

The Andean Three-Vowel System and its Effect on the Development of a Modern Orthography for the Aymaran and Quechuan Languages

Willem F.H. Adelaar

Leiden University, Netherlands

The inherited vowel systems of indigenous Andean languages belonging to the Aymaran and Quechuan language families are based on a three-way distinction, in which non-low vowels can vary between high and mid position according to the environment. Contact with Spanish, the dominant language in the Andean region, has contributed to the rise of a five-vowel system which is used in loanwords. When speaking Spanish, speakers of Andean languages tend to be insecure about which vowel to use, and they suffer from social stigmatization because of it. As a consequence, two orthographic practices coexist, which are the subject of heated debate. In one of them, mid vowel symbols (*e*, *o*) are confined to loanwords. In the other one, the mid-vowel symbols are also used in native words whenever the phonetic environment prescribes a mid-vowel pronunciation.

Keywords: Andean languages, Aymara, Mid vowels, Orthography, Quechua, Social stigmatization, Vowel lowering, Vowel system

1. Introduction

The indigenous languages of the area of Middle Andean civilization that have survived the Spanish conquest, followed by 480 years of asymmetric linguistic dominance during colonial occupation and the era of Independence, mainly belong to two language groups: Aymaran and Quechuan. Although both are often referred to as languages, their

internal geographically based diversification is considerable, which makes it reasonable to view them as language families consisting of several languages, rather than as languages subdivided into dialects.

In spite of the heavily debated issue of a possible common origin for Aymaran and Quechuan, these two language groups are not demonstrably related in a phylogenetic sense. Instead, it is now generally accepted that they went through a process of contact and linguistic convergence of an intensity rarely equaled in other parts of the world. The Aymaran and Quechuan languages are of the agglutinative type and show detailed similarities in structure, which can be reconstructed for the proto-languages of each group. The reconstructed phoneme inventories are largely identical, and the shared lexicon amounts to about 20%, even for the earliest reconstructible stages in the existence of each language group.

The close similarities that exist between Aymaran and Quechuan in their reconstructible proto-forms are also significant in view of the internal differentiation of the two families. These similarities indicate that the formative period of convergence must have occurred at a relatively early date, and that the diversity found within each family should be attributed to subsequent later developments. Consequently, it is difficult to put a date on the initial convergence of Aymaran and Quechuan, but one may speculate that it occurred around the beginning of the present era, say between 200 B.C. and 200 AD, in the highlands and coastal valleys of Central Peru. In archaeological terms, this would coincide with a period of cultural and political transition following the collapse of the Early Horizon (Chavín culture).

The intensity of the convergence process suggests that Aymaran and Quechuan-speaking peoples occupied the same territory when the initial contact occurred, possibly as the result of an invasion through conquest in which one of the two nations was subjugated by the other. A location in adjacent but separate territories, as has been assumed in the past, is not satisfactory given the consideration that Aymaran and Quechuan speakers must have shared the same communities at least temporarily in order to attain the observed amount of linguistic interaction (cf. Adelaar 2012, Muysken 2012). It should be remarked that communities in which the two language groups coexist are still found today in the southern Andes, particularly, in Bolivia (Howard-Malverde 1995). Such a coexistence of linguistically distinct groups may reflect age-old patterns of interaction

that may have originated further north, in Central Peru. Central Peru is the most likely location for the initial convergence between Aymaran and Quechuan to have occurred, because the evidence for most of the earliest reconstructible developments appears to cluster in that area.

The more archaic features of the Aymaran languages suggest that Quechuan speakers are likely to have been the invaders, a hypothesis that may also account for the subsequent successful expansion of the Quechuan languages. In this scenario, a predecessor of the Quechuan proto-language (often referred to as ‘Pre-Proto-Quechua’) could have been structurally remodeled as it was adopted by a subjugated Aymaran population, which preserved much of the essence of its linguistic habits. In the same perspective, today’s Aymaran speakers would be descendants of Proto-Aymaran speakers who managed to avoid the language shift, although they were all to some degree affected by the convergence process.

