E14 and 15) which occur in different positions and combinations from source to source.

The identification and labelling of episodes in Table 1 is based primarily on Tezozomoc's *Crónica Mexicáyotl*, which includes fourteen

of the fifteen, and where basic transitions between episodes are especially well marked. Thus, the transition from the first to the second episode is marked by the phrase: "Y cuando atravesaron hacia acá de Aztlan los aztecas, los mexicanos vinieron a llegar allí, a Colhuacan" etc. Episode 3 is omitted in this source, but the transition from the second to the next is marked in a quite similar fashion, which emphasizes both the act of departing from one locality and arriving in the next: "cuando partieron de Culhuacan acá los aztecas. . . cuando llegaron a donde se alza un árbol muy grueso" etc.²⁹

In Table 2 [also at the end of this paper], the presence or absence of specific episodes, and their order of occurrence, is shown for each of the seven sources represented in columns 1-7. A table of this general type is a virtually indispensable tool for establishing that specific texts are in fact closely related (demonstrated by the co-occurrence of similar episodes or groups of episodes), and for directing our attention to problems requiring more detailed investigation. The two "floating episodes", for example, sometimes appear as self-contained in their own right, and are sometimes merely components of entirely different episodes.

The overall distribution of episodes shown in the Table is interesting in several respects. The sources represented in columns 1, 2, 5, and 7 are closely similar in overall structure; those represented in columns 3, 4, and 5, share the "tierras chichimeca episode" (E6), which is omitted by the others; columns 3 and 4 are sharply divergent in the early segment, but virtually identical later on. These rather peculiar distributions can be explained by either of two hypotheses: 1) that there was a single original text which included all fifteen episodes, and that this was later reduced by the loss or omission of certain episodes in each of the later versions; or 2) that there was more than one source, and later chroniclers merely selected those episodes which suited their own personal theories about the correct interpretation of early historical records.

Neither hypothesis can be entirely proved or disproved at the present time. An eclectic approach was especially typical of the Chalcán historian, Chimalpahin. It can also be seen in the composition of Tezozómoc's *Crónica Mexicáyotl*, as compared with that of the *Crónica Mexicana* by the same author. So far as can be determined, the *Mexicana*, which was written in Spanish, had been completed by about 1598 or slightly later, while the *Mexicáyotl* was not

²⁹ Tezozómoc, 1949, p. 18-19.

commenced until 1609.³⁰ Column 3, therefore, represents Tezozómoc's opinion when he first prepared a written account of the Aztec peregrination. When he began to write the *Mexicáyotl*, however, he decided to begin the text with "el relato del anciano Alonso Franco" —a mestizo resident in Tenochtitlan, who died in 1502. This was, in effect, substituted for the introductory paragraphs in the *Crónica Mexicana*. He then inserted a brief reference to Cuextecatlichocayan and Coatlicamac, before resuming a narration which is, from this point, an only slightly amended version in Nahuatl of the early chapters in the *Mexicana*.

While this proves that the *Mexicáyotl* was based on two or more historical texts, extant in the late sixteenth and early seventeenth centuries, we cannot really be certain that there were two or more pre-Hispanic traditions. It is entirely possible that Tezozómoc reached the conclusion that material present in the original text had been lost from the version in his possession when he wrote the *Crónica Mexicana*, and that by adding the "relato de Alonso Franco" in the *Crónica Mexicáyotl* he was merely restoring this tradition to its original state. The possibility remains, nonetheless, that he was mistaken in this view, and instead of writing a more accurate and comprehensive historical account, created a pastiche of previously unrelated episodes and historical traditions.

