

Methodological Trade-offs for Dual-purpose Phonetic Fieldwork

Ultrasound overlay videos involve the superposition of ultrasound imaging of the tongue onto facial profile videos in order to serve as instructional materials (Abel et al., 2015). Bliss et al. (2016) used this technique to develop instructional and cultural materials for Indigenous communities by creating custom overlay videos of community members which highlight difficult sound contrasts in the languages for learners. Building on this work, this paper reports on the creation of this type of video for Hän, a Dene/Athabaskan language of Eagle, Alaska and Dawson City, Yukon with 6-7 native speakers remaining. In the paper, we explore the challenges behind a new possibility of collecting the ultrasound data recorded for these instructional videos to serve a dual-purpose: instructional/cultural and linguistic/scientific.

Some acoustic work has been done on Hän (Manker 2012), but never articulatory. As Hän is known for its large phonemic inventory, being tied for first as the language with the most affricates and containing a 5-6 way contrast in the coronal region, articulatory work on the language is of interest for phonetic and phonological theory. However, ultrasound work has quite strict methodological standards, which can be impractical to include in many field situations, such as precise head and probe stabilization, and fully controlled phonological environments and speaker groups.

These standards by necessity and design could not be fully adhered to for the Hän recordings. But, despite the methodological limitations involved in dual-purpose fieldwork, we argue that it is important to consider the possibility of drawing linguistic insights from data collected for instructional purposes. Otherwise, these insights simply wouldn't exist as work with these communities is limited.

References

- J. Abel, B. Allen, S. Burton, M. Kazama, M. Noguchi, A. Tsuda, N. Yamane, and B. Gick. Ultrasound-Enhanced Multimodal Approaches to Pronunciation Teaching and Learning. *Canadian Acoustics*, 43(3). 124-125, 2015.
- Bliss, H., Burton, S., and Gick, B. (2016). Ultrasound Overlay Videos and Their Application in Indigenous Language Learning and Revitalization. *Journal of the Canadian Acoustical Association*, 44(3).
- Manker, Jonathan. (2012). An Acoustic Study of Stem Prominence in Hän Athabaskan. Master's thesis, University of Alaska Fairbanks.