Naturally, these considerations present interesting perspectives for a reconstruction of Central Andean prehistoric society and its geographic setting. They also call for a dialogue between historical linguists and archaeologists in their search to link the results of both disciplines. (For an important step in this direction see the essays in Heggarty and Beresford-Jones 2012.)

2. The linguistic environment

Aymaran and Quechuan have been treated as proto-typical representatives of a typological area defined by a particular ‘Andean’ language type. This language type was characterized, among other things, by agglutination, the exclusive use of suffixes, and a great morphosyntactic regularity. Structural similarities with the Altaic languages are noticeable, the more so because this language type is rather infrequent in the Americas.

Nevertheless, it remains a matter of speculation if such an Andean typological area ever existed at all. Although the Aymaran and Quechuan languages shared the Middle Andean space with a number of other languages, most of the latter are poorly documented or virtually undocumented. Andean languages other than Aymaran and Quechuan for which some documentation exists (for instance, Atacameño, the Barbacoan languages, Esmeraldeño, Hibito-Cholón, Mochica, Puquina, and Uru-

Chipaya) appear to be typologically different in many respects. They do not exhibit the same degree of systematic isomorphism that characterizes the relationship between Aymaran and Quechuan, although of course lexical borrowings are plenty. One noticeable feature that differentiates Aymaran and Quechuan from other languages in the area is the existence of a vowel system with only three contrastive vowels, two high vowels with high and mid allophones (/i/, /u/) and one low vowel (/a/). As far as can be established, almost all other languages in the area have more than three contrastive vowels, a situation that extends to most of the Americas.

3. A comparative view of Aymaran and Quechuan sound-systems

As noted before, the reconstructed phoneme inventories of Aymaran and Quechuan are nearly identical. The overall similarity of the phoneme systems of the proto-languages of both language groups is probably due to the history of convergence and interaction that seems to unite them. Among the principal similarities we may mention the contrast between velar and post-velar (uvular) stops (/k/ - /q/) and between alveo-palatal and retroflex affricates (/č/ - /ĉ/), the existence of palatal resonants (/ʎ/, /ɲ/), and the abovementioned three-vowel system, which will be explored in the following sections.

Glottalized and aspirated stops and affricates are found in all the Aymaran languages, as well as in varieties of Quechuan that border on Aymara-speaking areas (Cuzco and Puno Quechua, Bolivian Quechua). They are absent from all the other Quechuan languages, except for the aspiration found in highland Ecuador. In the past, the existence of glottalized and aspirated consonants has been highlighted as one of the major differences between the Aymaran and Quechuan proto-languages, and its presence in some Quechuan varieties has been interpreted as a result of linguistic diffusion. However, this distinction may be less fundamental than previously thought. Recent research has cast doubt on the antiquity of glottalization and aspiration in both Aymaran and Quechuan. As a matter of fact, glottalization and aspiration may be viewed as areal features of the languages spoken in the Titicaca Basin and

surrounding Andean slopes. Furthermore, glottalization and aspiration appear to assume a role in semantic iconicity or sound-symbolism, which facilitates a horizontal spread of these features throughout the lexicon. If the original homeland of both Proto-Aymara and Proto-Quechua was indeed Central Peru, the introduction of glottalization and aspiration in the Aymaran languages may have occurred at a relatively late moment, and the reconstructed sound systems of Aymaran and Quechuan may even be more similar than was previously thought.¹ This line of thinking is speculative, of course, but it is certainly worth considering.

Along with all the similarities, there is also a very noteworthy difference between Aymaran and Quechuan. It resides in the phonotactics of roots and word-forms and the morphophonemic behavior of affixes. Especially in Aymaran, the phonotactic restrictions and morphophonemic rules are so unusual and extreme that it almost looks as if they were created on purpose in order to deepen the distinction with Quechuan and other neighboring languages. Both Aymaran languages (Aymara and Jaqaru) behave in the same general way in this respect, even though the details can be different.

