

The meanings of words are reflected in the statistics of their use. For example, a child could discover the meaning of the word “ball” by noticing that it often accompanies small, round toys. A number of experiments show that humans are sensitive to these statistics, but there is considerable debate about how human learners track them. What is the mechanism for this “statistical learning”? Some accounts hold that we accumulate graded evidence about multiple meanings for each word; others suggest that we maintain only a single hypothesized meaning. We present a unifying model that shows how varying demands on attention and memory can restrict statistical learning, explaining both data used to support previous accounts and our new experimental findings.