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On visual shapes and non-central sections.

Assume that Earth is made out of a transparent glass and contains a convex body K in its interior. Let K be seen as a disk from every point on the planet's surface, possibly of different radii. Can one conclude that K is a Euclidean ball? What if it is seen as an ellipse or a polygon?

We discuss related open problems, provide known and recent results that answer all of the questions above, as well as their dual counterparts for non-central sections of convex bodies.