

1-1 CHOICE REACTION

Memory Buffer in Two Conditions

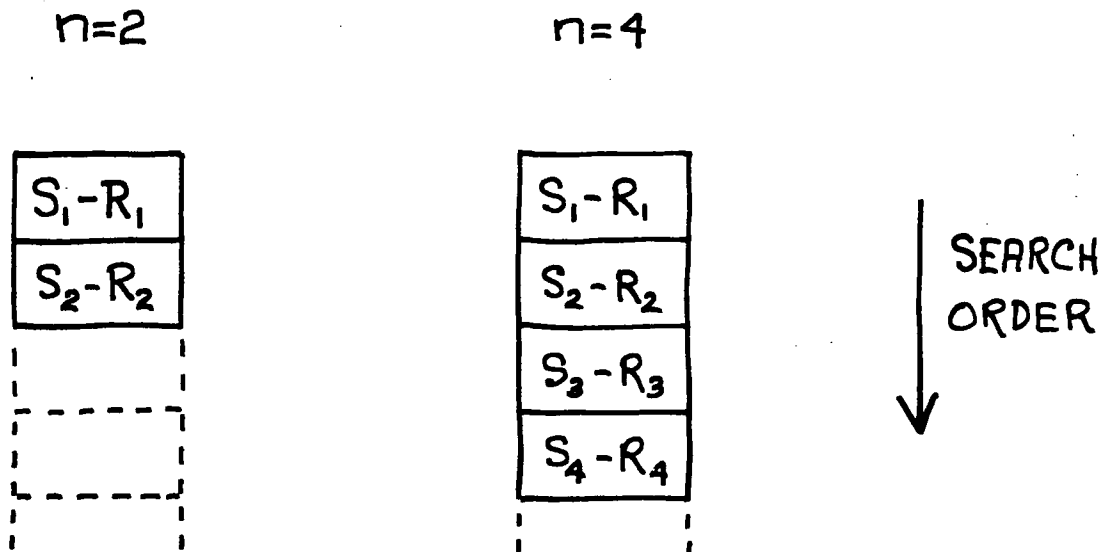


Figure 1

Model: Mixtures of Nested Equiprobable Components

n = number of objects to search

$$n=2: \quad G_2(t) = \frac{1}{2} F_1(t) + \frac{1}{2} F_2(t)$$

$$n=4: \quad G_4(t) = \frac{1}{4} F_1(t) + \frac{1}{4} F_2(t) + \frac{1}{4} F_3(t) + \frac{1}{4} F_4(t)$$

Properties: ① $2G_4(t) \geq G_2(t)$

② $G_2(t) \geq G_4(t)$

[Requires assuming $F_1(t) \geq F_2(t)$, etc.]

Property ① in terms of quantiles:

