The pigeon's variability discrimination with lists of successively presented visual stimuli

Pigeons previously trained to peck one button ("same") after the successive presentation of 16 identical pictures and to peck a second button ("different") after the successive presentation of 16 nonidentical pictures were tested on lists involving different degrees of variability, different list lengths, and different temporal organizations of list items. The pigeons' performance on this successive same-different task revealed a strong sensitivity to list entropy; but, their discrimination was also affected by their memory for list items and by the accumulated evidence for a "same" vs. a "different" response. Statistical models confirmed and quantified the importance of these additional factors.