Proto-Uto-Aztecanons on their way to the Proto-Aztecan homeland: 
linguistic evidence*

The Uto-Aztecan language family is one of the largest genetically related groups of the Americas, whose speakers inhabited a vast territory, extending from the state of Oregon to Panama. The paper is based on the observation that six Proto-Uto-Aztecan animal names received the augment *-yoː in Proto-Aztecan. This augment can be interpreted as a suffix of abstract possession which derives abstract nouns and indicates possession of the object or quality. Thus, Proto-Aztecan ‘coyote’ *koyoː-literally means ‘one of the coyote’s, somewhat like the coyote’, ‘owl’ *tikole-‘one of the owl’s, somewhat like the owl’, etc. This change in meaning implies that the Proto-Uto-Aztecan homeland must have been ecologically different from the place to which speakers of Proto-Aztecan later migrated.

Keywords: Uto-Aztecan languages, Aztecan languages, Mesoamerican linguistics, prehistoric migrations, original homeland reconstruction.

The Uto-Aztecan language family is one of the largest genetically related language groups of the Americas (Campbell 1997: 133–137). According to conservative estimates, it consists of over 30 individual languages, whose speakers inhabited the vast territory extending from the state of Oregon to Panama (Fig. 1). The distance as the crow flies between the two places is over 5500 km. One glottochronological estimate places the break-up of Proto-Uto-Aztecan at around 5,000 years ago (48 minimum centuries of divergence according to Terrence Kaufman 1976: 73; see also Miller 1984), while the estimate of Holman, Brown et al. (2011) is 4018 B.P.

The Uto-Aztecan family is one of the relatively well documented and studied Native American linguistic groups. Northern members of the family have always been the centre of attention for American linguists. One of its southernmost members is Classical Nahuatl, which was the language spoken by the Aztecs; it is documented through a multitude of written sources transcribed by means of a specially adapted Latin alphabet and in the indigenous logosyllabic writing system (see for example, Launey 1979 and Lacadena 2008). Classical Nahuatl is remarkable for a Native American language in that it has been documented in several dictionaries and grammatical descriptions dating to the 16th and 17th centuries. One of them (Carochi 1645) even consistently marks vowel length and the glottal stop. The validity of the family was undisputedly proved by Edward Sapir (1913–1919), who established regular phonetic correspondences between Southern Paiute and Classical Nahuatl. The subgrouping of Uto-Aztecans, however, continues to be controversial in some respects (Hill 2012). Nine branches at the lower level are recognized (Numic, Californian, Hopi, Tepiman, Cahitan, Opata-Eudeve, Tarahumara-Guarijio, Tubar, Cora-Huichol and Aztecan), but there is no agreement concerning higher-level grouping. Thus, the family has a “rake”-like structure (Fig. 2). Many scholars (Heath 1977: 27; Langacker 1977: 5; Kaufman 1981) have suggested a

* I would like to thank Jane Hill, Karen Dakin and Søren Wichmann, who have helped a lot with the discussion of different issues related to Uto-Aztecan languages, and also for providing hard-to-access materials.
Figure 1. Geographical distribution of Uto-Aztecan languages. Drawing by the author after Campbell 1991: 358, Map 6.

Figure 2. Classification of Uto-Aztecan languages.

Figure 3. Classification of Aztecan languages.
primary split between Northern Uto-Aztecans (Numic, Californian, Hopi) and Southern Uto-Aztecan (Tepiman, Cahitan, Opata-Eudeve, Tarahumara-Guaririo, Tubar, Cora-Huichol and Aztecan). It should be emphasized that Northern Uto-Aztecans exhibits phonological and morphological innovations (Manaster Ramer 1992; Heath 1977, 1978), while Southern Uto-Aztecan exhibits only a slightly closer lexical unity. Cora-Huichol and Aztecan appear to be more closely related to each other than to other members of the family (Campbell and Langacker 1978; see more in Hill 2012). The Aztecan branch consists of several closely related speech variants, where some may be called dialects and others languages (Fig. 3); I shall not attempt to make this distinction here. They constitute the southern periphery of the Uto-Aztecan world and belong to the Mesoamerican linguistic area (Campbell, Kaufman and Smith-Stark 1986).

Today the distance separating the northernmost speakers of Aztecan languages (the state Durango of Mexico) and the southernmost ones (El Salvador) is about 2000 km.

Based on the analysis of plant and animal names, Catherine Fowler (1972, 1983) suggested that the Proto-Numic homeland was located in southern California, near Death Valley, while the Proto-Uto-Aztecan homeland was somewhere in Arizona and Northern Mexico. From here, Uto-Aztecan speakers would have spread as far north as Oregon (Northern Paiute), east to the Great Plains (Comanche), and south as far as Panama (Aztecan languages). Wick Miller (1983: 123) suggested that the homeland of the proposed Sonoran grouping (essentially Southern Uto-Aztecan) was in the foothills region between the Mayo and the Sinaloa Rivers. This localization of the Proto-Uto-Aztecan homeland is accepted by many (see for example, Campbell 1997: 137). A proposal of a location much further south for the territory of Proto-Uto-Aztecan has been published by Jane H. Hill (2001, 2003; see also Bellwood 1997). She reconstructs maize-related vocabulary in Proto-Uto-Aztecan and assumes that speakers of Proto-Uto-Aztecan were maize cultivators and originated in Mesoamerica, from whence they quickly spread northward, bringing agriculture with them. According to the suggested scenario, it is agriculture that stimulated the rapid geographic diffusion of Uto-Aztecan. This hypothesis, and, in particular, agricultural etymons reconstructed for Proto-Uto-Aztecan by Jane H. Hill, have been severely criticized (Campbell 2003; Kaufmann and Justeson 2009). Recently, Brian Stubbs (n.d.) has expressed the opinion that greater linguistic diversity in the southern Uto-Aztecan areas suggests that these areas represent a likely alternative location for the Proto-Uto-Aztecan homeland. Finally, Wichmann, Müller et al. (2010) identify the center of diversity, and consequently, a probable location of the Uto-Aztecan homeland, with the region surrounding the current location of the Yaqui language, in Sonora, Mexico. Basing their conclusions on ethnohistorical sources and on an apparent lack of early Aztecan loans in Mesoamerican languages, many scholars (Justeson, Norman et al. 1985: 24–26; Campbell 1988: Chapter 12) believe Aztecan languages and dialects to be late intruders in the area. For example, Terrence Kaufman (2001) postulates the arrival of the Aztecan speakers into Central Mexico at c. 500 BC and their subsequent expansion to the Gulf coast, Chiapas, Guatemala and El Salvador at c. 800 BC.

