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タイトル：「通言語的観点からみた音声類型論」（2021年度第1回研究会）

日時：2021年7月10日（土曜日）午前9時30分より午後6時

場所：オンライン

報告タイトル

(Morning session)

1. Andries W. Coetzee (ILCAA joint researcher, University of Michigan)

Afrikaans as a tonal language: laryngeal contrast in Afrikaans plosives

2. Hiroto Uchihara (ILCAA joint researcher, Universidad Nacional Autónoma de México)

Laryngeal contrast in Otomanguean

3. Jeremy Perkins (ILCAA joint researcher, University of Aizu)

Glottal Constriction in Consonants in Thai

4. Naoki UETA (ILCAA joint researcher, Hokuyo University)

Laryngeal Contrast in Mongolic Languages

(Afternoon session)

5. Kyosuke Yamamoto (ILCAA joint researcher, Tokyo University of Foreign Studies)

Laryngeal contrast in Aiku

6. Shuichiro Nakao (ILCAA joint researcher, Osaka University)

Laryngeal contrast in Classical Arabic

7. Hayato Aoi (ILCAA joint researcher, ILCAA/NINJAL)

The laryngealized stops in the Northern Ryukyuan languages

8. Priyankoo Sarmah (ILCAA joint researcher, IIT Guwahati)

Laryngeal Contrasts in Tibeto-Burman Languages of North-East India

9. Yuko Abe (ILCAA joint researcher, Lanzhou University), Seunghun J. Lee (ILCAA joint researcher, ICU, U of Venda, IIT Guwahati), Cédric Patin (ILCAA joint researcher, University of Lille), Daisuke Shinagawa (ILCAA)

Phonetics of the laryngeal contrast in Bantu languages

10. Julián Villegas (ILCAA joint researcher, University of Aizu), Seunghun J. Lee (ICU & U of Venda & IITG)

Phonetics of the laryngeal contrast: an overview of data collection methods

上記日程で「通言語的観点からみた音声類型論」2021年度第1回（通算第1回）の研究会がオンラインで行われた。世界各地（日本国外では、アメリカ、メキシコ、カナダ、インド、フランス、中国）の共同研究員の参加を最大化するために、午前と午後のセッションに分けて行われた。それによって、このプロジェクトのキックオフミーティング

である本研究会にほぼすべてのメンバーが参加することが可能になった。各発表の要旨は以下のとおりである。

1. 9:35-10:10 am 7/10 [JST] (8:35-9:10 pm, 7/9 [EDT])

Afrikaans as a tonal language: laryngeal contrast in Afrikaans plosives

Andries W. Coetzee (ILCAA joint researcher, University of Michigan)

Afrikaans, like its direct ancestor Dutch, historically contrasted pre-voiced (negative VOT) and voiceless unaspirated (short VOT) plosives. Especially Among younger Afrikaans speakers this VOT contrast is being lost with all plosives produced as voiceless unaspirated. The lexical contrast that used to be cued by VOT, however, is not lost, but is now cued an F0 contrast on the following vowel, with high F0 after historically voiceless and low F0 after historically voiced plosives. Afrikaans is hence currently undergoing a process of tonogenesis, similar to what has been observed historically in many Asian tonal languages. In this presentation, I will review evidence for this ongoing sound change, focusing both production and perception patterns among older and younger Afrikaans speakers.

2. 10:10-10:35 am [JST] (8:10-8:35 pm [Mexico Time])

Laryngeal contrast in Otomanguean

Hiroto Uchihara (ILCAA joint researcher, Universidad Nacional Autónoma de México)

Otomanguean languages, spoken mainly in Mexico, manifest different types of laryngeal contrasts. Pure voicing contrast appears to be uncommon in Otomanguean languages, but rather different types of contrasts are found, such as the fortis vs lenis contrast or plain vs prenasalized contrast. In this presentation, I will look at the laryngeal contrasts in three Otomanguean languages: Teotitlán Zapotec with the fortis-lenis contrast, Huehuetepéc Tlapanec with the aspirated-voiceless-voiced-prenasalized contrast, and Alcozauca Mixtec with the plain-prenasalized contrast. I will look at the roles they play in phonology and morphology, and point to unresolved representational issues, especially the relevance of the feature [voice] in such systems.

