

## APPENDIX 4B. UNICODE AND WORD EXAMPLES FOR NAVLIPI

THE ALPHABETICAL ORDER PRESENTED BELOW INCLUDES UNICODE AND ALSO  
WORD EXAMPLES)

### LEGEND:

- **NAVLIPI** letters in **bold red**
- Followed by **sequential number** in the NAVLIPI alphabet, in **blue**.
- Followed by **Unicode** in **bold black underline**.
- In word examples, the **phone** is highlighted in **bold**, like the phone **i** in English **hit**.

### Vowels: Fundamental

- **q** (1). (jaw closed; the “Schwa”) American English **maker**, 2<sup>nd</sup> vowel in Hindi **यन्त्र**. **U+00071**.
- **a** (2). (jaw mid-open) English **about**, Hindi **अ**. **U+00061**.
- **aa** (3) (jaw fully open, long vowel), English **father**, Hindi **आ**. **aa** (4) (short vowel, used mainly in Dravidian languages).
- **i** (5). English **hit**, Hindi **इ**. **U+00069**. [long version **ii**, English **heat**, Hindi **ई**.]
- **u** (6). English **pull**, Hindi **उ**. **U+00075**. [long version **uu** English **pool**, Hindi **ऊ**.]
- **ř** (7). American English **maker**, Hindi **ऋ**. **U+00213**.
- **l** (8). American English **able**, Hindi **ऌ**. **U+0006C**.
- **~** (9). Indicates nasalization, as in Hindi **हाँ** ⇔ **haa~**, French **mon** ⇔ **mo~**. **U+007E**

### Vowels: Derivative

- **ε** (10). English **gray**, Hindi **ऎ**, Spanish **que**. **U+003B5**.
- **e** (11). English **bet**. Vowel in first syllable of Hindi **कहना**. **U+00065**. [long version **ee** as in English **fair**, vowel in Hindi **है**.]
- **ɔ** (12). English **Jack**, vowel in Hindi **ऌ**. **U+00254**.
- **o** (13). Spanish **doble**. **U+0006F**. [long version **oo** as in English **door**, Hindi **औ**.]

- **Ω** (14). English *ball*, vowel in Hindi कौन. U+003A9.
- **o/** (15). French *feuille*. U+0006F + U+0002F.
- **o//** (16). German *schön*. U+0006F + U+0002F + U+0002F.
- **y** (17). French *tu*, German *über*. U+00079. **yy** (30) (*long vowel*).

### Plosives, Glottal

- **:** (18). (Glottal stop; frequently transcribed in Latin transcription as apostrophe, [']). Arabic **سأل** (Latin transcription *sa'ala*, “asked”). Hawaiian name, *Hawai'i*. Sound of hyphen in English *co-opt*, English Cockney *lo'o money* (“lot of money”). U+0003A.

### Plosives, Uvular

- **k..** (19). (*unaspirated, unvoiced*) (Latin transcription usually **q**). Arabic **قلب** (*qalb*, “heart”).
- **n..** (20). (*nasal*) Japanese 順番 (*junbaan..*, “turn”).

### Plosives, Velar

- **k** (21). (*unaspirated, unvoiced*) English *sky.*, Hindi क U+0006B.
- **kh<sub>o</sub>** (22). (*aspirated, unvoiced*) English (American, British pronunciation) *kitten*, Hindi ख.
- **g** (23). (*unaspirated, voiced*) English *good*, Hindi ग U+00067.
- **gh<sub>o</sub>** (24). (*aspirated, voiced*) Hindi घ .
- **n<sub>o</sub>** (25). (*nasal*) English *king*, Hindi ङ .

### Plosives, Palatal

- **c** (26). (*unaspirated, unvoiced*) English (Irish or Indian pronunciation) *chick*, Spanish *chica*, Italian *ciao*, Hindi च U+00063.
- **ch<sub>o</sub>** (27). (*aspirated, unvoiced*) Hindi छ .
- **ɟ** (28). (*unaspirated, voiced*) English *joke*, Hindi ज U+001AA.
- **ɟ<sub>h</sub><sub>o</sub>** (29). (*aspirated, voiced*) Hindi झ .
- **ŋ** (30). (*nasal*) English *inch*, Hindi ञ . U+0019E.

