A (morpho)phonological typology of demonstratives: A case study in sound symbolism

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Background

- We propose a (morpho)phonological typology of proximal and distal demonstratives based on their (phonological) form
- Only the ”basic” distal (’that’) and proximal (’this’) demonstratives are considered
  - E.g. close-to-addressee and medials are not considered
- Moreover, we are interested only in their spatial uses (e.g., temporal uses are not discussed)

Background

- The starting point was noticing that /i/ is common in proximal demonstratives, while /a/ is often found in distal demonstratives
- In the beginning, we only considered phonology, but later morphology was added since we noticed that length plays a role as well
- Our findings lend more support to earlier studies that have also found phonemic correspondences between demonstratives
  - E.g. Ultan 1978, Ohala 1984, Woodworth 1991 and Johansson & Zlatev 2013

Background

- One of the suggested reasons is that /i/ is associated with smallness (small distance, see e.g. Ohala 1984, Finnish: *pikkiriikkinen* 'very small, itsy-bitsy' vs. *suuri* 'big')
- Earlier studies have not taken consonants into account, or no systematic correspondences have been found
  - See e.g. Johansson & Zlatev (2013)

Data

- 266 languages
- The sample is not very systematic, but it comprises languages from all over the globe (European languages are in the minority)
- In most cases, classifying a language into a certain type was easy, but there were also more problematic cases
  - For example, does Vitu's *kua* ~ *kena* belong to Distance or Length?

(Former) Typology

1. Vowel type

- Proximal demonstratives front and/or high vowel (/i,e/)
- Distal demonstratives back and/or low vowels (/u, o, a/)

Betta Kurumba: *i* vs. *a*

2. Consonant type

- Front (e.g. coronal) consonants proximal demonstratives
- Back (e.g., velar and uvular) consonants distal demonstratives

