In the natural environment, listeners face the challenge of parsing the sound mixture reaching their ears into individual sources, and maintaining attention on a source of interest through time long enough to extract meaning. A number of studies have shown that continuity of certain acoustic features (including pitch, location, timbre, etc.) allows the brain to group sound from one acoustic sound source together through time to form an auditory object or stream. This presentation reviews results demonstrating that auditory feature continuity has important consequences on how listeners maintain attention on a stream through time. For instance, continuity of a sound feature that a listener knows is irrelevant to the task at hand nonetheless impacts the ability to maintain auditory attention based on some other sound feature. Moreover, the influence of auditory feature continuity decreases as the time between events in a given sound stream increases. Taken together, these behavioral results support the idea that auditory attention operates on auditory objects, rather than on individual sound features, and that feature continuity has an obligatory influence on the formation of auditory streams, and therefore on how selective auditory attention allows us to communicate in everyday settings. © 2013 Acoustical Society of America.