Japanese compounds

Itô & Mester (2003)[1] "IM#", with amendments from Itô & Mester (2006)[2] "IM 2006".

(1) Rendaku basics
In modifier-head compounds, where the second member is Yamato (native, non-mimetic), if the second member begins with a voiceless obstruent, it becomes voiced (for /h/, this means becoming [b]):

kami	'paper'
hari-**g**ami	'poster paper' (IM3)

Probable diachronic origin: genitive *–no* (*hari-no-kami* > *hari-n-kami* > *hari-n-gami* (postnasal voicing) > *hari-gami*).

Systematic exception: Lyman's Law. No rendaku if the second member already contains a voiced obstruent (relects a Yamato phonotactic: maximum one voiced obstruent per word)

kita-**k**aze	'north wind' (IM3)

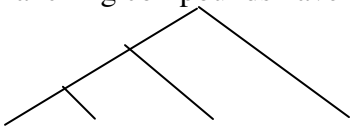
Semi-systematic exception: in an older version of Lyman's Law, rendaku was also blocked if the *first* member contained a voiced obstruent, and this accounts for some contemporary exceptions (disproportionately many? don't know)

mizo-**k**anna	'groove plane' (IM110)

Also lexical exceptions

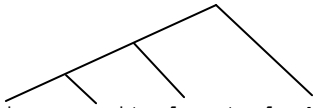
kata-**k**ana	'katakana' (IM149)
cf. hira-**g**ana	'hiragana' (IM149)

(2) Rendaku in longer compounds
Left-branching compounds have rendaku at each boundary

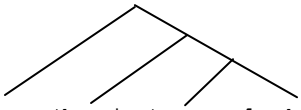


(((hoshi-**g**aki)-**dz**ukuri)-**d**ayori) '((dried-persimmon)-making) report'(IM186)

In cases of right-branching, rendaku gets blocked: *fake+god+shelf+making*

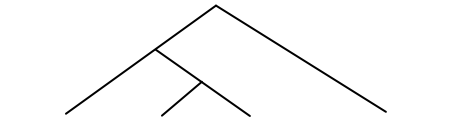


(((nise-**g**ami)-**d**ana)-**dz**ukuri)
'making of shelves for fake gods'

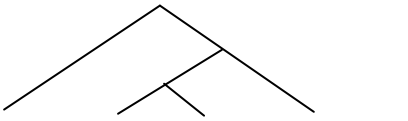


(nise-(kami-(tana-**dz**ukuri)))
'fake act of shelf-making by gods'

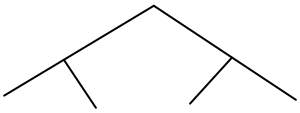
[1] Junko Itô & Armin Mester (2003). Japanese Morphophonemics: markedness and word structure. Cambridge, MA: MIT Press.
[2] Junko Itô & Armin Mester (2006). Prosodic adjunction in Japanese compounds. To appear in *Proceedings of FAJL 4*, Osaka. MIT Working Papers in Linguistics.



((nise-(kami-**d**ana))-**dz**ukuri)
'making of fake god-shelves'



(nise-((kami-**d**ana)-**dz**ukuri))
'fake act of god-shelf making'



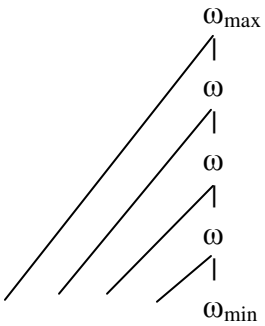
((nise-**g**ami)-(tana-**dz**ukuri)) (IM188-189)
'shelf-making by fake gods'

"voicing is systematically blocked at the beginning of a larger subconstituent" (IM189)

Derivational explanation: don't voice the beginning of an embedded (already-formed) constituent. Problem: the head of the compound can undergo rendaku, so this restriction has to somehow kick in only after the first step of compounding has already been done.

