

Locality of Allomorphy and Allosemy: Reply to Marantz (2013)

Synopsis: The aims of this paper is (i) to provide the description of the condition for the contextual allomorphy and allosemy to take place and (ii) to argue for the existence of phase extension (Bobaljik and Wurmbrand 2013, Den Dikken 2007, Bošković 2014, Wurmbrand 2014) within the tenet of Distributed Morphology (DM, Halle and Marantz 1993, Embick and Noyer 2001, Embick 2010, 2015 among others).

Determination of Shape of Exponents: The determination of the shape of exponents has been an issue of the theory of DM. For instance, in the case of *teach*, its past tense form is *taugh-t* and it can be decomposed as an allomorphy of *teach* and a regular past tense suffix *-t*. According to Embick (2010) the occurrence of the contextual allomorphy on *Root* is accounted for as following manner. Embick claims that a cyclic head (v, n, a) forms a phase (Chomsky 2001) and it spells out elements in its sister domain. This mechanism yields the distinction between nominalization with a regular nominalization suffix *tion* and gerund with *-ing* of $\sqrt{\text{destroy}}$ as illustrated in (1). In (1)b, the direct attachment of n^0 to the *Root* triggers allomorphic alternation while in (1)c an intervention of v node blocks allomorphy on the *Root* (\rightsquigarrow represents Spell-out).

(1) a. $[\sqrt{\text{destroy}} + v^0] \rightsquigarrow \text{destroy}$ b. $[[\sqrt{\text{destroy}} + n^0]] \rightsquigarrow \text{deconstruct} + \text{ion}$ c. $[[\sqrt{\text{destroy}} + v^0] + n^0] \rightsquigarrow \text{destroy} + \text{ing}$
 Moreover, if an exponent of a cyclic head is φ (=phonologically zero), for instance in the case of *taught*, the cyclic head is not to be an intervener. Therefore, $T_{[\text{past}]}$ is able to interact with *Root* without the intervention effect as illustrated in (2) (Embick 2010).

(2) a. $[_{\text{TP}} [_{\text{VP}} \sqrt{\text{teach}} + v^0] + T]$ b. $\sqrt{\text{teach}} + v \rightsquigarrow \text{taugh}$ c. $T_{[\text{past}]} \rightsquigarrow t$ d. $b+c = \text{taught}$

Phase domain and Contextual Allosemy: The cyclic head also does another job in the side of LF as Marantz (2013). Consider *globe-global-globalize* derivation as in (3). Here, the original form *globe*, which is a realtion of $\sqrt{\text{globe}}$ under the context of n head, holds two meanings, “something spherelike” and “the world”, but the derived adjective *global*, which is realized in the context of a , abandons the meaning of “something speherelike”. Moreover, a derived verb *globalize*, which is conditioned by v , inherits the meaning of *global* and it means “to be worldwide”, not “to be sphere”. The absence of the interpretation of “something spherelike” indicates that v outside a cannot trigger the allosemy on *Root*.

(3) a. $\sqrt{\text{globe}} \rightsquigarrow \{\text{something spherelike} / \text{the world}\} / _ n$ b. $\sqrt{\text{globe}} \rightsquigarrow \text{the world} / _ _ n] a$
 c. $\sqrt{\text{globe}} \rightsquigarrow \text{the world} / _ _ n] a] v$

Puzzle: However, there are cases where the condition does not seem to hold in Japanese. As Marantz (2013), notes certain numbers of Japanese derived nominal, such as “*nagashi*”, *sink*, “*dashi*”, *stocksoup*, and “*mage*”, *a topknot*, displays contextual allosemy on *Root* which is triggered by *Renryo-kei* (RYK), or *-i*, nominaization. For instance, “*nagashi*”, *sink*, is etymologically relates to inchoative/causative pair “*naga-{\textit{rer-u/s-u}}*”, to flow and to make something flow, and they are derived from the same *Root* “ $\sqrt{\text{naga}}$ ”. An interesting issue here is that apparently the derived nominal has *Root-v(=s)-n(=i)* structure and although clearly there is an overt intervener, *s*, between RYK nominalizer and *Root*, allosemy on *Root* is triggered as illustrated in (5). I call this as Marantz’s puzzle throughout this paper.

(4) Allomorphy on v : a. $v^0_{[\text{inchoative}]} \rightsquigarrow /re/ / \sqrt{\text{naga}} _ _ _$ b. $v^0_{[\text{causative}]} \rightsquigarrow /s/ / \sqrt{\text{naga}} _ _ _$

(5) Allosemy on $\sqrt{\text{v}}$: a. $\sqrt{\text{naga}} \rightsquigarrow \text{flow}$ b. $\sqrt{\text{nag}} \rightsquigarrow \text{to flow} / _ _ _ v_{[\text{inchoative}]}$ c. $\sqrt{\text{naga}} \rightsquigarrow \text{to flow} / _ _ _ v_{[\text{causative}]}$
 d. $\sqrt{\text{naga}} \rightsquigarrow \text{sink} / _ _ _ v] n$.

