

What are Good Loss Functions?

Bayesian color constancy

David H. Brainard

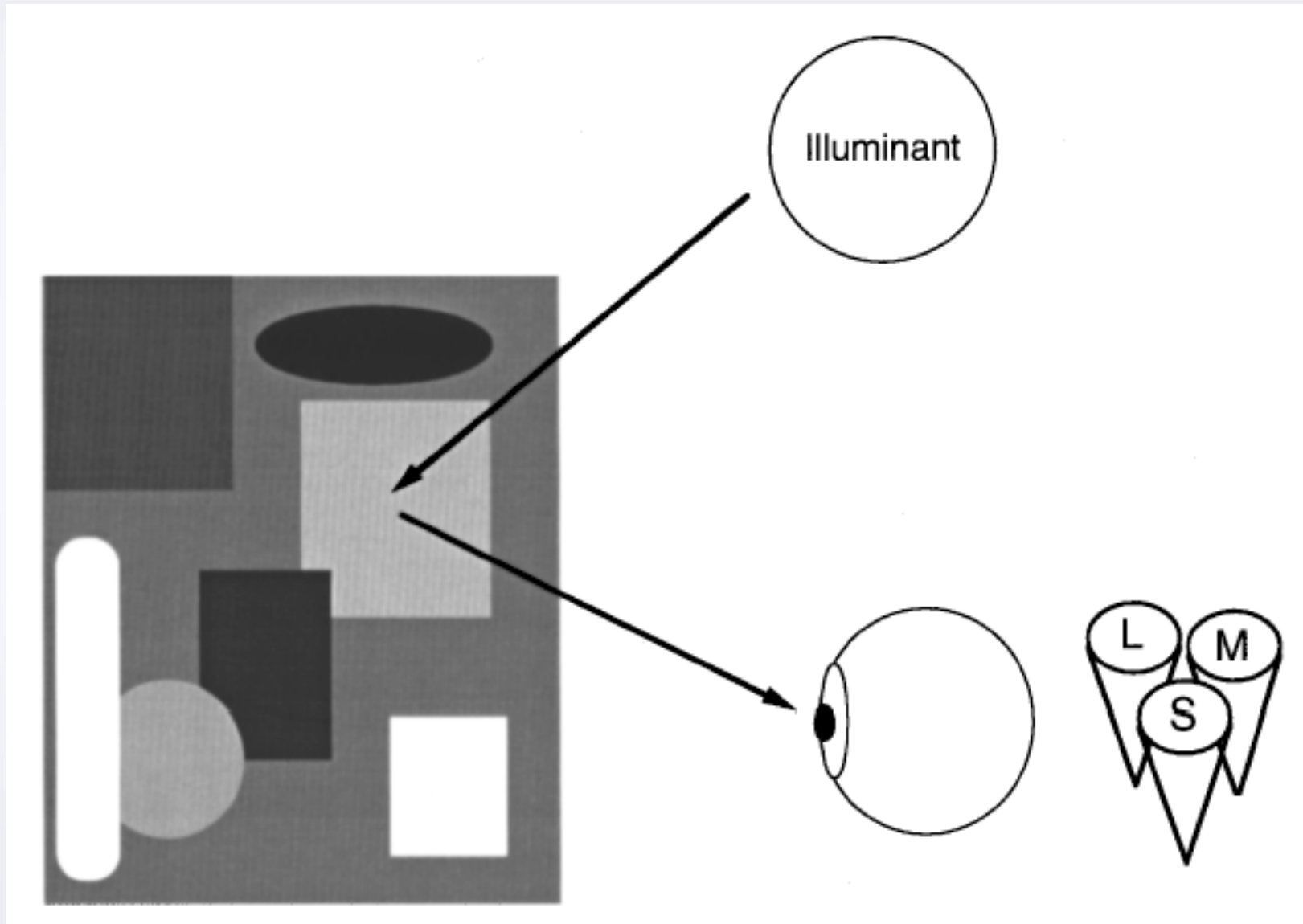
Department of Psychology, University of California, Santa Barbara, California 93106

