Signal & Noise: Contact Effects in Ao
Daniel Bruhn
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I. Background & Philosophy

One of the significant challenges in linguistic reconstruction is teasing out the effects of language contact. Due to the unpredictability of human movements and interactions, there exists no algorithmic procedure (i.e. no analog to the comparative method) for extracting the history of contact from a body of comparative data. The historical linguist must therefore approach the data by first isolating the signal of regular sound change, treating the remainder as noise.[1] Once regular correspondences have been established, however, the residual noise begins to take shape as a contact signal under closer examination. (The situation could then be more appropriately characterized as "crosstalk", with the signal on the contact channel causing perturbations in the signal on the sound-change channel.)

The complex history of migrations, wars, intermarriages, and village mergers in northeast India (Kumar 2005: §4) means that such perturbations are common in the Naga languages. The products of regular sound change will therefore not be found neatly-confined to distinct locations (as is more often the case on the islands of the Austronesians), but may be scattered across various villages and dialects.

This short paper is a brief illustration of this concept using two examples from the Ao languages (Chungli & Mongsen). Regular sound correspondences between these two languages will be presented, with discussion of the contact "noise" for each cognate set.

II. Data

The easiest contact signals to discern are borrowings from languages of completely different stocks, which are often noticeable by their violation of the recipient language's phonotactic restrictions. The anomalous **-iŋ** rime in Chungli **na¹ɹiŋ¹** 'orange', for example, clearly marks it as a loan (of Indic origin, possibly from Hindi or Assamese).

More difficult to detect are loans from other languages of the same family, especially those in the same subgroup or dialect group. These borrowings often cannot be identified until they stand out as unexplainable exceptions (*noise*) to otherwise-regular sound changes (the *signal*).

1. 'lick'

In this first example, the following cognate sets exhibit a Mongsen **lak** : Chungli **zək** correspondence, reconstructed as Proto-Ao ***ljak**:

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[1] Technically, the definition of *noise* in linguistic data depends on the phenomenon under investigation, because everything is a signal of some sort – even inaccuracies in transcription, which may reveal useful information about the linguist who made them. However, such information is largely irrelevant to the reconstruction of linguistic history, and would thus be considered "noise" for this purpose.

Mongsen	Chungli	gloss
tən**lak**	tən³**zək¹**	'start, begin'
tʃhəm**lak**	səm³**zək¹**	'undress, take off (clothing)'
i**lak**	i³**zək¹**	'pour out'
khə́m**lák** [T]	kəm³**zək¹**	'save, rescue'
nə́ŋ**lák** [T]	naŋ³**zək¹**	'promise, be confident'
rə́**lák** [T]	rə³**zək¹**	'hatch (v.i.)'

Table 1

The first three Mongsen forms in Table 1 come from the variety spoken in Mangmetong village (Coupe 2007), while those marked with [T] are from Temsunungsang 2009, who says that his Mongsen data "mostly comes from the Mangmetong and Mokokchung variety" and does not specify further (2009: 5). The Chungli forms are standard Chungli (=Molung & Mokokchung variety; taken from Clark 1911 & Temsunungsang 2009 and corroborated by consultants).

The reconstruction of PAo ***ljak** for the cognates in Table 1 is supported by the development of Proto-Ao ***l-** to Chungli **z-** in other palatal contexts (e.g. PTB ***b-ləy** > PAo ***ph-ləj** > Mongsen **phəli**, Chungli **pə¹zə²** 'four'). The medial palatal glide of PAo ***ljak** disappeared in Mongsen but palatalized/spirantized the ***l-** to **z-** in Chungli. The ***-ak** rime was then reduced to **-ək** following **z-**. (In fact, all vowels following **z-** were to reduced to **-ə-** in Chungli.)

