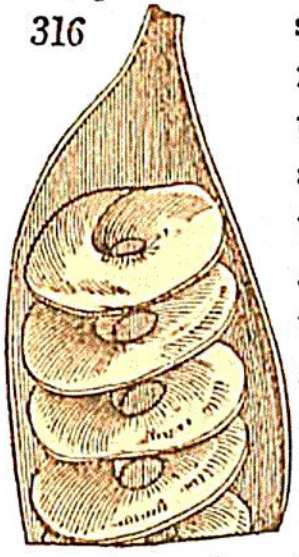
along the canal, so that it may receive the full action of these several agents, and yield the utmost quantity of nutriment it is capable of affording.

The total length of the intestinal tube differs much in different animals, being in general, as already stated, smaller in the carnivorous tribes, than those which feed on substances of difficult digestion, or affording but little nourishment. In these latter animals, the intestine is always of great length, exceeding that of the body many times; hence it is obliged to be folded into a spiral or serpentine course, forming many convolutions in the abdominal cavity. Sometimes, probably for greater convenience of package, instead of these numerous convolutions, a similar effect of increasing the surface of the inner membrane is obtained by raising it into a great number of folds, which project into the cavity. These folds are often of considerable breadth, contributing not only to the extention of the surface for secretion and absorption, but also to the detention of the materials, with a view to their more complete elaboration. Remarkable examples of this kind of structure occur in most of the cartilaginous fishes, when the inner coat of the large intestine being expanded into a broad fold, which, as is seen in fig. 316, representing this structure in the interior of the intestine of the shark, takes a spiral course; and this is continued nearly the whole length of the canal, so that the internal surface is much augmented without any increase in the length of the intestine.*

316



When the nature of the assimilatory process is such as to require the complete detention of the food, for a certain time, in particular situations, we find this object provided for by means of *cæca*, or separate pouches

* Structures of this description have a particular claim to attention, from the light they throw on the nature of several fossil remains, lately investigated with singular success by Dr. Buckland.