

his diagram of the outer surface of the hemisphere (*op. cit.*, fig. 93, p. 118) that he does not consider the interval of separation between the medial and medilateral folds to be as definite as those between the other convolutions on the same surface. Krueg, who has also studied the brain of *Phoca vitulina*, devotes his description to an account of the fissures, and does not even name the convolutions. It would seem, however, both from his description of the fissures and accompanying figures of the brain, that he only recognises three tiers of convolutions on the outer surface of the hemisphere, whilst a well-marked splenial fissure on the inner surface individualises the hippocampal and callosal convolutions. Paul Broca's account of the brain of a *Phoca* is principally taken up with a description of the great limbic lobe and its relation to the olfactory apparatus.

In the brain of *Phoca vitulina*, two specimens of which I have dissected, I found on the outer surface of the hemisphere a distinct fissure of Sylvius, with its Sylvian convolution, the anterior limb of which was narrower than the posterior, and at its commencement concealed within the fissure of Sylvius. When this fissure was widely opened out, prolongations of the Sylvian convolution were traced deeply into it, and occupied the position of an insula. Above the Sylvian convolution were a suprasylvian fissure and convolution, the latter of which showed at its summit a disposition to subdivide into two parallel gyri for a short distance. This convolution was bounded above by a lateral fissure, between which and the mesial longitudinal fissure were two slender convolutions running antero-posteriorly; the lateral of these was apparently the mediolateral convolution, whilst the medial one bounded the longitudinal fissure and was the sagittal convolution; as in Owen's figure, however, the fissure which separated the sagittal (medial) from the mediolateral convolution was not continuous, but was bridged by short annectent gyri. As this mediolateral fissure was imperfect and not prolonged far forward in front, the coronal fissure was not continuous with it. In one instance the coronal was prolonged backwards into the lateral fissure, but it might be separated from it by an intermediate bridging convolution. In this region, therefore, the brain of *Phoca vitulina* closely corresponded in the arrangement both of convolutions and fissures with the Elephant Seal, though in the latter, from its greater size, the convolutions were bigger, also I think more tortuous, and certainly with a greater number of bridging convolutions.

In the Walrus, again, the four tiers of convolutions were more definitely expressed on the outer surface of the hemisphere, partly owing to the comparative absence of bridging convolutions, and partly because the mediolateral fissure formed so definite a plane of separation between the sagittal and mediolateral convolutions. In this animal also the anterior limb of the Sylvian convolution was narrower, and sunken into the fissure of Sylvius much more than either in *Phoca* or *Macrorhinus*, and from Dr. Murie's description and plate of the brain of *Otaria jubata* (*op. cit.*, fig. 40) it is obvious that a corresponding depression occurred also in that of the Eared Seal. This narrowing and depression were more marked than in Leuret's figures of the Brown Bear, Coati, and