

frame of this instrument, have been connected with a proportionable expansion of leather.

The compound character of the ribs, probably also gave to the Plesiosaurus the same power of compressing air within its lungs, and in that state taking it to the bottom, which we have considered as resulting from the structure of the steno-costal apparatus of the Ichthyosauri.

*Extremities.**

As the Plesiosaurus breathed air, and was therefore obliged to rise often to the surface for inspiration, this necessity was met by an apparatus in the chest and pelvis, and in the bones of the arms and legs, enabling it to ascend and descend in the water after the manner of the Ichthyosauri and Cetacea; accordingly the legs were converted into paddles, longer and more powerful than those of the Ichthyosaurus, thus compensating for the comparatively small assistance which it could have derived from its tail.†

Comparing these extremities with those of other vertebrated animals, we trace a regular

* See Pl. 16, 17, 19.

† The number of joints representing the phalanges of the fingers and toes exceeds that in the Lizards and Birds, and also in all Mammalia, excepting the Whales, some of which present a similar increase of number to accommodate them to the corresponding office of a paddle. The mode of connection between the joints was (like that in the Whales,) by *synchondrosis*. The phalanges of the Plesiosaurus present a link, between the