3. 10:45-11:10 am 7/10 [JST]

Glottal Constriction in Consonants in Thai

Jeremy Perkins (ILCAA joint researcher, University of Aizu)

This research investigates whether a set of stop consonants in Thai are glottalized by employing phonetic methods traditionally used to identify creaky phonation in vowels (F0, H1-H2, H1-A1, psychoacoustic roughness and open quotient (OQ) via Electroglottography (EGG). The results showed lowered spectral tilt, and increased roughness preceding obstruent and glottal stop codas, both consistent with increased glottal tension. Meanwhile, F0 was also affected preceding glottal stop and obstruent codas but its effect differed depending on the tone of the syllable: In high tone

syllables, F0 was raised; in low and falling tone syllables, F0 was lowered. In onset position, while glottal stops lowered F0 and raised roughness at the onset of the following vowel, these effects were absent following unaspirated onsets, suggesting a lack of glottal constriction. Finally, EGG measurements of OQ significantly differed preceding obstruent and glottal stop codas compared to sonorant codas, but not in the expected direction. Whereas creakiness usually results in decreased OQ, significantly higher OQ was found preceding glottal stop and obstruent codas. Raised OQ usually results from breathiness, and indeed fricative and aspirated stop onsets did significantly raise OQ at the vowel edge. In conclusion, a notable result here is that psychoacoustic roughness was raised consistently and significantly for all speakers adjacent to glottal stops and obstruent codas. Especially in contrast to spectral tilt, these results suggest that roughness is a more reliable measure when investigating coarticulatory glottal constriction associated with consonant gestures.

4. 11:10 - 11:35 am 7/10 [JST]

Laryngeal Contrast in Mongolic Languages

Naoki UETA (ILCAA joint researcher, Hokuyo University)

Mongolic languages have a laryngeal contrast of obstruents. In most Mongolic languages, the laryngeal contrast is realized as the presence or absence of aspiration. The phonetic characteristic of aspiration differs across languages; aspirated consonants in Mangghuer, for example, are pronounced with postaspiration, which is characterized as long voice onset time, wherever they occur. In contrast, Khalkha Mongolian aspirated consonants in word-medial positions are realized with preaspiration, which causes partial or complete devoicing of the preceding segment. The phonetic features of unaspirated consonants also differ across languages; for example, the unaspirated velar stop /k/ in Mangghuer is consistently realized as [k], while the counterpart in intervocalic positions in Khalkha Mongolian can be pronounced with complete voicing and spirantization or even with a clear formant structure. In addition, this sound phonologically functions as the voiced segment /g/ from the perspectives of coda constraint and consonant epenthesis.

Afternoon session

5. 3:05 - 3:30 pm 7/10 [JST]

Laryngeal contrast in Aiku

Kyosuke Yamamoto (ILCAA joint researcher, Tokyo University of Foreign Studies)

Papuan languages tend to have a relatively simple phonemic system and do not make extensive use of laryngeal contrasts (Foley 1986:55–63). This study examines the extent to which laryngeal contrast plays a role in organizing the phonemic system of Aiku. Aiku is an undescribed language of the Torricelli language family of Papua New Guinea. Aiku seems to show a two-way laryngeal contrast in stops, voiced and voiceless. Voiced stops have two allophones: a prenasalized

allophone and a voiced allophone, and the latter occurs only in utterance-initial position. In addition, voiceless stops are often pronounced as voiced stops or voiced fricatives. These facts suggest the possibility that Aiku speakers mainly use prenasalization to distinguish the contrast in stops.

6. 3:30 - 3:55 pm 7/10 [JST]

Laryngeal contrast in Classical Arabic

Shuichiro Nakao (ILCAA joint researcher, Osaka University)

Classical Arabic (or ‘Written Arabic’; in Arabic, *al-fuṣḥā*) is a strange living language in the sense that it has no native speakers but has a fairly precise orthoepy (pronunciational prescription) dating from the 8th century, which has been most conservatively practiced in the recitation of the Qur’ān (called *tajwīd*). Drawing on this living tradition, this study gives a general overview of the laryngeal contrast in Classical Arabic to shed light on the fact that it is unexpectedly asymmetric. From a historical viewpoint, this asymmetry is unique of Classical Arabic as the reconstructed Proto-Semitic and oral Modern Standard Arabic varieties have a symmetrical phonemic inventory.

