ILCAA Joint Research Project "Phonetic typology from cross-linguistic perspectives"
The 4th meeting

Date/Time: Sat 10 Sep 2022 9:00–18:00
Venue: Online meeting
Language: English
Organized by: ILCAA Core Project "Description and Documentation of Language
                Dynamics in Asia and Africa: Toward a More In-depth Understanding of the
                Languages and Cultures of People Living in Asia and Africa" (DDDLing)

1. Andries W. Coetzee (ILCAA joint researcher, University of Michigan)
        "Nasalization on two socioethnic varieties of Afrikaans"
2. Seunghun J. Lee (ILCAA joint researcher, ICU)
        "Phonetic typology of fricatives: data from JIPA illustrations"
3. Jeremy Perkins (ILCAA joint researcher, University of Aizu)
        "A production study of Korean consonants"
4. Hirosi Nakagawa (ILCAA joint researcher, Tokyo University of Foreign Studies)
        "Laryngeal features involved in stop series in KBA languages"
5. General discussion

The following is a summary by each speaker:

1. Andries W. Coetzee (ILCAA joint researcher, University of Michigan)
    "Nasalization on two socioethnic varieties of Afrikaans"

Most theories of phonetics assume a tight relation between production and perception, and
recent years have also seen increasing evidence for such a relation at the level of the individual.
For the most part, however, this evidence comes from socially homogeneous speech
communities where the targeted pattern of variation is mostly socially neutral. What
implications might socially structured phonetic variation in the speech community have for
the perception-production link? If listeners can predict the phonetic patterns of a talker based

on the talker's actual or assumed identity, would they adjust their perceptual strategies accordingly, possibly weakening the link between their own production and perception patterns? This study reports the results of a pair of experiments that investigate the production and perception of coarticulatory vowel nasalization in Afrikaans, a language for which variation in coarticulatory nasalization is socially structured. Relying on nasal airflow measures, the production experiment showed that speakers of White Afrikaans produce more extensive coarticulatory nasalization than speakers of Kleurling Afrikaans. The perception experiment used an eye-tracking paradigm to assess listeners' perceptual reliance on coarticulatory nasalization, and found (i) that Afrikaans speakers' use of coarticulatory nasalization in production predicts their perceptual reliance on this information, (ii) that individuals who produce more extensive nasalization rely more on nasalization perceptually, but also (iii) that they do not adjust their perceptual reliance on coarticulation in response to the assumed identity of the speaker. The link between perception and production therefore persists, even in this situation of socially structured variation in coarticulatory timing.

2. Seunghun J. Lee (ILCAA joint researcher, ICU)
    "Phonetic typology of fricatives: data from JIPA illustrations"

Fricatives has the largest number of members among the manner of articulation. This talk reports the phonetic typology of fricatives based on data available from the recordings of the illustrations of the IPA published in JIPA. Sources used in the WALS database were mainly based on materials with no report on phonetics of the fricatives. The only fricative-related feature in WALS is about the voicing distribution. Examining multiple grammars revealed that it was not always possible to clearly identify whether a language has voicing contrasts in the fricatives with the exclusion of plosives. The data from the illustrations demonstrated various facts of the phonetic typology of fricatives; (a) a language with 2 fricatives always has an [s] and an [h], (b) labial fricatives emerge when languages have more than 3 fricatives, (c) including the voicing contrast, languages may have up to 11 distinct fricatives. The findings in this talk showed the basic distribution of fricatives, and left questions about the acoustic aspects for future studies.

3. Jeremy Perkins (ILCAA joint researcher, University of Aizu)
    "A production study of Korean consonants"

This talk presented an acoustic study of Korean consonants, focusing on the three-way contrast between lenis, tense and aspirated obstruents. Korean traditionally distinguished

these three consonant types via voice-onset time (VOT), but in recent generations of Korean speakers, the lenis-aspirated difference is no longer distinguished by VOT as both have large positive values (confirmed in this study). A production study was done with recordings from 24 speakers (14 females). Sixty-six disyllabic target words were placed in a carrier sentence, repeated two times. The results matched previous findings where a tonal contrast between high and low tone was seen following aspirated/tense (H) and lenis (L) obstruents respectively in phrase-initial position. Evidence of laryngeal constriction was seen at the onset of vowels following tense consonants, via lowered spectral tilt. In addition, this study offered an additional novel measure, psychoacoustic roughness, which was raised at the start of vowels following tense obstruents, providing further evidence of laryngeal constriction. Duration measurements were also made to check for other possible contrasts: Closure duration was much longer for tense obstruents, and lenis obstruents had slightly shorter closure duration than aspirated obstruents. Frication duration was shorter in the tense series in affricates; however, in fricatives, tense and aspirated frication duration were equal. In summary, the results indicated that only a slight closure duration difference distinguished lenis consonants from aspirated consonants; it is possible that the contrast between aspirated and lenis obstruents has shifted into a tonal contrast on the following vowel.

4. Hirosi Nakagawa (ILCAA joint researcher, Tokyo University of Foreign Studies）
   "Laryngeal features involved in stop series in KBA languages"

This presentation surveyed the consonant systems of the languages of the Kalahari Basin Area, focusing on the distribution of laryngeal features in the stop series. In the KBA stop series, the maximal six-way contrast in laryngeal features is attested in the simplex root-onset for both clicks and non-clicks, and this six-way contrast involves all possible combinations of the three conventional laryngeal features, namely, [±voiced], [±spread gl.], [±constricted gl.], yielding a globally unique combination of the voiced ejective in both clicks and non-clicks.