William T. Freeman

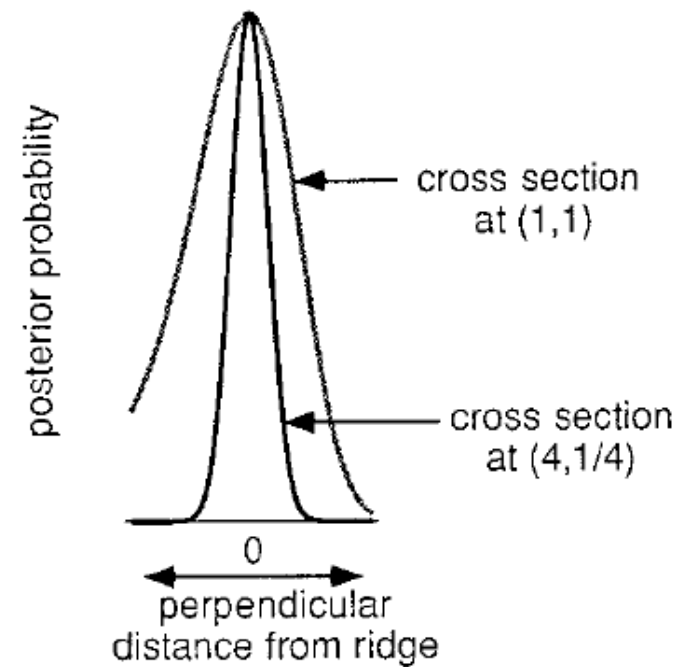
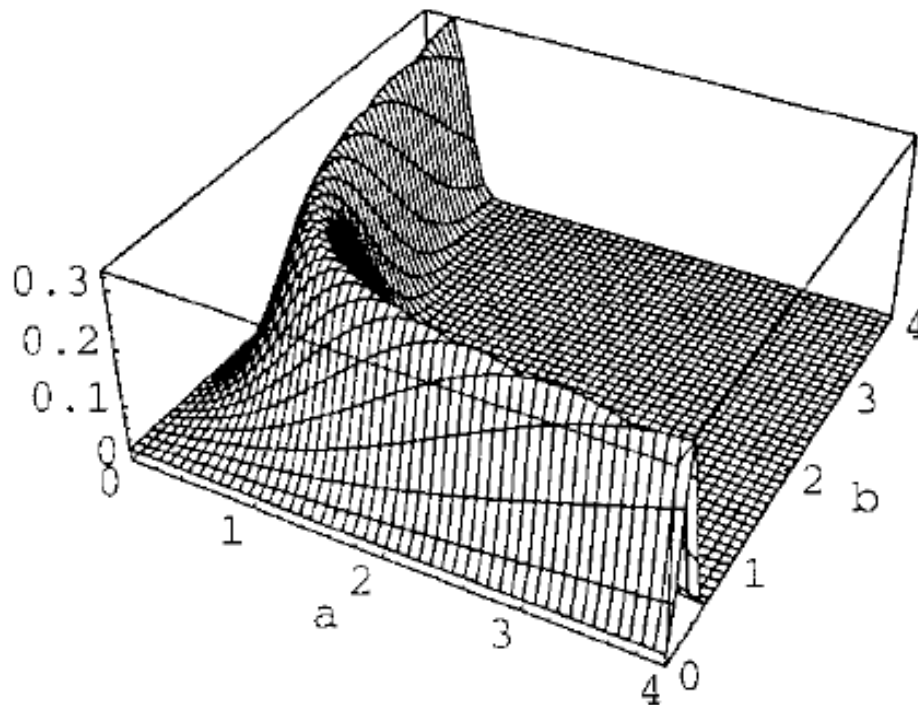
MERL, a Mitsubishi Electric Research Laboratory, Cambridge, Massachusetts 02139

