Different weights at the same place.

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Humans combine different kinds of visual information to estimate slant. These cues are combined through weighted averaging, with more weight attributed to more reliable cues.

The reliability of a cue can depend on several factors, such as the viewing distance or the amount of texture elements, which can differ across a scene. Does this mean that cue weights also differ across a scene, and even within objects? We addressed this question by asking observers to match the slants of two cue conflict objects that were simulated at the same location. The cue conflicts were the same in both objects, but the cues' reliabilities differed. Observers did not set the two objects to the same slant, although by doing so the objects' slant cues would have been perfectly matched. We can only explain this by asserting that weights are assigned to objects rather than to regions within the field of view.