

The Principles of Nahuatl Writing¹

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Der vorliegende Beitrag setzt sich mit den Prinzipien – vor allem bezüglich der Zusammensetzung und Verwendungsregeln – eines verhältnismäßig unbekanntes Schriftsystems des amerikanischen Erdteils, der Nahuatl-Schrift Zentralmexikos, auseinander. Zunächst wird als Einführung auf das Phänomen Schrift in Zusammenhang mit den verwandten und oft schriftbegleitenden graphischen Kommunikationssystemen Notation und Ikonographie eingegangen, die in Mesoamerika einen erheblichen Einfluß auf die Schrift ausübten. Dabei wird eine schriftsystemneutrale Terminologie vorgestellt, die größtenteils in neueren typologischen Abhandlungen Verwendung findet. Im Hauptteil geht es dann um die in ihren Grundzügen meist mißverständene Schrift des Aztekenreichs des 15. und 16. Jahrhunderts, deren Nachfolgerin in frühkolonialer Zeit eine phonetische Schreibweise nicht nur für indigene, sondern auch für spanische Namen und Titel aufweist. Neue Thesen in Hinblick auf die Grundaspekte dieser Phonetik werden erörtert.

Introduction

Historians and typologists of writing have up to now paid scant attention to developments in Mesoamerica, the Prehispanic cultural area stretching from Central Mexico and flanking regions southwards through the Yucatan Peninsula and Guatemala down to western Costa Rica. Only since the 1980s can one detect in the scholarly literature outside of Mesoamerican studies a slowly growing awareness that the phenomenon known as writing has been part of the civilizations of this region for well over two millennia. This awareness, however, has been almost entirely limited to the study of the Classic Maya script, which, as we have steadily grown to understand over the last four decades, was a full-fledged system with many features typical of writing in other regions of the globe. Unfortunately, even today, handbooks of writing tend to devote scarce

¹ This study draws on research that began in 1971, encouraged by John Glass, who first introduced me to the wonders of the Codex Vergara; on my 1980 and 1993 publications; and on my papers given at the 'Origins of Early Writing Systems' conference in Beijing on 5 October 2007, at the Mesoamerikanistentagung in Bonn on 31 January 2009, and at the University of Münster on 23 May 2009.

space – often no more than a couple of pages – to the description and analysis of this system.

It is, however, not just the Maya script that has fared poorly in comparative studies of writing. All the more so can one say that the system employed by the ruling Nahua elites of the Aztec Empire and its neighbours in the 15th and early 16th centuries, and continued by their indigenous successors well into the Early Colonial period in the wake of the Spanish Conquest of 1521, has attracted not only the barest of comments from typologists, both within and without Mesoamerican studies, but also for the most part scorn from the same as a system unworthy of the label ‘writing.’ The term ‘picture-writing’ has often in the past been bestowed on it, sometimes with disdain, sometimes with art-historical fascination with what has been perceived, by and large, as a mere extension of iconography – that is, as a system of symbols rather than linguistic signs. Even some recent studies by specialists on Mesoamerica have tended to cast inadequate light on this intriguing system of graphic communication. For this reason it would be worthwhile to review the Nahua system here in some detail, and in the context of recording systems (with special emphasis on writing) as a whole, in an attempt to move closer towards ascertaining its primary characteristics and proper classification.

Nahuatl writing

In one sense, texts are unknown on Aztec monuments and in Colonial-period glyphic documents with a Prehispanic theme and largely indigenous style. There are, with the controversial exception of a couple of isolated strings in two codices, the Xolotl and the Boturini,² no sequences of signs constituting connected passages of information, nothing comparable to any passage in the many thousands of Nahuatl-language documents in the Latin alphabet produced in the course of the Early Colonial period. Nahuatl writing has been described as a partial system (Barthel 1968: 283) and a restricted system (Prem 1992: 54-55), since its use was limited – at least in all surviving documents known to us – to the oft ambiguous rendition of names of persons³ and places, and to the recording of dates

² This topic will be returned to in a separate paper.

³ Including titles, sociopolitical designations, and professions. The inherent ambiguity of the Nahuatl system is well illustrated by the fact that the historian Ixtlilxochitl was unable to read hieroglyphic data with full confidence except where he had access to supplementary oral information. His list of

and quantities. The vast bulk of information was provided in pictorial and iconographic form, accompanied by hieroglyphs when further precision was needed. Reference to the Nahuatl system as partial or limited has been criticized in recent days (Lacadena 2008a: 17), but such criticism overlooks the fact that there are, indeed, other such examples around the world and that this is not a value judgement deriding the achievements of Nahua civilization.

An important instance of such a limited system is the protocuneiform script of Southern Mesopotamia in the 4th millennium B.C., attested on many thousands of clay tablets from the city of Uruk. The texts do not record *belles lettres*, nor do they relate the political history of the region or propound purely religious themes. They record administrative data, economic transactions and inventories, to be exact. Even in the Early Dynastic Period, when a wider range of subject matter entered the domain of scribes, the majority of affixes and particles were still left unrecorded. There is, of course, no question that out of this script the versatile Sumerian cuneiform system evolved that was put to such skilful use in the recording of state history and religious literature. But we must not confuse the potential of a script with its purpose, flexibility and actual use at a given time.

Nahuatl writing of the Early Colonial period

In the first century of the Early Colonial period (1521-1620) the Nahuatl script was applied to a wide variety of documents. In no instance is it the sole means of providing information in a specific document. Whether as an adjunct to iconography (in its widest sense) in representations of Aztec themes, or as a means of rendering the names of indigenous persons in censuses and in land documents, or as an instrument for recording the toponyms of a community or region, the writing system remained for several decades an important tool of Nahua scribes under Spanish rule. There was, however, no general standard with regard to the choice, form, or style of sign, although in the case of certain high-profile names the approximation of a standard did exist.

Toltec rulers, which he repeats at different points in his *Relaciones* and *Historia Chichimeca*, demonstrates this uncertainty well: he fluctuates between such readings as Huitz and Metzol, Mitl and Tlacomihua, etc., depending on his interpretation of a glyph (usually, an educated guess) at any given time.

Many, if not most, instances of Nahuatl writing are accompanied by glosses (transcriptions) in Spanish orthography. Such glosses have given rise to the common assumption that the nature of the system is well understood. In reality, however, mistakes in interpretation and inexactness in rendering the values of Nahuatl glyphs have led scholars astray on more than one occasion. Nevertheless, there are many instances – and even whole documents – in which unglossed signs have remained undeciphered. Their analysis is crucial to a proper and thorough appreciation of the characteristics of the script and will determine the extent to which we understand its principles. Indeed, as always, claims of decipherment are only justifiable if unglossed signs can be read in essentially the same way by at least two persons working independently while applying the same principles.

