

ANATOMICAL INVESTIGATIONS.

INTEGUMENT.

By "integument" I wish to designate the cellular layers as they are found outside the more or less stratified connective tissue, which is known as the basement membrane. The latter is of very varying thickness, and, for reasons to be given subsequently, will be treated in another paragraph. Glandular structures of the integument, whether enclosed within the cellular layers just alluded to, or stretching inwards between the muscles and piercing a secondary basement membrane, hereafter to be described, only by means of their communicating ducts with the exterior, will also be treated of here.

Commencing with a description of the integument of the Palæonemertea, it will be well to take the more important genus of which representatives are found amongst the Challenger Nemertea, viz., *Carinina*, as a type. This is all the more desirable as we shall here find the central nervous system still clearly belonging to the integument, its constituents imperceptibly merging into those of the deeper cellular layers of the skin, and also lying outside of the basement membrane.

The two specimens of *Carinina* at my disposal revealed the same features with respect to their integument, although in one of them the granular secretion in the glands that form part of it is much more copious. When we leave out of consideration the basement membrane, that can be easily detected in the sections by the uniform and deep red tint it acquires by the staining reagent (picrocarmine), we can roughly distinguish four constituent strata in the integument not in any way separated by sharp boundary lines, but characterised by the presence of different histological elements which we will now proceed to describe more fully. It will be understood that the absence of fresh material and the scanty supply of spirit specimens has necessarily limited the exact discrimination of these histological elements.

Of the four strata alluded to, the one adjoining the basement membrane is extremely important, being the seat of those cellular modifications which must be looked upon as the differentiation of the central nervous system within the domain of the integument. This position—it was already noticed in the description of the species given