

The ribs of the right side were united to those of the left, by *intermediate* bones, analogous to the cartilaginous *intermediate* and *sternal* portions of the ribs in Crocodiles ; and to the bones which, in the Plesiosaurus, form what Mr. Conybeare has called the *sterno-costal* arcs. (See Pl. 17.) This structure was probably subservient to the purpose of introducing to their bodies an unusual quantity of air ; the animal by this means being enabled to remain long beneath the water, without rising to the surface for the purpose of breathing.\*

\* The sterno-costal ribs probably formed part of a condensing apparatus, which gave these animals the power of compressing the air within its lungs, before they descended beneath the water. In the Lond. and Edin. Phil. Mag. Oct. 1833, Mr. Faraday has noticed a method of preparing the organs of respiration in man, so as considerably to extend the time of holding the breath in an impure atmosphere ; or under water, as practised by pearl-fishers ; and illustrated by experiments of Sir Graves C. Houghton. If a person inspires deeply, and ceasing with his lungs full of air, holds his breath as long as he is able, the time during which he can remain without breathing will be double, or more than double, that which he could do if he held his breath without such deep inspiration. When Mr. Brunel, jun. and Mr. Gravatt descended in a diving-bell to examine the hole where the Thames had broken into the tunnel at Rotherhithe, at the depth of about thirty feet of water, Mr. Brunel, having inspired deeply the compressed air within the diving-bell, descended into the water below the bell ; and found that he could remain twice as long under water, going into it from the diving-bell at that depth, as he could under ordinary circumstances.

Mr. Gravatt has also informed me that he is able to dive, and remain three minutes under water, after inflating his lungs with