Few assessments of Nahuatl writing have been undertaken in modern times. The most prominent to date have been those by Aubin (1849, 1885), Clark (1938), Barlow and McAfee (1949), Nowotny (1959), Dibble (1971, 1972), Nicholson (1973), Galarza (1979), Berdan (1992), Lockhart (1992: 326-373), and Prem (1992). In his classic 1849 *Mémoire sur la Peinture Didactique et l'Écriture Figurative des Anciens Mexicains*, Aubin presented arguments for a Nahuatl syllabary, the signs of which he extracted largely from personal and place names in Colonial-period registers and cadasters from the Tepetlaoztoc area on the eastern slopes of the Valley of Mexico. His study, long dismissed as an exaggerated attempt to derive the unusual degree of phoneticism in these documents from the Nahuatl script of Aztec times, has now been championed by distinguished Mayanists Alfonso Lacadena (2008a; 2008b) and Marc Zender (2008) as a kind of Rosetta Stone on a par with Diego de Landa's monumental *Relación de las Cosas de Yucatán* of 1566. The latter work, once controversial for its presentation of an alleged Maya 'alphabet' – a series of equations of Maya signs with Spanish letters – was finally recognized, following the pathbreaking analyses by Yuri Knorosov (for which see Coe 1992), as providing syllabic equivalents of the *names* of the Spanish letters, rather than their phonetic values. Repeated testing of these syllabic values in known contexts has led in a snowball effect to the decipherment of an increasing number of syllabic signs of (C)V structure, so that we now have a relatively complete syllabary for the Maya system, including several alternate signs for specific syllables. Lacadena and Zender are convinced that Aubin's

essay has a comparable status with respect to the study of Nahuatl writing as does Landa's with respect to the Maya system (Zender 2008: 31).

Before discussing the thought-provoking claims made by Lacadena and Zender, let us first draw back and examine the nature of the phenomenon known as writing and its relationship to other systems of communication, and, in doing so, review the terminology pertinent to such discussions.

The interrelationship of graphic recording systems

Writing is one of three basic and interrelated systems of graphic communication, the other two being notation and iconography.⁴ These systems not only influence each other in varying manner but also may borrow and incorporate features and elements as sub-systems. Notation and iconography are of high antiquity, their origins long preceding the rise of state societies and writing.

Notation is employed in recording mathematical information, tallied counts, music, pottery batches, and so on. It codifies and represents information by means of graphic elements (often called marks or notes) of generally uniform size, arranged in grade, sequence and hierarchy. It serves to calculate, order or distinguish units of nonlinguistic data. Although a notational composition is structurally and declaratively unambiguous, it has no fixed relationship to a given language, nor indeed to language in general. Thus, in any language there are several ways of reading an equation such as $3 \times 7 = 21$, and the reading order may even be at odds with the graphic sequence of units in the notation, as, for example, in German, in which a number like **21** must be read in reverse, or, in the case of **45,721**, read in a general left-to-right progression, but with the first and last numeral pairs read right-to-left. In an alphabetic writing system, notational sets such as numerals are with few exceptions the only graphic elements that represent discrete units of meaning (single and complex morphemes) rather than sound. Mesoamerican notation varies from culture to culture, the most complex being that of the Classic Maya, who inherited a place-notation system that was the world's first to include the graphic representation of zero.

⁴ For a detailed presentation of these systems and their defining characteristics, see Whittaker (2010a).

Iconography is a system of mass communication commonly found in religious, political, military and sports contexts, and increasingly as a means of facilitating orientation in the public and international arena. It codifies and represents information by means of graphic elements (variously called symbols, icons, or semasiograms) of non-uniform size, arranged in sequence and hierarchy, in which the relative positioning and size of these elements bears meaning. Iconography serves to represent, symbolize and illustrate nonlinguistic information. Thus, it, too, has no fixed relationship to language. The overwhelmingly pictorial elements employed in iconography can, if the conventions and context are known and understood, be translated into language – any language – in a wide variety of ways, although the interpretation of a given composition remains constant in context. Thus, the symbol of a person in a wheelchair, if placed on a door, can be interpreted as ‘toilet facilities for the handicapped’, ‘restroom for the disabled’, etc., while in a parking lot it would be interpreted as ‘parking spot for the handicapped’, ‘Behindertenparkplatz’ and the like, depending on the language and conventions of the viewer. In Mesoamerica, iconography is paramount in all areas, accompanied by writing on a large scale only in Zapotec, Izapan, and Maya civilization.

Writing, the most recent of the three types, codifies and represents linguistic information by means of autonomous graphic elements (signs) of generally uniform size, arranged in sequence. As a rule, the order of signs and sign groups constituting words reflects the intended order in which they are to be read, but there are general and special exceptions to this, a primary example being Mesopotamian protocuneiform of the late 4th millennium B.C. A writing system, also known as a script, usually incorporates a notational subset with autonomous features. It is often found in symbiosis with iconography. Thus, pictorial and iconographic representations are frequently accompanied by captions or juxtaposed with text rows and columns, and the proportion of writing to iconography in a given composition may vary considerably. Southern Mesoamerica provides a wide array of examples, from stelae to drinking vessels, attesting to the harmony of this symbiosis.

As in the case of modern logos, name signs and sequences are especially prone in writing systems – whether, for example, Aztec, Maya, or Egyptian – to take on iconographic attributes and flourishes that obscure the boundary between sign and symbol. Thus, the form and colour of the M representing the Macdonalds chain are essential and

indispensable elements of the logo, the meaning and interpretation of which are completely lost if an M in a different style or colour is substituted.



A symbiosis of systems: The Maya Codex Dresden, p. 36 (Förstemann 1880)

Terminology and typology

In studies of writing until recently – and outside of advanced typological studies even today – it has been customary to make use of the terms ‘pictogram’ and ‘ideogram’ when discussing the building blocks of writing, especially those of early systems such as the Egyptian, Mesopotamian, Shang and Zapotec. The term ‘pictogram’ has been commonly employed for a sign that depicts what it denotes (for example, a solar disk for the word *sun*), in contrast to the term ‘ideogram,’ used for a sign standing for a concept or idea related or associated with the item depicted (for example, a solar disk for the word *heat* or *day*). Most specialists (see, for example, DeFrancis 1984, 1989) have now recognized that these labels have no theoretical and typological value, since it is not pictures or ideas that are represented directly in writing, but rather words. The terms have at best a relevance in connection with iconography or with the historical motivation behind the choice of sign form. In the contexts mentioned above, the term ‘logogram’ (or ‘word sign’) has replaced these labels.

Another label that is frequently misunderstood is ‘hieroglyph,’ (or ‘glyph,’ as it is usually called in Mesoamerican studies). This term is properly employed only in reference to the form and style of a sign in a script composed largely of pictorial elements. It betrays nothing about the type of sign involved, which may be phonetic (alphabetic, as in Egyptian uniconsonantal signs, or syllabic, as in the Luwian script) or morphographic (representing lexemes or other morphemes, as in the Shang system). In scripts with signs retaining a pictorial form, the terms ‘(hiero)glyph’ and ‘sign’ may be used interchangeably.

