

**Perceiving Virtual Geographical Slant:  
Action Influences Perception**

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***Abstract***

Four experiments varied the extent and nature of observer movement in a virtual environment to examine the influence of action on estimates of geographical slant. Previous slant studies demonstrated that people consciously overestimate hill slant but can still accurately guide an action toward the hill (Proffitt, Bhalla, Gossweiler & Midget, 1995). Related studies (Bhalla & Proffitt, 1999) suggest that one's potential to act may influence perception of slant and that distinct representations may independently inform perceptual and motoric responses. We found that in all conditions, perceptual judgments were overestimated and motoric adjustments were more accurate. The virtual environment allowed manipulation of the effort required to walk up simulated hills. Walking with the effort appropriate to the visual slant led to increased perceptual overestimation of slant compared to active walking with effort appropriate to level ground, while visually guided actions remained accurate.

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