

Effect of Cuing on Sound Localization Accuracy in a Room

Norbert Kopco¹, Barbara G. Shinn-Cunningham² ¹*Hearing Research Center and Cognitive and Neural Systems Dept., Boston University, 677 Beacon St., Boston, MA 02215*, ²*Hearing Research Center, Departments of Cognitive and Neural Systems and Biomedical Engineering, Boston University, 677 Beacon Street, Boston, MA 02215*

A previous study of auditory attention examined how auditory localization accuracy in an ordinary room is affected when a test stimulus is preceded by an auditory cue from either the correct or opposite hemifield (Kopco, Ler, and Shinn-Cunningham, *JASA*, 109, 2377). Results suggested that the auditory cue does not improve localization accuracy, even when the cue is always informative. In fact, the presence of a preceding cue from either +90 or -90 degrees azimuth caused a consistent localization bias of the test stimulus (causing the test stimulus to be heard more towards the midline) for cue-test delays as long as 300 ms. In the current study, these findings are extended to determine how the azimuthal position of the cue stimulus affects localization bias. Acoustic analysis examines the extent to which localization bias can be explained by the reverberation in the room (which has a broadband T_{60} of roughly 450 ms), as opposed to perceptual effects (e.g., Carlile, Hyams, and Delaney, *JASA* 110, 416-424).

[Work supported in part by AFOSR Grant No. F49620-01-1-0005 and the Alfred P. Sloan Foundation]