4. Persistency of the three-vowel system

A particularly persistent feature of the two families is the existence of a rather unique three-vowel system, which distinguishes both Aymaran and Quechuan from most of the surrounding languages. It has remained in place until the present day, in spite of an intense interaction with the dominant Spanish language, which has a five-vowel system. As we shall see, the discrepancy in the number of basic vowel distinctions between Aymaran and Quechuan, on the one hand, and Spanish, on the other, has generated important consequences at the social, cultural and educational levels, which seem to eclipse all other evident incongruences between these two sets of languages.

¹ In this perspective, the Jaqaru language presents itself as an anomaly. It has glottalized and aspirated consonants, although it is spoken in a remote village in Central Peru, surrounded by Quechuan dialects in which these sounds are unknown.

Three-vowel systems are not completely unknown in the Americas.² They have been found, for instance, in Central American languages such as Sumu and Miskito (CIDCA 1985), in (Amazonian) Pirahã (Everett 2008), and in Tehuelche, a language of the far South (Fernández Garay 1998). However, none of these languages is known to have had close historical ties with the Middle Andean region. In an area adjacent to the Andean region, Amuesha (or Yanasha'), an Arawakan language spoken in the Amazonian sector of Central Peru, also has a three-vowel system. It may be due to an age-old interaction with neighboring Quechuan dialects (Wise 1976, Adelaar 2006) or, more likely, to a substrate language that shared similarities with Quechuan in this respect. A further possible example is the scarcely documented Culli language, the presumably extinct northern neighbor of Central Peruvian Quechua, which shows some characteristics that are reminiscent of a three-vowel system. The last two cases suggest that three-vowel systems may have been a typological characteristic of a more comprehensive linguistic area of which the Aymaran and Quechuan-speaking areas could have been a part.

However, the existence of a three-vowel system does not mean that the three vowels are necessarily the same in all cases. South American three-vowel systems characteristically consist of a low central vowel ([a]) and two non-low vowels, one of which is back and rounded ([o], [u]) and the other one front and not rounded ([e], [i]). As we shall see, the realization of the non-low vowels in Aymaran and Quechuan is dependent on the distinction between velar and post-velar consonants. This dependency seems to be a characteristic of the two language groups at issue, as it has not been established for other South American languages that distinguish between velar and post-velar consonants (for instance, Uru-Chipaya).³

In Aymaran and Quechuan, the non-low vowels are usually high ([i], [u]) in default environments, but they are normally pronounced as mid vowels in the vicinity of post-velar consonants such as the post-velar stop

² In this paper, the notion of a three-vowel system exclusively refers to the basic qualitative distinctions between vowels and not to additional modifications such as vocalic length, nasality, or laryngealization. Both Aymaran and Quechuan languages have vowel length distinctions, but these cannot be reconstructed for the proto-languages of each group.

³ Again, Culli may have been an exception with a behavior similar to that of Quechuan. However, the documentation for the Culli language is so limited that the existence of a three-vowel system cannot be ascertained.

/q/ and its fricative allophones or dialectal reflexes (if they retained a post-velar articulation at all). At least in Quechuan, this obligatory lowering of high vowels is also found when the vowel in question is separated from a post-velar consonant by resonants and fricatives, such as /n/, /r/, /l/, /ʎ/ or /s/. So the post-velar consonant and the affected vowel need not be immediately adjacent. The above is a general characterization of the way vowel lowering functions in Aymaran and Quechuan, but given the great internal variety within these two language groups, local differences occur. For instance, in Santiago del Estero Quechua, spoken in central-northern Argentina, the lowering of high vowels is not only found in the neighborhood of post-velars, but also in the neighborhood of /r/.

