**Heuristic envelope** Numeric envelope Heuristic envelope Recognition performance,  $\overline{\text{SNR}}(\tau)$  $\frac{1.1\sqrt{N}}{\sqrt{r\tau}}$  $\sqrt{N}(M-1)$ 10<sup>0</sup>  $r\tau = 0.22M^2$ r*τ*‡0.73 10<sup>0</sup> 10<sup>2</sup> 10<sup>-1</sup> 10<sup>1</sup> 10<sup>3</sup> Mean recall time,  $\tau$