These different proposals for the Proto-Uto-Aztecan homeland, based on different kinds of evidence, are difficult to evaluate. Results obtained by the traditional “Wörter und Sachen” method applied by Catherine Fowler are difficult to evaluate because Uto-Aztecan speakers of today enjoy a vast range of ecological environments; this situation implies that on their way from their Proto-Uto-Aztecan homeland Uto-Azteceans would have lost the knowledge of many aspects of the physical environment and, consequently, would have forgotten the corresponding words. A similar reasoning makes it problematic to reconstruct agricultural etymons for Proto-Uto-Aztecan: many Uto-Aztecan groups were either hunter-gatherers in historical times or became agriculturists in relatively recent times. In the Early Colonial Period

77
epidemics decimated the indigenous population and many ethnic groups and languages became extinct, leaving no trace behind them (for possible extinct Uto-Aztecan languages see Miller 1983; Campbell 1997: 133–135). This makes estimates based on the geographic distribution of Uto-Aztecan languages and their mutual diversity problematic.

The Aztecs, as their traditions say, may have originated from barbarians who came from the North, but the myth of a “Northern Homeland” from whence “the true kings” came, while it played a very important role in the politics of Late Post-Classic Mesoamerica, can hardly be considered good evidence. Early Aztecan loans in Mesoamerican languages may have been blurred by a massive intrusion of Aztec loans in Late Post-Classic times, when Classical Nahuatl was the language of the Aztec Empire and a lingua franca of Mesoamerica, as well as in Early Colonial times, when, along with Spanish, it was recognized as one of the two official languages of New Spain. At the time of the arrival of the Spaniards, speakers of Aztecan languages were found over a huge territory. Their internal diversity corresponds to at least 15 centuries according to the traditional glottochronological method of Morris Swadesh (Kaufman 1976: 73; see also García de León 1976: 22–50, Luckenbach and Levy 1980), a date which is similar to the 1509 B.P. dating of Holman, Brown et al. (2011) for Aztecan minus Pochutec. According to Sergei Starostin’s modification of the method (see for example Starostin 2000), the breakup occurred around 25 centuries ago, if Pochutec is included, and around 18 centuries ago, if it is excluded.

In the Appendix A, I enclose 100-­wordlists for the following Aztecan languages: Classical Nahuatl (Central Mexico), Jalupa Nawat (Tabasco), Mecayapan Nawat (Veracruz), North Puebla Nahuatl (Puebla), Pipil (El Salvador), Pochutec (Oaxaca), and Tetelcingo Nahuatl (Morelos). I have chosen the most divergent and representative varieties of Aztecan languages according to the mentioned studies. It should be noted that the available data on the extinct Pochutec language (Boas 1917) are scarce and rather poor in quality, but the language has nevertheless been taken into consideration as a probable representative of an independent branch in the Aztecan subgroup. I have excluded No. 26 ‘fat (n.)’ and No. 64 ‘person (n.)’ from the calculations, since they mostly happen to be Colonial Spanish loans in the area. I have also excluded No. 48 ‘liver (n.)’ and replaced No. 93 ‘warm (adj.)’ with ‘hot’, since the corresponding lexical entries are underrepresented in dictionaries on modern languages. The 100-­wordlist items were produced applying strict semantic control (see Kassian, Starostin et al. 2010).

The vast territory inhabited by speakers of Aztecan languages and their internal diversity suggest a long-­term presence in the area (Figs. 3–4). Recently, different pan-­Mesoamerican words have been proposed as potentially old loans from Aztecan (Dakin and Wichmann 2000; Dakin 2001; Beekman, Cowgill et al. 2010). These old Aztecan loans must probably have entered Mesoamerican languages long before the emergence of the Aztec Empire. It has been also proposed, based on epigraphic evidence, that Nahuatl speakers might be inhabitants of Teotihuacan (Dakin and Wichmann 2000, Macri and Looper 2003; Alfonso Lacadena pers. comm. and David Stuart pers. comm. in Pallán Gayol and Meléndez Guadarrama 2010; Davletshin in press). Once again, these proposals were criticized and are not generally accepted (Kaufman and Justeson 2007, 2009). As for distant relationships of Uto-­Aztecan, these remain controversial and difficult to use in locating the Uto-­Aztecan homeland (Whorf and Trager 1937; Hill 2008; Wichmann 1999).

I will not discuss here the controversial proposals offered for the Uto-­Aztecan homeland and the arrival of Aztecan speakers in Mesoamerica; as I have stated above, I believe that they are difficult to evaluate, though personally I feel that Jane H. Hill’s hypothesis deserves more attention than it has received. I want to present linguistic evidence which implies that the movement of Proto-­Uto-­Aztecan speakers to the Aztecan homeland was accompanied by a
drastic change in their ecological environment. As far as I know, this evidence has been never discussed before.

Let us consider some Proto-Uto-Aztecan reconstructions and their Proto-Aztecan counterparts. Proto-Aztecan reconstructions follow Karen Dakin (1982; see also Campbell and Langacker 1978); provisional Proto-Uto-Aztecan reconstructions are given after Campbell and Langacker 1978 and Wick Miller 2003 (see also Miller 1967).¹

<table>
<thead>
<tr>
<th>Proto-Uto-Aztecan</th>
<th>Proto-Aztecan</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>aːy-</strong> ‘turtle’</td>
<td>*aːyoː-‘turtle’</td>
</tr>
<tr>
<td><strong>kaLa-</strong> ‘crow, raven’</td>
<td>*kaːkaːloː-‘crow’</td>
</tr>
<tr>
<td><strong>kwa-</strong> ‘coyote’</td>
<td>*koyoː-‘coyote’</td>
</tr>
<tr>
<td><strong>muː-</strong> ‘fly (insect)’</td>
<td>*moːyoː-‘mosquito, flying insect’</td>
</tr>
<tr>
<td><strong>t/ibarkuL-</strong> ‘ground squirrel’</td>
<td>*t/ibarchaloː-‘squirrel’</td>
</tr>
<tr>
<td><strong>t/ibar/ukuL-</strong> ‘owl’</td>
<td>*t/ibarkoloː-‘burrowing owl’</td>
</tr>
</tbody>
</table>