The crucial influence of post-velars on the rule of vowel lowering affecting high vowels is confirmed by what occurs in varieties of Quechuan where the post-velar articulation is no longer in use as a consequence of consonant merger or other sound change. In Ecuadorian Quechua, as well as in other Quechuan varieties that lost the distinction between *k and *q, the effect of vowel lowering is undone and the pronunciation is high in all environments. For instance, *qiru [qeru] ‘tree, wood’ and *kiru ‘tooth’ are no longer distinguished in form and are both pronounced identically as [kiru] (Stark and Muysken 1977). As it appears, there is no tendency to preserve the mid vowel for the purpose of maintaining a difference in pronunciation between two words that were originally distinct. No such cases have been observed.

Further examples that illustrate the dependency of vowel lowering on the presence of a post-velar consonant are found in Central Peruvian Quechuan dialects of the Huancayo region. In that area, the post-velar *q developed into a glottal stop /[ʔ]/ (or zero in word-initial position). As a consequence, the lowering rule was lost completely. So *qunqur [qonqor] ‘knee’ became [unʔul], and *qiru [qeru] ‘tree, wood’ became [ilu] (cf. Cerrón-Palomino 1976).⁴

Interestingly, the above mechanisms were not visibly disturbed by the influx of Spanish loan words that entered the Aymaran and Quechuan languages after the European invasion. In some cases the neutralization

⁴ It is not possible to give examples of the elimination of vowel lowering in the Aymaran languages, because all of the surviving Aymaran languages have preserved their post-velar consonants.

of vowel lowering described above may even have occurred after the Quechuan languages in question became exposed to contact with Spanish (although this was almost certainly not the case in Ecuadorian Quechua).

As testified by many documents of the early contact period, speakers of Andean languages found it difficult to distinguish between the high and mid vowels of the Spanish language. In the earliest borrowings they consequently replaced the Spanish mid vowels ([e], [o]) with Quechuan high vowels ([i], [u]). In more recent loans, it became a usage to adopt the mid vowels of Spanish at least in non-root-final syllables. (In root-final syllables the high vowels were normally preserved.) Nevertheless, inconsistency persisted either by a failure of Andean speakers to adequately perceive the Spanish mid vowels, or by hypercorrection, when mid vowels were used where they were not supposed to be.

The insecurity of Aymaran and Quechuan speakers with regard to the use of non-low vowels became particularly evident in their efforts to master the Spanish language. From the point of view of the dominant language, the errors in realizing the right degree of height and openness of these vowels were so frequent that they became an object of mockery, social stigmatization, and discrimination. The widespread habit of using a 'wrong' pronunciation for non-low vowels, that is, [e] instead of [i], [o] instead of [u], or vice-versa, became known in the Andean countries as '*motoseo*' or '*motosidad*'.⁵ Originally, these terms referred to any noticeable influence of native Andean languages on the local Spanish, but gradually it came to be reserved for the abovementioned interference in the vocalic domain (Cerrón-Palomino 2003:83-4).

Today, *motosidad* is perceived as a major obstacle for the integration of speakers of Andean Spanish (*castellano andino*) into the Andean national societies (Cerrón-Palomino 2003:38-64, 81-106; Pérez, Acurio and Bendeزú 2008). Discrimination and ridicule based on the pronunciation of Spanish vowels are rampant. These difficulties do not only affect speakers of Aymaran and Quechuan languages who use Spanish as a second language,

⁵ For the etymology of the word *mote* underlying these two expressions see Cerrón-Palomino (2003:41). According to this author, it is derived from Latin *muttire* 'to mutter.' It does not appear in the standard dictionaries of the Spanish language. In Peru, the term *mote* is commonly associated with a Hispanicized Quechua word for 'stewed corn.'

but also the growing number of Andean citizens who have switched to Spanish completely, and who are no longer familiar with the native languages of their ancestors. As it appears, *motosidad*, as a belated effect of the old Andean three-vowel system, will survive the massive language shift to Spanish that is underway in the Andes and the eventual disappearance of Aymaran and Quechuan from many areas in which these languages are still spoken today. However unfortunate this situation may be, it demonstrates the persistence and the social and psychological impact of the three-vowel system, which must have originated in the Central Andes several thousands of years ago.

