Decition problem and definitions	**General expression for Δ** $\langle p\rangle := \frac{1}{N}\sum_{i=0}^{N-1} p_i, \quad \langle p^2\rangle := \frac{1}{N}\sum_{i=0}^{N-1} p_i^2$	$p_i = p$ (constant) $\implies \langle p\rangle = p$ $\implies \langle p^2\rangle = p^2$	$p_i \in \{0,1\}$ $\implies \langle p^2\rangle = \langle p\rangle$	$p_i \in \{\epsilon, 1-\epsilon\}$ $\implies \epsilon \leq \langle p\rangle \leq 1-\epsilon$ $\implies \langle p^2\rangle = \langle p\rangle - \epsilon(1-\epsilon)$
Prisoners dilemma against copy $\Delta := Q(\text{Cooperate}) - Q(\text{Defect})$ $p_i := P(\text{Cooperate}\vert h_{>i})$ $M :=$ Gain from copy cooperating $m :=$ Gain from self defecting	$\Delta = M\frac{\langle p^2\rangle - \langle p\rangle^2}{\langle p\rangle(1-\langle p\rangle)} - m$	$\Delta = -m$	$\Delta = M - m$	$\Delta = M\left(1 - \frac{\epsilon(1-\epsilon)}{\langle p\rangle(1-\langle p\rangle)}\right) - m$
Evidential blackmail $\Delta := Q(\text{Pay}\vert\text{Blackmail})$ $-Q(\text{Dont}\vert\text{Blackmail})$ $p_i := P(\text{Pay}\vert\text{Blackmail}, h_{>i})$ $M :=$ Curent stock value $m :=$ Blackmail ransom $q := P(\text{Market crach})$	$\Delta = M\frac{q(1-q)(\langle p^2\rangle - \langle p\rangle^2)}{q^2\langle p\rangle(1-\langle p\rangle) + \beta} - m$ $\beta = (1-2q)[\langle p\rangle^2 + \langle p^2\rangle - 3q\langle p\rangle\langle p^2\rangle - (1-2q)\langle p^2\rangle^2]$	$\Delta = -m$	$\Delta =$	$\Delta =$
Absent minded driver $\Delta := Q(\text{Continue}) - Q(\text{Exit})$ $p_i := P(\text{Continue}\vert h_{>i})$	$\Delta = \frac{4\langle p\rangle - 4\langle p\rangle^2 - 2\langle p^2\rangle - 4\langle p\rangle\langle p^2\rangle + 6\langle p^2\rangle^2}{(1-\langle p^2\rangle)(\langle p\rangle + \langle p^2\rangle)}$	$\Delta = \frac{4-6p}{1+p}$	$\Delta = 1$	$\Delta = \frac{2\langle p\rangle(1-\langle p\rangle) + [2 - 8\langle p\rangle + 6\epsilon(1-\epsilon)]\epsilon(1-\epsilon)}{2\langle p\rangle(1-\langle p\rangle) + [3\langle p\rangle - 1 - \epsilon(1-\epsilon)]\epsilon(1-\epsilon)}$
Death in Damaskus $\Delta := Q(\text{Damaskus}) - Q(\text{Alleppo})$ $p_i := P(\text{Damaskus}\vert h_{>i})$ $M :=$ Value of beeing alive	$\Delta = M\frac{(\langle p\rangle - \langle p^2\rangle)(1-2\langle p\rangle)}{\langle p\rangle(1-\langle p\rangle)}$	$\Delta = M(1-2p)$	$\Delta = 0$	$\Delta = M\frac{\epsilon(1-\epsilon)(1-2\langle p\rangle)}{\langle p\rangle(1-\langle p\rangle)}$
Game against copy with general payof matrix $\Delta := Q(a_1) - Q(a_2)$ $p_i := P(a_1\vert h_{>i})$ $M_{jk} :=$ Reward for self doing a_j and coppy doing a_k	$\Delta =$	$\Delta = M_{12} - M_{22}$ $+(M_{11} + M_{22} - M_{12} - M_{21})p$	$\Delta = M_{11} - M_{22}$	$\Delta = M_{11} - M_{22}$ $+\left(\frac{M_{12}-M_{11}}{\langle p\rangle} + \frac{M_{22}-M_{21}}{1-\langle p\rangle}\right)\epsilon(1-\epsilon)$