These Proto-Aztecan reconstructions are similar in many respects to the corresponding Proto-Uto-Aztecan ones; the main difference is the presence of the –yoː suffix. In accordance with morphophonemic rules, characteristic of Aztecan languages (see for example, Sullivan 1988: 13), the palatal glide y of the suffix is changed to l when the noun stem ends with l; in this case, the geminated consonantal cluster seems to be simplified. The reconstructions pertain to a single semantic domain: they represent animal names. Set 2 shows reduplication of the initial syllable and regular loss of the final short vowel. Alternatively, proto-Aztecan *kакaːloː- ‘crow’ can be understood as an onomatopoetic description ‘animal of the making ka sound’ (Dakin 2001: 111), including the suffix l- of deverbal nouns and the suffix yoː- of abstract possession. Set 3 shows irregular correspondences, but irregular developments are typical for the words meaning ‘coyote’ in Uto-Aztecan languages (Campbell and Langacker 1978; Miller 2003). One more example can be added to the list if Gila River Pima ooshaḍ ‘ocelot’ and Classical Nahuatl oːseːloː-tl ‘jaguar, ocelot’ are related (Dakin 2001: 110). Some of the Uto-Aztecan animal names discussed here seem to include a suffix **–LV; these animal names might be descriptive, as for example, **t/ukuL- ‘owl’, lit. ‘animal of night’, cf. **tuku ‘night, darkness, black’ and **t/ukuL- ‘ground squirrel’, lit. ‘animal of earth holes/burrows’, cf. **tiin ‘rock, stone’, **tip- ‘earth’, **ki ‘house’.

Proto-Uto-Aztecan lexicon is poorly preserved in the vocabulary of Aztecan languages, in particular in the domains of plant and animal names. Therefore, six items is a considerable number of matches for a particular development. This development belongs to the Proto-Aztecan level, because daughter languages always show the suffix –yo: when reflexes are preserved (for abbreviations and sources see Appendix A).

2. *kакaːlo- ‘crow’: CNa kakaloː-tl, ZNa kakalot, cf. also ‘frangipanni, a kind of flower (Plumeria rubra)’, literally ‘crow flower’: CNa kakaloː-xoːchi-tl, NPN kakaloːxochitl, PNa gagaːlaoxochit; Pip Kakaloːxochit ‘San Julian (a town name)’ (borrowed in Mexican Spanish).

¹ Orthographic conventions follow Spanish and traditional Mesoamerican practice, when it is not inconsistent. This means that /k/ is /k/, /k/ is /k/, /ʦ/ is /ts/, /ʧ/ is /ch/, /ʎ/ is /tl/, /ʃ/ is /x/, /j/ is /y/, vowel length is /Vː/, etc. L stands for proto-Uto-Aztecan medial liquid, whether /r/ or /l/ or both is unclear.
3. *koyoː- ‘coyote’: CNa koyːoː-tl, NPN koytˈt̚, MNa koyːʔ, PNa goyoːt, Pip kuyut, Poch koyud, T koyutl, ZNa koyot ‘white man’ (borrowed in Spanish).
4. *moːyoː- ‘mosquito, flying insect’: CNa moːyoː-tl, JNa muːyt, MNa moːyoʔ, NPN moːyt ‘jején’, Pip muːyt, PNa moːyt, Poch moyut, TNa muːyt, ZNa moːyt.
5. *tchalotl ‘squirrel’: CNa tchalotl, NPN tchalotl, cf. also TNa chachalutl and ZNa chechehoch ‘squirrel’, which belong to an independent set ‘animal of the making chV sound’.
6. *tikolot ‘owl’: CNa tekolot, JNa tekulot, PNa tegolot, Pip tekulot, Poch tekolot (a loan?), TNa tekolutl, ZNa tekolut (borrowed in Mexican Spanish and Mesoamerican languages).

When they are attested, Huichol cognates of the aforementioned words bear no traces of the suffix in question: ñaayē ‘turtle’, kārárai ‘crested caracara (Polyborus plancus)’, teekī ‘fox squirrel’ (Grimes 1980).


The Aztecan suffix –yoː denotes abstract possession: it derives abstract nouns from agentive and possessive nouns, indicates possession of the object or quality implicit in the noun and denotes that the object or its possessor has the quality of the noun (see for example, Sullivan 1988: 18, 95, 143–144). It also marks inalienable possession. The suffix was used to create descriptive animal names in Proto-Aztecan: *tziːkoː- ‘vulture’, literally, ‘animal of the piercing/stabing’, from **tza/opi ‘to pierce, punch; spike, thorn’, *koːloː ‘scorpion’, literally, ‘animal of the bending/twisting (referring to its tail)’ from **ko- ‘to bend, twist’, etc. (Dakin 1982). To put it in other words, Proto-Aztecan ‘coyote’ *koyoː- literally means ‘one of coyote’ or ‘something like the coyote’, Proto-Aztecan ‘mosquito’ *moːyoː- literally means ‘one of mosquito’ or ‘something like the mosquito’, etc. This change in meaning implies that Proto-Aztecan ‘coyote’, ‘crow’, ‘mosquito’, ‘owl’, ‘squirrel’, ‘turtle’ were similar, but not identical to their Proto-Uto-Aztecan relatives in appearance. A likely explanation for this is to suggest that the ecological environment of Proto-Uto-Aztecan was very different from that of Proto-Aztecan.³

Similar developments in animal and plant names are found in Eastern Polynesian languages. Rapid movement and expansion of humans in Eastern Polynesia was accompanied by a drastic change in their ecological environment. Several morphological models were used to create names for animals and plants which were similar in appearance to their original proto-