The second possibility is especially interesting if the *Mexicana-Mexicáyotl* version of the last episodes before the Mexica reached Tollan is compared with that which appears in the *Tira de la Peregrinación* and the *Códice Aubin*. The basic "Crónica X" tradition includes a lengthy account of the separation of the Mexica into two groups at Lake Pátzcuaro, after which the "main group" proceeds through Ocopipila and Acahualtzinco before establishing a more permanent settlement, occupied for twenty years or more, at Coatepec, near Tula. The *Tira* and the *Códice Aubin*, on the other hand, indicate that the Mexica resided in Coatlicamac for twenty-seven or twenty-eight years. The *Códice Aubin*, moreover, identifies Coatepec as a hill near Coatlicamac where a New Fire ceremony was performed just before the Mexica moved on to Tollan.³¹

³⁰ Gibson and Glass, 1975, p. 326, date the *Mexicana* to ca. 1598 or early 17th century. Tezozómoc's introduction to the *Mexicáyotl* (1949, p. 7) includes the words "Y hoy en el año de 1609, yo mismo, Don Hernando de Alvarado Tezozómoc...".

³¹ Tezozómoc, 1944, p. 11-14; 1949, 31-37. Dibble, 1963, p. 9-11.

Both versions share the idea that the Mexica occupied the same place for two decades or more just before moving on to Tula, but seem to disagree with respect to the actual migration route. The *Códice Aubin* attempts to reconcile these discrepancies by identifying Coatepec as a hill near Coatlicamac where a New Fire Ceremony was performed, but this datum is missing from the *Tira de la Peregrinación*, which merely shows the performance of a New Fire ceremony in the year "2 Acatl", without specifying a place.³² Torquemada, finally, proposes still a third way of organizing the same episodes, by stating that the Mexica went directly to Coatlicamac after the "broken tree" episode, and that the Mimixcoa incident took place while they were residing there.³³

Without attempting to pursue this specific problem beyond this point, it is readily apparent that a relatively small group of episodes was being manipulated rather freely during the sixteenth century if not earlier. The chief value of Table 2 is that it provides us with a very clear set of references to similarities and differences in the overall structure of the pictorial manuscripts and later written sources.

If attention is shifted to the individual episode, somewhat different procedures must be employed. The "Broken Tree" episode (E4) is a convenient example, since it is comparatively simple, and the main facts have already been presented earlier in this paper. Let us first see how the same material is treated in three sources not previously discussed:

1) Chimalpahin's *Tercera Relación*:³⁴ "Año 5-Pedernal, 1068. Llegaron los aztecas al pie de un frondoso árbol, los cuatro cargadores de la deidad: Cuauhcoatl, Apanécatl, Tezcatcóhuatl y Chimalma; se aprestaron a tomar un reposo al pie del hermoso árbol, disponiendo al Huitzilopochtli, y comenzaron a comer sus alimentos de camino, cuando ocurrió que el árbol estrepitosamente se rajó. Abandonaron lo que comían y corrieron, espantados, un gran trecho, velozmente.

2) *Códice Aubin*: A) *pictorial representation*: 1) a large tree; 2) a small platform or altar; 3) four persons eating. B) *written gloss*: Y cuando vinieron a llegar al pie del árbol, luego allí se asentaron. Era muy grueso el árbol. Luego allí formaron un altar sobre el que pusieron al diablo. Cuando habían formado el altar,

³² Radin, 1920 (*Codex Boturini*, Plate 6).

³³ Torquemada, 1969, v. 1, p. 78 ff.

³⁴ Chimalpahin, 1965, p. 66-67.

luego tomaron sus provisiones. Pero ya que iban a comer, luego sobre ellos el árbol se quebró. Luego, por esto, dejaron lo que comían. . .”⁸⁵

3) Torquemada's *Monarquía Indiana*:⁸⁶ (After leaving Teocolhuacan) “marchó de aquel lugar, para otro donde cuentan, avía un árbol mui grande, y mui grueso, donde les hizo parar; al tronco del qual, hicieron un pequeño altar, donde pusieron el ídolo, porque así se lo mandó el Demonio, y a su sombra se sentaron, a comer. Estando comiendo, hizo un grande ruido el árbol, y quebró por medio. Espantados los aztecas del súbito acaecimiento, tuviéronlo por mal agüero, y comenzáronse a entristecer, y dejaron de comer. . .”

