Theorem. In the plane, consider \( \triangle ABC \) with centroid \( G \) and medial triangle \( \triangle A_0B_0C_0 \). \( \triangle A_1B_1C_1 \) is the pedal triangle of a point \( P \) with respect to \( \triangle ABC \). Let \( A_2, B_2, C_2 \) be respectively the centroid of \( \triangle A_1B_0C_0, \triangle B_1A_0C_0, \triangle C_1A_0B_0 \). Then four points \( G, A_2, B_2, C_2 \) are concyclic.