

Light diphthongs, I/U asymmetries and Government Licensing

Markus A. Pöchtrager (*markus.poechtrager@univie.ac.at*), University of Vienna

1. Introduction. Elements, the privative building blocks of melody in Government Phonology (Kaye, Lowenstamm & Vergnaud 1985, 1990) show asymmetries that have long been noted (Charette & Göksel 1994, 1996; Denwood 1997; Goh 1997), but only began to be accommodated in the theory recently (Pöchtrager 2009, 2015; Mutlu 2017; Živanović & Pöchtrager 2010). One recurrent asymmetry holds between **I** and **U**, as in Turkish vowel harmony (Charette & Göksel 1994, 1996): **I** spreads without restriction into any (regular) suffix, but **U** only into those with high vowels (=lacking **A**). **U**-harmony in general is more restricted than **I**-harmony, cf. Kaun (1995). Pöchtrager (2009, 2015) argued that the asymmetry recurs independently of harmony in English diphthongs and Mandarin nuclei, amongst others.

Here I present a novel case where the **I/U**-asymmetry is relevant: Light diphthongs (LDs; Kaye 1985) and their interaction with onsets in English, French, and Japanese. (An LD has the glide first and is fully contained in a nucleus, cf. (1).) In addition, the data suggest an interaction with Government Licensing (GL; Charette 1991) and show that both branchingness and emptiness are deviations from a non-branching, non-empty baseline.

2. English. [j] (**I**), [w] (**U**) by themselves precede almost any vowel (2a–b) and act like onsets (*a/*an yard/wolf*). This changes when a consonant precedes (Cj/Cw). In Cj the following vowel is restricted to [u:] (or variants: lowered by *r*; reduced to unstressed schwa); [kju:t] but *[kjɛt], *[kja:t] etc. (I take *piano* as [pɪ'jæ...]). This dependency suggests that [ju:] in Cj is an LD, correctly predicting that the quality of the preceding C should not matter (2c). (Leaving aside varieties disallowing coronals.) But if [ju:] is an LD, thus a complex nucleus, it remains unclear why a branching onset (BO) cannot precede, i.e. why *[klju:t], *[krju:t] are out. (Heavy diphthongs (glide final) *do* allow BOs: *brown, clay*.) Cw is yet again different, with restrictions on the preceding consonant but hardly any on the following vowel (2d–e), i.e. the *w* in *twin* etc. does not form a LD with the following vowel, but is part of a BO *tw*.

Conclusion: Only **I** can be the glide in an LD and its onset can *neither* be empty *nor* branch.

3. French. French has [j] (**I**), [ɥ] (**I & U**) and [w] (**U**). Kaye & Lowenstamm (1984) argue that [w] sits in an onset in (3a) but is part of an LD in (3b), explaining the difference in determiners and the lack of restrictions on following vowels in (3a). Those LDs can be preceded by any onset, simple (3c) or branching (3d). Kaye & Lowenstamm (1984) do not discuss that this holds only for [ɥ] and [w], though: [j] can occur in LDs (3e), where the onset is (accordingly) unrestricted in quality, as long as it is not a BO. (It can be empty: [jø] ‘eyes’.)

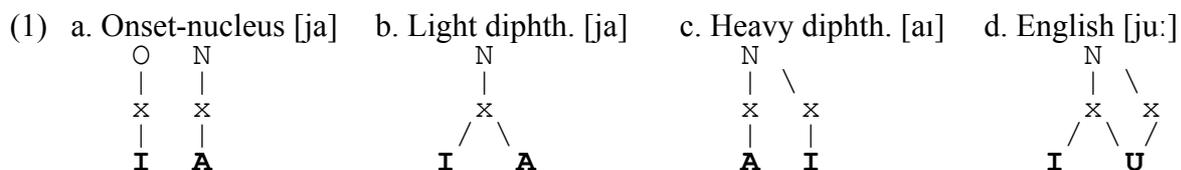
Conclusion: **I**, **U** or both can make up the glide in an LD, but a BO requires **U** in the glide.

4. Japanese. Japanese imposes no restrictions on the C in a Cj-sequence (4) and lacks BOs, hence Yoshida (1996) and Kaye (1992) take [j] as part of an LD, supported by restrictions on the following vowel. (Both treat forms like [tʃa] ‘tea’ as [t]+[ja], as commonly done for Japanese (Labrune 2012)). The glide [w] only precedes [a] and never follows a consonant (*[wi], *[kwa]), suggesting that [wa] is an LD unable to license any preceding onset.

Conclusion: **I** or **U** can make up the glide in an LD, but **U** bars (any) preceding onsets.

5. Analysis. 5.1. The summary in (5) reveals that the three languages can be interpreted as subsets of another, with French the most liberal system, Japanese a subset of French, and English a subset of Japanese, though this is masked by systematic gaps in each language. Accordingly, the underlying mechanisms must also stand in a subset relation. **5.2.** The lack of English BO+LD (*[klju:t]) suggests that one of the principles is GL, regulating the distribution of clusters: Before a final empty nucleus (FEN), French has coda-onset clusters ([kaʁt] ‘card’) and BOs ([katʁ] ‘4’), English only coda-onset clusters (*tent, belt*). LDs mirror FENs: Both types of cluster can precede LDs in French ([kuʁtwa] ‘courteous’, [tʁwa] ‘3’), only coda-onset clusters in English (*impute*). By extending the licensing powers of FENs to LDs, the asymmetry can be derived. **5.3.** English jV disallows both empty onsets (**an yes*) and BOs. Both are a deviation from the non-empty, non-branching case (say, [k] in *cute*).

