although united to a head nearly resembling that of a Lizard, assumed, in the leading principles of its construction, the character of the vertebræ of fishes. As this animal was constructed for rapid motion through the sea, the mechanism of hollow vertebræ, which gives facility of movement in water to fishes, was better calculated for its functions than the solid vertebræ of Lizards and Crocodiles.* (See Plate 12, A. and B.) This hollow conical form would be inapplicable to the vertebræ of land quadrupeds, whose back, being nearly at right angles to the legs, requires a succession of broad and nearly flat surfaces, which press with considerable weight against

* The sections of the vertebræ of a fish (A c. c.) present two hollow cones, united at their apex in the centre of each vertebra, in the form of an hour-glass; but the base of each cone, (b. b.) instead of terminating in a broad flat surface, like the base of the hour-glass, is bounded by a thin edge, like the edge of a wine glass, and by this alone touches the corresponding edge of the adjacent vertebra. Between these hollow vertebræ, a soft and flexible intervertebral substance, in the form of a double solid cone (e. e.) is so placed that each hollow cone of bone plays on the cone of elastic substance contained within it, with a motion in every direction; thus forming a kind of universal joint, and giving to the entire column great strength, and power of rapid flexion in the water. But as the inflections in the perpendicular direction are less necessary than in the lateral, they are limited by the overlapping, or contiguity of the spines.

This mode of articulation gives mechanical advantage to animals like fishes, whose chief organ of progressive motion is the tail; and the weight of whose bodies being always suspended in water, creates little or no pressure on the edges, by which alone the vertebræ touch each other.