Journal of the Optical Society of America A, July 1997

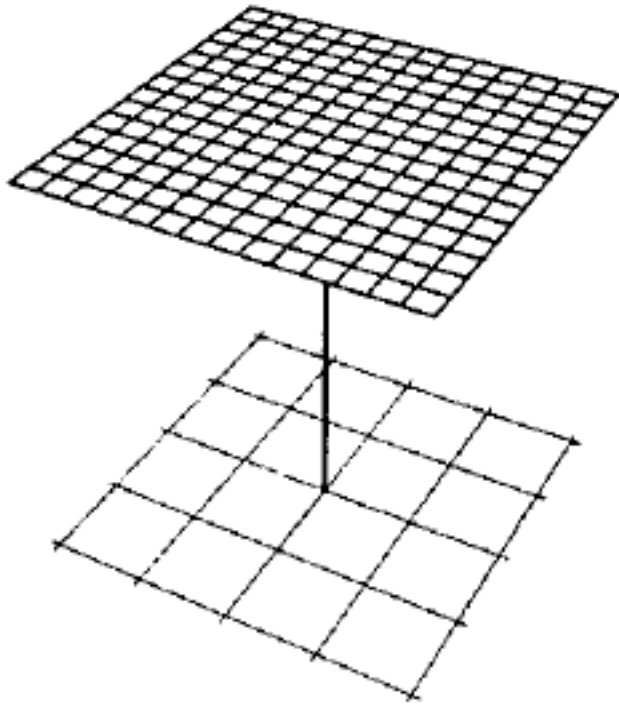
Color Constancy



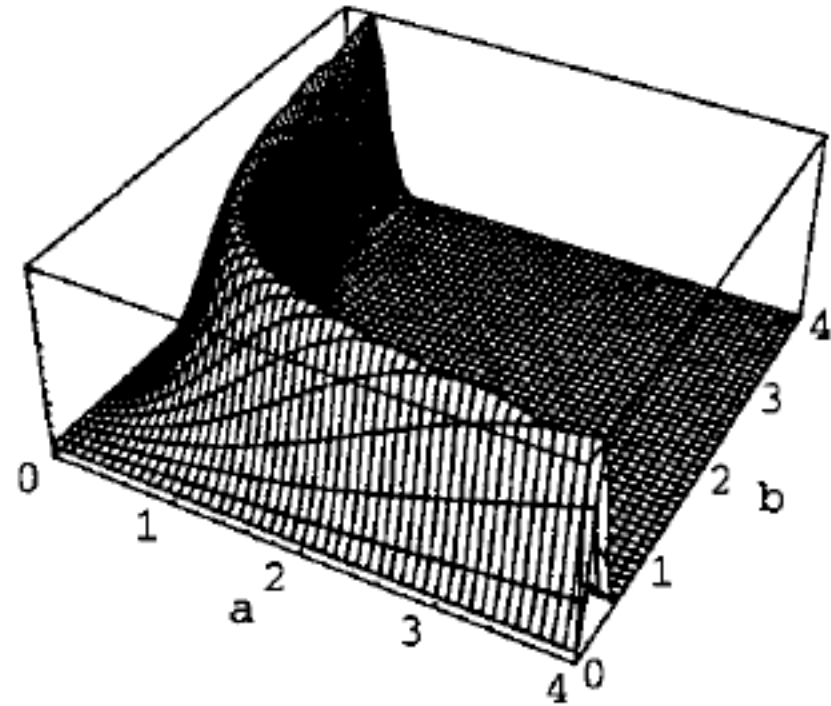
Toy Example



MAP Loss Function

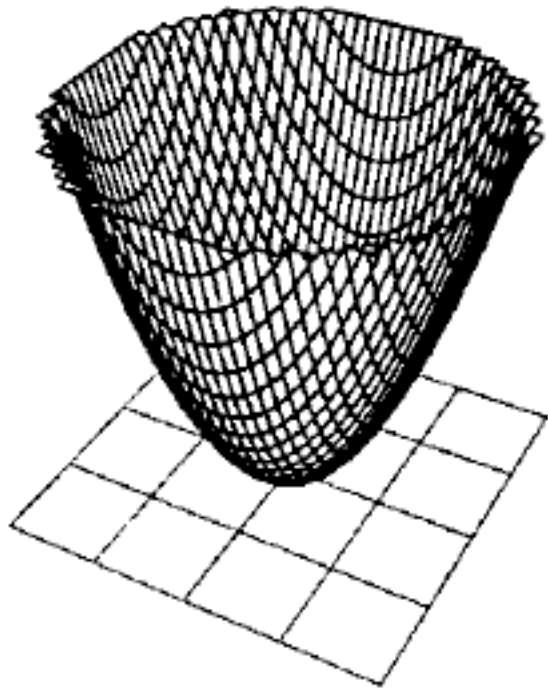


