Pulmonic ingressive speech: a neglected universal?

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Prolegomenon

- Review paper under revision
- >26K words, ~430 references, 1 plate, 7 figures, 3 tables
- Ergo: few references given here, instead see...
- Website: http://ingressiveSpeech.info
- This talk a summary / focuses on conclusions
- Caveat: simplifications galore!

Pulmonic ingressive speech

- Speech produced on inhalation lung airstream
- Six possible ways to produce airstreams:
  - Pulmonic
    - Egressive
      - most speech sounds
    - Ingressive
      - paralinguistic use
  - Glottalic
    - Egressive
      - ejectives
    - Ingressive
      - implosives
  - Velaric
    - Egressive
      - unknown (impossible?)
    - Ingressive
      - clicks

Sound production

- Sounds can be produced without airstream proper
- Percussives
  - teeth – gnashing, scraping, clashing, grinding
  - jaw – move from side to side
  - lips – open/close
- No breathing differences between sexes observed
- Breathing differences between different age groups

Animals (1)

- Pulmonic ingressive phonation observed in:
  - dogs, foxes, horses, donkeys, birds (Segond 1848)
  - cats, pumas, cheetahs, ocelots (Darwin 1872)
  - cats, pigs, ox (Waller 1891)
  - cows, birds, horses, cats (Negus 1929)
  - painted frogs (Weber 1974)
... and more

Animals (2)

- Monkeys
  - langurs (Tenaza 1989)
  - wild Japanese monkeys (Itani 1963)
  - gibbons (Geissmann 1984, 1991, 2000 and more)
... and more
Animals (3)

• Apes
  orangutans (Hornaday 1922, Dixson 1998 and more)
  chimpanzees (Marler 1969, Goodall 1986 and more)
• Ingressive hoots not observed in gorillas
• Ergo: ingressive phonation has biological basis...
• ... which also shows up in...

Humans (1)

• Infants
  sobbing (Darwin 1872, Negus 1929 and more)
  cries (Zwaardemaker 1909, Bosma 1964 and more)
  vegetative sounds (Stark 1986)
  displeasure (Papušek, Papoušek & Koester 1986)
  ... and more

Humans (2)

• Adults
  laughter (Negus 1929 and more)
  crying (Moore & Van Leden 1958 and more)
  yawning, snoring (Viëtor 1884 and more)
  pain (Klinghard 1914, Bhaskararao 1976, Crystal 1997)
  surprise (Orlikoff, Baken & Kraus 1997 and more)
  ... and more

Other uses (1)

• Engastromyths (ventriloquists) and other shamans
• Goal: make people believe effigies/dead were speaking, e.g., the Pythea at Delphi (the “oracle”)
• Ingressive voice added “other-worldliness”
• Long thought to be how ventriloquism was achieved (from van Helmont 1657 to Liskovius 1846)
• Not how ventriloquial voice is achieved, but used by many
• Used by modern ventriloquists for effects (Knowles, p.c.)

Other uses (2)

• Quaker founder George Fox (Voltaire 1734)
• Used ingressive voice to sound “inspired”
• Taught his disciples this way of speaking
• Voltaire likened Fox to the Pythea at Delphi
• Found in stuttering and other pathological phenomena
• Used therapeutically
• Used as methodological tool

Other uses (3)

• “Throat Games”
  kattajaq Inuit (Canada)
  rekkukara Ainu (Japan)
• Two persons sit close to each other, face-to-face
• Part speech, part song
• Perform on each other’s air
Other uses (4)

- Whistled languages
- Several locations in the world, e.g., USA, Mexico, Nepal, France, Turkey, Canary Islands
- Whistling while speaking (reduced phonemic inventory)
- Carry far – whistles can be loud (110 dB)
- Some bilabial whistles performed ingressively
- Ingressive whistles observed in Tepehua (Mexico) and Chepang (Nepal)

Ingressive phonemes (1)

- Tsou (Taiwan)
- Fuller (1990): informant with ingressive phonemes
- Ladefoged & Zeitoun (1993) recorded speakers in Fuller’s informant’s home village
- Found no ingressive phonemes
- Idiosyncratic trait?

Ingressive phonemes (2)

- Damin (Australia)
- Ritual language in Lardil (Mornington Island)
- Contained ingressive lateral fricative [L] (Hale 1973)
- Also contained several other phonemes not known in any other language
- Invented language, deliberately “strange”? 
- Last speaker died in the 1990s

Countries with ingressive speech

- Oldest source (?): Cranz (1765) on Eskimo female speech

Distribution: common view

Ingressive non-linguistic sounds
Ingressive linguistic sounds

Ingressive words

Ingressive phrases / sentences

Distribution: sum total

Ingressive speech summed-up

- Found "everywhere", in genetically unrelated languages
- Almost always paralinguistic (e.g., as agreement signal)
- Some related zones obvious, e.g., "Transatlantic Zone" but other zones are likely independent occurrences
- Large hidden number assumed – many field linguists not focusing on phonetic detail (e.g., Bible translators)
- In most sources referred to as "peculiar", "exotic", "strange" or even "highly marked"
- ... but

Rare or common?

- How often can something be "rare"?
- Different ways something can be "common" or "rare", e.g.,
  - Scarce distribution + frequent use vs.
    - Wide distribution + infrequent use
- No doubt extremely frequent in Scandinavia (Eklund 2002), while rare in e.g., Germany or the Netherlands
- Few sources provide quantified data, alas
Thus

- Ingressive speech found on all continents
- Serves similar paralinguistic functions
- Often occurs independently
- Biological basis in ape and monkey calls (also infant cry)
- Reason to believe in (substantial) hidden number
- Also: surely have not obtained \textit{all} sources
- So: what does it take to be \textit{universal}?  
- Croft (2003) identifies four different types of universals

Universals: Croft (2003)

a. “Linguistic phenomena that are areally widespread, and common in genetically closely related languages may be frequent and stable”

b. “Phenomena that are widespread but relatively sporadic within genetic groups may be frequent but unstable”

c. “Phenomena that are relatively scarce in the world’s languages, but common in genetic groups in which they occur”

d. “[P]henomena that are both scarce and sporadic may be unstable and infrequent”

Discussion

- How accurate is the map?
- Many sources not very clear with regard to language, location, linguistic items, etc.
- Synchronic vs. diachronic perspective?
- Rare in Argentina now (sources from 1945–1960)?
- However, diachronic instability part of Croft’s definition

Conclusions

- Ingressive speech not exclusively Swedish/Scandinavian (although beyond doubt extraordinarily frequent)
- Instead, found everywhere in unrelated genetic groups
- Serves similar paralinguistic purposes in dialog
- Large hidden number likely
- Probably not insane to suggest that it might reflect a \textit{universal linguistic process}

Finally

- Ingressive speech as a safety measure

Website

- The author is maintaining an ingressive speech website: \url{http://ingressivespeech.info}
- Will contain bibliography, maps, lists, sound files etc.
- For comments, questions, contributions (!) etc., email \texttt{email@ingressivespeech.info}