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Global Structure of Visual Space as a United Entity

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Of visual space (VS) that we are perceiving around us, two subspaces are discussed. Though each can be regarded as Riemannian space of constant Gaussian curvature  $K$ , a plane passing through the eyes that extends in the depth direction is hyperbolic ( $K < 0$ ) whereas a plane appearing front-parallel is Euclidean ( $K = 0$ ). Empirical and mathematical bases for this structure of VS are presented. How VS is related to the stimulus condition is complex and dynamic, but the intrinsic structure of VS per se is homogeneous in the sense that we can see global congruence and/or similarity between figures, provided the corresponding physical objects are appropriately adjusted. All precepts appear at finite distances and VS is closed. Perceptual structure of natural scene, e.g., horizon, is discussed.