

Abui Verbal Classes – Comparison of clustering approaches

Abui is a Papuan language of Eastern Indonesian (Timor-Alor-Pantar family). It is notable for its fluid semantic alignment – an argument realization system in which semantic features of participants play a greater role than syntactic features (Kratochvíl 2007, 2011; Fedden et al. 2013, 2014).

Another notable characteristic of this system is the obligatory indexing of the undergoer-like arguments on verbs by a set of fused prefixes, which in addition to person and number also distinguish several types of undergoers, termed as, LOC, REC, BEN, and GOAL. Systematic alternations of these undergoer prefixes exist (Kratochvíl 2011: 601-606). In (1) we list several predicates of observable change (Beavers 2011) which display the PAT~LOC alternation. The alternation records a difference in degree of affectedness; in Beavers' scale (2011) it corresponds to the difference between *quantized* and *non-quantized change*.

Observable Change verbs (Kratochvíl and Delpada 2015: 222)

- | | |
|----------------------------------|------------------------------|
| (1) a. -Affected: LOC <i>he-</i> | b. +Affected: PAT <i>ha-</i> |
| <i>he-lilri</i> 'warm it up' | <i>ha-lilri</i> 'boil it' |
| <i>he-siki</i> 'split it' | <i>ha-siki</i> 'separate it' |
| <i>he-kol</i> 'tie it' | <i>ha-kol</i> 'tie it up' |
| <i>he-kuya</i> 'peel it' | <i>ha-kuya</i> 'expose it' |

Other predicates of observable change do not display the PAT~LOC alternation and lexicalize the PAT prefix. Some are given in (2).

Observable Change verbs (Kratochvíl and Delpada 2015: 222)

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|---|-------------------------------|
| (2) <i>ha-basa</i> 'brush him off, dust it' | <i>h-iel</i> 'roast it' |
| <i>ha-weel</i> 'wash him, bathe him' | <i>ha-tamadia</i> 'repair it' |
| <i>ha-kuol</i> 'shave it' | |

Kratochvíl and Delpada (2015:222) show that while for the verbs in (1), the degree of affectedness is precisely recorded by the prefix, for predicates in (2), change is not necessarily maximal and entailments with *non-quantized change* are possible.

To further study the features determining the indexing of predicates and the existence of inflectional subclasses such as those above, we have compiled a database of 350 Abui verbal roots and tracked their eligibility to participate in 26 alternations, including the above and others, outlined in Kratochvíl (2014). The roots were selected on frequency and include the 80 VALPAL predicates (Hartmann et al. 2013). This database complements a corpus of naturally occurring speech.

In this paper we will use two approaches to clustering to identify Abui verb classes. The first approach uses a distance matrix derived from the inflectional database. The matrix is analysed with the Neighbor-net algorithm calculating the clustering (Wichmann 2015). The number of features will be varied to study separately valence-changing alternations (adding or demoting arguments) and those modifying semantic features of participants (targeting A or U).

To study the distribution of verbal roots in the Abui corpus, we will use the Matrix-ODIN Morphology (MOM) system (Wax 2014, Zamaraeva 2016). This system automatically extracts information about inflectional classes from interlinearized glossed text. The results of both methods will be compared and interpreted using our language expertise to establish inflectional verbal classes integrating both the native speaker judgment and the natural occurrence of roots in the corpus.

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