$$G_4^{-1}\left(\frac{p}{2}\right) \leq G_2^{-1}(p)$$

Figure 2

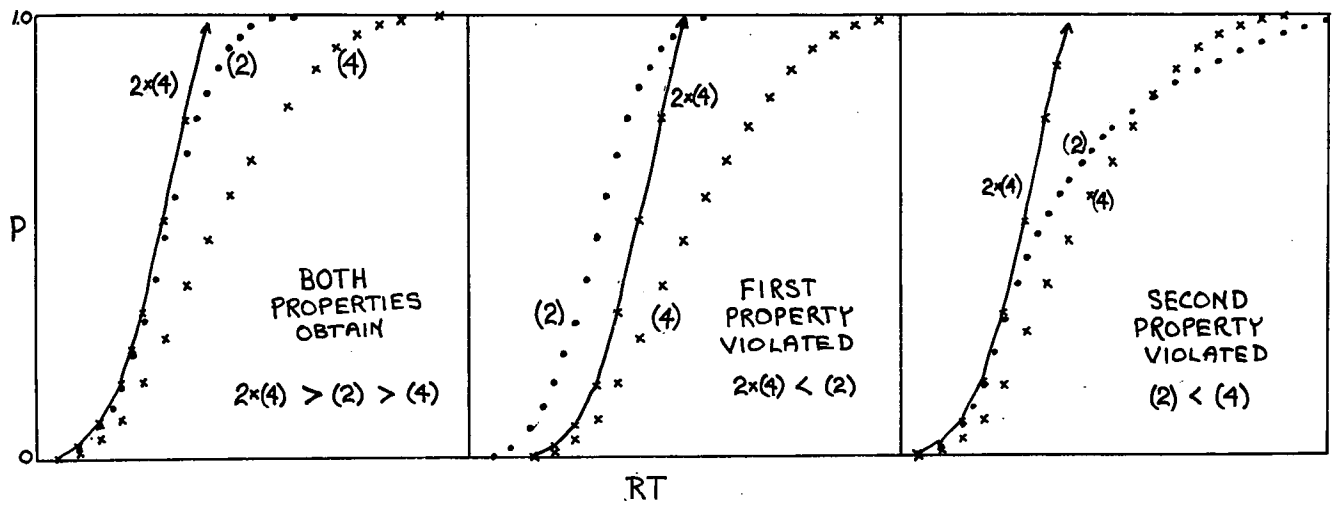


Figure 3