These are recognizably the same episode as was discussed earlier in relation to a pictorial scene (figure 2) in the *Tira de la Peregrinación* and a written text in the *Crónica Mexicáyotl*. The three versions cited directly above are virtually identical in content, and could have been easily derived from a pictorial scene identical to figure 2, providing that it were also known that the tree began to break while the group was actually engaged in a meal, and that the place was immediately abandoned thereafter. Chimalpahin's account probably reflects his judgment that the four *teomama* shown as “in transit” in the *Tira* (figure 4) were “arriving at” the large tree, rather than “moving from Colhuacan” to that point, and that they could be regarded as a component of the same scene. Following the rule that conventionalized footprints mark a transition between episodes, however, this “reading” by Chimalpahin is unacceptable. All of the other versions make it clear that the entire group, rather than the four *teomama* alone, were protagonists in this episode. It can also be surmised that the three versions quoted above were based primarily on a pictorial scene, and that by the time they were written down the more complete oral text had been lost. Each of the three provide only a highly synoptic interpretation of the episode, and probably err in supposing that the tree was abandoned only when it began to fall. If the more elaborate version transmitted by Alonso Franco, and transcribed in the *Mexicáyotl*, is taken into account, the Mexica abandon the area when a voice emanating from the tree predicts that it will fall on the following day. This information

⁸⁵ Dibble, 1963, p. 8 and p. 20-21.

⁸⁶ Torquemada, 1969, v. 1, p. 78.

is supplied as a "quoted speech", and once known, transforms the rather dry narratives cited above into a highly dramatic situation (which leads ultimately to a decision by the Mexica to part company with the eight calpullis, as shown in the scenes located to the right and above the "broken tree" in figure 4).

In all probability, specific bits of information were originally distributed between the pictorial and oral components of the combined text more or less as follows:

<i>Pictorial component</i>	<i>Oral component</i>
Broken tree—sometimes falling	Voice emanating from tree ("quoted")
Altar with Huitzilopochtli	Sequencing of actions (building altar,
Mexica engaged in a meal	beginning meal, hearing voice,
The date "5 Técpatl"	flight, etc.)
	Commentary on scene, "tuviaéronlo por mal agüero, y comenzáronse a entristecer" etcétera.

The same procedure is easily and usefully applied to more complex scenes, of the type illustrated in figure 3. In this highly elaborated version, some method for dividing the scene as a whole into separate components may be necessary, as was done in an earlier section of this paper. The result will be an organized inventory of factual data which can then be compared to similar inventories based on alternative pictorial and written versions of the same material. If figure 3 is compared to a corresponding segment from the *Tira de la Peregrinación* (figure 4), the "twisted hill", Huitzilopochtli located within a cave, and the eight calpullis are the same, but the statement about Mexica social organization has been omitted entirely. A part of the material contained in the lower register of figure 3 is, however, represented in a separate scene or episode where the four *teomama*, each identified by a name glyph, are shown "in transit". There is, at the same time, no reference whatever to the seven calpullis or their leaders.

Once these points of similarity and contrast are recognized, we might well conclude that the *Tira* is a slightly emended and simplified version of the same combined pictorial-glyphic and oral text represented in figure 3 from the *Códice Azcatitlan*, and that any hypothetical reconstruction of a prototype manuscript ought to deal in some way with the seven calpulli leaders along with the four *teomama*.

Although we cannot regard the *Códice Azcatitlan* as the pictorial counterpart of any specific written chronicle, there is an interesting coincidence between the lower register in figure 3, and the following passage in Tezozómoc's *Crónica Mexicana*:

y como venían cantidad de ellos, que eran de siete barrios, cada uno traía *el nombre de su dios*; como era Quetzalcóatl Xocomo, Matla, Xochiquétzal, Chichític, Centéutl, Piltzintecutli, Ometeutli, Tezcatlipuca, Mictlantecutli, y Tlamacazqui, y otros dioses, que aunque cada barrio de los siete traía señal de su dios, traían asimismo otros dioses con ellos. . . (emphasis added).³⁷

A closely related text in Chimalpahin's *Tercera Relación* is as follows:

Y aquí aparecen los caballeros de aquellas siete tribus que se apretaron a salir, cada quien cuidando de sus propias deidades (emphasis added).³⁸

In both versions, these remarks lead to a list of the seven Aztec or Mexica barrios.