The basic building blocks of writing are:

- a) the morphogram and
- b) the phonogram.

A morphogram is a semantic sign representing a discrete unit of meaning (morpheme) or a compound of such, while a phonogram is a phonetic sign representing a linguistic sound (phone) or sequence of sounds. Phonograms often represent distinctive units of sound (phonemes). A single sign may function in different contexts as a morphogram and as a phonogram. This is especially typical of Akkadian cuneiform, in which signs may have several readings (values). Such polyvalence, both morphographic and phonographic, is found today in the Chinese and Japanese systems. Just as a single sign may be polyvalent, so too can several signs be homophonous, that is, share the same value. Homophonous signs are distinguished in cuneiform and Linear B, for example, with the help of subscript numerals, as in **ba₍₁₎**, **ba₂**, **ba₃**.

Morphograms may represent lexical morphemes (‘words’, e.g. nouns, verbs, and adjectives), or compounds of the same, in which case they are known as logograms (or word signs). In cases where each lexical morpheme of a compound lexeme is represented by a distinct but conjoined graphic unit (e.g. ¾ for ‘three-quarters’), one speaks of compound logograms. A relatively small set of morphograms represents grammatical morphemes (e.g. affixes, clitics, and prepositions). Chinese, for example, has a modest set of morphograms representing both free and bound grammatical morphemes; these complement the tens of thousands of logograms making up the vast bulk of its sign inventory. Such grammatical morphograms have also been identified in the Classic Maya script functioning as nominal and verbal affixes attached to several hundred logograms.

Just as individual signs may be reduced in form in the course of time, not only as a means of increasing efficiency, but also in a natural process of streamlining as scribes develop characteristic styles, so too can a sign group representing a lexeme or lexicalized phrase be reduced in a process of abbreviation. Such abbreviation can take the form of sign omission (e.g. **gov't** for *government*) or sign fusion (e.g. **&** for *et* 'and').

There are two basic categories of phonograms:

- a) the letter and
- b) the syllabogram.

A letter is a phonetic sign representing a unit of sound, a group of phonetically related sounds (such as the vowels associated with the English letter **a**), a diphthong (such as English **i** for /ai/), or even a consonant cluster (such **x** for /ks/, /gz/). A syllabogram may represent a mora (an open syllable with a short vowel, as in the Japanese kana scripts) or a syllable in general. Writing systems made up predominantly of letters are known as alphabets, whereas those composed of syllabograms are known as syllabaries. Syllabograms with a structure (C)V are common worldwide in all systems that include a syllabary (e.g. in Mycenaean Linear B, Maya, Cherokee), while those with a structure (C)VC are comparatively rare (the most well-known scripts containing them being Mesopotamian cuneiform). Syllabaries, like logographic inventories, need not be systematic and all-inclusive, which means that not all slots are necessarily filled (as, for example, in the Achaemenid Persian system, which has only a few signs with structure Ci and Cu). In a syllabary with primarily (C)V syllabograms, final consonants and the first constituent(s) of a consonant cluster are either left unwritten (as often in Linear B) or are represented by syllabograms with an anaptyctic vowel matching the vowel of the syllable in which the consonant occurs (as usually in Cypriote and Maya).

Writing systems are, as a rule, mixed systems. This means that they are composed of at least two of the three sign types (morphograms, syllabograms, letters), the proportions of which vary considerably from system to system. A primarily alphabetic system will usually have a morphographic subset (for numerals), while systems with large numbers of morphograms usually also have a set of syllabograms (as in the Sumerian, Chinese, and Maya scripts) or letters (as in Egyptian hieroglyphics) for such purposes as the rendition of affixes and foreign terms and names.

The secondary use of a morphogram for its phonetic value alone (e.g. **1**, **2**, **4**, and **8** for *won*, *to*, *for*, and *ate*) is known as the rebus principle. This device is age-old and occurs already in the first writing systems of which we have knowledge. Since all signs, whether primarily morphographic or phonetic, have at least one morphographic value (their names), these may be used unorthographically in rebus constructions (e.g. **YRUCNMB4T?** for *Why are you seein' 'im before tea?*). It should be stressed, however, that a morphogram ceases to be such when used in a rebus construction – it is a phonogram in this context. Function is always the key to the identity (and appropriate contextual reading) of a sign.

There are three basic types of sign:

- a) the simplex, consisting of a single autonomous graphic element,
- b) the compound, consisting of two or more such elements sharing the space of a single sign, and
- c) the complex, consisting of two or more overlapping or fused elements, or of one element surrounding another.

Modern examples of a compound and a complex are $\frac{3}{4}$ and © respectively.

The term ‘sign group’ refers to a sound unit (e.g. German **tsch** for /č/), a word or even a lexicalized phrase represented by two or more phonetic or semantic signs, or by a mixture of these.

A semantic indicator, often referred to as a classifier or determinative (as in Mesopotamian cuneiform and Egyptian hieroglyphics), is a semantic sign placed before or after a sign or signs to indicate, or hint at, the semantic category of the latter. Such a graphic element may alternatively be embedded in a morphogram (as in the Chinese writing system), together with a phonetic and/or semantic element.

A phonetic indicator is a sign or signs placed before, after, or beside a sign or sign group to indicate which of the latter’s values is intended. Phonetic indicators are often written superscript (as in **2nd** for *second*).

Similarly, a phonetic complement adds precision to the reading of a logogram, for example by recording the affixation of a noun or verb (as in the Akkadian, Maya, and Japanese scripts). A single sign may have both functions if its value contains the initial or final phone of the logogram as a phonetic indicator plus part of its affixation as a

complement (for example, the sign **la** in Sumerian **INIM LUGAL-la-na-ke₄** ‘at the words of his king’ bridges the boundary between the compound lexeme *lugal* ‘king’ and the suffix *-an(i)* ‘his/her’). In Mesopotamian and Mesoamerican studies, unfortunately, the crucial distinction between phonetic indicators and phonetic complements is often overlooked, both being referred to as complements.

Transcriptional schemes

Many different methods have been used in the past to transcribe texts in non-alphabetic scripts. These methods have been developed independently in the various philologies devoted to the study of specific languages and the writing systems that record them. A standardized method for comparative work on writing has yet to be agreed on. It is common practice to link graphic elements in transcription by means of en hyphens (-), if in the original they are joined or juxtaposed in such a manner as to indicate the scribe’s intention to have them regarded as constituents of a single word or lexicalized phrase. In close transcription, which reflects the composition and sequence of elements more exactly, the elements of a compound can be contrasted with those of a complex by linking the former by a plus sign (+), the latter by a multiplier (x) or a non-superscript asterisk (*) in a parenthetical addition to the general transcription, e.g. **il-lan-cuĒ** (= **lan+il*cuĒ**), as seen in the following section.

