of the cortex which we have already described (p. xxxi). The pores (Pl. L. fig. 3*a*, *p*) lead by narrow canals through the outer layer of the cortex into expanded, elongated cavities in the middle layer of the cortex, and these on reaching the lower layer of the cortex again contract into narrow canals (Pl. L. fig. 3*a*, *p'*), which at the commencement of the choanosome open into the much wider inhalent canals (Pl. L. fig. 3*a*, *i.c.*). This is the most complex type of subdermal cavity with which we are acquainted.[1]

These are the principal modifications of the subdermal cavities which are met with in the Monaxonida. It will be seen from what has been said that the term is incapable of a sharp definition, and that the subdermal cavities of one sponge do not necessarily correspond strictly to those of another. In the Halichondrina all we can say of them by way of definition is that they are the spaces beneath the dermal membrane into which the pores directly lead, while in the Suberitidæ they are usually represented by so much of the inhalent canal system as is enclosed within the ectosome; and in both cases they may or may not be sharply marked off from the remainder of the inhalent canal system.

(3) The Inhalent Canal System below the Subdermal Cavities.

In this section of the canal system we meet with but little variation amongst the Monaxonida. As a very general rule the inhalent canal system, upon entering the choanosome, becomes converted into a system of lacunar spaces, rather than definite canals. Such we have found to be the case in the genera *Halichondria*, *Reniera*, *Esperella*, *Myxilla*, *Axinella*, *Latrunculia*. If, however, as in the genus *Esperella*, there is a thick, gelatinous ectosome, then the inhalent canals may, after leaving the subdermal cavities, remain perfectly definite while in the ectosome and run straight downwards to the choanosome, where they at once break up into a system of lacunæ. This condition is very well illustrated in *Esperella murrayi*; each inhalent canal (Pl. XLVIII. fig. 2, *i.c.*) leaves the horizontally elongated subdermal cavity by a narrow exit (Pl. XLVIII. fig. 2*a*, *i.c.*) and dips vertically downwards towards the choanosome, upon arriving at which it is at once lost in a system of irregular inhalent lacunæ lined by flagellated chambers. Another interesting feature of the inhalent canals in this sponge is the manner in which their walls are guarded by projecting spicules (Pl. XLVIII. fig. 2*c*), as we have already described.

In *Latrunculia apicalis* the lacunar arrangement is also well illustrated; here we have no long, straight canal interpolated between the subdermal cavity and the choanosome, as in *Esperella murrayi*, but the subdermal cavity into which the pores lead passes directly into a very wide, more or less lacunar channel (Pl. LI. fig. 1), from which numerous

[1] Dr. Vosmaer has also described and figured the subdermal cavities in *Tentorium semisuberites* (Sponges of the "Willem Barents" Expedition, 1880–81, p. 19, pl. iii. fig. 22, &c.). His description agrees in the main with ours, but he appears to have overlooked the important division of the cortex into three distinct layers.