Kitagawa (1986) observes cases in Japanese in which the morphemes *ko-, usu-, and oo-* which normally receive adjectival interpretation ('little', 'thin', and 'big' respectively), are sometimes interpreted adverbially, even when they form a phonological constituent with a following nominal element:

(1) a. *ko-gosi o kagameru ‘bend oneself slightly’
    little-waist Acc bend
   CF: *ko-eda ‘twig’
   little-branch
b. oo-guti o akeru ‘open one’s mouth wide(ly)’
    big-mouth Acc open
   oo-goe ‘big voice’
   big-voice

Kitagawa shows that these examples are "paradoxical" in the sense that the A-morphemes (*ko-, usu-, oo-) form a phonological constituent with the nominal, exemplified by Rendaku (first segment of second element gets voiced; *kuti ‘mouth’ → oo-guti o akeru ‘open one’s mouth wide’), but they are semantically adverbial, thus not forming a semantic constituent with the nominal element, as infelicity of a sentence involving a conflicting adverb suggests:

(2) a. #hukaku *ko-gosi o kagameru  b. #wazukani oo-guti o akeru
   deeply little-waist Acc bend  slightly big-mouth Acc open
   #‘deeply bend oneself slightly’  #‘slightly opens one’s mouth widely’

I argue that the phonological constituency observed between such As and Ns is a result of a post-syntactic morphological operation, Local Dislocation Merger (LDM) (Embick & Noyer, 1999), and that the adverbial-like interpretation of such As arises from them being construed in the innermost complement position of V. The derivation of (1b) is shown below:

(3) a. Spell-Out: [vP [VP [NP guti] [V’ [XP oo] ake]]] b. Linearization: [guti * oo * akeru]
   mouth big open  c. LDM: [[ __ ] * [A oo + guti] * akeru]

That the A-Ns are derived by LDM rather than by syntactic operation is evidenced by the fact that these A-Ns do not behave like a single complex head as far as their distribution is concerned; they cannot appear with a nominal modifier (4a), or with degree modifiers (4b), hence the A-Ns do not behave either like syntactic nominals or adverbial:

(4) a. *neko no oo-guti o akeru ‘open cat’s mouth slightly’
   cat Poss big mouth Acc open
b. *totemo oo-guti o akeru ‘open one’s mouth very slightly’
   very big mouth Acc open

Assuming that they are syntactically an independent head, the claim that the adverbially interpreted As appear in innermost V-complement position can be justified by constituency (5) and binding (6) tests. (5b) indicates that A is a part of VP, so it cannot be stranded. (6b) argues that the projection of A occurs lower than the complement NP; coindexing of the pronominal *sore* in NP with the R-expression *kuti ‘(one’s) mouth’ appearing in a projection of A can be correctly ruled out as a Condition C violation:

   widely mouthAcc open-even John-Nom did  mouthAcc open-even John-Nom widely did
   ‘open the mouth widely John did’

(6) a. John-ga kuti,-o [sore,-no aku tokoro-made ooki-ku] aketa
   John-Nom mouth-Acc it-Gen open-point-to widely opened
   ‘John opened the mouth, [as widely as its openable point]’

b. *John-ga sore,-o [kuti,-no aku tokoro-made ooki-ku] aketa
   ‘John opened it, [as widely as mouth,’s openable point]’

The observation that the A-Ns must appear in predicative environments (e.g. *obaachan no ko-gosi ‘grandma’s little/slightly waist’; Kindaichi, 1973; Kitagawa, 1986) is accounted for by taking the relevant As to be V-complements in syntax. Furthermore, I show that the LDM account correctly predicts the observed distribution of the A-Ns shown in (4); this straightforwardly falls out from the locality condition imposed on the LDM. Because LDM operates on linear structure, A-N formation is legitimate only when N is in peripheral position (thus no nominal modifier) and there is no linearly intervening element between A and N (thus no degree modifier).

I close with the discussion of potentially parallel English phenomena (ex. *He sliced the meat thick / thickly*) that may also illuminated by this approach.
References