Tezozómoc's remark that "venían cantidad de ellos. . . cada uno traía *el nombre de su dios*" is a clear indication that he was looking at a pictorial manuscript while writing down this passage in Spanish. In the lower register of figure 3 we do see "a number of persons" carrying sacred bundles, above which the name-glyphs for various deities have been represented. They are "carrying the names of their gods" only in a naively literal sense, and it is this very unusual choice of words which demonstrates that the primary source used here by Tezozómoc was a pictorial scene rather than a written text. Whether Tezozómoc failed to notice that four of the many persons were *teomama* or "god bearers" is conjectural. He states very clearly, however, that there were seven barrios, and that each barrio was closely identified with a specific tutelary god. The same point emerges with stronger clarity in Chimalpahin's account, where the words "And here are to be seen (appear)" specifically acknowledges that the source is a pictorial manuscript. It can also be inferred that the pictorial scene included the following elements: 1) the seven leaders—each probably identified by a name-glyph; 2) the calpulli

³⁷ Tezozómoc, 1944, p. 8.

³⁸ Chimalpahin, 1965, p. 65.

deities— probably carried in sacred bundles, and identified by name-glyphs as in the *Códice Azcatitlan*; and 3) name-glyphs identifying each of the seven calpullis.⁸⁹

Since this is what I have termed a “floating episode”, which appears sometimes as a component of other episodes, we cannot be certain whether an oral text containing additional information was required or not.

The evidence summarized to this point suggests that the pre-Hispanic histories were disassembled and restructured rather freely during the colonial period. Whether similar manipulations would have been permitted prior to the Spanish conquest is, at present, conjectural. That multiple versions of the same historical narratives would have arisen so long as the composition and transmission of histories in general was controlled by “master historians”, recruited from the highest echelons of the hereditary nobility, and closely associated with the calmécac, is at least improbable though not wholly impossible. The systematic destruction of pictorial manuscripts, and the disruption of the social milieu in which historical records were created might easily, on the other hand, have led to precisely the kind of situation reflected in the colonial sources. Omissions and reconstructions of the same episodes—possibly by individuals who were obliged to rely on their own memory— could be expected to result in the pastiche-like composition of many chronicles, and the doubts that were expressed from time to time by the colonial period writers. From time to time, new pictorial records were recovered, or as in the case of Tezozómoc's *Crónica Mexicdyotl*, new and seemingly reliable oral texts might be encountered.

Conclusion

The foregoing discussion is an attempt to develop new and potentially more rigorous methods for the analysis of colonial period versions—pictorial and written— of pre-Hispanic historical traditions. The recognition of what have been termed “episodes”, and

⁸⁹ Durán, 1967, v. 2, p. 29, interpreted the same seven names as the names of the patron deities of the barrios. Durán's account of the peregrination, though drawn in part from the same source as was utilized by Tezozómoc, contains many complexities of a type that would be more usefully considered at a later stage of analysis.

the possibilities for dividing the informational content of individual episodes according to probable derivation from an original pictorial or oral component, provide a framework which seems to be widely applicable to indigenous historical records in general.

For the immediate future, the most productive results are likely to be achieved with materials that include matching pictorial scenes and written versions of the same episodes. The *Códice Xólotl* and the historical works of the Texcocan historian Ixtlilxochitl, already the subjects of a pionering analysis by Dibble,⁴⁰ might be profitably reanalyzed from this standpoint. This would be especially interesting, since the Texcocan historians seem to have preferred a highly distinctive format in which a multiplicity of scenes were represented on the same page or sheet.⁴¹ In this system, the use of "transitions" could be manipulated in several ways—for example, by initiating the transition with a single set of footprints which later divide and lead to distinct and different episodes which occupy different positions in space, but which may, otherwise, occur at approximately the same time.

