formation of their beaks and feet—are of an exceeedingly uniform organization, in much the same way as are the class of insects. The bird form has adapted itself on all sides to the external conditions of existence, without having thereby in any way essentially deviated from the strict hereditary type of its characteristic structure. There are only two small groups, the feather-tailed birds (Saururæ) and those of the ostrich kind, which differ considerably from the usual type of bird, namely, from those with keel-shaped breasts (Carinatæ), and hence the whole class may be divided into three sub-classes.

The first sub-class, the *Reptile-tailed*, or *Feather-tailed Birds* (Saururæ), are as yet known only through a single, and that an imperfect, fossil impression, which, however, in being the oldest and also a very peculiar fossil bird, is of great importance. This fossil is the Primæval Griffin, or Archæopteryx lithographica, of which as yet only one specimen has been found in the lithographic slate at Solenhofen. in the Upper Jura system of Bavaria. This remarkable bird seems on the whole to have been of the size and form of a large raven, especially as regards the legs, which are in a good state of preservation; head and breast unfortunately are wanting. The formation of the wings deviates somewhat from that of other birds, but that of the tail still more so. In all other birds the tail is very short and composed of but few short vertebræ; the last of these have grown together into a thin, bony plate standing perpendicularly, upon which the rudder-feathers of the tail are attached in the form of a fan. The Archæopteryx, however, has a long tail like a lizard, composed of numerous (20) long thin vertebræ, and on every vertebra are attached the