morphology of all Icosacantha, it is the most profitable way to retain constantly in mind for comparison the figure of a terrestrial globe with its axis and zones. The axis of the globe is the spineless axis of all Icosacantha, around which all twenty spines are symmetrically disposed; it is perpendicular to the bisecting equatorial plane, in which lies the middle of the five parallel zones; therefore the four spines, crossed perpendicularly in this equatorial plane, are called the equatorial spines ($c1$ to $c4$ in the figures of Pls. **131–140**); often, and mainly in the family Quadrilonchida (Pl. **131**), these four equatorial spines are much larger or of a peculiar form, different from that of the sixteen other spines. Each pair of the four equatorial spines lies in one equatorial axis, and this latter is perpendicular to the crossing axis, in which lies the other pair of opposite spines. We may regard these two equatorial diameters, perpendicular one to another and to the spineless axis, as the two perradial axes or primary axes. Correspondingly the two meridian planes, which are determined by one perradial axis and the spineless axis, may be called the two primary or perradial meridian planes.

The globe is divided by the equatorial plane into two equal halves, the northern and the southern hemisphere. In each hemisphere there are disposed quite symmetrically eight radial spines, the distal ends of which fall in two parallel circles, a larger tropical circle (nearer to the equator) and a smaller polar circle (nearer to the pole of the spineless axis). Therefore we call the four spines of the former the "tropical spines" and the four spines of the latter the "polar spines." The angle between the former and the equatorial plane is about 30°, the angle between the latter and that plane about 60°.

The eight polar spines (four northern and four southern) lie in the same two meridian planes as the four equatorial spines. Therefore in each of these two perradial planes lie six radial spines, opposite in pairs; two equatorial and four polar spines. Commonly all eight polar spines are of the same size and form; and often they are also equal to the eight tropical spines; but in some cases (*e.g.*, in some species of Quadrilonchida) they are much smaller than the twelve other spines, and sometimes even rudimentary. In all figures of the Pls. **131–140** (and also in my Monograph, 1862, Taf. xv.–xxii.) the polar spines of the northern circle are marked by the characters $a1$ to $a4$, the polar spines of the southern circle by the characters $e1$ to $e4$. In the first perradial meridian plane lie $a1$ and $a3$, $e1$ and $e3$, in the second $a2$ and $a4$, $e2$ and $e4$.

The eight tropical spines lie between the eight polar and the four equatorial spines, four in each hemisphere; their distal points fall in two parallel circles, which correspond exactly to the two tropics of the globe. Therefore the four northern tropical spines may be called "canceral spines" (as their ends fall in the Tropic of Cancer) and the four southern correspondingly "capricornal spines" (as their points lie