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Every circle touches infinity twice!

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A circle in perspective becomes an ellipse, or a general conic section. Is it possible, however, to detect those conic section which have been circles before? The answer is: yes! And it goes back to the Erlangen Program of Felix Klein to embed the Euclidean and non-Euclidean geometries into the projective plane. We take the horizon, i.e. the points at infinity, as a conic section. Its type defines the geometry - and, indeed, circles touch this absolute conic section twice. This can be seen (almost) without calculations, improves our geometric intuition, and provides beautiful examples of cosmology, differential geometry, and dynamical systems. I will uses this to discuss the geodesic flow from a little unusual perspective.