Proposal and Analysis: To account for the contextual allosemy puzzle put forth by Marantz (2013), I assume the Dynamic Phase Theory (DPT, Bobaljik and Wurmbrand (B&W) 2013, Bošković 2014, den Dikken

2007, Gallego 2007 Wurmbrand 2014). According to the DPT, a phase is relativized and in the configuration of [X [Yⁿ Y]], where the projection of Y would normally close off a domain, formation of such a domain is suspended just in case Y depends on X for its interpretation (B&W 2013). This accounts for the special adjectival graduation pattern of *good* in Latin comparative. Note that, I follow Bobaljik’s (2012) extensive cross-linguistic survey that the superlative form is universally built from the comparative and they have underlying structure [[[Root] CMPR] SPRL], and moreover, each of CMPR and SPRL morphemes forms a phase. The DPT correctly predicts that graduation of good ‘bon•us-meli•or- opt•imus’ (*good-better-best*) in Latin exhibits ABC type triple, although most languages exhibit ABB type derivation. The DPT correctly predict that in English, the comparative and the superlative form of *good* are derived from the stem allomorphy (or suppletion) *bet(t)* as illustrated in (6), whereas in Latin, in order to interpret morphological shape of the superlative, suspension of spell-out takes place as illustrated in (7)

- (6) a. [√good] \rightsquigarrow good (elsewhere) b. [[√good] cmpr] \rightsquigarrow *bett•er* c. [[[√good] cmpr] sprl] \rightsquigarrow *be•st*
 \leftarrow PH(ase) \rightarrow \leftarrow PH(ase) \rightarrow
 (cf. ①√good \rightsquigarrow good (eslwhere) ② √good \rightsquigarrow *be(tt)*/ ___ CMPR)
 (7) a. [√good] \rightsquigarrow *bon-* (eslwhere) b. [[√good] CMPR] \rightsquigarrow *mel* c. [[[√good] CMPR] SPRL] \rightsquigarrow *opt* (Latin)
 \leftarrow PH \rightarrow $\leftarrow\leftarrow\leftarrow$ PH $\rightarrow\rightarrow\rightarrow$ (suspension)

The DPT also explains the Maratnz’s puzzle above. Remember the Root allosemy is triggered by the RYK nominalize suffix. Since the Root needs to be accessed by RYK derivational suffix to be interpreted correctly, thus this meets condition for the suspension within the morphological domain as B&W (2013) notes. The detailed mechanism is illustrated as following. First, the Root such as *√naga-*, *√d-*, or *√mug-* merges with a little *v* node, which responsible to inchoative/causative alternation as in (8)a. and yields either inchoative/causative verb. Then, it gets nominalized with attachment of RYK derivational suffix as in (8)b, and at the same time, in order to interpret the semantics on the Root, the suspension takes place. As a result, all of Root, *v* and *n* are in the single cyclic domain and they all can interact each other.

- (8) a. [_v√naga- *v*⁰] b. [_n [_v√naga- *v*⁰] *n*⁰] \rightsquigarrow *naga•s•i* “sink” “*to make something flow”
 \leftarrow PH \rightarrow $\leftarrow\leftarrow\leftarrow$ PH $\rightarrow\rightarrow\rightarrow$

Extension:Phase Extension and Allomorphy on Classifier: The current theory bring us an interesting insight on Japanese Numeral Expression. In Japanese, numeral + classifier is used in order to count things. The form of classifier varies depending on host nominals. For instance, the classifier for book is “satsu”, one for stick is “hon” or its allophone “pon” and so. Here I assume underling form of the classifier is CL and its exponent is determined at the point of Vocabulary Insertion referring its host. Now, following Watanabe’s (2006), I assume the structure in (9)a for Japanese DP. (Here I adopt κP for Case projection) and I further assume numeral expression is generated in Spec #P and CL is generated in # head as in (9)b.

- (9) a. [QP [κP[#P [nP √ +n] #] κ] Q] a. [_P [#P san [_{nP} √hon +n] satsu] ga] (Three-book-CL-NOM)
 \leftarrow PH \rightarrow $\leftarrow\leftarrow\leftarrow$ PH $\rightarrow\rightarrow\rightarrow$

The issue here is that, again, there is a nominal projection between *Root* and the classifier and it can be a potential intervener for CL to interpret the characteristics of Root within the nominal domain as in (9)b. Thus, again, semantically CL on #⁰ needs to interpret item (=Root) inside *n*-domain and this is an exact condition B & W (2013) claim that the suspension of spell out takes place as in (9)b. Moreover, this suspension correlate with cross-linguistic survey in Moskal (2015) that κ does not trigger suppsion but # does.