



**Visual Spatial Relationship Representation
as a Sequence of Attentional Shifts**

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Abstract

The relative spatial relationships among objects in the world are an important source of visual information. When we judge these relationships among a small number of objects, we have the impression that we simultaneously attend to multiple objects at once. In contrast, I argue that a flexible system may encode relations across space as a sequence of attentional shifts, in a manner similar to a linguistic description. I will demonstrate that despite their intuitions, observers do shift attention between the judged objects, using two techniques: (a) a passive electrophysiological measure of the locus of selection (n2pc), and (b) a behavioral manipulation where the objects appear sequentially, causing either speeding or slowing of the judgment depending on the order of appearance. Using both techniques, the observed patterns of shifts match either manipulations of stimulus salience, or biases caused by the linguistic framing of the instructions.

Biography

Dr. Steve Franconeri is currently an Assistant Professor of Psychology at Northwestern University. He received his undergraduate degree from Rutgers University in Computer Science and Cognitive Science. His Ph.D. in Psychology is from Harvard University, where he completed research on visual attention and cognition. He then spent two years at the University of British Columbia as a Killam Postdoctoral Fellow. Current work in the Franconeri lab focuses on topics in vision and cognition, such as the mechanisms of visual attention, object tracking, relational comparison, number perception, and visual memory.