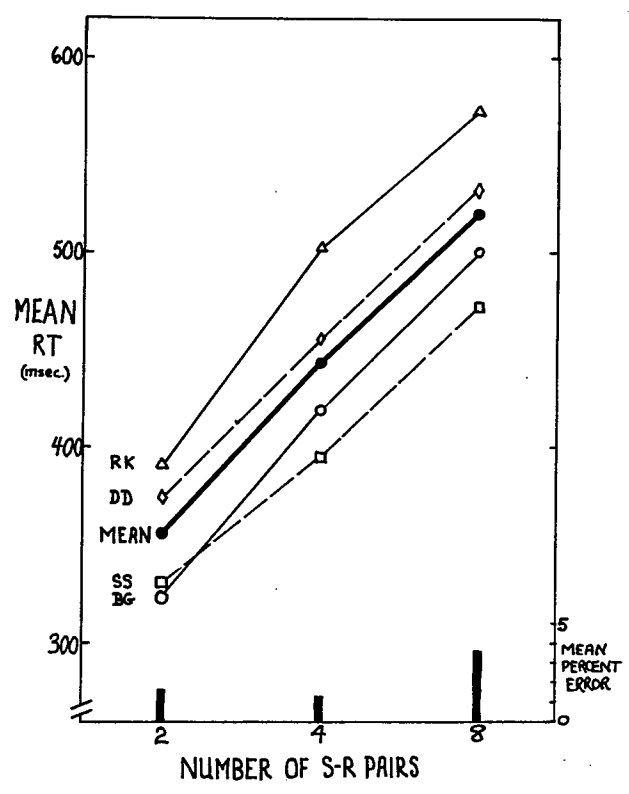


Figure 4

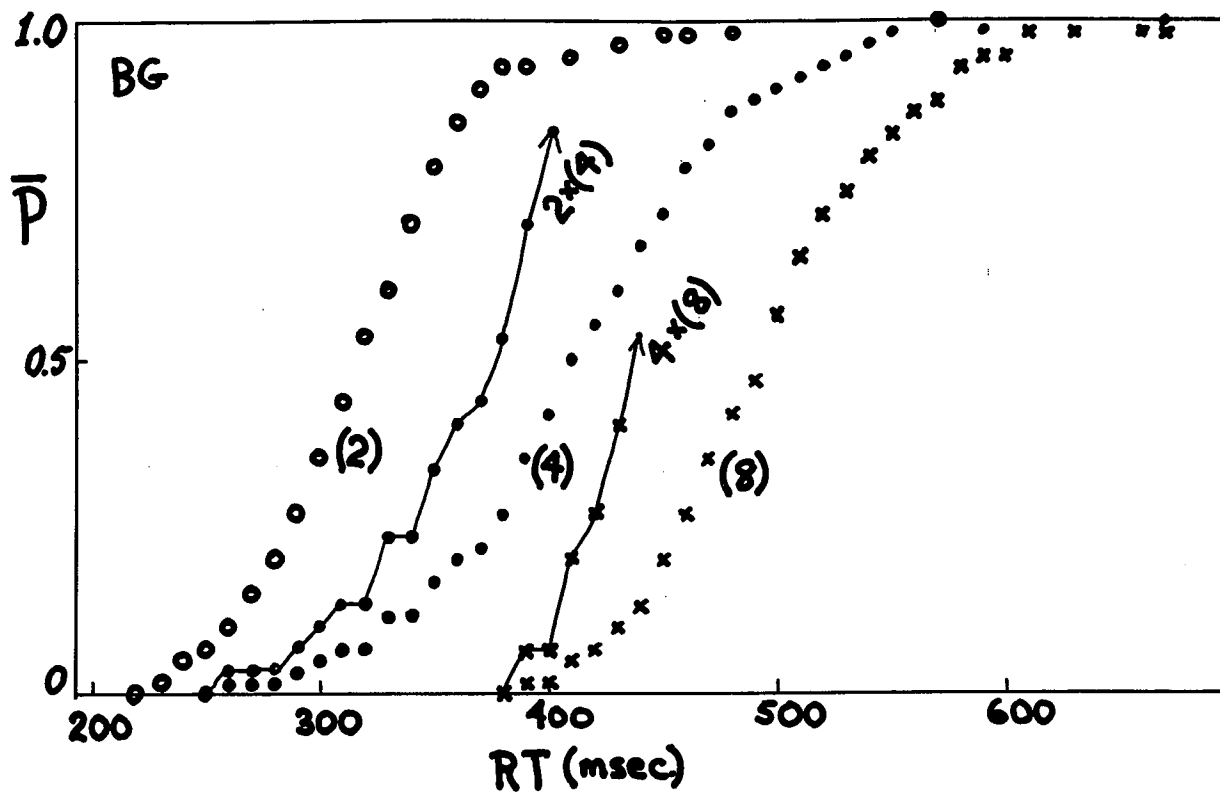


Figure 5

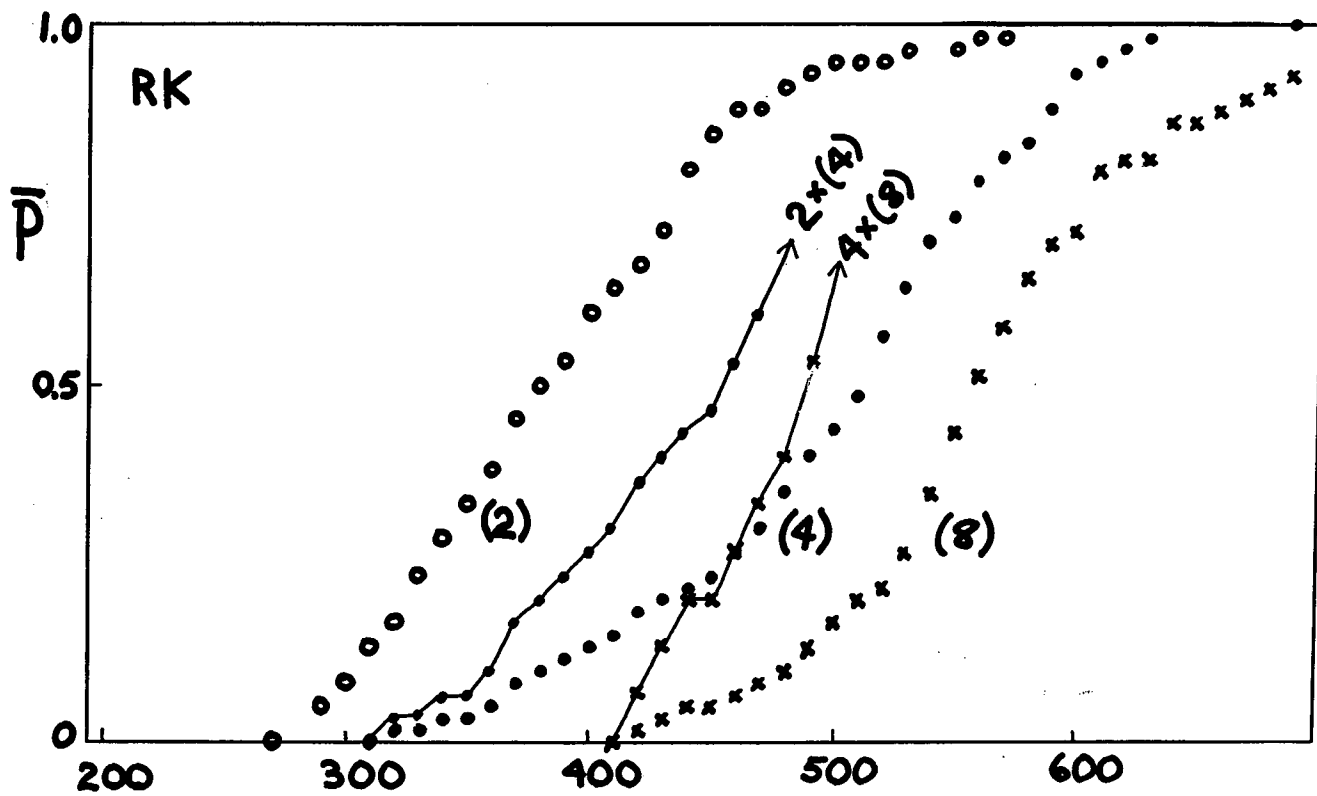