### Plosives, Retroflex

- **ɽ** (31). (*unaspirated, unvoiced*) Hindi **ट** . U+00167 .
- **ɽh<sub>o</sub>** (32). (*aspirated, unvoiced*) Hindi **ठ** .
- **ɽ** (33). (*unaspirated, voiced*) Hindi **ड** . U+00111 .
- **ɽh<sub>o</sub>** (34). (*aspirated, voiced*) Hindi **ढ** .
- **ɳ** (35). (*nasal*) Hindi **ण** . U+00580.

### Plosives, Alveolar

- **tt** (36). (*unaspirated, unvoiced*) English *sty*. U+00074 + U+00074 .
- **tth<sub>o</sub>** (37). (*aspirated, unvoiced*) English (American and British pronunciation) *tomorrow*.
- **dt** (38). (*unaspirated, voiced*) English *day* . U+00064 + U+00074 .
- **dth<sub>o</sub>** (39). (*aspirated, voiced*).
- **n** (40). (*nasal*) English *indeed*. U+0006E.

### Plosives, Alveolar, Pharyngealized (“faucal”)

- **tt..** (41). (*unaspirated, unvoiced*) Arabic **طفل** (*tifl*, “child”).
- **dt..** (42). Arabic **فضل** (*fadl*, “favor”).

### Plosives, Dental

- **t** (43). (*unaspirated, unvoiced*) Spanish *tu* (“you”), Hindi **त** . U+00074 .
- **th<sub>o</sub>** (44). (*aspirated, unvoiced*) Hindi **थ** .
- **d** (45) (*unaspirated, voiced*) Spanish *dar* (“to give”), *dos* (“two”), Hindi **द** . U+00064 .
- **dh<sub>o</sub>** (46). (*aspirated, voiced*) Hindi **ध** .
- **n** (47). (*nasal*) Spanish *andar* (“to walk”), Hindi **न** . U+0006E .

### Plosives, Bilabial

- **p** (48). (*unaspirated, unvoiced*) English *spy*, Hindi **प** . U+00070.
- **ph<sub>o</sub>** (49) (*aspirated, unvoiced*) English (American and British pronunciation) *put*, Hindi **फ**
- **b** (50). (*unaspirated, voiced*) English *bit*, Hindi **ब** . U+00062.

- **bh<sub>o</sub>** (51). (*aspirated, voiced*) Hindi **भ** .
- **m** (52). (*nasal*) English *met*, Hindi **म** . U+0006D.

### Non-vowels: Semivowels (“approximants”); and related taps (flaps):

- **j** (53). (*palatal*) English *yes*, Hindi **य** . U+0006A.
- **r** (54). (*alveolar and also retroflex, central semivowel*). English *risk* (British pronunciation alveolar, American pronunciation retroflex). U+00072 .
- **rr** (55) “Rolled” or “trilled” *r*-sound (*alveolar, central tap or flap*). Spanish *pero* (“but”) Hindi **र** .
- **rrr** (56) *Extra* “Rolled” or “trilled” *r*-sound (*alveolar, central tap or flap*). Spanish *perro* (“dog”).
- **ɻ** (57) (*retroflex, central semivowel, but with jaw forward*). Tamil **ழ**, usually transcribed in Latin script as **zh** . U+02C61.
- **ɽ** (58). (*retroflex, lateral semivowel*). Dewanaagari **ळ** (as used in Maraathi), Tamil **ழ** U+02113.
- **l** (59) (*alveolar lateral semivowel*). English *list* Hindi **ल** . U+0006C .
- **w** (60). (*bilabial*) English *win*. Hindi **व** . U+00077.

### Non-Vowels: Fricatives, Glottal

- **h** (61). English *hit*, Hindi **ह** . U+00068.

### Non-Vowels: Fricatives, Pharyngeal

- **h..** (62) Arabic **ح**, **خ**, **ح**, **ح** as in Arabic **بحر** (“sea”, Latin transcription *bahr*).