² As Campbell and Langacker (1978) notice, the set for ‘ant’ **siːka- is speculative to a certain degree; it shows irregular developments and is probably not to be reconstructed for Proto-Uto-Aztecan.
³ Karen Dakin (2001) proposed a possible Uto-Aztecan etymology for the suffix **-raː-wi, where the morpheme **raː is associated with inalienable possession and **wi seems to be some sort of augmentative. Positing a complex set of morphophonemic rules, Dakin suggests that the suffix was productively used to create descriptive animal names in Proto-Uto-Aztecan times: **muː- ‘nose’ + **-raː-wi > ‘fly, mosquito’, **tiːkw- ‘darkness, night’ + **-raː-wi > ‘owl’, **kwaː- ‘tree (?)’ + **-raː-wi > ‘eagle’. Many of the proposed morphophonemic rules are unique developments based on few examples; in many cases semantic relationships between the animal and its proposed descriptive name are opaque. The –yoː derivation on animal names in Proto-Aztecan times, proposed in this paper, seems to be a simpler explanation, involving only morphophonemic rules that are already well-known in Aztecan languages.
types; among these were reduplication, which gives an attenuated meaning, and the simili-
tude prefixes koː- and poː-, translated as ‘somewhat, -ish’ (Biggs 1991). The use of the koː- prefix
and reduplication to derive new animal and plant names was very productive in Eastern
Polynesian languages in the time of their expansion; the two processes can be found combined
in the same word. Some revealing examples from Maori are given below (after Biggs 1991;
Biggs and Clark N.d.).

<table>
<thead>
<tr>
<th>Maori</th>
<th>Proto-Polynesian</th>
</tr>
</thead>
<tbody>
<tr>
<td>kawa-kawa ‘a kind of plant (Macropiper excelsum)’</td>
<td>*kawa ‘a kind of plant (Piper methysticum)’</td>
</tr>
<tr>
<td>kiwa-kiwa ‘a kind of fern’</td>
<td>*kiwa ‘a kind of fern’</td>
</tr>
<tr>
<td>koː-kihi ‘New Zealand spinach (Tetragonia expansa)’</td>
<td>*kisi-kisi ‘a kind of plant (Oxalis spp.)’</td>
</tr>
<tr>
<td>koː-whara-whara ‘a kind of plant (Astelia banksii)’</td>
<td>*fala ‘a kind of plant (Pandanus spp.)’</td>
</tr>
<tr>
<td>poː-hue ‘several kind of trailing plants (Clematis spp., Muhlenbeckia sp., Passiflora tetrandra, Calystegia sp.)’</td>
<td>*fue ‘gourd (Lagenaria vulgaris)’</td>
</tr>
</tbody>
</table>

The distribution of Aztecan languages in Mesoamerica implies that the Aztecan homeland
was located somewhere in Central Mexico or nearby (Fig. 4). The comparisons presented
above indicate that the Proto-Uto-Aztecan homeland was ecologically different from the place
to which speakers of Proto-Aztecan eventually came.

![Figure 4. Geographical distribution of Aztecan languages. Drawing by the author after Kaufman and Justeson 2009: 223.](image-url)
Albert Davletshin

**Literature**


CAROCHI, Padre Horacio. 1645. *Arte de la lengua mexicana con la declaracion de los adverbios della*. Mexico.


KEY, Harold, y Mary Ritchie De Key. 1953. Vocabulario mejicano de la Sierra de Zacapoaxtla, Puebla. México D.F.: Instituto Lingüístico de Verano y SEP.


Appendix A:
100-wordlists for Aztecan languages

<table>
<thead>
<tr>
<th>Number</th>
<th>Word</th>
<th>Languages</th>
</tr>
</thead>
</table>
| 1. | ALL (TODOS) | CNa: Classical Nahuatl, Central Mexico (Karttunen 1983)  
JNa: Jalupa Nahuatl, Tabasco (García de León 1967)  
MNa: Mecayapan Nahuat, Veracruz (Wolgemuth, Wolgemuth et al. 2002)  
NPN: North Puebla Nahuatl, North Puebla (Brockway, Brockway and Santos Valdés 2000)  
PNa: Pajapán Nahuat, Veracruz (García de León 1976)  
Pip: Pipil, El Salvador (Campbell 1985)  
Poch: Pochutec, Oaxaca (Boas 1917)  
TNa: Tetelcingo Nahuatl, Morelos (Brewer and Brewer 1966)  
ZNa: Zacapoaxtla Nahuatl, Puebla (Key and Key 1953) |

Abbreviations and sources.
CNa: Classical Nahuatl, Central Mexico (Karttunen 1983)  
JNa: Jalupa Nahuatl, Tabasco (García de León 1967)  
MNa: Mecayapan Nahuat, Veracruz (Wolgemuth, Wolgemuth et al. 2002)  
NPN: North Puebla Nahuatl, North Puebla (Brockway, Brockway and Santos Valdés 2000)  
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Pip: Pipil, El Salvador (Campbell 1985)  
Poch: Pochutec, Oaxaca (Boas 1917)  
TNa: Tetelcingo Nahuatl, Morelos (Brewer and Brewer 1966)  
ZNa: Zacapoaxtla Nahuatl, Puebla (Key and Key 1953) |
9. BLOOD
CNa es-tli (1), TNa yes-tli (1), NPN yes-tli (1), MNa es-ti (1), PNa es-ti (1), JNa es-ti (1), Pip es-ti (1), Poch es-t (1).

10. BONE
CNa omi-tl (1), TNa mixmitx-te-tl (2), NPN omi-tl (1), MNa omi-t (1), PNa omi-t (1), JNa umi-t (1), Pip umi-t (1), Poch o-t (1).

11. BREAST
CNa -chichíwal (1), TNa -chichíwal (de mujer) (1), NPN -chichíwal (teta) (1), MNa -chichíwal (teta) (1), JNa -chichí (teta) (2), Pip -chichíh (teta) (2), Poch /no/-tipén (mi pecho) (3).

12. BURN TR.
CNa -tlatia (1), TNa -tlatia (1), NPN -tlatia (1), MNa -tatiá (1), PNa -tata (1), JNa -tati (1), Pip -tatiá (1), Poch -tati (1).

13. CLAW(NAIL)
CNa iste-tl (1), TNa iste (1), NPN ist-t (1), MNa iste (1), PNa iste (1), JNa iste (1), Pip iste-t (1), Poch iste-t (1).

14. CLOUD
CNa mix-tli (1), TNa mex-tli (1), NPN tepe-mex-tli (1), MNa mix-tli (1), PNa mix-tli (1), JNa mix-tli (1), Pip mix-tli (1), Poch mix-t (2).

15. COLD
CNa iètz-tik, sesek (2), TNa itz-tiik (1), NPN itz-tik (1), MNa seseʔ (2), PNa seseʔ (2), JNa sesek (2), Pip sesek (2), Poch piná, kug'li (3).