Hinuq: *hado* vs. *hago*

(Former) Typology

3. Length type

- Distal demonstratives longer in form than proximal demonstratives

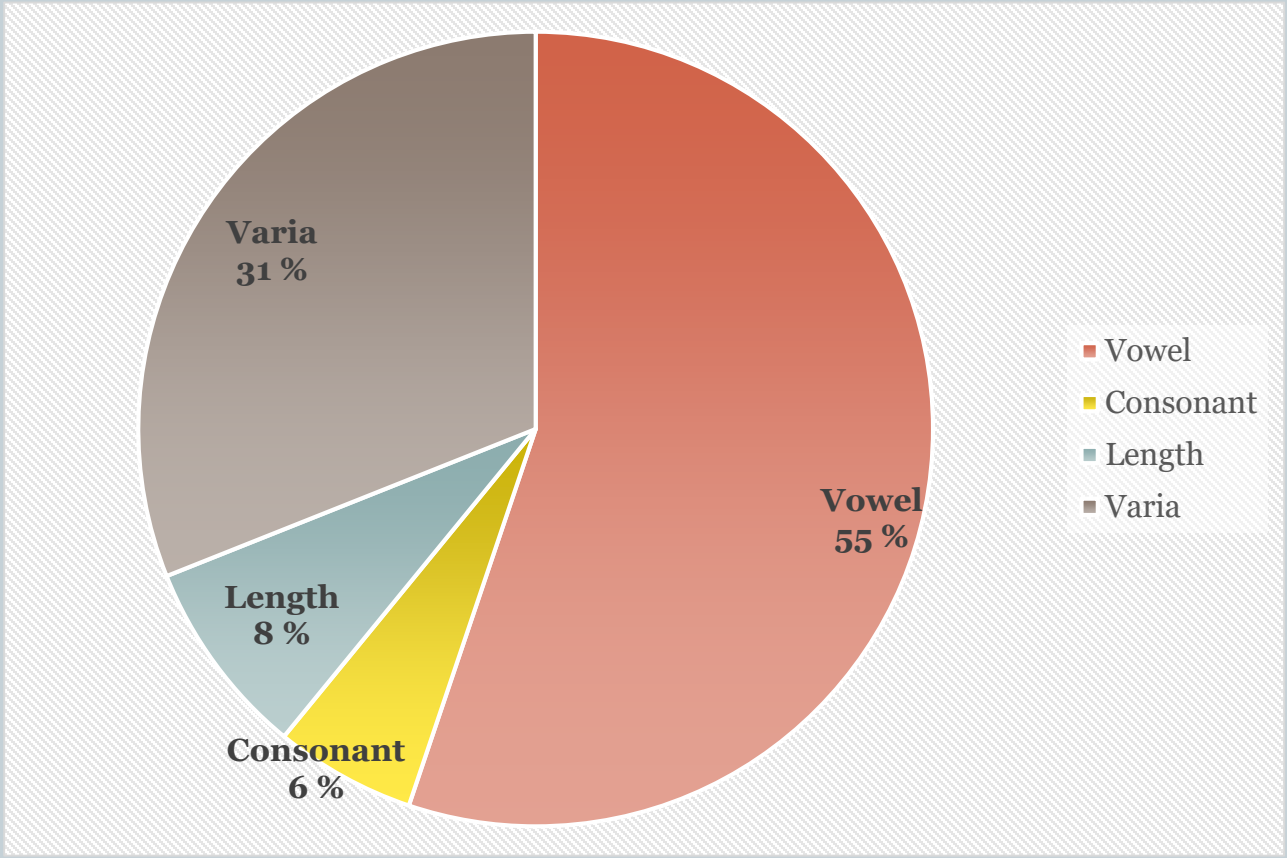
  Oko: *one* vs. *onebe*

4. Varia

- A variety of strategies different from Types 1-3, e.g. counter-examples to Types 1-3 (e.g., back vs. front vowel): The Reverse Type with phoneme distance, Reverse Length

  Emerillon *aŋ* vs. *wɨn*

(Former) Typology: Distribution



New Typology

- In order to simplify things, we have taken a new approach: binary division
  - 1) **Distance** = Types 1 & 2, front/back phonemes
    - Clearly distinguishable phoneme distance or feature (front-back/high-low)
      - Kentner Bremen 2019: Size-sound and length re. iconicity of repetition
      - See also Johansson & Carling (2015) reverse-motivated in e.g. Georgian *didi* 'large' and *p'at'ara* 'small'
    - Includes former 'Reverse Type' from Varia

      Betta kurumba *i* vs. *a*
      Hinuq *hado* vs. *hago*
      Emerillon *aŋ* vs. *wɨŋ*

New Typology

- 2) **Length** = Type 3
  - If small distance but clear length difference, length

    Vitu *kua* vs. *kena*

- 3) **Varia**
  - Does not match either criteria

    Yurakare *ana* vs. *naa* (2 vs. 1 syllables – length?)

Type 1: Distance Type

- In most examples of this type, proximal demonstratives have a front and/or high vowel (/i,e/)
- Distal demonstratives are characterized by back and/or low vowels (/u, o, a/)
- See, e.g. Traunmüller's (1994) classification:
  - Proximal /i/ 92%, /e/ 72%, /a/ 26%, /u/ 25%, /o/ 12%
  - Distal /o/ 88%, /u/ 75%, /a/ 74%, /e/ 18%, /i/ 8%
- The relevant distinguishing vowel is either in the first or the second syllable (on the stressed syllable, determined by the prosody of a given language?)

Type 1: Distance Type

- In some languages, front (e.g. coronal) consonants appear on proximal demonstratives, while back (e.g., velar and uvular) consonants are typical of distal demonstratives
  - Coronals have been noted to front the vowel quality so the choice is convenient regarding iconicity (Flemming 2003: 335-336)
- This type is not considered by Traunmüller as his typology was focused on vowels
- Even though the sample is small, the Reverse Type is characterized by large consonant inventories (they, e.g., have ejectives)

Type 1: Distance Type

- Important to consider language-specific phonological systems: systems of contrast, use of distinctive features, phonemic frequencies etc. regarding iconicity (compare Manuel 1999)
- Compare Carling & Johansson (2015) studying systematic change diachronically in IE instead of synchronically: more data of the emergence of sound symbolism language-specifically, balancing out possibly 'sound symbolically poor' languages' data

→ Study of universals

Examples

Finnish: *tæmæ* vs. *tuo*
Betta Kurumba: *i* vs. *a*
Rajbanshi: *i-dʌ* vs. *u-dʌ*
Urim: *ti* vs. *pa*
Euchee: *ne'* vs. *a*
Nubi: *we'de* vs. *na'de*
Hup: *núp ~ n'ĭp* - Reverse Type (Distance)
Hinuq: *hado* vs. *hago*
Bunaq: *bari* vs. *baqi*
Wayana: *më(s)i* vs. *mëk(i)*

- The phonemic distance between front and back vowel needs to be significant enough

Type 2: Length Type

- In Type 2, distal demonstratives are longer in form than proximal demonstratives
- This may be due to a clear additional element (Oko), or the distal demonstrative is just longer formally

- Question: how much longer is 'length'?