### Non-Vowels: Fricatives, Uvular

- **x..** (63) (*unvoiced*) German *doch* (“but yes”).
- **ɣ..** (65) (*voiced*) Parisian French *rouler* (“to roll”).

### Non-Vowels: Fricatives, Velar

- **x** (65). (*unvoiced*) Irish *chaol* (“thin”), Scots Gaelic *loch* (“lake”). Hindi **ख** U+00078.

- **ɛ** (66). (voiced) As in Arabic **ببغاء** (“parrot”, Latin transcription *babaga*, NAVLIPI transcription *babaɛa*)

### Non-Vowels: Fricatives, Retroflex

- **thɸ** (67). (unvoiced) Hindi **थ**. Mandarin **谢谢你** (Latin transcription, with tone markers, *Xie4 Xie4 Ni3*, “Thank You”)

### Non-Vowels: Fricatives, Palatal

- **shɸ** (68). (unvoiced) English *shoot*.
- **zhɸ** (69). (voiced) English *pleasure*.

### Non-Vowels: Fricatives, Alveolar

- **tthɸ** (70). (unvoiced) Russian **щётка** (“brush”, Latin transcription *shchotka*, NAVLIPI transcription *tthɸɔtkaa*).

### Non-Vowels: Fricatives, Alveolo-Dental

- **s** (71). (unvoiced) English *sit*. Hindi **स**. U+00073.
- **z** (72). (voiced) English *zebra*. Hindi **ज़**. U+0007A.

### Non-Vowels: Fricatives, Inter-Dental

- **thɸ** (73). (unvoiced) English *thin*.
- **dhɸ** (74). (voiced) English *though*.

### Non-Vowels: Fricatives, Labio-Dental

(more specifically, *infralabio-supradental*)

- **f** (75). (unvoiced) English *find*. Hindi **फ**. U+00066.
- **v** (76). (voiced) English *valor*. Hindi, alternate pronunciation of **व**. U+00076.

### Most Common Stand-Alone Phonemic Condensates (Not Represented by Post-Ops)

- **vw** (77). Can be articulated either as [v] or as [w]; e.g. Hindi *van*, *wan* (“forest, wood”, NAVLIPI transcription *vwan*),

- **xr** (78). Can be articulated either as trilled [rr] *r*-sound, or as uvular or velar fricative (whether voiced or unvoiced e.g. Parisian French *rien* (“nothing”, NAVLIPI transcription *xrie~*).
- **ph<sub>8</sub>** (79). Can be articulated either as [f] (unvoiced labio-dental fricative) or as [ph] (unvoiced, aspirated bilabial plosive); e.g. Hindi *fal*, *phal* (“fruit”, NAVLIPI transcription *ph<sub>8</sub>al*),

### Most Common Post-Ops (Post-Positional Operators)

(Placed **after** letter they act upon)

- **h<sub>o</sub>** (80). *Aspiration*. E.g. [p] (unaspirated) vs. [ph<sub>o</sub>] (aspirated)
- **h<sub>o</sub>** (81). *Fricatization*. E.g. [t] (dental plosive) vs. [th<sub>o</sub>] (dental or interdental fricative)
- **∞** (82). (*Subscripted infinity sign*). *Unvoiced + Voiced*. E.g. [b∞] to represent both the **p** and **b** sounds. U+0A74F.
- **8** (83). (*subscripted number 8*). *Plosive plus its “forward fricative”*. E.g. [ph<sub>8</sub>] to represent both the **ph** and **f** sounds in Hindi. U+00038.
- **~** (84). (*Tilde*). *Nasalization*. E.g. as in Portuguese *São* (“saint”) U+0007E.
- **.** (85). (*Period, fullstop or dot, single*). *Flap/tap*. Used especially in Indian languages. U+0002E.
- **..** (86). (*Period, fullstop or dot, 2X*). Pharyngeal, uvular or “faucal” variant
- **z** (87). *Click, ingressive*. E.g. English “*tsk tsk*” [in NAVLIPI *tz tz*] (indication of disapproval or negativity); and common sound to urge on horses, the “giddyap” click [in NAVLIPI *lz lz* ]. U+001B6.