There is a tendency nowadays to distinguish morphograms (particularly logograms) from other signs by placing them in small capitals (e.g. **LUGAL** and **CUĒ** in the examples above). Signs used phonetically, on the other hand, are typically rendered in uncials (e.g. **il-lan**), placed superscript in their function as phonetic indicators beside, or over, a morphogram (e.g. **5th**). Finally, bold print is a useful option (common, for example, in Maya studies) for distinguishing transcriptions from linguistic analyses.

Phonetic values can be given in the standard orthography of the relevant language or in one of several linguistic transcription schemes, such as the International Phonetic Alphabet. In the following presentation, the Nahuatl language and writing system will be written and transcribed in one of the current orthographies, derived from 16th-century usage. In the traditional Spanish-derived spelling systems for Nahuatl that are still in use

by scholars and other specialists, the following scheme of transcription is employed for open syllables and their hieroglyphic equivalents:

Phonemes	/a/	/e/	/i/	/o/
/ʔ/	a	e	i	o
/č/	cha	che	chi	cho
/k/	ca	que	qui	co
/kʷ/	cua	cue	cui	■
/m/	ma	me	mi	mo
/n/	na	ne	ni	no
/p/	pa	pe	pi	po
/s/	za	ce	ci	zo
/t/	ta	te	ti	to
/ʎ/	tla	tle	tli	tlo
/l/	la	le	li	lo
/c/	tza	tze	tzi	tzo
/w/	hua	hue	hui	■
/š/	xa	xe	xi	xo
/y/	ya	ye	(yi)	yo

The phoneme characters are those common in Americanist linguistics. Current transcription schemes for Nahuatl are in agreement on the above. Syllable-final consonants are written in the same way as initial consonants, with the exception of /k/, written *c*, and of /kʷ/ and /w/, which may be written *cu(h)* or *uc* and *uh* or *u* respectively, depending on individual preference.⁵ Unlike previous scholars, Lacadena (2008a; 2008b) and Zender (2008) mix systems in their transcription of Nahuatl signs, using /k/, /kʷ/, and /w/ for *c/qu*, *cu*, and *hu* respectively, but adopting **x** and the digrams **ch**, **tl**, and **tz** from traditional orthography. It should be noted that Nahuatl permits a maximal syllable structure of CVC, and that in a number of key instances short, and sometimes even long, /e/ tends to alternate with /i/ in the dialect of the Aztec (and later Colonial) capital, Mexico, with implications for the choice of phonogram. Furthermore, by the 16th century the syllable /yi/ had become indistinguishable phonetically from /i/.

⁵ Lacadena (2008a), for instance, writes syllable-final *cu* and *uh* when citing Nahuatl words and names (e.g. *Moteczuzoma*), whereas Whittaker (1980, 1993) and Zender (2008) prefer *cuh* and *uh* for the same (e.g. *Moteczuhzoma*). Current practice is, however, leaning towards *uc* for /kʷ/, above all because of its use in Andrews' prescriptive grammar (1975; 2003) and Karttunen's (1983) analytical dictionary.

In the following discussion, the traditional orthography tabulated above will be employed, both in transcribing Nahuatl signs and in rendering the Nahuatl words and names that underlie the various glyphic renditions, as is the general practice in Nahuatl hieroglyphic and linguistic studies. This is comparable to use of the widespread Hepburn system of Romanization for Japanese, which, for example, transcribes the syllabograms for /ta/, /te/, /ti/, and /tu/ as **ta**, **te**, **chi**, and **tsu** respectively, in this case reflecting pronunciation rather than orthographic tradition.

Fundamental characteristics of Nahuatl writing

The Nahuatl writing system is fairly typical of systems worldwide.⁶ However, with the rarest of exceptions, it is only used for writing the names, titles and sociopolitical designations⁷ of persons and the names of places. Since personal names are often sentences (in which a noun, verb, adjective or even adverb may occur), and since place names are actually locative phrases, we nevertheless have some understanding of the extent to which the system might be capable of rendering whole texts with sequences of fully formed sentences.

Nahuatl writing is composed of the same basic mix of elements that we find in the Maya script and in many Old World systems: morphograms (specifically, logograms) and phonograms (syllabograms). Whereas the Maya system permits only syllabograms of type (C)V, the Nahuatl system goes beyond this, allowing VC, CVC, and even ultrasyllabic types (disyllabograms). Vowel length is not distinguished in the system, and in practice syllable-final consonants may be omitted, even when a (C)VC sign is available.

⁶ Except with regard to sign order, which, just as in protocuneiform, is free, subject more to the whim of the scribe and to perceptions of felicitous positioning than to convention. There is even a pronounced tendency to arrange signs in a rough bottom-to-top sequence, a very unusual feature in a writing system.

⁷ Sociopolitical designations of persons are, as a rule, indistinguishable from place names, unless linked to, or juxtaposed with, a head or full-figure classifier in the form of a person of the named category. Examples of these can be found in the Codices Mendoza, Boturini, and Telleriano-Remensis. Personal names, especially in censuses and cadasters such as the Codices Santa María Asunción and Vergara and the Matrícula de Huexotzinco, occur likewise with a head or full-figure classifier specifying the sex, age group and/or mortality status of the named individual. Historical documents link the glyphic sequence to the head of a representation of the named individual, alive or as a mummy bundle, or of the personified sociopolitical entity.



personal name

title



place name

sociopolitical designation

Various nominal categories in Nahuatl writing (Codex Mendoza 3v; 42r; Clark 1938)

Moreover, spellings are frequently abbreviated, with the omission of one or more syllables or consonants, irrespective of the latter's position in the name or word.

Examples of these types are:



CV: **ch̄i₂** in ^{ch̄i}**CHĪMAL** 'Chimal (Shield)' (man's name; Codex Vergara 52v; cf. 45v)⁸

⁸ Phonetic indicators are written superscript directly beside the signs referenced. See Nuttall (1888 [2008]) for an early instance of a similar practice.

Juā. tepalecoc.

oc
co pal
e te₂



VC: **oc** in **te₂-pal-e-co-oc** 'Tepalecoc (He Got There With Someone's Help)' (man's name; Codex Vergara 48r)



quil
ix



CVC: **quil** in **quil-ix** 'sacristy, sacristan; Cristóbal' (Codex Aubin 50r; 50v)



CVCV: **coyo** in ^{coyo}**COYOCĀC**^{cac} 'Coyocac (At The Waterhole)' (place name; Codex Mendoza 13r)

In Nahuatl, syllable division in speech can be at odds with syllable division in writing, especially if appropriate syllabograms are lacking in the system. Thus, we have the spelling **quil-ix** above for what would have been **qui-lix-* in speech. The syllabogram **chi₂** derives from the logogram **CHĪTA** 'net-bag'; **oc** from the logogram **OC** 'pulque (fermented

drink)'; **quil** from the logogram **QUIL** 'greens'; and **coyo** from the logogram **COYŌ** 'coyote'.⁹ Here, the status and function of **oc**, **quil** and **coyo** are no different from those of **chi**₂ (that is, they are syllabograms in these contexts, not logograms). Note that in the Codex Mendoza's place sign for Coyohuacan the **COYŌ** sign itself, in its function as a logogram, has embedded within it another disyllabogram, **coyo**₂ (from the logogram **COYOC** 'hole').



