Atoms of recognition

Shimon Ullman
Weizmann Institute, Israel

The human visual system makes highly effective use of limited information: it can recognize not only objects, but severely reduced sub-configurations in terms of size or resolution. The ability to recognize such minimal images is crucial for the interpretation of complex scenes, but is also challenging because recognition in this case depends on the effective use of all the available information. Our human and computational studies show that humans and existing feed-forward models are very different in their ability to interpret minimal images. I will describe the studies and discuss implications to top-down processing in the human visual system.