5. Writing mid vowels in Aymaran and Quechuan

As we have seen, social stigmatization and discrimination are closely associated with the way speakers and ex-speakers of Aymaran and Quechuan perceive and reproduce mid vowels in the dominant Spanish language. So it does not come as a surprise that the way in which these vowels are rendered in the writing systems designed for these languages has become a truly sensitive issue. Indeed, a most divisive controversy arose in the Andean countries about the question how the vowel systems of the Aymaran and Quechuan languages should be analyzed: either as trivocalic (with three vowels, *a*, *i*, *u*), or as pentavocalic (with five vowels, *a*, *e*, *i*, *o*, *u*). Academic linguists with an international formation or background and their followers tend to adopt a historical viewpoint based on scientific criteria, defending the former solution, whereas other parties opted for the latter, often referring to opinions prevalent among native speakers. This controversy continues to form a serious obstacle for the orthographic standardization of the Andean languages spoken in Bolivia and Peru.

In practical terms, the difference between spellings for the Andean languages that are based on a three-vowel system and those that are based on a five-vowel system is reflected in the way mid vowels are reproduced in the neighborhood of post-velar consonants. In the former case, mid vowels will be reproduced as *i* and *u* in such environments, and in the latter as *e* and *o*, respectively. For instance, the Cuzco Quechua word for

‘nose’ /sinqa/ [senqa] can either be written as *sinqa*, or as *senqa*, depending on the number of vowels one wishes to distinguish in writing, and the word for ‘mountain’ /urqu/ [orqo] will either be written as *urqu*, or as *orqo*. Similarly, the name of the Aymara household god /iqiqu/ [eqeqo] can either be rendered as *iqiqu*, or as *eqeqo*, depending on the same criterion. When mid vowels occur in other environments, they are normally part of borrowed roots, and their presence is not predictable from the viewpoint of Aymaran or Quechuan phonology. In such cases, most orthographies coincide in writing *e* and *o* whenever the use of borrowed forms cannot be avoided.

Although this is rarely admitted, it is likely that the stigmatizing effect associated with the underdifferentiation of vowels incites speakers of Aymaran and Quechuan to view languages that distinguish five vowels as superior or more developed with respect to languages with a three-vowel system. In the perspective of these speakers, the accessibility of a five-vowel system implies that one is able to correctly perceive and reproduce the sounds of the dominant language, as well as those of one’s own vernacular, and thus avoid mockery and other unpleasant reactions. Intellectuals and educationalists who claim to defend the interests of the speakers of Andean languages will often go to great lengths to provide linguistic proof that these languages distinguish the same five vowels as in Spanish, and that this should be reflected in writing.

For instance, educators from the Cuzco area may insist that in Cuzco Quechua vowel lowering is obligatory within a root, as in /sinqa/ ‘nose’ [senqa], but not when the vowel and the post-velar consonant are separated by a morpheme boundary followed by another consonant, as in /purinqa/ ‘he/she will walk,’ which can be pronounced either as [purinqa] or as [purenqa]. As far as known, there are no cases in which this distinction is reflected in minimal pairs, but it is used as an example of the alleged ‘arbitrariness’ of the vowel lowering rule.

In a study of issues related to Quechuan orthography, Weber (1994:28-40), a linguist connected to the Summer Institute of Linguistics, presents a substantial number of cases from different Quechuan varieties in which mid vowels are found in roots of purely indigenous origin, including minimal pairs featuring a contrast between high and mid vowels. For instance, in Huánuco Quechua *wera* ‘fat’ (of persons or animals) is distinct from *wira* ‘fat’ (substance). Weber also mentions minimal pairs of mid and

high vowels in Cochabamba (Bolivian) Quechua in which these vowels are adjacent to velar fricatives that can reflect both velar and post-velar consonants at an earlier stage, for instance, in *suxta* ‘immediately’ (< *suk-ta) versus *soxta* ‘six’ (< *suqta). However, the latter examples were taken from a secondary source, and there is no guarantee that the source is observationally adequate in denying a post-velar articulation to the fricative in *soxta*. As a matter of fact, the recognition of mid vowels as separate phonemes makes it possible to attribute the post-velar articulation of a fricative to its mid vowel environment, instead of the other way around. All in all, Weber’s examples give a good impression of the practical difficulties encountered by a language policy that seeks to undo 480 years of interaction between trivocalic vernaculars and a dominant five-vowel language. It is the confrontation of a historical approach and a practical approach based on everyday linguistic variety and usage.

