Overview. We argue that so-called ‘mora stress’ in Shina (spoken in Northern Pakistan, realized as *falling vs. rising accent*) is best analyzed as a difference in the alignment of a LH* pitch accent to two types of feet (moraic vs. syllabic trochees). In Part I of the talk, we offer an explicit formalization of the mapping of (intonational) tones to foot structure. In Part II, we argue that evidence for a foot-based approach comes from stress advancement, where stem stress predictably shifts to a following suffix when the final mora of the stem is accented; yet it remains on the stem when the stem accent is on a non-final mora. We end by discussing theoretical and typological implications of our analysis.

Part I: Tonal Patterns. Varieties of Shina contrast so-called *falling* and *rising accent* in bimoraic stressed syllables with long vowels. Falls are marked with an acute accent on the first part of a long vowel (e.g. [áa]), rises with an acute accent on the second part (e.g. [aá]). Tonal contours and proposed tonal associations for Kohistani Shina are shown in (1) for the minimal pair [báak] ‘push’ (falling accent, left) versus [baák] ‘agreement’ (rising accent, right) in phrase-medial position (data from Schmidt & Kohistani 2008; S&K); rhymes of accented syllables are indicated with red squares. We propose that both the falling and the rising accent derive from a difference in the alignment of the same intonational LH* pitch accent tones. The melodies in (1) slightly differ from S&K, who represent the accents as HL (falling) and LH (rising), for the following reasons. First, inspection of the acoustic measurements in S&K indicates that the pitch fall for the falling accent is not completed within the accent syllable but continues towards the end of the phrase. This appears to suggest interpolation from H* to a low phrase-final boundary tone (L%), as indicated in (1, left) with a dashed arrow. Notably, the same general pattern of interpolation from H* to L% can be observed for the rising accent, as shown in (1, right). Furthermore, the peak (H*) is preceded by a distinct low pitch target for both accents. We interpret this target as a leading low tone (L), which is realized before the stressed syllable in [báak], but within the stressed syllable in [baák].

(1) [báak] ‘push’ (left) versus [baák] (right) ‘agreement’ in phrase-medial position (Kohistani Shina)

Part I: Metrical Analysis. Adopting the foot inventory in Kager (1993), we claim that Shina distinguishes two types of feet, a moraic trochee (built on moras, leading to falling accent) and a syllabic trochee (built on syllables, leading to rising accent); these feet can be lexically stored or derived during computation. Following Köhnlein (2011, 2016), we furthermore assume that moraic and syllabic trochees differ in the metrical ‘strength’ of their moras, which influences their ability to host tones. In moraic trochees (2a), the first mora is the head (µ”) and ‘strong’, while the second mora (µ”) is the dependent and ‘weak’ (the notions ‘strong/weak’ and superscripts are used for convenience only). In syllabic trochees (2b), the first syllable is the head (σ’); the two moras it dominates are licensed by this head and inherit its strength (indicated as ‘µ”µ”*’). If present, a following syllable would be the foot dependent (σ”).

(2) Metrical representations and tonal mapping for the falling accent (a.) and the rising accent (b.)
Mora stress in Shina as contrastive foot structure

To formalize the tonal mapping, we assume that only strong moras (\(\mu^+\)) can host tones in Kohistani Shina (comparable to, e.g., Köhnlein 2016 for Cologne Franconian), and that, uncontroversially, starred tones always link to a foot head. The bimoraic foot (2a) can only host H* on its first, strong mora, deriving the falling accent in (1, left); L is realized before the stressed syllable. The disyllabic foot (two strong moras, 2b), however, can host both L and H*, which leads to the rising accent depicted in (1, right).

**Part II: Stress Advancement Data.** As noted in Baart (2014: 7), stress advancement is a “distinctive feature” of Shina-type languages. Again, we focus on Kohistani Shina for illustration of the general process, which K&S (2008: 49) describe as “phonologically conditioned.” Recall that stress only shifts when high-toned stem moras are adjacent to a suffix, as in (3a,b); long vowels shorten when unstressed.

(3) Stress advances to suffix in stems with rising accent (H on the final mora)
   a. caár car-é ‘direction’
   b. kaál kal-i ‘year’

Stress does not advance to suffix in stems with falling accent (H on a non-final mora)
   c. góos góoz-i ‘house’
   d. nóom nóom-i ‘name’

**Part II: Metrical Analysis.** Stems receive foot structure prior to suffixification (it can be lexical or arise during stem-level computation, a discussion that is beyond the scope of this abstract). The stems in (3a, b) have syllabic trochees (rising accent), and the stems in (3c, d) have moraic trochees (falling accent). The respective suffixes are stored with a degenerate foot (one syllable, one mora), which could be a syllabic or a moraic foot; we represent it as syllabic, but this is not of immediate relevance for the analysis. When stem feet and suffix feet compete for realization, the leftmost (stem) foot wins as a default, and the suffix foot is erased; this is shown in (5a) for stems with moraic trochees. An additional factor comes into play, however, when stems with syllabic trochees are combined with a suffix foot. In such cases, inviolable binarity requirements for non-final foot heads would force the stem foot to include the suffix syllable as a dependent (5b). This parsing would imply that the suffix syllable would be demoted from a foot head to a foot dependent (as shown in red) – this, we argue, violates the constraint in (4):

(4) **HEAD-DEMOTION PRINCIPLE:** Do not demote a foot head to a foot dependent

To satisfy the **HEAD-DEMOTION PRINCIPLE**, the suffix foot is selected since this parsing does not involve the demotion of a head to a dependent, as shown in (5c): While the stem syllable loses its head status, it does not become a foot dependent but is left unparsed by foot structure, which does not violate (4).

(5) Metrical analysis of stress advancement
   a. Ft\(\sigma^+\) Ft \(\mu^+\) Ft \(\mu^+\) Ft \(\mu^+\) Ft
      no om-i ca ar-e ca ar-e
   b. Ft\(\sigma^+\) Ft \(\mu^+\) \(\sigma^+\) \(\sigma^+\) \(\sigma^+\)
      ca ar-e ca ar-e
   c. Ft\(\sigma^+\) Ft \(\mu^+\) \(\sigma^+\) \(\sigma^+\) \(\sigma^+\)
      ca ar-e ca r-e

**Implications:** **Theory.** Our metrical approach is in line with work that analyzes certain tonal contrasts within stressed syllables as foot-based (e.g. Morén-Duolljá 2013, Iosad 2016 for North Germanic; Köhnlein 2011, 2016, Hermans 2012 for West Germanic (Franconian); Morrison 2019 for Scottish Gaelic; Köhnlein & Zhu 2019 for Uspanteko). Such proposals challenge the current mainstream view in prosodic typology, where it is assumed that lexically contrastive prominence below the syllable must be attributed to lexical tone (e.g. Hyman 2006). For Shina, we believe that a foot-based approach is preferable to analyses with lexical tone (or grid marks) since these alternatives do not seem to offer a principled motivation to restrict stress advancement to mora adjacency. **Typology.** As noted in Baart 2014, Lithuanian accentuation has a similar stress advancement process (Saussure’s Law). We believe that it can be analyzed in the same way, which emphasizes the typological relevance of our proposal.