Coyohuacan (Codex Mendoza 5v)

Nevertheless, it has recently been asserted (Lacadena 2008a: 6-7) that only signs of (C)V structure, like **chi**₂, can be accepted as proper syllabograms. Lacadena labels signs with any other shape "logograms," regardless of their actual function in a given context. For him, phonetic spellings involving such signs are mere rebus applications of logograms. What Lacadena overlooks, however, is that *all* signs used phonetically in the Nahuatl script are derived from logograms. Thus, all examples of phoneticism in Nahuatl writing, just as in Egyptian hieroglyphics, involve the rebus application of logograms. Furthermore, rebus usage is simply a subcategory of phonetic usage, and it should not be forgotten that it is the function, not the origin, of a sign that determines its classification, as Lacadena himself admits (2008a: 6 fn. 9).

Lacadena further states (2008a: 8) that, although a syllable or even syllables might be omitted in a spelling, the initial syllable of a name or word must always be written, except perhaps in the case of Spanish names of alien structure. There are, however, numerous instances of spellings, both in manuscripts thought to be copies of Prehispanic

⁹ In this case, the the phonetic sequence **coyo-cac** represents the morphological sequence *coyoc-ā-c* 'at (-c) the water (ā-) hole (coyoc-).' The female figure with distinctive hairstyle is a logogram for the town and its inhabitants, a head variant of which appears alone on Codex Mendoza 38r for Coyocac.

documents (such as parts of the Codex Mendoza) and in those of Colonial date, that entirely lack representation of the initial syllable. A particularly drastic example of this is the glyphic rendition of the Aztec title *ticocyahuacatl*, which consists only of the sign **oc**.



Octlan (Codex Mendoza 44r)



Ticocyahuacatl (Codex Mendoza 65r)

Just as the initial syllable of a name can be omitted in glyphic rendition, so too can the initial syllable of a logogram be omitted when the sign is used as a phonogram. There are several known instances of this. Thus, the logogram **HUIPIĪL** ‘blouse’ yields a phonetic value **pil₂**, attested in the following place name:



chi pil₂ TEPE₂
chi-pil₂-te₂TEPE₂ ‘Chipiltepec’ (Codex Tepetlaoztoc 5r)

In this sequence, the first two signs are phonetic complements, while the third, perched atop the **TEPE** ('mountain, hill') sign, is a phonetic indicator, aiding in determining the correct value of the logogram in this context.

Lacadena's transcriptional practice tends to obscure important distinctions in the Nahuatl writing system. Since he does not accept that there is a basic difference between phonetic indicators and phonetic complements (personal communication, Münster, 23 May 2009), his transcriptions tend to present unwieldy sequences that misrepresent the function of signs. The place name cited immediately above, for example, which I have discussed with him, would have to be rendered **chi-HUIPIL-te₂-TEPE** in his scheme, in which the status and reading of the second sign would be problematical. Moreover, in such a transcription, the phonetic indicator **te₂** for **TEPE** 'mountain' would be confused with a complement and taken, like **chi**, to be part of the name, which it is not.

Zender (2008: 32-33) inaccurately credits Lacadena with being the first since Aubin to cite logograms correctly in their stem form (without the absolute suffix). The same practice can, however, be observed in my own work (Whittaker 1980; 1993), and is implicit in the work of others. Zender pours scorn on those "misguided" souls who include nominal suffixes in their transcriptions. Nevertheless, the credo that the nominal stem alone is the value of a logogram is incorrect. In Akkadian cuneiform, a given noun can have its stem as a logographic value, but the sign must be read with its nominative or accusative, singular or plural, suffix included in the value when a phonetic complement is absent. This is also true of Nahuatl writing. For the most part, the reader would automatically read a nominal glyph, or the last nominal element in the case of a compound, with the appropriate suffix. We have a number of instances where it is likely that the scribe intended the nominal suffix, singular or plural, to be included in the reading. As one example, the hieroglyph for the name Martín,¹⁰ which is written *Maltin* in alphabetic Nahuatl texts, is one of the feather devices (collectively known as *tēmalli* ~ *tīmalli* 'a swelling; heap, mass; [by extension:] exuberance; glory, honour') that adorn warriors and prisoners (in Nahuatl (*mā*)*māltin*, an unrelated word, from *māl*- 'prisoner'). The sign has the logographic values **TĒMAL** ~ **TĪMAL** and **MĀL** and the core phonetic value **mal**. Here,

¹⁰ Identified by Galarza (1979: 101), who thought that the sign simply depicted *quechol* feathers representing the Quecholli festival that occurred around the time of the feast of St. Martin of Tours.

however, the glyph appears to be read **maltin**, a value derived from a plural reading of the logogram.



maltin can₃; **maltin** ‘Martín Cano; Martín [Enriquez]’ (Codex Aubin 55r; 56r, 62r)

The primary phonetic value occurs in the following contexts:



mal ‘Marqués; Ma[n]rique’ (Codex Aubin 53v; 68r)

In the glyphic rendition of the place name Cuauhtemallan ‘By the Woodpile / Mass of Trees; Guatemala,’ we find the logogram **CUAUHTĒMAL** ‘pile of wood’ with the **TĒMAL** sign added, which functions here as a phonetic indicator with the value **mal**:



CUAUHTĒMAL^{te₂-mal}; **CUAUHTĒMAL^{ma^{mal}}** ‘Cuauhtemallan’ (Codex Tlatelolco)

The second instance is especially interesting, since the phonetic indicator **mal** is itself glossed with a phonetic indicator, **ma**, the purpose of which is to underline the reading **mal** (as opposed to **TĒMAL**).¹¹ This three-tiered rendition is extraordinarily unusual in a writing system.

In their treatment of verbal glyphs in the Nahuatl system, Lacadena and Wichmann (2008: 128) place the variable part of a logographic value in parentheses, as in **TOLĪNI(A)**. However, it is not just verbal logograms that have contextually variable readings. One of

¹¹ Phonetic indicators supply only the initial or final phones of a neighbouring sign, not an internal sequence.

the more elaborate examples of Nahuatl writing, and a good instance of its virtuosity, is provided by the compound glyph for the name Tlacochin ‘Javelin’ in the Codex Tepetlaoztoc. Here, too, the scribe intends a nominal suffix to be included in the reading. The name is written in the following manner:



TLACŌCH
cochin
tla
co

tla-co-TLACŌCH(IN)^{cochin} ‘Tlacochin (Javelin)’ (Codex Tepetlaoztoc 4v)

Here the phonetic indicators supply us with an abundance of information with respect to the correct reading of the name. The syllabograms **tla** and **co** indicate the pronunciation of the first two syllables, while the disyllabogram **cochin** repeats the second syllable but provides us with the important supplementary detail that the name takes the nominal suffix *-in* rather than *-tli*, which it takes as the standard word for ‘javelin.’ The disyllabogram **cochin** derives from the logogram **I[?]COCHIN** ‘earthworm.’