Figure 6

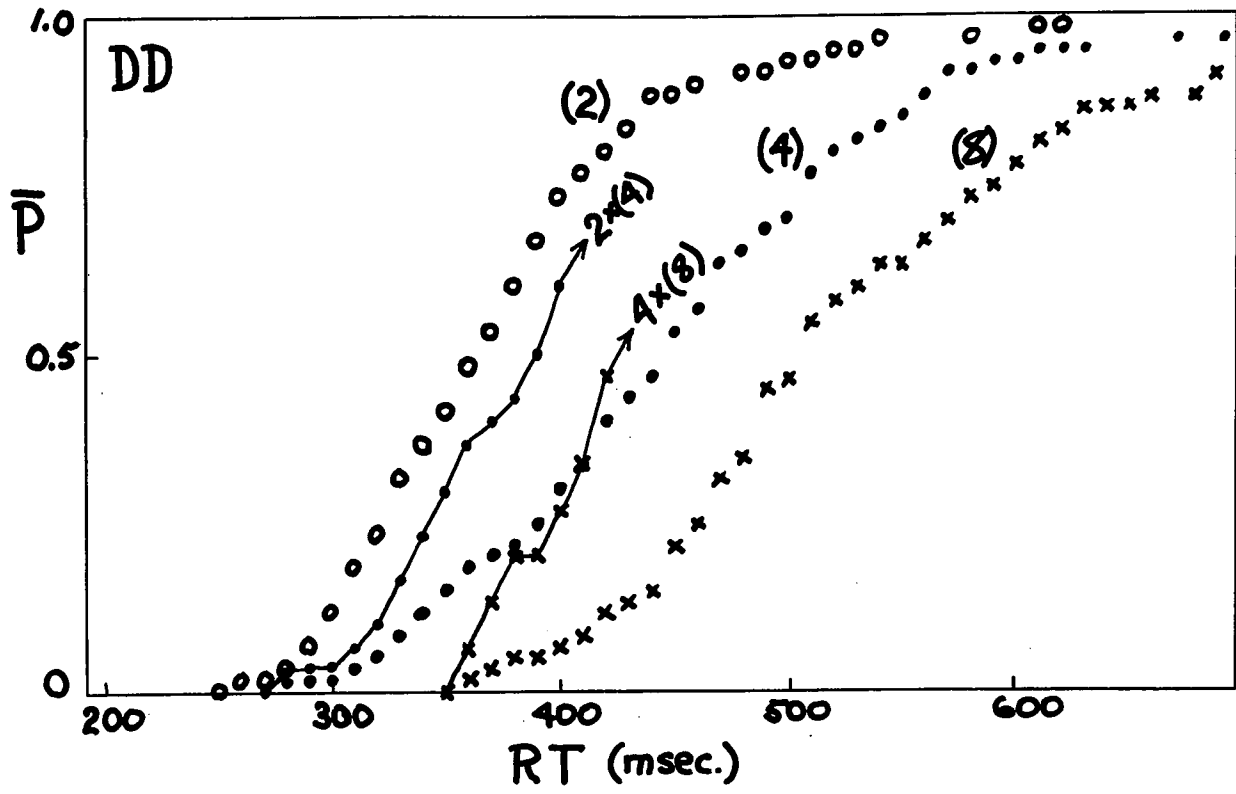


Figure 7

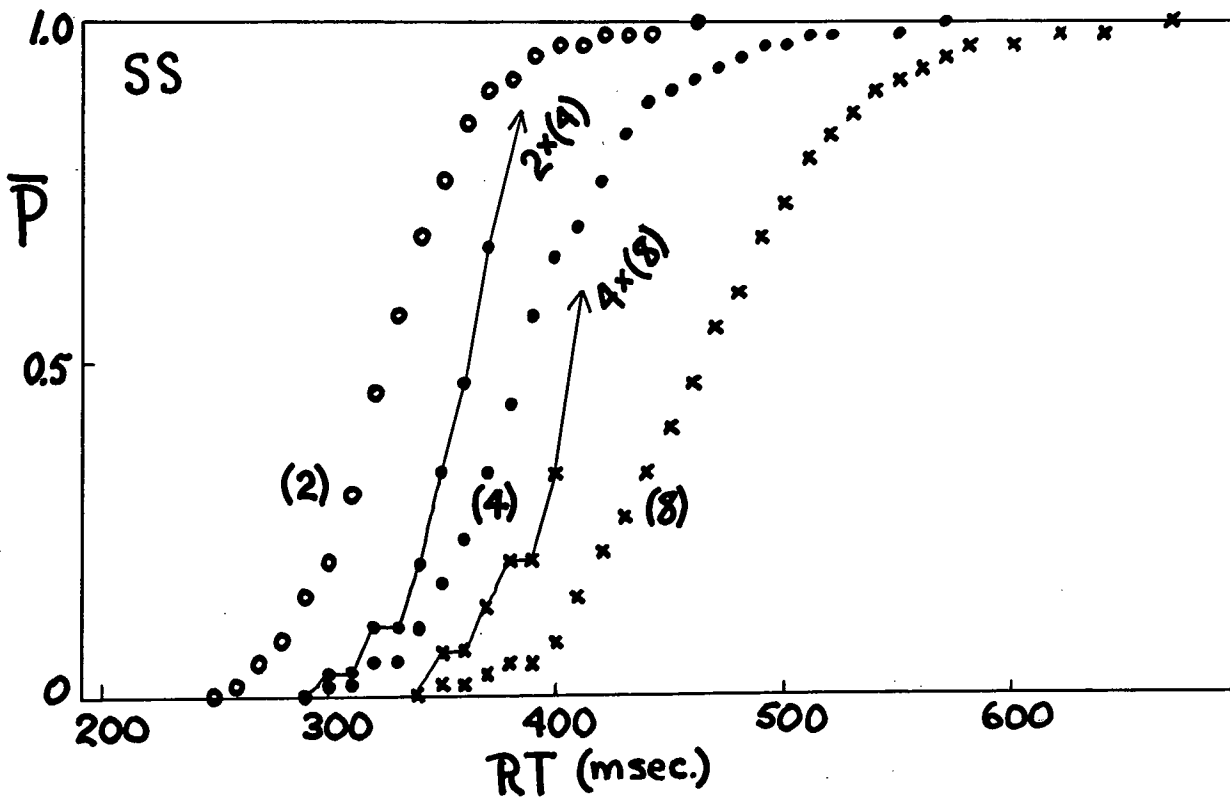