16. COME (defective verb, preterit-as-present forms)
CNa witz (1), TNa ibitz (1), NPN witz (1), MNa wiːʔ (1), PNa wiːtz (1), JNa ñotz (2), Pip wiːtz (1), Poch witz (1).

17. DIE
CNa miku (i) (1), TNa miku (1), NPN miku (1), MNa miːk (1), PNa miku (1), JNa miku (1), Pip miku (1), Poch mok (1).

18. DOG
CNa chiccht-o (1), TNa chicchtu (1), NPN chicchi (1), MNa pelo (Spanish loan) (-1), PNa pelo (Spanish loan) (-1), JNa chu Chu (1), Pip pelu (Spanish loan) (1), Poch tachóm (2).

19. DRINK
CNa -on-i: (thither-drink) (1), TNa -on-i (1), NPN -on-i (1), MNa -on-i-á (1), PNa -on-i (1), JNa /xi-ki/-i (imperative form) (1), Pip -un-i (1), Poch tem-i (mouth-drink?) (1).

20. DRY
CNa wak-ki (1), TNa wah-ki (1), NPN wah-ki (1), MNa wak-toʔ (1), PNa wak-tok (1), JNa wak-tuk (1), Pip wak-tuk (1), Poch wak (1).

21. EAR
CNa nakas-tli (1), TNa -nakas (1), NPN -nakas (1), MNa nakas (1), PNa -nakas (1), JNa -nakas (1), Pip -nakas (1), Poch nekès-t (1).

22. EARTH
CNa tlal-li (1), TNa tloli (1), NPN tlali (1), MNa tahli (1), PNa tahli (1), JNa tahli (1), Pip tal (1), Poch tal (1).

23. EAT
CNa -kwa: (1), TNa -kwa (1), NPN -kwa (1), MNa -kwa (1), PNa -buc (1), JNa -bwa: (1), Pip kwa (1), Poch kwa (1).

24. EGG
CNa totol-te-tl (1), TNa tutol-tetl (1), NPN totol-te-tl (1), MNa teksis (2), PNa teksis (2), JNa pil-tzin (3), Pip teksis-ti (2), Poch ti-tò-t (4).

25. EYE
26. FAT N.
CNa chiyaːwis­tli (-1), TNa manteka (Spanish loan), chiːyōwa (-1), NPN chiak­tli (-1), MNA -tomalika (su gordura), xeːpoh (de res, Spanish loan) (-1), PNa mantega (Spanish loan), págax (Spanish loan) (-1), JNa manteka (Spanish loan) (-1).

27. FEATHER
CNa ihwi­tl (-1), TNa tohmitl (su pluma, pelo: itohmeyo) (2), NPN ihwi­tl (-1), MNa tzohmi­ʔ (-1), PNa tzohmi­t (-1), JNa iy­uhwi­yu (-1), Pip -uhmi­yu (4).

28. FIRE
CNa tle­tl (-1), TNa tle­tzin­tliː (-1), NPN tle­tl (-1), MNa tiʔ­ti (-1), PNa ti­t (-1), JNa ti­t (-1), Pip tiː­t (-1), Poch te­t (-1).

29. FISH
CNa mich­in (-1), TNa miːchiː (-1), NPN michi (-1), MNa toːpoh (-2), PNa toːpoh (-2), JNa xeːneh (-3), Pip michin (-1), Poch /no/-xói ‘mi pie’ (-2).

30. FLY V.
CNa patlaːn(i) (-1), TNa patlöni (-1), NPN patlani (-1), MNa pataːni (-1), PNa pataːni (-1), JNa parani (-1), Pip pataːni (-1), Poch patánk (-1).

31. FOOT
CNa (i)kxi­tl (-1), TNa ikxiː (-1), NPN ikxi (-1), MNa ikxi (-1), PNa ikxi (-1), JNa ikxi (-1), Pip (i)kxi (-1), Poch /no/-xói ‘mi pie’ (-2).

32. FULL
CNa ten­tok (-1), TNa tien­tiːka (-1), NPN ten­tok, temi (-1), MNA -temi (-1), PNa ten­tok (-1), JNa ne­tik (-2), Pip ten­tuk (-1).

33. GIVE
CNa -maka (-1), TNa -maka (-1), NPN -maka (-1), MNA -maka (-1), PNa -maga (-1), JNa -ma (-1), Pip -maka (-1), Poch -meká (-1).

34. GOOD
CNa kwal­li (-1), TNa kwaliː (-1), NPN kwali (-1), MNA yek­ti (-2), PNa yek­ti (-2), JNa yek­ti (-2), Pip yek (-2), Poch ulík (cf. CNa weːlik ‘something delicious, pleasing’) (-3).

35. GREEN
CNa xoxok­tik (-1), TNa xoxok­tiːk (-1), NPN xoxok­tik (-1), MNA xoxok­tiʔ (-1), PNa xoxok­tik (-1), JNa xuxuí­k (-2), Pip xuxuwi­k (-2), Poch xwi (-3).

36. HAIR
CNa tzon­tli (-1), TNa tzon­tliː (-1), NPN tzon­teko (-1), MNA tzon­teko (-1), PNa tzon­tekon (-1), JNa tzun­tekon (-1), Pip tzun­tekuma­t (-1), Poch kwaí­t (-2).

37. HAND
 CNa maː (-1), TNa mö (-1), NPN man (-1), MNA mayiʔ (-1), PNa maː (-1), JNa maː­n (-1), Pip mey (-1), Poch mai (-1).

38. HEAD
CNa kwak(i)-tl (-2), TNa -tzon-teko (-1), NPN -tzon-teko (-1), MNA -tzon-tekon (-1), PNa -tzon-tegon (-1), JNa tzun­tekon (-1), Pip tzun­tekuma­t (-1), Poch kwai-t (-2).

39. HEAR
CNa -kak(i) (-1), TNa -kakè (-1), NPN -kaki (-1), MNA -kaki (-1), PNa -gaggi (-1), JNa -kai (-1), Pip -kaki (-1), Poch -keki (-1).

40. HEART
CNa yel-li (-1), TNa yuloh­tlìc (-1), NPN -yol-ø (-1), MNA -yachmah (Spanish loan) (-1), PNA -alma (Spanish loan) (-1), JNa yuh- lu (-1), Pip -yu(-)l (-1), Poch /ni/-olyú (mi corazón) (-1).
41. HORN
CNa kwakwa(i)-tl (1), NPN -kwakow (1), MNA kwakwa (1), PNa -baʃa (1), JNa kokoit (1), Pip -kachoh (Spanish loan) (-1).