  Drehu *la* vs. *lai*

Examples

Oko: *one* vs. *onebe*

Rotokas: *roo/oo/vao* vs. *roari/oari/vari*

Makalero: *ere/uere* vs. *umere*

Bao'an tu: *ənə vs. nokə*

Sheko: *hàà* vs. *yī*

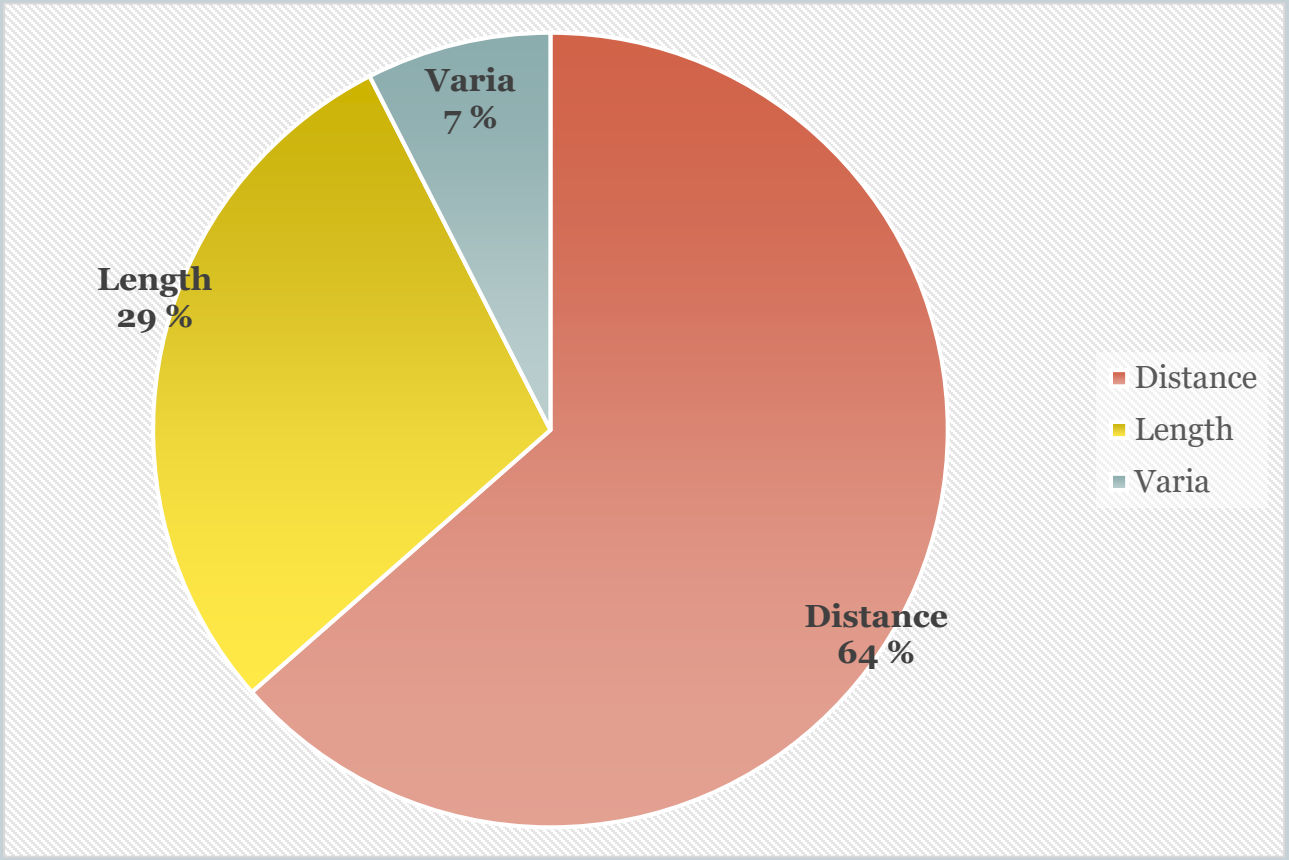
Typology: Distribution

1. Distance Type 169/266

2. Length Type: 77/266

3. Varia: 20/266

Typology: Distribution



Discussion/rationale

- The occurrence of the first type can be explained by iconicity: front and/or high phonemes occur on proximal and back/low phonemes on distal demonstratives
- In other words, proximal demonstratives are produced in the front or high parts of the vocal tract, while distal ones are produced more back and lower
- This strategy reflects the nature of their non-linguistic referents

