tonal languages were used for comparison [Altenberg and Ferrand, (2006)]. As such, it seems that both ethnicity/race of speakers and the language being used may simultaneously affect vocal quality. To study how language alone affects speaking voices with the effect of race/ethnicity being excluded, examining the vocal output from bilingual speakers appears to be a feasible approach. The present study examines the vocal characteristics of Cantonese and English produced by Cantonese-English adult speakers by using long-term average speech (LTAS) spectra. Continuous speech samples produced in Cantonese and English were obtained from 40 (20 male and 20 female) Cantonese-English bilingual speakers and used to generate LTAS spectra. First spectral peak, mean spectral energy, and spectral tilt derived from the LTAS spectra associated with Cantonese and English were compared. Results should reveal if the same vocal apparatus is used differently by Cantonese-English bilingual speakers when speaking different languages.

5aSC9. Phonetic correlates of vocal attractiveness in American English. Grant L. McGuire (Dept. of Linguist., UC Santa Cruz, 1156 High St., Santa Cruz, CA 95064, gmcguir1@ucsc.edu), Molly Babel (Univ. of British Columbia, BC V6T 1Z4, Canada), Teresa Miller, and Joseph King (UC Santa Cruz, Santa Cruz, CA 95064)

This study explores fine-grained phonetic vocal characteristics that underpin vocal attractiveness. In general, while it is well known that F0 plays a major role in such judgments [see, e.g., Riding *et al.* (2006)] there is a distinct lack of more detailed examinations of the phenomenon [see Zuta (2007) for a notable exception]. Moreover, the term "attractiveness" is generally ill-defined and conflated with other terms (such as "pleasantness"). Therefore, the specific goal of this study is to replicate and extend such studies by including a large number of talkers, more detailed acoustic measures, and better definition the term "attractiveness". Specifically, 60 talkers from California (30 female) produced isolated words controlled for phonetic content. These voices will be played to listeners who will judge the attractiveness of each talker. Ratings of these talkers will be compared against these acoustic measures: duration, average F0, F0 variation, spectral tilt, jitter, vowel space area, long term averaged spectrum, VOT, spectral mean of frication, and spectral peak of frication. The semantic value of "attractiveness" will be explored in follow-up questionnaires asking more detailed questions. Results will be compared against previous studies and will be discussed in terms of possible universal and culture-specific features.

5aSC10. Learning of adjectival word meaning through tone of voice. Alexandra Jesse, Eva Reinisch (Max Planck Inst. for Psycholinguistics, Postbus 310, 6500 AH Nijmegen, The Netherlands, Alexandra.Jesse@mpi.nl), and Lynne C. Nygaard (Emory Univ., Atlanta, GA 30322)

Speakers express word meaning through systematic but non-canonical acoustic variation of tone of voice (ToV), i.e., variation of speaking rate, pitch, vocal effort, or loudness. Words are, for example, pronounced at a higher pitch when referring to small than to big referents. In the present study, we examined whether listeners can use ToV to learn the meaning of novel adjectives (e.g., "blicket"). During training, participants heard sentences such as "Can you find the blicket one?" spoken with ToV representing hot-cold, strong-weak, and big-small. Participants' eye movements to two simultaneously shown objects with properties representing the relevant two endpoints (e.g., an elephant and an ant for big-small) were monitored. Assignment of novel adjectives to endpoints was counterbalanced across participants. During test, participants heard the sentences spoken with a neutral ToV, while seeing old or novel picture pairs varying along the same dimensions (e.g., a truck and a car for big-small). Participants had to click on the adjective's referent. As evident from eye movements, participants did not infer the intended meaning during first exposure, but learned the meaning with the help of ToV during training. At test listeners applied this knowledge to old and novel items even in the absence of informative ToV.

5aSC11. Voiced laughter elicits more positive emotion in listeners when produced with the mouth open than closed. Michael J. Owren (Dept. of Psych., Georgia State Univ., 140 Decatur St., Atlanta, GA 30303, owren@gsu.edu) and Tobias Riede (Natl. Ctr. for Voice and Speech, Univ. of Utah, Salt Lake City, UT 84101)

Laughter is ubiquitous in human interaction, but little is known about the communicative mechanisms involved. In previous work, listeners hearing