42. I
CNa nehwa-tl (1), TNa naha (1), NPN nehw-a-1 (1), MNA neh (1), PNa neha (1), JNa nehe (1), Pip na ~ nah ~ naha (1), Poch nen (1).

43. KILL
CNa -mik-tia (1), TNa -mik-tia (1), NPN -mik-tia (1), MNA -mik-tia (1), PNa -mik-tia (1), JNa -mik-ti (1), Pip -mik-tia (1), Poch noki (1).

44. KNEE
CNa -mikiː-tiː (1), TNa -mikiː-tiː (1), NPN -mikiː-tiː (1), MNa -mikiː-tiː (1), PNa -mikiː-ti (1), JNa -mik-ti (1), Pip -mikiː-ti (1), Poch neni (1).

45. KNOW
CNa mat(i) (1), TNa mertiː (1), NPN mati (1), MNA mati (1), PNa mati (1), JNa ma (1), Pip mati (1), Poch meti (1).

46. LEAF
CNa iswa- (1), TNa xibiti (2), NPN xwi-t (1), MNA iswaʔ (1), PNa -iswa-t (1), JNa iswa-t (1), Pip iswa-t (1), Poch xut (2).

47. LIE (SE ACUESTA)
CNa mo-teka (1), TNa moteka (1), NPN mo-teka (1), MNA mo-teka (1), PNa mo-teka (1), JNa mu-teka (1), Pip mu-teka (1), Poch teké (1).

48. LIVER
CNa el-li (1), TNa el-li (1), NPN -yel-tlapach (-1), MNA -yel (-1), Pip -el-tlapach (-1).

49. LONG
CNa weːia (1), TNa beyak (1), NPN weya (1), MNA weyaktiʔ (1), PNA weyak (1), JNa weyak (1), Pip weyak (1).

50. LOUSE
CNa atemi-t (1), TNa atemi-t (1), NPN pioho (Spanish loan) (-1), MNA atimiʔ (1), PNA atin (1), JNA atin (1), Pip atim-t (1), Poch atóm-t (1).

51. MAN
CNa taka-tl, okich-tli (1), TNa umbre (Spanish loan), tlöca-tl (1), NPN tlakatl (1), MNA tagaʔ (1), PNA tagat-tl (1), JNA taker-tl (1), Pip taker-tl (1), Poch oköxt, teké-t (1).

52. MANY (MUCHOS)
CNa miakikin~miakiːntzin~miakiːntzin~miakiːntzin (1), TNA meyak (1), NPN miak (1), MNA miak (mucho), miakeh (muchos) (1), PNA miak (muchos) (1), JNA miakpa (muchos) (1), Pip miyak (mucho, muchos, bastante) (1), Poch asók (mucho, muchos, muy) (2).

53. MEAT
CNa naka-tl (1), TNA naka-tl (1), NPN nakaʔ (1), MNA nakaʔ (1), PNA naka-tl (1), JNA naka-tl (1), Pip naka-t (1), Poch nekč-t (esta carne está manida), tutú-t (carne para comer) (1).

54. MOON
CNa metz-tli (1), TNA metz-tli (1), NPN metz-tli (1), MNA metz-ti, to-ye-tzin (lit. ‘nuestra madre’) (1), PNA mes-ti, to-ye-tzin (1), JNA metz-ti (1), Pip metzt-ti (1), Poch mes-t (1).

55. MOUNTAIN
CNA tepek-tl (1), TNA tepe-tl (1), NPN tepeʔ (1), PNA tepek-t (1), Pip tepek-t (1).

56. MOUTH
CNA kama(k)-tl (1), TNA -kama-k (1), NPN -kama-k (1), MNA -ten (2), PNA -ten (2), JNA -ten (2), Pip -ten (2), Poch ten (2).
57. NAME
CNa tokax(-tl) (1), TNa -tukö (1), NPN tokah-li (1), MNa tokaxʔ (1), PNa -toga (1), JNa tuwa-n (1), Pip -tuckey (1), Poch kül (2).

58. NECK
CNa kech-tli (1), TNa kech-kochtla (1), NPN -kech (1), PNa -gech (1), JNa -kech (1), Pip -kech-kucyu (1), Poch kex-t (pescuezo) (1).

59. NEW
CNa yankwi-k (1), TNa yankwiː-k (1), NPN yankwi-k (1), MNa yamkwiʔ (1), PNa yambi-k (1), JNa yambwi-k (1), Pip yankwi-k (1).

60. NIGHT
CNa yowal-li (1), TNa yowaliː (1), NPN yowali (1), MNa yowal (1), PNa ta-yoa (2), JNa ta-yuwa-k (2), Pip ta-yuwa (2), Poch owél (1).

61. NOSE
CNa yak(a)-tl (1), TNa yeka-tzol (1), NPN yeka-k (1), MNa yak-ti (1), PNa yaga-t (1), JNa yak (1), Pip yak (1), Poch yeké-t (1).

62. NOT
CNa aʔmoː (1), TNa amo (1), NPN ahmo (1), MNa ayaʔ, amo (1), PNa amó, ayá, a-té (2), JNa te (2), Pip te: tesu (2), Poch as (3).

63. ONE
CNa se: (bound form: sem) (1), TNa sic, sen-te (1), NPN seya (1), MNa se: (1), PNa se (1), JNa se (1), Pip se: (1), Poch se (1).

64. PERSON
CNa tlaxa-tl (-1), TNa hiente (Spanish loan), tlöka (-1), MNa hente (Spanish loan) (-1), PNa kristianoh (Spanish loan) (-1), JNa yohomeh (-1), Pip kristanuh (Spanish loan) (-1).

65. RAIN
CNa kiyaw(i)-tl (1), TNa kiyabiː-tl (1), NPN kiyawi-tl (1), MNa kiahuaːʔ ~ tiahuaːʔ (1), PNa aː-tzonaːt (2), JNa chimaː-t (3), Pip aː-t (4), Poch yek-t (5).