(3) Review of Itô & Mester's (2006) theory of prosodic structure
(See Itô & Mester 1992/2003[3])

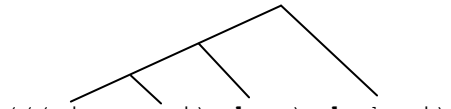
- Only utterance, intonational phrase, phonological phrase, p-word (and lower-down stuff).
- No accentual phrase, major phrase, minor phrase, clitic group, etc.
- But, strict layering is not an absolute. You can have recursive structure (at the cost of violating NORECURSION).
- The *F* that dominates no *F* is the F_{min}, and the *F* that is dominated by no *F* is the F_{max}. Any constraint that just refers to "*F*" will apply to all *F*s, but constraints can also single out F_{min} and F_{max}.



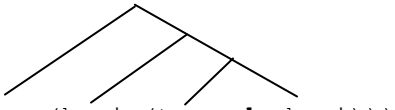
(4) Take rendaku as diagnostic of ω_{min}
I.e., rendaku can appy at the beginning of a ω_{min}, but not at the beginning of a bigger structure.

Let's then annotate these trees for p-word structure, with ω_{min}s underlined

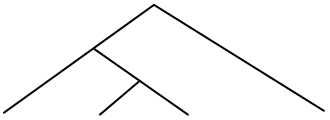
[3] Junko Itô & Armin Mester (1992/2003). Weak layering and word binarity. Originally a working paper, then published in Takery Homma, Masao Okazaki, Toshiyuki Tabata & Shin-ichi Tanaka (eds.) *A New Centruy of Phonology and phonological Theory. A Festschrift for Professor Shosuke Haraguchi on the Occasion of his Sixtieth Birthday*. Tokyo: Kaitakusha. Pp. 26-65.



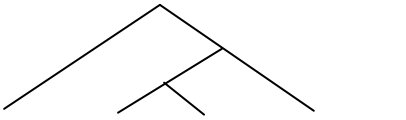
(((nise-**g**ami)-**d**ana)-**dz**ukuri)
'making of shelves for fake gods'



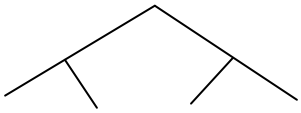
(nise-(kami-(tana-**dz**ukuri)))
'fake act of shelf-making by gods'



((nise-(kami-**d**ana))-**dz**ukuri)
'making of fake god-shelves'



(nise-((kami-**d**ana)-**dz**ukuri))
'fake act of god-shelf making'



((nise-**g**ami)-(tana-**dz**ukuri)) (IM188-189)
'shelf-making by fake gods'

(5) Deriving the prosodic structure

- ANCHOR-L: a grammatical word initiates a p-word

competes against *STRUC-ω and NORECURSION

(6) Pitch-accent basics

(Except for initial lowering,) a (Tokyo) Japanese word starts out H and stays that way till it hits a HL pitch-accent, if any.

Max. one pitch-accent allowed per word (except for certain prefixes, which Poser apparently argues form separate p-words).

Accented suffixes lose out to roots: /tábe+tára/ -> *tábe-tara* 'eat-*conditional*' cf. /ire+tára/ -> *ire-tára* 'insert-*conditional*'.

In simple (binary) compounds, only one accent is allowed. Sometimes the second member keeps its accent:

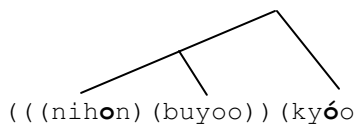
áka + murasáki → aka-murasáki 'reddish purple' (IM112)

And sometimes the "compound accent rule" applies:

náma+tamágo → nama-támago 'raw egg' (IM195)

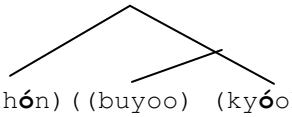
(7) Pitch-accent in complex compounds

nihón+buyoo(?)+kyookai(?) Japan+dance+association



(((nih**o**n)(buyoo))(ky**ó**okai)
'association for Japanese dance'

only one pitch-accent



((nih**ó**n)((buyoo) (ky**ó**okai))) (IM 196)
'dance association of Japan'

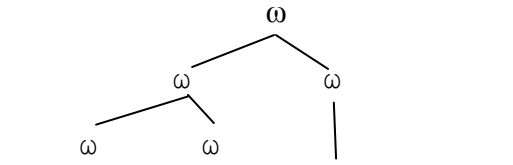
two pitch-accents in some right-branching compounds

(8) Analysis of deaccenting

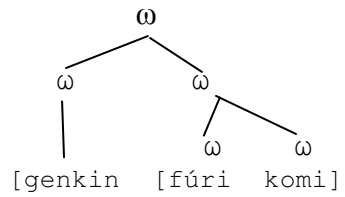
- Only one pitch-accent is allowed per minimal p-phrase (Φ).

