## Mora structure in Japanese

Tsujimura (2014: ch 3, sec 3) presents basic information about moras and mora structure in Japanese. We will propose some refinements and extensions to her discussion.

• The word *mora* has two possible plural forms, *moras* and *morae*.

Tsujimura (2014) characterizes the mora in Japanese as follows (example (80), p 67):

The mora has one of three realizations shown in (80).

- (80) a. (C)V
  - b. the first part of a long consonant ([...] the first part of a geminate)
  - c. syllable-final (i.e. coda), or "moraic" nasal ...
- I. Basic concepts related to moras
- (1) Using the classification of moras in Tsujimura's example (80), divide the following words into moras. Indicate for each mora whether it belongs to what Tsujimura calls type (a), (b), or (c). (To make this more convenient, I have indicated long vowels and long consonants with double symbols rather than using the phonetic length mark [:].)

(2) Does Tsujimura's mora-type classification in (80) make the correct prediction for these words? If so, do the same as in (1) above. If not, how does Tsujimura's classification fail?

(3) What is the relationship between hiragana characters and moras? Hiragana are given here for all the examples considered above.

いけばな	[ ikebana ]	べんきょう	[ beŋkjoo ]
せっけん	[ sekken ]	りゅうきゅう	[ rjwwkjww ]
ほんとう	[ hontoo ]	ひゃく	[ çjakw ]

- II. Evidence that the mora is relevant in Japanese phonology
- One way of making nicknames in Japanese is to add the suffix [tcan] to a shortened form of the name. Here are some nicknames formed this way. Can you state a generalization about the phonological structure of the shortened forms is there anything they have in common?

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(a) [hanako] \rightarrow [hana-t\widehat{c}an] [osamw] \rightarrow [osa-t\widehat{c}an] [cumsuke] \rightarrow [cum-t\widehat{c}an] [keiko] \rightarrow [kei-t\widehat{c}an]
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(b) [akiko] 
$$\rightarrow$$
 [ako- $\widehat{tgan}$ ] [masako]  $\rightarrow$  [mako- $\widehat{tgan}$ ]

(c) [çiroko] 
$$\rightarrow$$
 [çii-t͡çan] [nat͡swko]  $\rightarrow$  [nat-t͡çan] [jaswko]  $\rightarrow$  [jat-t͡çan]

(5) English-speaking children often learn about *haiku* in elementary school as a poem that has 5/7/5 "syllables." Consider the following Japanese *haiku*, which has a 5/7/5 structure — but what is being counted?

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蝶の
蘭の
         香
                  Þ
                                        翅に
                                                       薫物
                                                                す
                        / tcoo-no
                                       tsubasa-ni /
                                                      takimono sw ]
[ran-no ka
                  ja
orchid-gen fragrance EMPH
                           butterfly-GEN
                                       wing-Loc
                                                      incense
                                                                do
```

'the fragrant orchid / into a butterfly's wings / it breathes the incense'

— Bashô (trans. Makoto Ueda)