

I. OSTEOLOGICAL CHARACTERS.—The skull in birds presents this remarkable feature, that it is composed of but one bone without any trace of suture. The lower jaw is united to the skull by the intervention of a bone (*os quadratum*), as in certain reptiles. Both jaws are destitute of teeth, and are protected by dense horny sheaths, which form powerful dentary organs. The vertebral column of the neck is exceedingly flexible, and composed of a greater number of bones than in any other living animals; for the cervical vertebræ, which in the mammalia amount to seven, in birds vary from ten to twenty-four, as in the Swan. To admit of this extreme mobility of the *neck*, without injury to the enclosed spinal marrow, the annular part, or neural arch, of each cervical vertebra is enlarged at the extremities that form a junction with the corresponding bones; thus presenting a modification of vertebral development directly the reverse of that possessed by the extinct saurian of the Magnesian conglomerate (see p. 761.). The dorsal and sacral vertebræ, on the contrary, are firmly interlocked and often ankylosed together, and constitute a strong, inflexible pillar, to afford a fixed point of support to the powerful locomotive organs of flight. The ribs are formed so as to combine strength with lightness in the construction of the walls of the chest, for each rib has a *recurrent apophysis*, or process, that extends backwards, and glides over the contiguous bone; and this is a very peculiar and obvious character. The