(a) MAP loss function

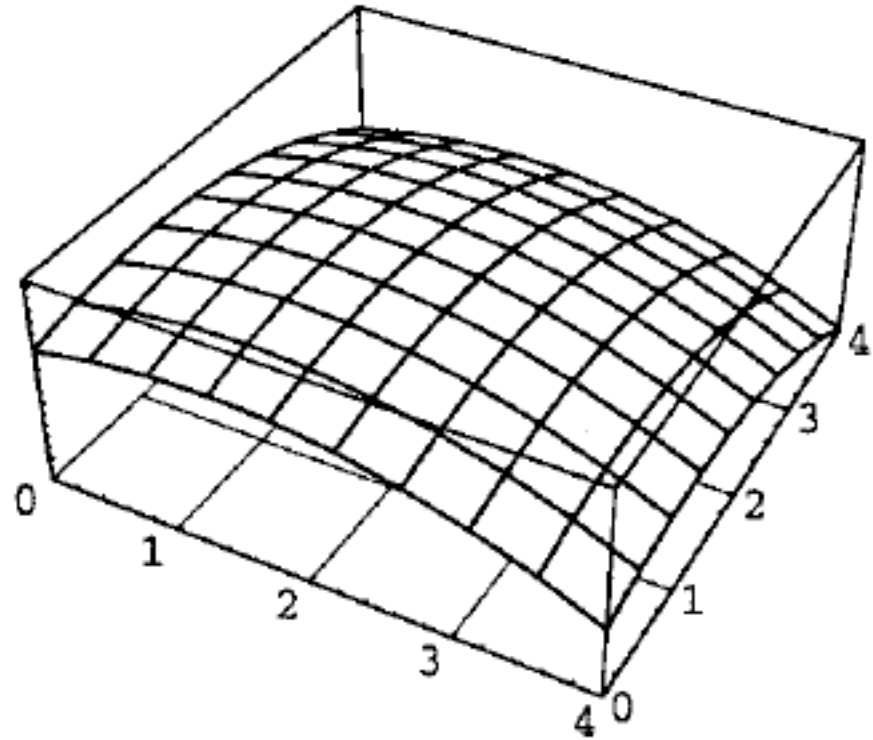


(d) (minus) MAP expected loss

Quadratic Loss Function

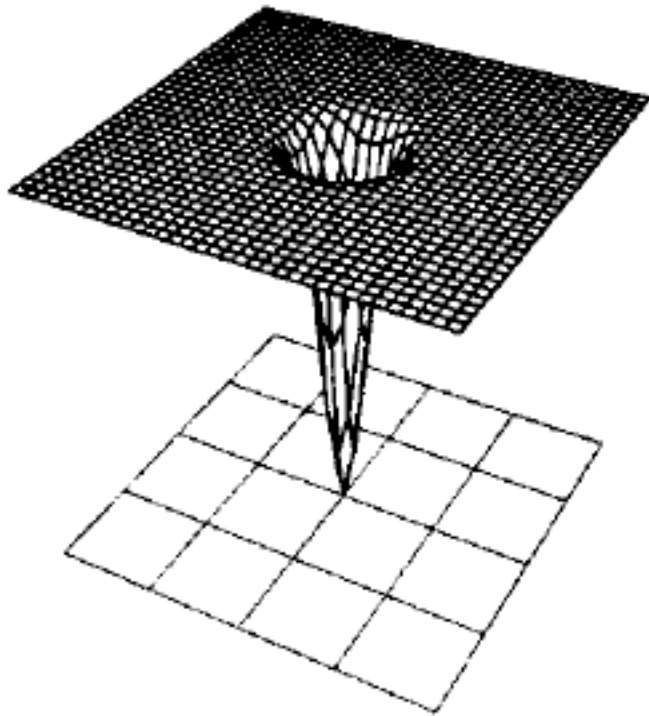


(b) MMSE loss function

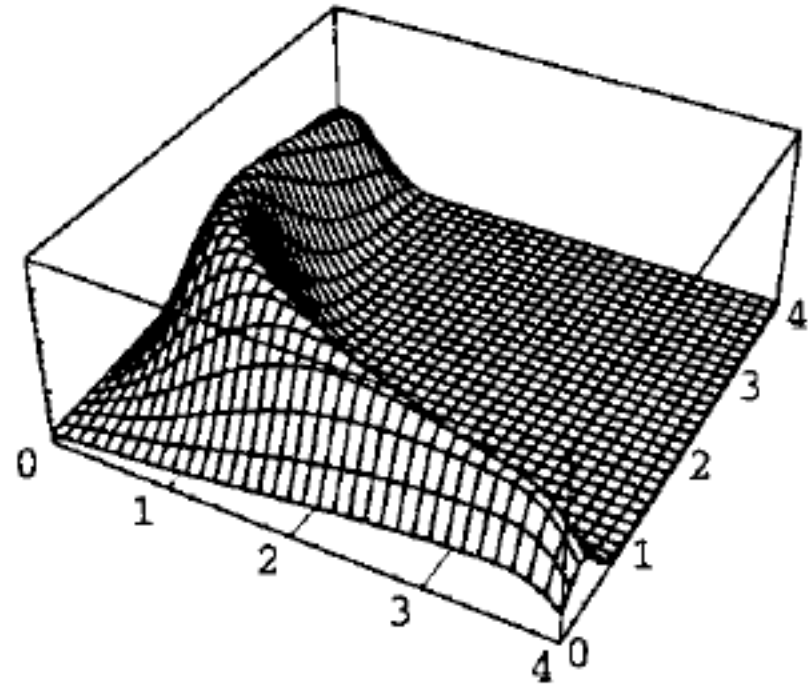