Discussion/rationale

- In Type 2 (Length), three things may be considered:

1. Distal demonstratives are marked
2. Proximal demonstratives are more frequent, might cause phonetic erosion
3. Iconicity (the longer form makes distal demonstratives more distant conceptually)

- Varia is now reduced to 7 % from 31 %

Case study: Transparency in sound symbolism

- We tested the demonstratives of 30 languages with students of Seppo Kittilä's class *Semantics and pragmatics*
- In total, 29 students participated
- The students had to write down the demonstrative they thought represents the proximal demonstrative of the given language (by writing down either A or B)
- The demonstratives were given in a random order

Examples

- Language: Alyawarra
- A *nhinha*
- B *nhaka*

Examples

- Language: Amele
- A *ou*
- B *i*

Results/Case Study

- No systematic correspondences between form and meaning were found (in 8 of the 30 cases, either demonstrative got less than 10 ”points”)
- The majority got the correct demonstrative in 17/30 cases (including all instances of Reverse Types)
- The clearest example was *ta* vs. *nai* of Southern Dong, where 26 wrote down *ta* (which is incorrect)
- The clearest correctly guessed instance was represented by Kiowa (*e* vs. *oy*, 25 vs. 4)

Results/Case Study

- Length seemed to be the single most decisive factor, all of these cases were named correctly (even though not with a great majority in any case):

la (19) vs. *lai* (10) (Drehu)

one (18) vs. *onebe* (11) (Oko)

co=cwa (20) vs. *co=cwain* (9) (Wari')

In total 57 vs. 30

Results/Case Study

- As regards distance, there is a lot of variation
  - 25 vs. 4 for Kiowa (*e* vs. *oy*)
  - 11 vs. 18 for Malayalam (*ii* vs. *aa*)
- In general, distance plays a less significant role (106 vs. 68 for vowel distinctions and 53 vs. 44 for consonant distinctions in the clear cases)
- Provides evidence that (size-)distance is not transparent (compare Imai Lund 2019 on English/Japanese)

Results/Case Study

- Finnish distinction is based on distance, not length
- Provides evidence for the language-specific nature of the differences (length is seen as a more decisive feature of proximity than distance) – or does it prove that length is universal, even though language-specifically it is in reverse?

Conclusions & Future questions

- It seems more economical to limit the typology to two distinctions: distance and length
- The majority of the languages in the sample seem to follow this division (including (former) Varia)
- A futher study regarding the differences especially in the Distance Type (the so-called Reverse Types) needs to focus on language-specific features in the phonological systems
  - Are e.g. 'consonantal' languages more prone to Reverse Type vowel marking?
  - In some cases, it might be beneficial to see the diachronic development of the demonstratives (compare Carling & Johansson 2015)

Questions and problems

- How does the expression of spatial relations affect the nature of demonstratives (e.g. languages that express space by compass points)?
- The role of tones? At the moment not considered
- The role of the speakers' native tongue should be tested (the same test we had, e.g., with speakers of English or Swedish)
- The role of voicing and aspiration (aspiration makes sounds longer) needs to be further considered (a few in Varia)
  - How long codes for 'Length'?

Example problematic cases

Vitu: *kua* vs. *kena*

Keres: *duwa* vs. *he'e*

- Both represent Reverse Type regarding vowel distance (back – front)
- Keres also represents Reverse Length Type while Vitu does not
- Does this matter? Which type does Vitu represent? More knowledge needed for which is the distinctive feature regarding the language

Final words

- Iconicity plays a role in 246/266 of languages = 92,5 %
- The first type is clearly the most frequent of all the types (front/back phoneme; distance)
- Regardless, the length type is the most consciously recognised according to the case study
- Much of former Varia fits the new categories
- In some cases, language-specific phoneme contrasts etc. must still be checked to categorise them

Final words

- Many languages in Length also code distals with high vowels and proximals with lower ones

  Vitu *kua* vs. *kena*

- Likewise, many languages which code the distinction with vowels, also use reinforcing consonant qualities

  Molalla *ni* vs. *qa*

- In other words, many languages seem to want to ”play it safe” regarding the auditory information given (compare Ohala 1981 on listener perception regarding language variation)

Thanks for *this* and *that*!

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