

The “Happy End” Problem: A Love Story

THE SETTING

Városliget (City Park), Budapest, Hungary. Winter 1932-33.

THE CAST OF CHARACTERS

Pál “Paul” Erdős (a brilliant young mathematician); Eszter “Esther” Klein (the heroine); György “George” Szekeres (the protagonist, an unemployed chemistry graduate); and Endre “Andre” Makai (a supporting cast member).

THE PLOT

A group of young intellectuals meets in a city park, discussing mathematics, politics, and exchanging personal gossip. One day, Esther (our heroine) makes a rather interesting observation: “Among any five points in general position in the Euclidean plane, it is always possible to select four points that form the vertices of a convex quadrilateral.” Andre soon proves that among any nine points in general position, it is always possible to select five points that form the vertices of a convex pentagon. With Paul’s help, an exciting generalization is Conjectured: “Given any positive integer n , there exists a number $K(n)$ such that among any $K(n)$ points in general position, it is possible to select n points that form the vertices of a convex n -gon.” George is determined to be the first to resolve this Conjecture, exerting considerable energy to beat the ever-brilliant Paul to the solution. Why, Dearest Audience, do you suppose that George was so eager to provide the first solution? Was it the Conjecture itself that motivated him, or was he driven by something more? Perhaps an interest in the young woman who had posed the problem in the first place? Stay tuned for one of the beautiful and touching stories in all of mathematics...

THE STERN WARNING FROM THE NARRATOR

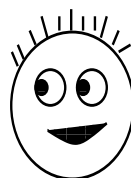
If you’re familiar with this magical story, then do NOT spoil my fun by telling others about the ending.



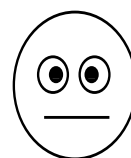
Paul



Esther



George



Endre