(e) (minus) MMSE expected loss

Local Mass Loss Function

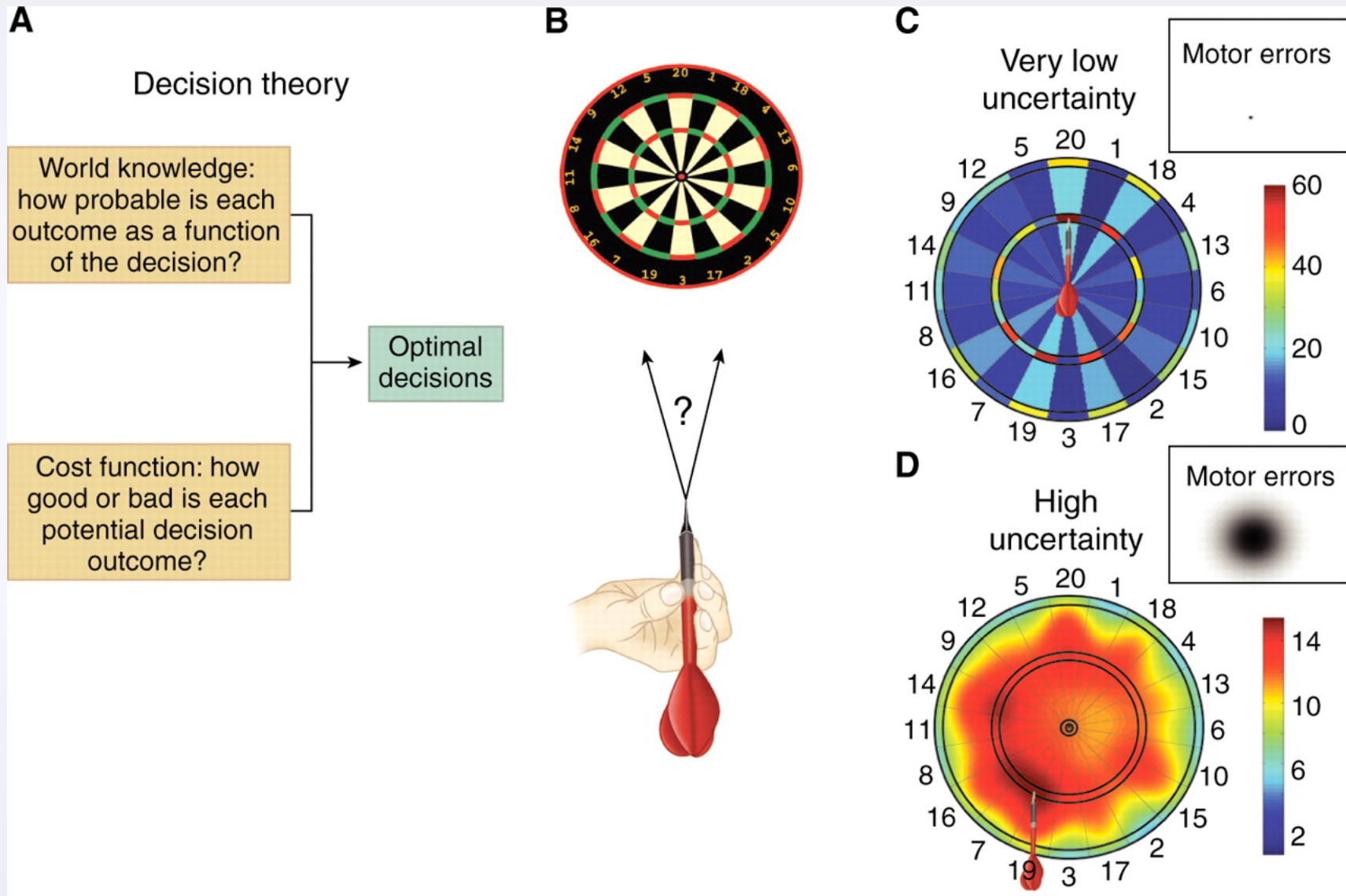


(c) MLM loss function



(f) (minus) MLM expected loss

Modeling Human Decisions



Estimator Comparison

