The one deviation property

Proposition

Let $\Gamma = \{N, H, P, (\succeq_i)\}$ *be a finite horizon extensive game with perfect information. The strategy profile* s^* *is a subgame perfect equilibrium of* Γ *if and only if for every player* $i \in N$ *and every history* $h \in H$ *for which* $P(h) = i$ *we have*

$$O_h(s_i^*|_h, s_{-i}^*|_h) \succeq_i|_h O_h(s_i, s_{-i}^*|_h)$$

for every strategy s_i *of player* i *in the subgame* $\Gamma(h)$ *that differs from* $s_i^*|_h$ *only in the action it prescribes after the initial history of* $\Gamma(h)$.

($\Rightarrow$) s_i^* is better than any other strategy including any strategy that only deviates after the inital history $\Gamma(h)$.