http://www.geology.19thcenturyscience.org/books/Bridgewater-Treatises/index.html



The humerus is remarkably curved, especially in the tortoise, where it has the form nearly of a semi-circle. The radius and ulna are distinct from each other; the carpus and phalanges are short and stunted, forming a compressed kind of hand.

The pelvis, like the scapula and clavicle, is enclosed within the bony shell which protects the trunk. The sacrum is moveable upon the last dorsal vertebra; and the coccygeal vertebræ are continued from it, forming a short tail. The femur is short and powerful, and somewhat bent, but less so than the humerus; and the rest of the bones of the hind extremity are similar to those of the fore leg.* All the feet are joined obliquely to the limbs which support them, giving the animal an apparent awkwardness of gait, as if it were obliged to walk upon club feet. The impulse which they give being lateral and oblique, renders them more efficacious for progression in the water than on land: this circumstance, in conjunction with the constitutional torpor of the animal, sufficiently accounts for the excessive, and, indeed, proverbial tardiness of its movements.

Security appears still to be the object aimed at in the mechanism of all the other parts of the skeleton. The articulations at the shoulders and the hips are such as facilitate the complete retraction of the limbs within the carapace. After the head has been drawn in by the double, or serpentine flexion of the neck, the knees are brought together, and the whole limb withdrawn within the shell, the fore legs folding completely over the head, so as to cover and protect it most effectually. For this purpose, the carpus and metacarpus are exceedingly flattened, and approximate to the fin-

in the skeleton the several pieces which correspond to the normal type of the scapula, acromion, coracoid bone, and clavicle; and anatomists are not yet agreed as to the proper designations which are applicable to these bones in the Chelonia.

* The cylindrical bones of the tortoise are solid throughout, and have no cavity for containing marrow, as in the more highly developed bones of the mammalia. This is seen in the section of the femur, Fig. 214.