In spite of the academic recognition that Quechuan languages are basically trivocalic, the series of dictionaries and grammars that were published in 1976 by the Peruvian government in an effort to normalize six local standards of Quechua reflects the choice for a pentavocalic system.⁶ These initial official publications were followed by efforts to promote a trivocalic notation. A very influential educational program, entitled the Proyecto Experimental de Educación Bilingüe (‘experimental project of bilingual education’), which operated in Puno in the 1980s with foreign (German) support, consistently used a three-vowel notation in its publications of Aymaran and Quechuan texts.⁷ In these texts, the use of Spanish loan words was avoided as much as possible, so that the use of the symbols *e* and *o* became practically unnecessary. The three-vowel notation was also applied to an Aymara-Spanish dictionary published in the framework of this project (Büttner and Condori 1984).

Meanwhile, many text collections, language courses and dictionaries of the Aymaran and Quechuan languages that have been published over

⁶ In the grammar and dictionary of Ancash Quechua (Parker 1976, Parker and Chávez 1976), the long mid vowels [e:] and [o:] that are used in this variety are generally written as *ay* and *aw* in order to reflect local variation in the pronunciation of diphthongs.

⁷ Some well-known text collections published by the project are *Yanamayu Ayllu* and *Unay Pachas* (Puno Quechua), as well as *Wiñay Pacha* (Aymara).

the last decades exhibit the use of a five-vowel notation in which mid vowels adjacent to post-velar consonants are also represented as mid vowels (*e*, *o*). Illustrative examples are Soto's language course of Ayacucho Quechua (Soto Ruíz 1979) and de Lucca's Aymara-Spanish dictionary (de Lucca 1987). Among the institutions that remain strongly in favor of a pentavocalic notation for Quechuan varieties we may mention the *Academia Mayor de la Lengua Quechua*, established in Cuzco, and the *Summer Institute of Linguistics* (SIL International). Whereas the former institution mainly invokes its intellectual authority (*Academia Mayor de la Lengua Quechua* 2005), the latter emphasizes the support and recognition by native speakers and their organizations (Weber *et al.* 1998).

6. Final word

In this paper we have tried to show the historical development of a vowel system that has its roots in the prehistory of the Middle Andean region. While probably robust until the Conquest, the three-vowel system has suffered a gradually increasing pressure towards a change in the direction of a five-vowel system during the ongoing situation of contact with Spanish as a dominant language. Discrimination based on the inability to distinguish part of the Spanish vowels has contributed to a popular rejection of the indigenous three-vowel system. Educationalists and language planners now have to choose between a historical approach aimed at the formation of unified standards for the main Andean languages by sacrificing local developments of recent date, on the one hand, and the recognition of present-day variety in its most unrestricted sense, on the other. At present, both approaches seem to co-exist, and confrontations are limited to polemics in journals and occasional language planning workshops. Nevertheless, they continue to block the achievement of a unified orthography respected by all users.

It has been observed that the opinion of native speakers of Aymaran and Quechuan is colored by negative experiences in the past related to the phenomenon of *motosidad*. A recognition of this historical and practical fact may enhance the acceptance by speakers of orthographic systems that distinguish five vowels, and it may thus benefit an eventual survival

of these languages in the future. By contrast, in publications pursuing academic linguistic goals the three-vowel option is likely to remain the rule, at least in the representation of non-borrowed lexicon.

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Willem F.H. Adelaar
Center for Linguistics
Leiden University, Netherlands
<w.f.h.adelaar@hum.leidenuniv.nl>

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