It should be reemphasized that the primary objective of this paper is to introduce a new method for the critical analysis of a well-known group of basic historical sources. A more detailed analysis of the "Crónica X" tradition, which has served primarily for purposes of illustration here, will be presented in a forthcoming paper.

⁴⁰ Dibble, 1951.

⁴¹ See Robertson, 1959, p. 141-143 for technical analysis of pictorial format.

TABLE 1

SELECTED EPISODES FROM THE MEXICA PEREGRINATION *

-
- E1 *Aztlan departure.* Background and events leading to abandonment of Aztlan.
- E2 *Teocolhuacan visited.* First stopping place.
- E3 *Tepemaxalco.* The Aztecs visit or by-pass this place.
- E4 *Broken tree.*
- E5 *Mimixcoa incident.* A complex encounter with "hombres buhos."
- E6 *Tierras Chichimecas.* Mexica wander aimlessly through Chichimec lands.
- E7 *Cuextecatl Ichocayan.* By-passed or visited.
- E8 *Coatlicamac.* By-passed or visited. Some accounts indicate a lengthy period of residence there.
- E9 *Pátzcuaro incident.* Mexica divide into two groups. Main body continues on to Coatepec in one set of accounts.
- E10 *Ocopipila.* By-passed or visited. Probably the Pipiocomac of Torquemada's version (1969, v. 1, p. 81).
- E11 *Acahualtzinco.* By-passed or visited — possibly for several years.
- E12 *Coatepec.* Several accounts claim that the Mexica resided here for two decades or more.
- E13 *Tollan.* Mexica reach Tollan, either directly from Coatlicamac, or after a long residence in Coatepec.
- E14 *Huitzilopochtli speech.* A "floating episode". Huitzilopochtli promises future world dominion to the Mexica.
- E15 *Socio-religious organization.* Discussion of calpulli organization and relationship to tutelary deities. A 'floating episode'.
-

* See Table 2 for source references. This selection of episodes has been simplified for the purpose of illustrating points raised in this article.

TABLE 2
DISTRIBUTION OF EPISODES FROM TABLE 1 *

<i>Episode No.</i>	<i>Episode Name</i>	1	2	3	4	5	6	7	<i>Totals</i>
E1	Aztlan departure	E ₁	E ₁	E ₁	E ₁	E ₁	E _{1a}	E ₁	(7)
E2	Teocolhuacan	E _{2a}	E ₂		E ₂	E _{2a}	E ₂	E ₂	(6)
E3	Tepemaxalco					E ₃			(1)
E4	Broken Tree	E ₃	E ₃		E ₃		E ₄	E _{3a}	(5)
E5	Mimixcoa	E ₄	E ₄		E _{4a}	E ₄	E ₅	E ₅	(6)
E6	Tierras Chichimecas			E ₂	E ₅	E ₅			(3)
E7	CuextecatI Ichocayan	E ₅	E ₅		E ₆				(3)
E8	Coatlicamac	E ₆	E ₆		E ₇	E ₆ ?		E ₄	(5)
E9	Pátzcuaro			E ₅	E ₉		(E ₂)		(3)
E10	Ocopipila			E ₇	E ₁₀			E ₆ ?	(3)
E11	Acahualtzinco			E ₈	E ₁₁				(2)
E12	Coatepec		(E ₇)	E ₉	E ₁₂	E ₉			(5)
E13	Tollan	E ₇	E ₈	E ₁₀	E ₁₃	E ₁₀		E ₇	(6)
E14	Huitzilopochtli speech	E _{2b} ?		E ₆	E _{4b}	E _{2b}	E _{1b}	E _{8b}	(6)
E15	Socio-religious org.			E ₃	E ₈	E _{2c} ?	E _{1c}		(4)
TOTAL		8	8	9	14	10	7	8	

* The sources for this table are accounts of the Aztec or Mexica peregrination in the following pictorial manuscripts and chronicles.

