Theorem. Let $\Delta A_1B_1C_1$ be the circumcevian triangle of a point $P$ with respect to $\Delta ABC$. Let $H_{bc}, H_{cb}, H_{ca}, H_{ac}, H_{ab}, H_{ba}$ be respectively the orthocenter of $\Delta PB_1C, \Delta PC_1B, \Delta PC_1A, \Delta PA_1C, \Delta PA_1B, \Delta PB_1A$.

Let $A' = H_{ca}H_{ac} \cap H_{ab}H_{ba}$, $B' = H_{ab}H_{ba} \cap H_{bc}H_{cb}$, $C' = H_{bc}H_{cb} \cap H_{ca}H_{ac}$. Then three lines $AA', BB', CC'$ are concurrent.