66. RED
CNa chiː-chil-tik (cf. chirli ‘chili pepper’) (1), TNa chi-chil-tik (1), NPN chi-chil-tik (1), MNa chil-tilʔ (1), PNa ta-taci-k (cf. CNa tlax(i)-tl ‘red ochre’) (2), JNa traik (2), Pip chil-tik (1).

67. ROAD
CNa oʔ-tli (1), TNa oh-tliː (1), NPN oh-tli (1), MNa oh-ti (1), PNa oh-ti (1), JNa ul-ti (1), Pip ul-ti (1), Poch ot'kán (1).

68. ROOT
CNa nelwa-tl (1), TNa nelwa-yu-tl (1), NPN nelwa-tl (1), MNa nelwaʔ (1), PNa ba-takson (2), JNa talwa-t (3), Pip nelwa-t (1).

69. ROUND
CNa yawal-tik (cosa redonda como rodela) (1), TNa yewal-tik (1), NPN yawal-tik (1), MNa yawal-tilʔ (plano), mimil-tilʔ (esférico) (1), PNa monso (a loan?) (2), JNa tulutz-tik (3), Pip yawal-nah (circular), mi-mil-nah (rollizo), ul-ul-nah (esférico) (1).

70. SAND
CNa xal-li (1), TNa xölːi (1), NPN xali (1), MNa xahlí (1), PNa xahlí (1), JNa xahlí (1), Pip a-xaːl (1).

71. SAY
CNa (i)ʔtoaː (to say something), (i)lwiaː (to say something to someone) (1), TNa -htoa (1), NPN -htoa (1), MNa k-htoa, k-ihlià (algo a alguien) (1), PNa -htoa, -ihlí (1), JNa -ihli (2), Pip ilwia (2), Poch iti (decirle), nuká (decirlo) (3).
72. SEE
CNa (i)hta (1), TNa -hta (1), NPN -ita (1), MNa -ita (1), PNa -ita (1), JNa -ira (1), Pip ita (1), Poch itá (1).

73. SEED
CNa ach-tli (1), TNa xën-ôch-tlê (1), NPN achti, xin-achtli (1), MNa -yel (2), PNa -yel (2), JNa yuhlu (2), Pip ĝx (3), Poch ax-t (cf. /no/-achú ‘mi semiilla’) (1).

74. SIT
CNa mo-tlialia (1), TNa mo-tlîlì (1), NPN mo­tlalia, xin­achtli (1), MNa -yoːl (2), PNa -yoːl (2), JNa yuhlu (2), Pip iːx (3), Poch metzì (2).

75. SKIN
CNa -cwa­tl (1), TNa -wax­kol (1), NPN -cwa­tl, kwe­ti (1), MNa -kahloː­ʔ (2), PNa -betax (3), JNa xit­al (3), Pip -cwa­tl (1), Poch kwetéx­t (3).

76. SLEEP
CNa koch(i) (1), TNa kochiː (1), NPN kochi (1), MNa kochi (1), PNa -gochi (1), JNa -kuchi (1), Pip -kuchi (1), Poch kochì (1).

77. SMALL
CNa tepi­toːn, tepi­tzin (1), TNa tzitziː­k­ti, NPN kitzinin (3), MNa alim­pa (4), PNa chi­chint­zi­zin (5), JNa tziri­tuk (6), Pip -cwi­ch­cin (7), Poch kwetéx­t (3).

78. SMOKE
CNa po­k­tli (1), TNa puk­tliː (1), NPN pok­tli (1), MNa po­k­ti (1), JNa puk­ti (1), Pip puk­ti (1), Poch a­potók­t (2).

79. STAND
CNa mo­ketza(a) (1), TNa mo­ketza (1), NPN mo­tel­ketza, mo­ketza (1), MNa mo­ketza (1), PNa mo­getza (1), JNa nkatuk (parado) (1), Pip mu­ketza (1), Poch x­mo­ktzé (1).

80. STAR
CNa si­tlal­in (1), TNa sitlaliː (1), NPN sit­al­in (1), MNa sit­al­in (1), PNa lusero (Spanish loan) (1), JNa si­tal (1), Pip si­tal (1).

81. STONE
CNa te­tl (1), TNa tie­te­tu (1), NPN te­tl (1), MNa teʔ­ti (1), PNa te­t (1), JNa xaː­l­te­t (1), Pip te­t (1), Poch to­t (1).

82. SUN
CNa to­natiw (1), TNa tunaliː (1), NPN tonal­tzin­tli (1), MNa to­tah­tzin (lit. ‘our little (rever.) father’) (2), PNa to­nati (1), JNa rontin (1), Pip tu­nal (1), Poch tunél (1).

83. SWIM
CNa a­wilaːn, m­a­neloaː (1), TNa m­ö­biːlöna (1), NPN mal­tiya (2), MNa a­p­ta­ni (water-fly), a­h­kit­á (ir­flotando) (3), PNa -akh­ka (3).

84. TAIL
CNa kwitlapil­li (1), TNa kwi­tlapiːl (1), NPN kwitlap­il (1), MNa kwitlapil (1), PNa -bitapil (1), JNa -bwirapil (1), Pip kwitlapil (1).

85. THAT
CNa in­on (1), TNa in­u, nieka, in­u nieka (1), NPN in­on (1), MNa in­c­pa (2), PNa houn (1), JNa hu­ni (1), Pip uni (1), Poch namèl (3).

86. THIS
CNa in­iːn (1), TNa in­i, nönka, in­i nönka (1), NPN in­i (1), MNa in­iːn (1), PNa hí­n (1), JNa hí­ni (1), Pip ini (1), Poch inä (1).
87. THOU
   CNa teʔwaː­tl (1), TNa taha (1), NPN tehwa (1), MNa teh (1), PNa teha (1), JNa tehe (1), Pip ta(h) – taha (1), Poch maen (2).

88. TONGUE
   CNa nene-pil-li (1), TNa -nenepil (1), NPN -nenepil (1), MNa lenwa (Spanish loan) (-1), PNa -nenepil (1), JNa -nenepil (1), Pip -nenepil (1), Poch nenepil (1).

89. TOOTH
   CNa tlaw(i)-tl (1), TNa -law-koch (1), NPN -law (1), MNa tan-ti (1), PNa -tan (1), JNa -taw (1), Pip kwawi-t (1), Poch kwagú-t (1).