Figure 8

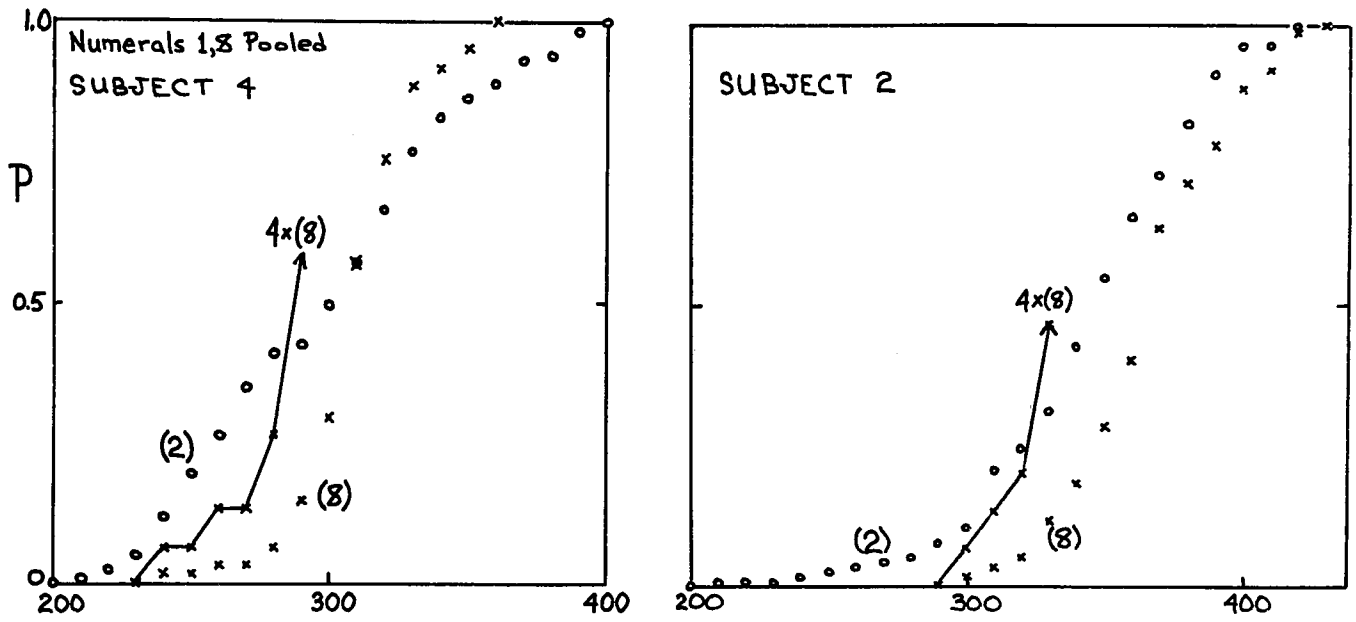


Figure 9

BINARY CLASSIFICATION

Search among s positive stimuli

