How do we make sense of sensory inputs? Although we are far from answering this fundamental question, any account of the emergence of sense from sensation must include a description of the role of attention in focusing on relevant sensory channels and in modulating information flow at multiple stages originating in the transduction of sensory stimuli to encoding to perception and to the context-and-goal-specific behavioral meaning of the stimuli. I shall describe the results of research from our laboratory on the role of attention in modulating responses to sound in primary (A1), secondary auditory (PEG) and prefrontal (PFC) cortices. Our animal model has been the ferret, trained on multiple auditory detection and discrimination tasks in both positive and negative reinforcement behavioral paradigms. Performance on these tasks requires selective attention to different task-specific salient spectral frequency and/or temporal cues. Neurophysiological studies revealed task-specific adaptive transformations in spectrotemporal receptive fields in A1 (Fritz et al., 2003, 2005, 2007, 2009; Atiani et al., 2009; David et al., 2010) during auditory behavior. Many PEG neurons have non-linear receptive fields that displayed task-dependent enhancement of target responses (Atiani et al., 2010). In contrast to auditory cortical responses, PFC neurons had almost no response to auditory stimuli unless engaged in an auditory task, during which they displayed clear recognition responses, which categorically distinguished between acoustic foreground (targets) and background stimuli. Hence, unlike A1 and PEG, PFC responses to targets were often independent of the acoustic properties of the target and thus encoded an abstract representation of the class of target stimuli (Fritz et al., 2010). Stimulation of PFC, paired with tones, lead to receptive field transformations in A1 similar to those observed in behavior (Winkowski et al. 2010). Simultaneous recordings of PFC and A1 revealed task and target-selective changes in inter-areal coherence. These results emphasize the importance of interactions between multiple areas during selective attention, and the tight coupling of auditory attention and target recognition that enhances auditory cortical filters for attended acoustic stimuli, thus creating a functional representation of task-salient sounds during behavior.