Heads and Layers in Agglutination

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1.0 Introduction

In SOV languages like Korean and Japanese, predicates often appear as an amalgam of roots and some functional heads in the form like the one below.

(1) $[[[\sqrt{\text{Root}}]\text{-}\alpha]\text{-}\beta]\text{-}\gamma]^{\text{Word}}$ = Predicate

Many questions about the compositional properties of the predicates have been raised. There is, however, a critical problem that has rarely been pointed out; i.e., one could isolate, say α, from the complex, but α may not be in the inventory of functional heads of the language. This discrepancy forces one to treat $[\alpha\beta\gamma]$ as one unit in morphosyntax, which brings significant uncertainty in analyses.

1.1 *-garu*

In Japanese, adjectives of perception, sensation or emotion (PSE) could be verbalized with the suffix *-garu*.[1]

(2) a. Hanako ga kanashi-**gar**-ta. Verb
Nom sad-gar-Pft
(Hanako acted sad.)

b. Hanako ga kanashi-**kar**-ta. Adjective
Nom sad-gar-Pft
(Hanako was sad.)

It has been argued that *ar-* in *-garu* was derived from the copula *ar-* 'be' (Tokieda 1950, 1955). Since *u* in *-garu* is the imperfective aspectual marker, *-garu* could be divided into *-g-ar-u*.

Problem: There is no functional head *g* in the inventory of Japanese lexicon.

2.0 Heads and Layers

What we need is a system that gives each isolable morpheme an independent status within a well-constrained model of grammar. I argue that Distributed Morphology (DM, Marantz 2007, 2013) could be the model that clears the opacity of morphosyntax. The core insight is (de)compositionality and a layered syntactic structure that results from it. First, roots are verbalized in what is called "inner morphology" with "little" v (Marantz 2007, Arad 2003, Ramchand 2008, Embick 2010, and others). A typed root extends its projection with Voice (Krazer 1996, Diesing 1992, Hale & Keyser 2002, Borer 2005, Ramchand 2008, Harley 2008 and many others) that licenses Agent if there is any. Under this analysis, *g* is "little" v that derives adjectival roots to verbs This extension establishes base predicate. An argument in the base predicate is predicated secondarily with grammaticalized auxiliary verbs *ar-* in "outer morphology". (3) shows the relations of heads and arguments in the layered projections. I call this the **Layered Predicate Decomposition** (LDP) approach.

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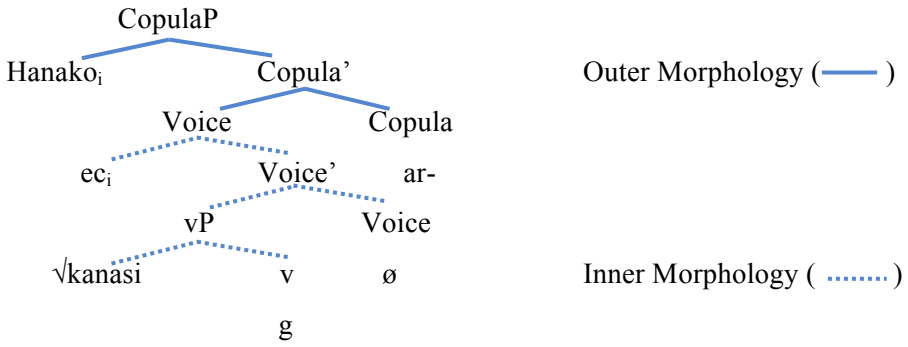
[1] There is another way of verbalizing adjectives that involves *m*. Here, I limit my analysis to *k* only; however, the method adapted here could also be used to it.

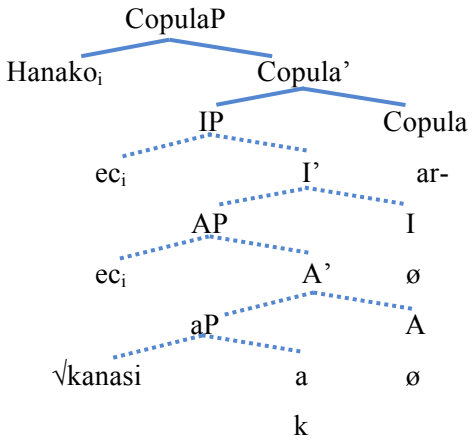
(3)



3.0 Adjectives

Note that (2a) and (2b) differ minimally with respect to the voicing of *k*.

(4)



Here, *k* is "little" a, and A is the adjectival equivalent to the verbal Voice. Crucially, following Tokieda (*ibid.*), the predicate *kanasikatta* 'was sad' was derived from √*kanasi-k-u-ar-ta*, where *u* is the neutral tense that makes the ad-verbial (ren'yoo) form. In (4) this *u* is dropped due to the VV hiatus, and the complex became [[[√kanasi-k-ø]^{IP} ar-]^{CopP} ta]^{IP}. In other words, (4) is what some traditional grammarians called "*kari*-Conjugation" (e.g. *yo-k-u-ar-i* → *yokari* 'is good').

3.1 *k* → *g*; Phonetic Locality Condition

In (4), one could argue that *g* was underlyingly unvoiced *k*.

(5) **Phonetic Locality Condition** (Bobaljik (2012))

.. α] X] Z]

A cyclic head α may show contextual allomorphy involving Z when X is not overt.

In (3), VoiceP is the complement of the copula, and the [+voice] feature spread down to *k*. On the contrary, in (4) IP is an adjunct to the copula, and the feature spreading does not occur. In fact, nothing can intervene between *kanasig-* and *ar-* in (3), but such intervention is possible in (4).

(6) a. *Hanako ga kanashi-g-**mo/sae**-ar-ta.
Nom sad-gar-Pft
(Hanako acted sad.)

b. Hanako ga kanashi-ku **mo/sae** ar-ta.
Nom sad-gar-Pft
(Hanako was also/even sad.)

In (6b) the I head *u* becomes overt because of the CC hiatus needs to be broken.

Under the LPD, adjectival and deadjectival verbal projections are uniformly treated, which provides us with a significant simplification and generalization of grammar that have not been possible before.