mora of heavy syllables. Based on original fieldwork, this paper demonstrates that the endangered language attempts to avoid the marked prosodic structure in two independent ways: H tone shift and H tone spreading. In a way, these solutions reveal an interesting interaction between (word) tone and the two prosodic units, syllable and mora. The paper also provides principled accounts for several types of phonological asymmetries observed in the tonal phenomena.

Paper P2.15 (Presenter at post: 15:00-16:45)
Acoustic investigation of neutral tone in Brunei Mandarin
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This study provides an acoustic analysis of the neutral tone in Brunei Mandarin. Recordings were made of a short text by 20 Bruneian (BN) and 20 Beijing Chinese (CN) speakers. F0 contours and duration of three types of disyllabic words for the BN and CN data were compared. It was found that the BN data tends to have a neutral tone on grammatical morphemes such as le (perfective) and de (possessive) but not on the second syllable of other words that would have a neutral tone in Standard Mandarin such as yifu (‘clothes’) or reduplicates such as mâma (‘mother’). In addition, it was found that the F0 contour shows a clear distinction between BN and CN for the reduplicated kinship term mâma (‘mother’), but duration is a better indicator of the presence of a neutral tone for the other categories.

Paper P2.16 (Presenter at post: 15:00-16:45)
Tone features in Qimen Hui Chinese dialect
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This paper examines tone features on the basis of an acoustic phonetic analysis of F0 and duration data from 10 speakers in Qimen Hui Chinese Dialect. The results show that there are 3 level tones, 2 rising tones, and 1 falling tone in Qimen. The fact that speakers use different F0 contours in the realization of different types of level tones sheds light on the understanding of underlying mechanisms of tonal production. Other relevant issues of tonal phonology, such as contour tones, binary usage of features, and tone register, were also discussed.

Paper P2.17 (Presenter at post: 15:00-16:45)
Gradience in contextual tonal realization processes: An instrumental study of Nanjing Chinese
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This acoustic study has investigated contextual tonal variations in 125 disyllabic words produced by six native speakers of Nanjing Chinese, with five phonemic tones. Three types of tonal variation were observed in the data: neutralizing sandhi, non-neutralizing sandhi and tonal coarticulation. Comparison between the three types of tonal variation suggests that tone sandhi may be rooted in phonetic coarticulation and influenced by the perception-production interaction. Non-neutralizing sandhi processes demonstrate a transition stage from tonal coarticulation to category-changing and neutralizing tone sandhi. The contextual tonal realization in Nanjing Chinese exhibits a gradient effect in terms of tonal category change, indicating a blurry boundary between phonetic and phonological processes.

Paper P2.18 (Presenter at post: 15:00-16:45)
Interaction of pitch and vowel length in two Dene tone languages: Tlíchó Yatii (drg) and Dene Súline (chp)
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This study concerns the interaction of pitch, morphology and vowel length in Tlíchó Yatii (Dogrib) and Dene Súline (Chipewyan). Dene (Athabaskan) tone languages of the Mackenzie River Drainage. Starting from an earlier study we extend it to investigate the realization of tone on long vowels in Tlíchó Yatii. Our results indicate that slope is a feature of vowel length contrast.

Paper P2.19 (Presenter at post: 15:00-16:45)
Phonetic transcription of tone in the IPA
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When conducting fieldwork on tone languages, the linguist choosing to use the IPA to make phonetic transcriptions of tone is presented with a challenge: Current methods of tone transcription in the IPA require a degree of phonological analysis before they can be applied and when applied they do not adequately display pitch distinctions relative to other pitches. I describe this challenge and the bar method as a proposed solution. The bar method visually presents F0 distinctions relative to other F0 expressions without ties to segments. I hope this solution facilitates the discussion of phonetic tone transcription without regard to phonological assumptions, linguistic tradition, or geographical area of research.

Paper P2.20 (Presenter at post: 15:00-16:45)
The effect of word frequency and neighbourhood density on tone merge
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This paper studies the effect of word frequency and neighbourhood density on lexical tone merge in Dalian Mandarin. Monosyllabic words with two lexical falling tones (i.e. Tone 1 and Tone 4) are produced by 60 native speakers from two different generations (middle-aged vs. young). The stimuli consist of three conditions: high neighbourhood density with high word frequency (HDHF), high neighbourhood density with low word frequency (HDLF) and low neighbourhood density with high word frequency (LDHF). Syllable duration as well as the F0 curve and F0’s velocity profile of tonal contours are quantitatively analysed through linear-mixed modelling and functional data analysis. Results show that Tone 1 and Tone 4 are near-merged in Dalian Mandarin. Word frequency and neighbourhood density show no effect on duration, but do affect the concave and convex of F0 curves and the slope of F0’s velocity profile, which suggests their role in the tone merge process.

Paper P2.21 (Presenter at post: 15:00-16:45)
Effects of speaking rate and context on the production of Mandarin tone
Seren, Joan A.; Lee, Hyoung and Jongman, Allard