This echoes the previous point, with FENs as empty positions and LDs as complex nuclei patterning together. **5.4.** An LD without U in the onglide bars BOs (cf. **3**). This is surprising in that U seems picky when spreading (cf. **1**), but conducive to GL, for reasons yet unknown.



- (2) a. *yes, yield, yip, yawn, yoke, yearn, yard, university* etc.
 b. *wit, weep, wet, wise, warn, wait, woo, woman* etc.
 c. *view, music, hue, beauty, sue, lurid* (some varieties), *tune* (some varieties) etc.
 d. *twin, dwell, thwart; quick, Gwen* – *[fw], *[vw], *[mw], *[nw], *[lw], *[rw] etc.
 e. *twin, tweet, twice, twang, twat* etc.
- (3) a. *watt* [wa...] ‘id.’, *week-end* [wi...] ‘id.’, *western* [wɛ...] ‘id.’ etc.
 b. *oie* [wa] ‘goose’, *oint* [wɛ̃] ‘anointed’, *ouest* [wɛ...] ‘west’ etc.
 c. *toi* [twa] ‘you’, *roi* [ʁwa] ‘king’, *coin* [kwɛ̃] ‘corner’, *moi* [mwa] ‘me’ etc.
 d. *trois* [tʁwa] ‘3’, *croix* [kʁwa] ‘cross’ etc.
 e. *bien* [bjɛ̃] ‘well’, *rien* [ʁjɛ̃] ‘nothing’, *mien* [mjɛ̃] ‘mine’, *vieux* [vjø] ‘old’ etc.
- (4) *kyaku* ‘visitor’, *hyaku* ‘100’, *ryaku* ‘omission’, *zyama* ‘hindrance’, *myaku* ‘pulse’ etc.

(5) LDs in... a. English b. French c. Japanese

Onset	jV	ɥV	wV	jV	ɥV	wV	jV	ɥV	wV
empty	no	—	no	yes	yes	yes	yes	—	yes
simple	yes	—	no	yes	yes	yes	yes	—	no
branching	no	—	no	no	yes	yes	—	—	—

‘—’ for systematic gaps independent of LDs

References. Charette, M. 1991. *Conditions on phonological government*. Cambridge: CUP.
 ♦ Charette, M. & A. Göksel. 1994. Vowel Harmony and Switching in Turkic languages. *SOASWPLP*. **4**. 29–56. ♦ Charette, M. & A. Göksel. 1996. Licensing constraints and vowel harmony in Turkic languages. *SOASWPLP*. **6**. 1–25. ♦ Denwood, A. 1997. *The Role of the Element I in Khalkha Mongolian Phonology*. PhD SOAS. ♦ Goh, Y.-S. 1997. *The Segmental Phonology of Beijing Mandarin*. Taipei: Crane. ♦ Kaun, A. Rh. 1995. *The Typology of Rounding Harmony: An OT Approach*. PhD UCLA. ♦ Kaye, J. 1985. On the syllable structure of certain West African Languages. D. L. Goyvaerts (ed.): *African Linguistics*. Amsterdam: Benjamins. 285–308. ♦ Kaye, J. 1992. On the interaction of theories of Lexical Phonology and theories of phonological phenomena. W. U. Dressler, H. C. Luschützky, O. E. Pfeiffer & J. R. Rennison (eds.): *Phonologica 1988*. Cambridge: CUP. 141–155. ♦ Kaye, J. & J. Lowenstamm. 1981. Syllable structure and markedness theory. A. Beletti, L. Brandi & L. Rizzi (eds.): *Syllable Structure and Markedness Theory*. Pisa: Scuola Normale Superiore. 287–316. ♦ Kaye, J., J. Lowenstamm & J.-R. Vergnaud. 1985. The internal structure of phonological elements: a theory of charm and government. *Phonology Yearbook*. **2**. 303–328. ♦ Kaye, J., J. Lowenstamm & J.-R. Vergnaud. 1990. Constituent structure and government in phonology. *Phonology*. **7:2**. 193–231. ♦ Labrune, L. 2012. *The Phonology of Japanese*. Oxford: OUP. ♦ Mutlu, F. 2017. Valence and Saturation in Phonology. MA Boğaziçi University. ♦ Pöchtrager, M. 2009. Diphthong, know thyself. *Binding in Phonology*. Paper MFM17. ♦ Pöchtrager, M. 2015. *Binding in Phonology*. H. van Riemsdijk & M. van Oostendorp (eds.): *Representing Structure in Phonology and Syntax*. Berlin: Mouton de Gruyter. 255–275. ♦ Yoshida, Sh. 1996. *Phonological Government in Japanese*. Canberra: Australian National University. ♦ Živanović, S. & M. Pöchtrager. 2010. GP 2.0 and Putonghua, too. *Acta Linguistica Hungarica*. **57:4**. 357–380.