In the case of the place glyph for Coyohuacan in the Codex Mendoza, we have seen that the phonetic indicator **coyo₂** (from **COVOC** ‘hole’) was infixed into its logogram, **COYŌ** (‘coyote’). In the name glyph for the 14th-century queen Ilancueitl ‘Old Lady’s Skirt,’ we

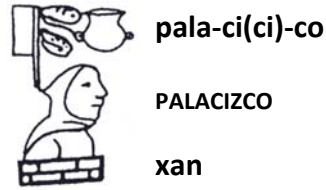
have a parallel situation: **lan+il*cuē** (read **il-lan-cuēITL**), with the phonetic complement **il ~ el** (from the logogram **ĒL** ‘liver’) infixed (or, to be more exact, graphically tied onto) the logogram **cuē** ‘skirt.’ The cord that holds the **ĒL** sign in place is an example of scribal whim that well illustrates the interconnections between iconography and writing. The sign read **lan** derives from the logogram **TLAN** ‘teeth,’ which, like all signs having values representing initial *tl*, does equal service for *tl*- and *l*-initial syllables. This is because *tl* becomes *l* automatically in Nahuatl after *l*, or before most other consonants in lexicalized phrases.



il-lan-cuē(ITL) ‘*Ilancueitl*’ (queen of Colhuacan; Codex Telleriano-Remensis 29v)

Underlying principles of the Nahuatl system

As other occurrences of the sign **TLAN** in phonetic contexts demonstrate, any syllabic sign derived from a logogram with a value ending in a nasal may drop the nasal in phonetic spellings. Thus, the value **tla** is as well attested as is **tlan**. Likewise, any syllabic sign derived from a logogram with a value ending in a vowel may add a nasal in phonetic spellings. Furthermore, as a general rule, syllabic signs with (C)V structure may, in imitation of nouns and verbs, reduplicate their value. Thus, **ci** (from **ciL** ‘shell’) can not only be read **cin**, but also **cici** and **cin**. Similarly, syllabic signs with the disyllabic structure CV₁CV₁, for example **toto** (from **tōTō** ‘bird’), resembling reduplicated lexemes, may drop the reduplication. Thus, **toto** can not only be read **toton**, but also **to** and **ton**. There are abundant instances of such usage in Colonial-period manuscripts.



xan PALACIZCO^{pala-ci(ci)-co} (or ^{pala-ci-ci-co}) ‘San Francisco’ (= Nahuatl *Xan Palacizco*)
 (Galarza 1979: 36; Lacadena 2008a: 6)



min
to



ton
cax



ton₃
lon
a xo

to-min; cax-ton; ton₃ a-lon-xo ‘Domingo; Gaston; don Alonso’
 (Codex Aubin 46r; 55r; Codex Tlatelolco)

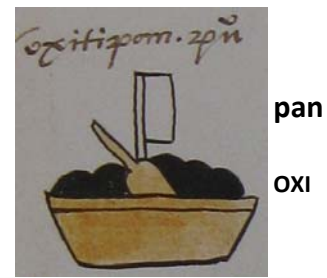
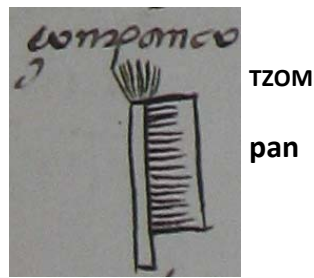
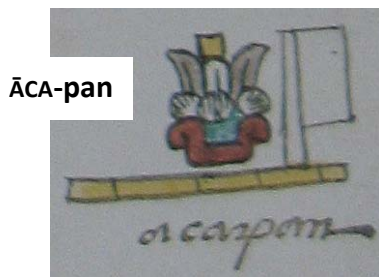
The fluctuation in values between (C)V and (C)VN is an intriguing instance of glyphic writing mirrored by tendencies in alphabetic writing. Many 16th-century documents testify to the difficulty experienced by indigenous scribes in distinguishing open syllables from ones with a weakly articulated final nasal, regardless of whether the term in question is native or foreign in origin. Thus, we find, for example, the names Vicente and Cecilia rendered occasionally as *Vicete* and *Cencilia* in testaments and censuses.

We can summarize the pattern of values described above in the following manner:

(CV₁)CV₁(N)

Such automatically generated alternate values, along with the principle behind them, go unrecognized in Lacadena’s articles.¹² To give just one example, he consistently and exclusively represents the syllabic value of the **PĀN** (‘banner’) sign as **pa**, ignoring the many contexts where the base value **pan** matches perfectly the relevant syllable in the corresponding word or name.

¹² I had the opportunity to discuss these matters with Lacadena and Zender at the 6th European Maya Conference in December 2001, where I had presented this principle in a workshop on Nahuatl writing run by Claudine Hartau and myself. Despite our differences with regard to the nature of the syllabary and the manner in which it was applied, my position being that the system was far more flexible than a strictly CV one, it should be stressed that we agreed, and still agree, on many features of the writing system.



ĀCA-pan, TZOM-pan, OXI-pan ‘Acapan, Tzompanco, Oxitipan’

(Codex Mendoza 20r, 24v, 55r)

That a scribe was fully conscious of this pattern can be seen in the glyphic rendition of the name Antonio as **an-ton**, using the **Ā** (‘water’) and **ṭŌṭŌ** (bird’) signs, which the scribe of the Codex Aubin (58v) closely transcribes alphabetically as *Anton*, a Nahuatl equivalent of the Spanish name. This is simply rendered **a-to** by Lacadena (2008a: 14).



an-ton ‘Antonio [Valeriano]’ (Codex Aubin 58v)

Other instances of name and title glyphs misinterpreted by Lacadena (2008a: 12-16) are **xo-mi** ‘Xomimitl’ (for **xo-mimi**), **to-mi-ko** ‘Domingo’ (for **to-min-co**), **olo-ix** ‘Luis’ (for **lo-ix**), **me-tosa** ‘Mendoza’ (for **men-toza**), **ix-e-i** ‘viceroi’ (for **ix-il-e**, from Spanish *visorrey*, later *virrey*), **ko-pi** ‘Cocopin’ (for **coco-pin**), **pa** ‘fray (Sp.)’ (for **PALA**?), **pa-si-ko** ‘Francisco’ (for **pala-ci(ci-co)**). In the latter case, the name accurately reflects the indigenous pronunciation of the name, *Palacizco*, which is so spelled several times in, for example, the alphabetic *Cantares Mexicanos* manuscript (Bierhorst 1985: 123). The alternate phonetic value **pala** for the **PĀN** sign derives from the latter’s second logographic value, **PALA(i)** ‘friar’, from Spanish *fray*, as attested glyphically in the Codex Tlatelolco.



