

## **The development of induction**

Generalization from known to the unknown, or inductive inference, is an important component of human thinking. For example, if one learned that robins have hollow bones, would she think that eagles also have hollow bones? Is it reasonable to infer that bats have hollow bones too? Which attributes of robins and eagles are important for inferring that eagles do (or do not) have hollow bones? Do these attributes differ in their importance? And how do children learn which attributes are most predictive for inferring biological properties? In short, we are interested in three sets of questions. How do they children induce properties from the familiar to novel? How do linguistic labels aid them in these inductions? And how do these processes change in the course of learning and development? In current experiments with 4-5 year-olds, elementary and middle school children, and undergraduate students we established that (1) different attributes have different attentional weights; and (2) in young children attentional weights of linguistic labels are larger than weights of other attributes. We also found that when performing induction (e.g., inducing biological properties), young children rely on multiple sources of information, whereas preadolescents and adults rely on a single source that they deem the most important. In addition, in the course of development there was a decrease in the importance of less predictive sources of information (such as appearance and labels) and an increase in the importance of a more predictive source (such as inheritance). Our findings also indicate that young children induce biological properties based on the overall similarity between compared entities, whereas preadolescents rely on a single most predictive source of information, such as biological kind or inheritance information. In future experiments we plan to examine (1) the ability of young children to selectively attend to different sources of information and (2) effects of learning on the change of attentional weights of various sources of information.