Uniqueness of folding [Aleksandrov 1941]

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L11.5
Oct. 18, 2004

- suppose you have glued a polygon's boundary into a surface homeomorphic to a sphere
- what convex polyhedra can it make?
  - every edge will be a shortest path on surface
- draw all shortest paths & overlay ⇒ fix combin. structure
- Cauchy's rigidity theorem ⇒ at most one convex realization

OPEN: algorithm for Cauchy's rigidity theorem
- find convex polyhedron or report impossible
- there is a $2^{O(n^2)}$ algorithm [Sabitov 1996; Fedorchuk & Pak 2004]