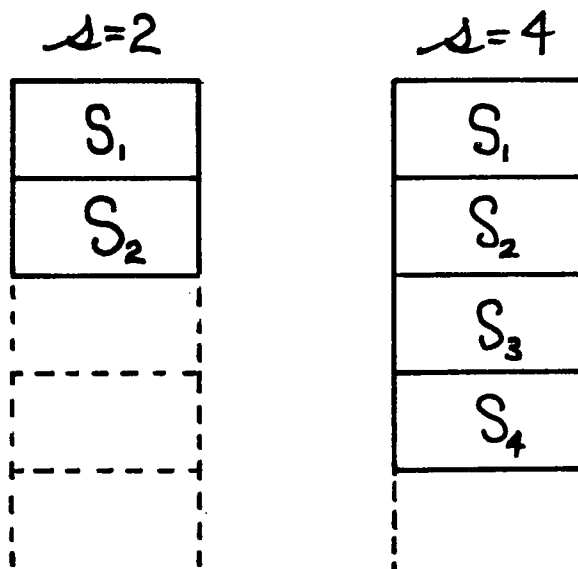


Figure 10

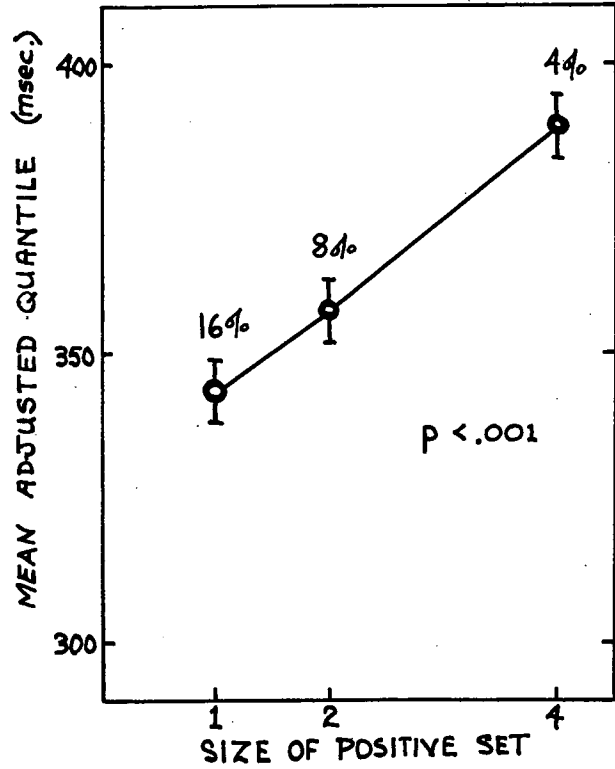
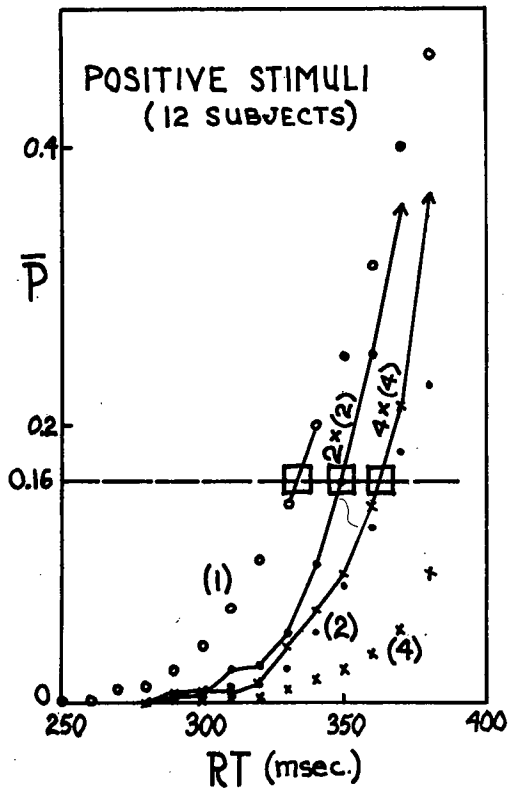


