Recent insights from auditory neuroscience provide a new perspective on how the brain encodes speech. Using these recent insights, I will provide an overview of key factors in the development of language and phonology. I will develop an oscillatory “temporal sampling” neural framework for linking auditory processing to phonological development in children. I will show that sensitivity to rhythmic structure is key to developing good phonological skills, and that children with dyslexia are relatively insensitive to rhythm. I will argue that rhythmic sensitivity is related to the neural encoding of energy patterns in speech via neuronal oscillatory entrainment.