90. TREE
   CNa kwaw(i)-tl (1), TNa kwabiː­tl (1), NPN kowi­tl (1), MNa kwawi­ʔ (1), PNa kwawi­ʔ (1), JNa kwawi­ʔ (1), Pip kwawi­ʔ (1), Poch kwagú­ʔ (1).

91. TWO
   CNa oːme (1), TNa ume (1), NPN ome (1), MNa ome (1), PNa ome (1), JNa ume (1), Pip ome (1), Poch omém (1).

92. WALK (GO)
   CNa neʔ­nemi (1), TNa neh­nemiː (1), NPN neh­nemi (1), MNa neh­nemi (1), PNa neh­nemi (1), JNa neh­nemi (1), Pip neh­nemi (1), Poch ui (2).

93. WARM (HOT)
   CNa to­toːn­ki (hot), aː­yamaːnil­aː­tl (tepid water), yamaːn­ki (warm of water, cf. <yamanqui ic mixamia> [Primeros Memoriales 81r]) (1), TNa totun­kiː (caliente), yemön­kiː (blando, suave, tierno, tibio) (1), NPN totonki (caliente), yemanki (agua, también suave) (1), MNa totoːniʔ (caliente), hokox (tibio, calentito: a loan?) (1), PNa totuni (caliente) (1), JNa trucnik (caliente), yamanik (blando) (1), Pip tutuːnik (caliente), yamanka (tibio) (1), Poch tuní (caliente) (2).

94. WATER
   CNa ː­tl (1), TNa ö­tzin­tli (reverential diminutive suffix -tzin) (1), NPN ː­tl (1), MNa aːʔ­ti (1), PNa ː­t (1), JNa maː­t (2), Pip ː­t (1), Poch a­t (1).

95. WE
   CNa teʔwaːn (1), TNa tehwa, tehwan (1), NPN tehwan, tehwanen (todos) (1), MNa tehameh (incl.), nehameh (excl.) (1), PNa tehameh (1), JNa tohomen (1), Pip tehemet (1), Poch twén (1).

96. WHAT
   CNa teʔwaː­nl (1), TNa tilinu (1), NPN tlen (1), MNa teː (1), PNa teː (1), JNa taí (1), Pip taː (1), Poch te (1).

97. WHITE
   CNa istak (1), TNa chipːpöwak, istök (1), NPN istak (1), MNa istaʔ, ichkatiʔ (1), PNa istak (1), JNa istak (1), Pip istak (1), Poch chupék (cf. CNa chipaːwak) (2).

98. WHO
   CNa ak (1), TNa ökín (1), NPN akin (1), MNa aʔ (1), PNa ak (1), JNa aık (1), Pip kaː – kah – kahuni (2), Poch ak (1).

99. WOMAN
   CNa siwaː­tl – sowa­tl (1), TNa sowa­tl (1), NPN siwa­tl (1), MNa siwaʔ (1), PNa soːːt (1), JNa suwa­t (1), Pip siwa­t (1), Poch g’las­t (2).

100. YELLOW
    CNa kos­tik (1), TNa kostık (1), NPN kostık (1), MNa kostıʔ (1), PNa gostıık (1), JNa yuksıık (2), Pip tultık (3).
Appendix B:  
Reconstructed 100-wordlist for Proto-Aztecan

all (todos) *mochi-m  good *yecsk-tl  root *nelwa-tl  
ashes *nix- tl  green ? round *yawat-tl-k  
bark *tiac-yoc-tl  hair *-tizm  sand *xal-li  
belly *-ihti  hand *-mah  say ?  
big *wehey(i)  head *-kwah  see *-ihta  
bird *toc-tl  hear *-kaki  seed *ach-tli  
bite *-khi-tzoma  heart *-yol  sit *mo-fali-ha  
black *tili-ti-tl  horn ?  skin *ewa-tl  
blood *is-tli  I *naha  sleep *kochi  
bone *omi-tl  kill *mik-ti-ha  smoke *pck-tl  
breast *-chichicwal  knee *-lan-kwah  stand *kisza  
burn tr. *-tla-ti-ha  know *mati  star *sitlali-m  
claw(nail) *-isti  leaf *iswa-tl  stone *to-tl  
cloud *mix-tli  lie *mo-teka  sun ?  
cold *sese-k  liver ?  swim ?  
come *wi-tz (preterit-as-present form)  long *weheya-k  tail *kwitla-pil  
die *miki  man *tlaka-tl  this *in- ?  
dog ?  many *miyak  thou *taha  
drink *-ihi  meat *naka-tl  tongue *-nini-pil  
dry *wak-  moon *metz-tli  tooth *-lan  
ear *nakas-tli  mountain *tipc-t  tree *kwa-wi-tl  
earth *tlac-li  mouth *ten-tli  two *cema  
eat *-kwa-ha  name *toxachi-tl  walk (go) *nih-nimi  
egg ?  neck *koahl-tli  warm (hot) *to-toni-k  
eye *-iç  new *yankwi-k  water *a-tl  
fat n. ?  night *yowat-li  we *taha-mi-t  
feather *-i?wi  nose *yaka-tl  what *tlal-li-?i  
fire *tlahi-tl  not ?  white *ista-ki  
fish *mi-chi-m  one *se(m)  who *ak  
fly *patlakan  person ?  woman *si/owa-tl  
foot *-ikxi  rain ?  yellow *kos-ti-k  
full *ten-tok  red *chil-ti-k  
give tr. *-maka  road *oh-tli  

Ко времени прихода европейцев носители многочисленных юто-астекских языков насе-ляли огромную территорию, простирающуюся от штата Орегон на севере до Панамы на юге. В работе отмечается, что шесть праюто-астекских названий животных получают приращение в виде суффикса *­yoː на праастекском уровне. Этот суффикс может быть проинтерпретирован как общеастекский суффикс абстрактного обладания, который об-разует абстрактные существительные и указывает на обладание определённым качеством или свойством. Таким образом, прото-астекское койот *koyoː - буквально означает 'от койота, подобное койоту', сова *t/ibarkoloː- 'от совы, подобное сове' и т. д. Автор предполага-ет, что подобное семантическое развитие в праастекских названиях животных указывает на то, что природное окружение на праастекской прародине значительно отличалось от природного окружения в месте проживания носителей праюто-астекского языка.

Ключевые слова: юто-ацтекские языки, ацтекские языки, мезоамериканистика, доисто-рические миграции, реконструкция языковой прародины.