Figure 11

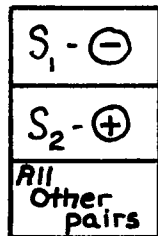
BINARY CLASSIFICATION

Search among (ten) S-R pairs (positive and negative)

Buffer Size = $\Delta + 1$

[e.g. Theios et al. 1973]

$\Delta = 2$



$\Delta = 4$

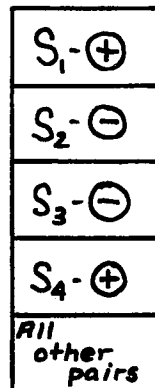


Figure 12

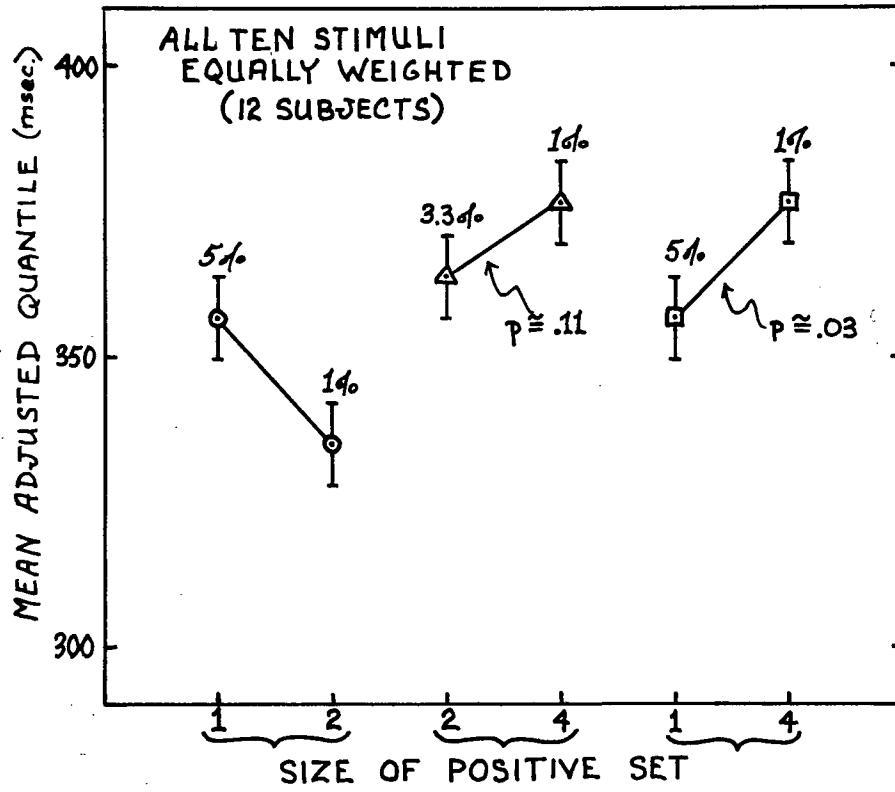


Figure 13