and possesses neither skeleton nor alveoles, nor other differentiated parts. The innumerable fine pseudopodia, which issue from the central capsule through the evenly distributed pores in its membrane, radiate in all directions through the calymma and pass out over its surface. *Actissa* can, therefore, be directly derived phylogenetically from the simplest skeletonless Heliozoa (*Actinophrys*, *Heterophrys*, *Actinosphærium*, *Sphærastrum*). The only essential difference between the two consists in the development of the *central capsule*, which in *Actissa* separates as a distinct membrane the endoplasm from the exoplasm. This differentiation, which we regard as the most important distinguishing character of the Radiolaria, has been transmitted by inheritance, along with the formation of flagellate spores in the central capsule, from *Actissa*, the primitive parent, to all the other Radiolaria.

161. *Hypothetical Genealogical Tree of the Spumellaria* (see opposite page).

162. *Collodaria and Sphærellaria.*—Whilst in all SPUMELLARIA the malacoma agrees in possessing the characteristic features of the legion, and thus justifies its derivation monophyletically from the common stem-form *Actissa*, the different forms of skeleton, on the other hand, cannot all be referred to the same fundamental form. More especially the *spherical lattice-shell*, from which all the numerous skeletal forms of the Sphærellaria may be derived, cannot have arisen from the incomplete Beloid skeleton which characterises the Beloidea among the Collodaria. It is probable rather that the formation of the skeleton has taken place independently in those two groups of SPUMELLARIA. From the skeletonless Colloidea, as the common stem-group of the SPUMELLARIA, two different main groups have diverged, on the one hand the Beloidea, whose skeleton consists of separate spicules scattered in the extracapsulum, and on the other hand, the Sphærellaria, which have formed a simple lattice-sphere around the central capsule; from this the manifold forms of the remaining SPUMELLARIA may be derived.

163. *Descent of the Sphærellaria.*—The extensive order Sphærellaria, which includes all SPUMELLARIA with a complete lattice-shell, develops an extraordinary variety of skeletal structures; these may, nevertheless, all be derived without violence from a common stem-form, or simple spherical lattice-shell, *Cenosphæra*. The main stem of the order, the extensive suborder Sphæroidea (Pls. 5–30), is derived immediately from *Cenosphæra* (p. 61, Pl. 12); three diverging branches of it being represented by the other three suborders, the Prunoidea (Pls. 16, 17, 39, 40) being developed by elongation, and the Discoidea (Pls. 31–48) by shortening of the vertical main axis, whilst the Larcoidea (Pls. 9, 10, 49, 50) have originated by the modification of the spherical lattice-shell into a lentelliptical or triaxial ellipsoidal one. Although the monophyletic derivation of all Sphærellaria from *Cenosphæra* is exceedingly probable, the possibility of a polyphyletic origin for the group is by no