

## ABOUT U AND I

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Element Theory (Kaye et al. 1985, 1990, Harris 1990, Scheer 1999, Backley 2011) distinguishes between place elements (**A**, **I**, **U**) and manner elements (**L/N**, **H/h**, **?**). Place elements are grouped together because they identify the “colour” of both vowels and consonants, e.g., lowness, frontness, backness, roundness, brightness, etc. However, I argue that the element **A** differs from **I** and **U** inasmuch as it is more vocalic. As a matter of fact, **A** and **?** tend not to combine in the same syllabic slot, whereas no such limitation is known for **I** and **U**. In (1) I propose the following internal structure of stops:

(1)

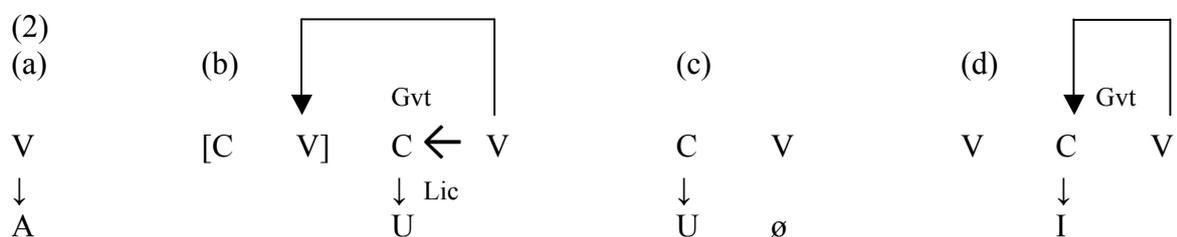
|          |     |          |      |
|----------|-----|----------|------|
| <u>U</u> | I   | <u>I</u> | U    |
|          |     |          |      |
| h        | h   | h        | h    |
|          |     |          |      |
| ?        | ?   | ?        | ?    |
| [p]      | [t] | [c/tʃ]   | [k]. |

A language typically has a series of three stops, [p, t, k]. If there is a fourth member of the series, it is normally a postalveolar affricate (which behaves phonologically as a stop). I argue that velars are not empty (*contra* Kaye et al. 1985, Harris 1990) and do not contain **A** (*contra* Botma 2004). As a matter of fact, there is a great deal of evidence that velars interact with labials (and therefore contain **U**), and acoustically labials and velars share similar spectral characteristics (Backley 2011). Similarly, both coronals and palatals are acoustically “bright”, as they share the element **I**. When **A** occurs in coronal sonorants, it conveys sonorancy, not colour. These facts suggest that the presence of **A** in **C** is marked. Conversely, every language has at least a low vowel in its inventory. **I** and **U** are less marked than **A** in a **C** position, e.g., **I**-vowels and **U**-vowels typically alternate with glides, whereas **A** does so to a much lesser extent. Given that **A** is the vocalic element *par excellence*, what about **U** and **I**? The difference in their behaviour suggests that **I** is more vocalic than **U**.

- First of all, given languages with “defective” stop series (where a major place of articulation is missing), the **U** element is always present whereas the **I** element is sometimes missing. Hawaiian only has [p, k] but not [t] (only **U**-stops), Xavante has [p, t, c] but not [k] (one **U**-stop and two **I**-stops) and Wichita has [t, k, kʷ] but not [p] (one **I**-stop and two **U**-stops). No language with only **I**-stops is attested.
- The typical epenthetic vowel is some kind of schwa, which according to Backley (2011) is a non-headed **A** element. Also [ɨ], the colourless vowel, is frequently employed as epenthetic, as well as [i], whereas languages with epenthetic [u] are unattested (Lombardi 2002).
- The co-occurrence of **I** and **U** in a **V** slot is marked and results in [y], which is relatively rare in the world’s languages. As a matter of fact, when [y] is adapted in languages that do not allow **I** and **U** to co-occur (e.g., Louisiana French-based Creole), the result is the loss of **U**, i.e., [i], suggesting that **I** is less marked than **U** in **V**. Similarly, Pöchtrager (2012) notices an asymmetry between **I** and **U** and points out that Turkish has both **I**-harmony and **U**-harmony in vowels but the latter is more restricted, while Finnish only has **I**-harmony. However, in consonantal systems, **U** seems less restricted, e.g., English has more labials than palatals.
- Nasal place assimilation seems to indicate that **U** is fitter than **I** in a **C** position. When **I** meets **U**, **U** prevails: the coronal nasal (containing **A,I**) becomes labial (**A,U**) or velar (**A,U**) before labials (**U**) and velars (**U**) respectively.

- There seems to be a preference in the world's languages for labials to occur syllable-initially (cf. Fikkert & Levelt 2008, McNeilage & Davis 2000), whereas dorsals tend to appear syllable-finally (e.g., /ŋ/ in English). The fact that [t] is frequently used as epenthetic consonant between two vowels could indicate that intervocalically coronals are preferred. This tendency can be formalized as such: the more consonantal U occurs in positions where the influence of vowels is minimal, i.e., word-initially, post-consonantally and syllable-finally, whereas the less consonantal I occurs intervocalically, where the influence of vowels is greater. Since the word-initial and post-consonantal position are strong (Ségéral & Scheer 2001), U becomes headed (U = labial), while the opposite holds syllable-finally, where U is in weak position (U = dorsal). This analysis could possibly solve the long lasting debate on markedness ("is coronal or velar the unmarked place of articulation?"): coronals are unmarked intervocalically and velars syllable-finally. That would explain why [t] is used epenthetically (but [k] is not) and why coronal sonorants typically become dorsals when in the coda, e.g., [l → ɫ, n → ŋ, r → ʀ].

The preference for certain place elements to occur in specific syllabic positions can be captured as follows: certain syllabic positions project, by default, a certain element, or better, they are phonetically interpreted in a certain way. Other things being equal, syllabic configurations are interpreted as shown in (2).



Following Ségéral & Scheer (2001), government acts here as an inhibiting force that spoils its target, while licensing is a corroborating force. The beginning of the word is represented as an empty CV unit (Lowenstamm 1999). (2a) shows that, in absence of lexical specification, a vowel will contain (or consist of) A, (2b) shows that a consonant in a strong position (ungoverned and licensed) is preferably realised as a labial, (2c) shows that a consonant in a weak position (unlicensed, ungoverned) is preferably realised as dorsal and (2d) shows that an intervocalic consonant (governed) is coronal by default.

The current proposal goes against one of the major tenets of all frameworks working with elements, i.e., that phonological representations must be fully specified. However, the strong evidence brought here for certain elements to occur in certain positions calls for an explanation. My assumption is that underspecified melody manifests itself as A, I or U depending on the syllabic configuration.

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