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Cover legend: Computation of higher-order binocular disparity. When our left and right eye view a three-dimensional scene, each eye receives a slightly different view of the world, owing to the spatial separation of the eyes in the head. These small differences in the images are called binocular disparity and are one source of information about the distance of objects from the observer. The way in which visual cortical neurons detect the binocular disparity of single visual features can be modeled with an energy computation: the behavior of this model has much in common with the complex-cell property discovered by Hubel and Wiesel in the primary visual cortex. Recently, new versions of the energy model have been used to detect higher-order properties, such as the relative disparity between two visual features, by acting on the outputs of two or more primary visual cortical neurons. The image illustrates the odd-symmetric interactions within an energy model. For more information, see the article by Roe et al. in this issue (pages 11820–11831).

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