Left-branching compound must always be a single p-word (and therefore a single minimal p-phrase). Because...

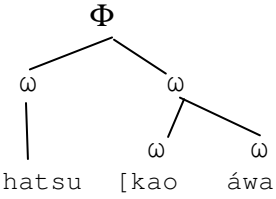
- By default, compounds prefer to be a single p-word.
- The head of a p-word is its right member.
- The head of a p-word is maximally 4 moras (the "canonical word"—see IM 2006 for justification and details of analysis).
- In most cases, the right member of a left-branching compound won't be more than 4 moras => it can head a p-word => the whole compound can be one p-word => there's only one accent.



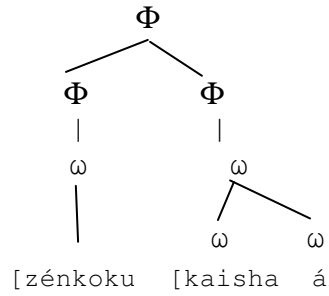
But right-branching compounds will vary, depending on the size of the second member:



one (junctural) accent



one (cyclic) accent: *kao awase* is too big to head a ω



two (cyclic) accents (I&M 2006)

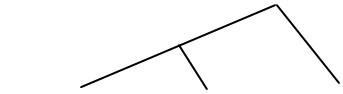
Why must prosodic structure be right-branching in these cases? Because of a Truckenbrodtian WRAP constraint requiring each lexical word to form its own p-word.

Itô & Mester (2006) say that the reason why some compounds form two phrases and others form two is unclear, and some items vary. Could have to do with number of feet in second member (if >3, must be its own phrase), but also some morphemes always form their own phrases.

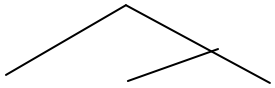
- Junctural pitch-accent applies to the first syllable of the second member of a maximal p-word (ω). Otherwise, the accent is cyclic (i.e., same as when accented constituent occurs on its own).

That why *genkin fúri komi* has junctural accent, but not **hatsu káo awase* or **zénkoku káisha annai*. (But note possibly-junctural accent within *kaisha ánnai*.)

(9) Minimal pair



(((nihon)(**z**akura))(m**á**tsuri)
'festival for Japanese cherry blossoms'

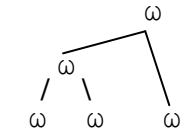
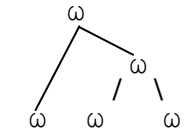
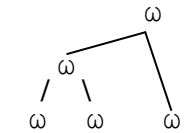
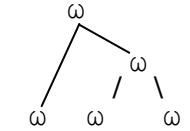


((nih**ó**n)((sakura)(m**á**tsuri))) (IM 197)
'cherry-blossom festival of Japan'

(10) Note on factorial typology

This is an issue not just for Itô & Mester but for all monostratal OT analyses of prosodic domains of segmental rules, but here we have a case where we can see the weird prediction clearly.

You could have a language where, if rendaku is inapplicable (stem is sonorant-initial, or Lyman's Law applies), you get the default prosody, as diagnosed by the accent placement. But if rendaku is applicable, you get a different prosody to avoid the faithfulness violation:

/[[aka+nito]+matsu]/	RENDAKU (applies between adjacent minimal ωs)	ACCENTING (second branch of maximal ω gets initial accent)	IDENT (voice)	WRAP
☞ *a.*  aka nito m**á**tsu				
b.  aka n**í**to matsu				*!
/[[aka+tako]+matsu]/				
c.  aka **d**ako m**á**tsu			*!	
☞ *d.*  aka **tá**ko matsu				*

(you'd still see evidence for rendaku, in binary compounds)

(11) Evidence for maximally-binary p-word-head

- Why don't these binary compounds show junctural accenting?

minami rosanzérusu	'South Los Angeles'
shiro asuparágasu	'white asparagus' (cf. variant *shiro ásupara*)
kita kariforunia	'northern California' (I&M 2006)