Column 1: *Tira de la Peregrinación* (Radin, 1920)

Column 2: *Códice Aubin* (Dibble, 1963)

Column 3: *Crónica Mexicana* (Tezozómoc, 1941)

Column 4: *Crónica Mexicáyotl* (Tezozómoc, 1949)

Column 5: *Códice Azcatitlan* (Barlow, 1949)

Column 6: *Tercera Relación* (Chimalpahin, 1965)

Column 7: *Monarquía Indiana* (Torquemada, 1969, v. 1)

BIBLIOGRAPHY

- Barlow, Robert H., "La Crónica X", *Revista Mexicana de Estudios Antropológicos*, 7: 65-87. 1945.
- El *Códice Azcatitlan*, Journal de la Société des Américanistes de Paris, n.s. 38: 101-35, 29 plates. Paris. 1949.
- Calnek, Edward E., "The localization of the sixteenth century map called the Maguey Plan", *American Antiquity*, 38:2, April 1973, p. 190-95. 1973.
- Castillo, Cristóbal del, *Historia de los mexicanos*. Ciudad Juárez, Editorial Erandi, 1966.
- Chimalpahin Cuauhtlehuanitzin, don Francisco de San Antón Muñón, *Relaciones Originales de Chalco Amaquemecan*, S. Rendón, Ed. México-Buenos Aires. Fondo de Cultura Económica, 1965.
- Dibble, Charles E., *Códice Xólotl*. México, UNAM, Instituto de Historia, 1951.
- *Historia de la Nación Mexicana, reproducción a todo color del Códice de 1576 (Códice Aubin)*. Madrid, José Porrúa Turanzas, 1963. [Col. Chimalistac No. 16].
- "Writing in Central México", *Handbook of Middle American Indians*, 1971, v. 10, pt. 1, p. 322-332.
- Durán, fray Diego, *Historia de las Indias de Nueva España*. A. M. Garibay K., Ed. 2 v. México, Porrúa, 1967.
- Garibay K., A. M., *Poesía Náhuatl*, México, UNAM, Instituto de Historia, v. 1, 1964.
- Gelb, I. J., *A Study of Writing*. Revised. Univ. of Chicago Press (Phoenix Books), Chicago, 1963.
- Gibson, Charles, "Prose sources in the Native Historical Tradition", *Handbook of Middle American Indians*, 1975, v. 15, p. 311-321.
- Gibson, Charles and John B. Glass, "A census of Middle American prose manuscripts", *Handbook of Middle American Indians*, v. 15, p. 311-400.
- Glass, John B., "A survey of native Middle American pictorial manuscripts", *Handbook of Middle American Indians*, 1975, v. 14, p. 3-80.

- Glass, John B. and D. Robertson, "A census of native Middle American pictorial manuscripts", *Handbook of Middle American Indians*, 1975, v. 14, p. 81-252.
- Nicholson, H. B., "Pre-Hispanic Central Mexican historiography. Reunión de Historiadores Mexicanos y Norteamericanos, III, Oaxtepec, Morelos", *Investigaciones contemporáneas sobre la historia de México*. México. 1969.
- "Phoneticism in the Central Mexican writing system", *Mesoamerican Writing Systems*, a conference at Dumbarton Oaks. E. P. Benson, Ed. Dumbarton Oaks, Washington, D.C. 1973.
- Radin, Paul, *The sources and authenticity of the history of the ancient Mexicans*, University of California Publications in American Archaeology and Ethnology, 17, No. 1, 1920.
- Robertson, Donald, *Mexican Manuscript Painting of the Early Colonial Period. The Metropolitan Schools*. New Haven, Yale University Press, 1959.
- Seler, Eduard, *Gesammelte Abhandlungen zur Amerikanischen Sprach- und Alterthumskunde*, 5 v. A. Asher & Col, and Behrend & Co., Berlin. 1902-23.
- Tezozómoc, Hernando Alvarado, *Crónica Mexicana*. México, Editorial Leyenda, 1944.
- *Crónica Mexicáyotl*. México, UNAM, Instituto de Investigaciones Históricas, 1949.
- Torquemada, fray Juan de, *Monarquía Indiana*. 3 v. México, Porrúa, 1969.