(1) PAo ***ljak** > Mongsen **lak**
  > Chungli ***zak** > **zək**

The noise in this sound change signal appears when we consider the following cognate set with a Mongsen **l** : Chungli **n** correspondence, shown with Matisoff's (2003) PTB teleo-reconstruction:

Mangmetong Mongsen	Standard Chungli	gloss	PTB
mə**l**ak	mə³**n**ak³	'lick'	*m/s-lyak

Table 2

The PTB teleo-reconstruction with ***ly-** lends weight to the reconstruction of PAo ***lj-** as the source of the Mongsen **l** : Chungli **n** correspondence here. Other TB languages in Nagaland preserve the medial glide in 'lick', e.g. Yimchungrü **²muɯ²leak** (Weidert 1987: #647), Zeme **niak** (Marrison 1967: II: 149), Rongmei **a-lĭak**, and Liangmei **malĭak** (both Weidert 1987: #1043). Yet if the Proto-Ao form of 'lick' was indeed ***m-ljak**, then the regular sound change described in (1) should have yielded Chungli **məzək**, not **mənak**. This appears to be an exception to a regular sound change: a chink in the neogrammarian armor.

A closer inspection of Clark's dictionary of Molung Chungli, however, reveals the contact signal that resides in this apparent noise. Although Clark has MENAK for 'lick' (1911: 409), he also crucially (for our sake) notes that '*mezyk* instead of *menak* is used by certain villages' (1911: 448). Clark does not state which (or how many) Chungli villages use **məzək** for 'lick',

but the simple fact of its existence allows the proposed PAo ***ljak** > Chungli **zak** development to stand firm.

Whence **mənak**? We may hypothesize that a Chungli variety once existed in which Proto-Ao ***lj-** had become **n-**, and from which Molung borrowed **mənak** 'lick' (displacing its own **məzək**), thus leading to an apparent inconsistency in the Chungli reflexes of PAo ***lj-.**

Some noise remains, however: What is still unexplained is how **mənak** also found its way into varieties of <u>Mongsen</u>, as reported by both Marrison (1967: 149, based on Longchang Mongsen data collected in the 1920s by J.P. Mills) and Temsunungsang (2009: 211).

2. 'rice beer'

This example is another illustration of the manner in which a borrowing can be uncovered by a difficulty in reconstruction. Consider the following cognate set for 'rice beer', in which the Longchang Mongsen form (from Marrison 1967: II: 207) differs from the nearly-identical Mangmetong Mongsen and Chungli forms:

Mongsen			
Longchang	*Mangmetong*	*Standard Chungli*	*gloss*
azə	[a]-ji	ji²	'rice beer'

Table 3

Since Mongsen and Chungli share many identical words, the similarity of the Mangmetong and Chungli forms for 'rice beer' fails to raise immediate suspicion. Without knowledge of the Longchang form, this set would simply appear to support the reconstruction of Proto-Ao ***ji.**

In other words containing **j** and **z**, however, Longchang exactly matches Mangmetong, so attempting to reconstruct a Proto-Mongsen word for 'rice beer' fails. Either Longchang **azə** is a loan from an extra-Ao language, or Mangmetong borrowed (and subsequently prefixed) **ji** from Chungli.

If Mangmetong **[a] -ji** is indeed a Chungli loan, then the original Mangmetong form was likely identical to the Longchang form. Reconstructing Proto-Ao 'rice beer' from Mongsen **azə** and Chungli **ji** yields PAo *(**a-**)**ʒə** by application of the comparative method (classifying it with such sets as PAo *m-**ʒəʔ** > Mangmetong Mongsen **məzəʔ** : Chungli **miʔ¹** 'fire').

In either case, the extra-Ao evidence is somewhat ambiguous: Lotha, which is both geographically-nearby and potentially-related to Ao, has *zu* (probably [**zə**]) for 'rice beer' (Marrison 1967: II: 207), which could be either the source of a loan into Longchang Mongsen or a cognate of the reconstructed PAo form ***ʒə**. Until the Ao-Lotha sound correspondences can be fleshed out, it is safer to assume that contact occurred along the path of least resistance: that is, Mangmetong Mongsen is more likely to have borrowed 'rice beer' from closely-related Chungli than Longchang is to have borrowed it from the more distantly-related Lotha. We can therefore represent this development as follows:

(2)   PAo *(**a**)**ʒə**   > Proto-Mongsen ***a-zə** > Longchang **azə**, Mangmetong ~~**azə**~~ **[a] -ji**
            > Chungli **ji** _____↗
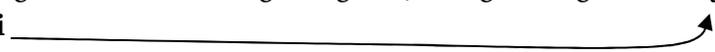
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