PALA[?] 'fray,' Nahuatl *pala* (Codex Tlatelolco)



PALAIⁱ 'fray,' a variant of **PALA**[?] (Codex Tlatelolco)

This loanword is found in the alphabetic form *pala* (and *palai*) in the *Cantares Mexicanos* (Bierhorst 1985: 258). As a rule, Spanish clusters of consonant + liquid (L) + vowel are rendered in Nahuatl as CV₁LV₁, with the anaptyctic vowel taking the shape of the vowel in the syllable containing the cluster. Cf. **qui-lix** 'sacristy; Cristóbal' above for a further example. The assumption that Spanish *fr* simply becomes *p* in Nahuatl is based on the misinterpreted hieroglyphic rendition of *Francisco*.

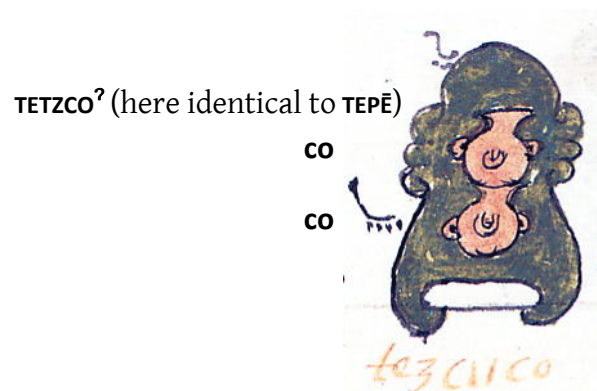
In the case of disyllabograms, i.e. signs with nonreduplicated and nonreducible disyllabic values, each syllable of the value is treated as if it were an autonomous unit. Thus, open syllables may take a final nasal, while syllables ending in a final nasal may drop the latter. This can be summarized in the formula

$$CV_1(N)CV_2(N), \text{ whereby } V_1 \text{ may} = V_2$$

This principle can be seen at work in the name glyph of the mid-16th-century Mexica governor of Tenochtitlan, Tehuetzquiti, on the soon-to-be-published Beinecke Map

(Whittaker 2010b). His glyph is based on the last part of his Spanish name sequence, Diego de San Francisco. The corresponding Nahuatl name, *Palacizco*, is written in the curious form of a winged seashell. The first component is **PATLĀN(I)** ‘fly (vb.),’ the winged elements attached to the shell. Here the sign functions as a phonetic disyllabogram. The core value **patlan**, acting as if it were composed of the units **pa(n)** and **(t)la(n)**, yields **pala₂**, which represents the first two syllables of the name. The second half of the name glyph derives its value from the *tēcciztli* shell: **ciz**. As in the case of **pil₂** from *huīpīlli* ‘blouse’ (above), the stressed syllable of the donor term supplies the phonetic value. Thus, the composite glyph is read **pala₂-ciz**, an accurate, but abbreviated, rendition of *Francisco* in Nahuatl pronunciation.

A question remains to be resolved – whether reduplicated signs are ever to be understood as reduplicated values, i.e. read twice. Lacadena has rejected this possibility (personal communication, Münster, 23 May 2009), for example in the case of **palaci(ci)-co** above, where the **ciL** sign (for **ci**) is repeated. And yet doubts remain. There is no lack of cases where repeated signs have no counterpart in the phonetic sequence of the term so written, but there are also clear instances where such repetitions have a direct relationship to repeated syllables in the word or name concerned. This is reminiscent of the pattern we have in the syllabic values of signs: a CV₁CV₁ sign can also be read CV₁, just as a CV₁ sign can be read CV₁CV₁. One ironic example of reduplicated glyphs intended to be read twice is found in the glyph for the city of Tetzco in the migration account of the Mexica-oriented Codex Telleriano-Remensis:



TETZCO[?]-CO ‘Tetzco’ (Codex Telleriano-Remensis 26v)

Ironic, because Lacadena has contrasted an allegedly highly phoneticizing Tetzco school of scribes, which characteristically wrote the postposition -co, with an alleged

Tenochtitlan school, which did not. Ironic also, because he has noted that the manuscripts hailing from his Tetzcoco school do not write the *co* sequence in the city name twice. To extricate himself from this predicament, he dubs the Telleriano-Remensis a likely product of the Tetzcoco school, citing one early study of the manuscript and its style. This is not completely honest, since in so doing he fails to mention that the most recent – and most thorough – edition and commentary on the codex comes down in favour of a strong Tenochtitlan affiliation of the manuscript, if not provenance (Mexico City and Puebla are likely points of origin, according to Quiñones Keber 1995: 127-128).

The question of scribal schools

Our knowledge of Nahuatl writing, and of its regional variation, prior to the Spanish Conquest of Mexico in 1521 is sparse. There are a number of reasons for this state of affairs. The Aztec Empire and its elites (above all, the sovereign Mexica of Mexico Tenochtitlan, but also to a minimal extent the Acolhuaque, Tepaneca and Chalca) have left a series of important state monuments carved in stone, and of such monuments only a small number produced by the Mexica are so far known to display writing, above all the wheel-shaped sacrificial monuments (*cuāuhxīcalli*) attributed to the emperors Motecuhzoma I Ilhuicamina (1440-1469) and Tizocic Tlalchitonatiuh (1481-1486). These provide us with little information on the versatility and range of expression possible within the Nahuatl script, given that very few examples of writing are attested on these monuments. The situation is even worse with respect to the independent Nahua states of Tlaxcallan and Huexotzinco, from which monuments with writing have yet to be recovered. It is possible, indeed likely, that further monuments with writing will be unearthed in Tenochtitlan.

Whether the same is true of the second most important city in the Aztec Empire, Tetzcoco, capital of the allied state of Acolhuacan, remains to be seen. As mentioned above, Lacadena (2008a: 1, 12-13) has proposed that there were two dominant schools of writing in the Aztec Empire, that of Tenochtitlan in the western half of the Valley of Mexico and that of Tetzcoco in the eastern. According to him, the key difference between the two schools, as attested via their Colonial-period successors, is the extent to which phoneticism is employed in glyphic writing. The Tetzcoco school, he argues, made

use of the same basic principles of sign composition as other schools, but was far more innovative in its use of phoneticism. Where the Tenochtitlan school (among others) allegedly preferred logographic writing with only scanty use of phoneticism, the Tetzco school freely added syllabograms to logograms – or even replaced the latter entirely with their syllabic equivalents – in order to indicate the correct pronunciation of a given name or word. But, if this is so, where are the monuments of Prehispanic date displaying the prowess of this innovative school? Instead, we have no monuments with writing at all from the area in question.

