

UC Merced

Proceedings of the Annual Meeting of the Cognitive Science Society

Title

Rolling Down South: A Topographical Heuristic Guiding Navigation

Permalink

<https://escholarship.org/uc/item/98200228>

Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 33(33)

ISSN

1069-7977

Authors

Gagnon, Stephanie A.

Brunye, Tad T.

Taylor, Holly A.

Publication Date

2011

Peer reviewed

Rolling Down South: A Topographical Heuristic Guiding Navigation

Stephanie A. Gagnon

Tufts University U.S. Army NSRDEC

Tad T. Brunye

Tufts University U.S. Army NSRDEC

Holly A. Taylor

Tufts University

Abstract: We use many strategies to efficiently navigate through our environment, such as selecting routes based on a minimization of number of turns, number of landmarks, and angular deviation from a goal destination. Additionally, recent research indicates a southern preference in route planning, which may derive from a spatial heuristic that links cardinal north with higher elevations (the north-is-up heuristic; Brunye et al., 2010). In two experiments we used an adapted Implicit Association Test (IAT) to measure the possibility that participants automatically associate high and low elevation with attribute representations of north and south. Our results provide unique evidence for an implicit association between north/south and high/low elevation (respectively), demonstrating a heuristic that biases decision-making during navigation. Given the powerful influence of heuristics during spatial decision-making, these results carry implications for successfully predicting behavior in many applied contexts, including computational modeling of human behavior and developing algorithms for robotic navigation.