

**Figure E.1**

A geometrical picture of the technique of Lagrange multipliers in which we seek to maximize a function  $f(\mathbf{x})$ , subject to the constraint  $g(\mathbf{x}) = 0$ . If  $\mathbf{x}$  is  $D$  dimensional, the constraint  $g(\mathbf{x}) = 0$  corresponds to a subspace of dimensionality  $D - 1$ , indicated by the red curve. The problem can be solved by optimizing the Lagrangian function  $L(\mathbf{x}, \lambda) = f(\mathbf{x}) + \lambda g(\mathbf{x})$ .