7. 4:00 - 4:25 pm 7/10 [JST]

The laryngealized stops in the Northern Ryukyuan languages

Hayato Aoi (ILCAA joint researcher, ILCAA/NINJAL)

The Northern Ryukyuan languages distinguish between three stop series: (a) voiceless laryngealized (or glottalized) stops, (b) voiceless aspirated stops, and (c) voiced stops. Previous studies have been described phonetic properties of (a) as “stops in which the larynx is tense” but their descriptions were exclusively depended on auditory impressions and the phonetic details of laryngealization in the Northern Ryukyuan languages remains unknown. To put it another way, important questions about phonetic details of laryngealized sounds (e.g., to what degree the vocal folds are constricted, whether entirely closed or merely narrowed) have not been answered. In this presentation, I will report results of the pilot acoustic study on the Ie dialect of Okinawa.

8. 4:25 - 4:50 pm 7/10 [JST] (12:55 - 1:20 pm, 7/10 [India Time])

Laryngeal Contrasts in Tibeto-Burman Languages of North-East India

Priyankoo Sarmah (ILCAA joint researcher, IIT Guwahati)

[Collaborative work with Viyazonuo Terhijja, Wendy Lalhminghlui (IIT Guwahati)]

In this talk we provide a general overview of the laryngeal contrasts noticed in the Tibeto-Burman languages spoken in North-East India (NEI). More specifically we will discuss the laryngeal contrasts attested in Angami (ISO 639-3: *njm*) and Mizo (ISO 639-3: *lus*). Angami has nine stops, namely, /p/, /ph/, /b/, /t/, /th/, /d/, /k/, /kh/ & /g/. These nine stops can be grouped into three

laryngeal contrasts, namely, voiced, voiceless unaspirated and voiceless aspirated. On the other hand, Mizo also has identical laryngeal contrasts as Angami, nevertheless, in terms of the stop consonants, Mizo does not have voiced, velar stop, i.e. /g/. In this talk we will provide an analysis of the VOT of Angami and Mizo stops, contrasting in three laryngeal contrasts. As both the languages are tonal, we will also discuss the interaction of laryngeal contrasts and tones in the two languages.

9. 5:00 - 5:25 pm 7/10 [JST] (4:00 - 4:25 pm 7/10 [China], 10:00 - 10:25 am 7/10 [France])

Phonetics of the laryngeal contrast in Bantu languages

Yuko Abe (ILCAA joint researcher, Lanzhou University), Seunghun J. Lee (ILCAA joint researcher, ICU, U of Venda, IIT Guwahati), Cédric Patin (ILCAA joint researcher, University of Lille), Daisuke Shinagawa (ILCAA)

This talk is an overview of phonetics of laryngeal contrast in four Bantu languages. Both Bende (F12, Tanzania) and Rwa (E621A, Tanzania) phonologically have two-way laryngeal contrast in plosives (voiced vs. voiceless), but they differ in that Chaga has a phonetic implosive. Xitsonga (S53, South Africa) has a four-way laryngeal contrast (aspirated, voiceless, prenasalized, and breathy voice). In Shingazidja, in addition to a two-way laryngeal contrast in plosives, fricatives and prenasalized consonants, there are two implosives and two prenasalized implosives that emerge in the lexicon of Bantu origin (while the corresponding plosives or prenasalized plosives are limited to loans). Proto-Bantu is often reconstructed without voicing contrast, but the contemporary daughter languages differ. We also introduce data from Shinagawa and Komori (2020) that compiled geographical distributions of laryngeal contrasts in Niger-Congo languages: the more south a Bantu language is spoken, the more complex the laryngeal system is.

10. 5:25 - 5:50 pm 7/10 [JST]

Phonetics of the laryngeal contrast: an overview of data collection methods

Julián Villegas (ILCAA joint researcher, University of Aizu)

Seunghun J. Lee (ICU & U of Venda & IITG)

This talk presents an overview of data collection methods in studies that investigate the laryngeal contrast in various languages in the past years. The majority of studies analyze acoustic data with correlates such as VOT, closure duration, phonation. Analyses based on articulatory data such as Electroglottography (EGG) and Ultrasound are also employed to report the larynx movement concerning the voicing contrast. We also share analytical tools such as EGGNOG that can be used to process and report articulatory data.