It has been further argued (Lacadena 2008a: 9) that the Tetzco school made considerably more use of a Nahuatl syllabary (Lacadena 2008c) than other schools. This, however, is contradicted, among other things, by the extensive phoneticism of the Codex Tlatelolco and the Codex Aubin, both with Mexica content. In particular, Lacadena (2008a: 12) draws attention to the alleged lack of representation of the postposition *-co* in the Tenochtitlan school, as opposed to its frequent representation in documents hailing from his Tetzco school. Nevertheless, the western slopes of the Valley of Mexico, a region in the orbit of Tenochtitlan, rather than easterly Tetzco, provide counter-examples. On a single page of a manuscript from Coyohuacan no less than three instances are recorded, twice for Hueipolco, once for Milpolco:



HUĒi-pol-co (= HUĒi*pol+co),¹³ mi MĪL-co ‘Hueipolco, Milpolco’ (Lockhart 1992: 354)

¹³ In the first of these name glyphs, the element **pol** consists of the hill sign combined with flanking smoke elements (phonetic: **po**), attested also with this value in the Codex Tepetlaoztoc. The element HUĒi ‘large’ has no independent status. It can only be indicated by exaggerating the size of the element modified, in this case the hill sign. This is one clear example of the influence exerted by iconography on Nahuatl writing. Another is the use of colour to represent colour terms. In single-ink Colonial-period manuscripts, a strategy for writing such terms was never developed. As a result, alphabetic glosses frequently provide information not supplied by the hieroglyphic compounds themselves.

In almost all instances, Lacadena's syllabary and proposed "decipherments" (e.g. Lacadena 2008b) consist of sign identifications proposed by previous scholars, beginning with Aubin, a fact that Lacadena only partly acknowledges (in footnotes). In a couple of instances he incorrectly identifies a sign (e.g. his **i** vowel is actually **el** ~ **il**) or fails to recognize the validity of a previous identification (e.g. of Aubin's **cha**, a slot he leaves vacant). More significant, however, is his rejection without comment of any identifications of syllabograms with a structure other than (C)V, many of which were proposed by Aubin himself. This is because, as he has explained to me, the other types violate basic principles of syllabic writing. Not so. While it is true that (C)V syllabaries are most common in comparative perspective, there are well-known systems with more elaborate types, and in one controversial instance, the Izapan (or Epi-Olmec) script, two scholars believe they have discovered CVC syllabograms in an early Mesoamerican system (Kaufman and Justeson 2001: sect. 1.2). The best-studied system with a complex syllabary of type (C)V(C) is Mesopotamian cuneiform. In this system we have syllabograms of structure (C)V, VC, CVC, and even a category of disyllabic signs with so-called 'overhanging' vowel: CV₁CV₁. For this reason, it would be wiser to adapt theory to the actual body of evidence in a specific writing system than to dismiss attested types on the grounds that theory cannot accommodate them.

There is a further reason to be sceptical of Lacadena's claims that the Nahuatl writing system included a complete syllabary of (C)V shape. In spelling a name, word or phrase, scribes may, as mentioned above, resort to abbreviation. In doing so, however, they did not simply restrict themselves to the omission of a medial or final syllable or segment. Such omissions could affect any part of a given spelling. Sometimes, the omission was due to the lack of an appropriate syllabogram. Two clear instances of this are the empty slots for the syllables **ti** and **qui** in the syllabary. It cannot be argued that an individual scribe in the Colonial period was unable to remember the signs for these syllables. Failure to write **ti** and **qui** can be observed in glyphic documents throughout the Valley of Mexico and beyond, suggesting strongly that syllabograms for these sequences had not yet been developed, and that scribes were at a loss to represent them even arbitrarily. Interestingly, these syllables occur more frequently than most in Nahuatl texts written in the Spanish alphabet, in part because they coincide with common pronominal prefixes: *ti-* 'you (sg. subj.); we' and *qui-* 'him, her, it; them (inan.)'. The

ramifications of this are considerable. If such high-frequency syllables are absent from the syllabary, then it is unlikely that Nahuatl scribes had developed a complete syllabary, let alone one of exclusively (C)V structure, by the time of the Spanish Conquest. Wanting it so does not make it so.

The issue of continuity vs. innovation in the Early Colonial period

Nahua culture was a book culture. With the exception of state monuments serving religious and propaganda purposes, most writing was committed to screenfold books (codices) of paper and hide. Aztec and other Nahua archives were destroyed on a vast scale in and after the Spanish Conquest. No archive or private library is known to have survived the 16th century. As a result, the documents (on perishable materials) that we have today are of Colonial date, as copies of Prehispanic works or as fresh creations for a variety of needs, political, historical and economic. They hail, one and all, from the decades following the establishment of Spanish rule and Christian propagation.

Thus, the question of European influence on the script is an issue with which we must concern ourselves, even when a specific document has an entirely indigenous and Prehispanic theme, interesting and understandable only to non-Spaniards. Opinion is divided on the question of European influence. It is, however, universally recognized that most documents from Central Mexico betray such influence in one form or another, at the very least stylistically, regardless of subject matter.

It has been argued (Lacadena 2008a) that the occurrence of unusually extensive phoneticism in the glyphically written names of indigenous persons in the documents from Tepetlaoztoc (north of Tetzaco, within Acolhuacan) should be viewed as the continuation of Prehispanic practice, rather than as the European-inspired elaboration of a more restricted prior system, because the subject matter is indigenous and the glyphs unreadable (and irrelevant) to Spaniards.

Unfortunately, neither of these arguments is particularly persuasive. We should remember that the Cherokee syllabary was invented by a gifted individual, Sequoya(h), who was merely aware of the existence of English language and writing but not conversant in either. Borrowing and adapting letters of the alphabet, he linked them to individual syllables in Cherokee with no relationship to the values of the donor signs.

Sequoyah's syllabary was put to good use in a newspaper for Cherokee consumption and with Cherokee subject matter. The syllabary became so popular that sizable numbers of the population were able to read and write it in a short space of time. Why could it not have been similar in one particular region in Central Mexico? Could the extensive glyphic phoneticism of Colonial-period documents not have been inspired by the fact that contemporary Nahuatl texts were already being written (and even published) on a large scale in a thoroughly phonetic, but European, system? The expansion of an existing indigenous system to match, rival, or replace an intrusive one is surely at least as plausible as the invention of a new indigenous system for the same purpose. We simply do not know the answer. One seeks in vain the Prehispanic evidence for the continuity Lacadena envisions. Thus, we should be careful with speculation on matters for which evidence – which might well have existed – is sorely lacking.

Summing up, we have seen that there is still much work to be done before one can confidently say that Nahuatl writing is fully understood and that its code has been 'cracked.' Zender has proclaimed Lacadena's work on phoneticism, inspired by Aubin's essay, to be "The Long-Delayed Decipherment" (2008: 33), a decipherment of similar proportions to that of Knorosov with respect to the Maya script. He adds (2008: 36),

"... in some camps Lacadena's discussion may even now fail to be properly recognized as the breakthrough that it represents. But do not be fooled. Where once scholars spoke of a predominantly pictographic mode of communication among the Precolumbian Aztecs, the field must now come to grips with Alfonso Lacadena's Nahuatl logosyllabary."

In the history of decipherment, however, such announcements have all too often proven premature.

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