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The mechanism of visual attention is the spatio-temporal salience map

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To guide information processing, to-be-processed locations are assumed to be marked in a dynamically changing salience map. Bottom-up and top-down processes combine to determine which locations are marked. This is illustrated with ambiguous apparent motion displays. Attentional instructions (that operate via a salience map) determine whether apparent motion will be perceived and its apparent direction. The salience map is shown to guide not only motion computations but also visual search (the order in which visual inputs are matched to memorized patterns), the selective transfer of inputs to visual memory, eye-movements, and other attention-sensitive processes.