

that live on vegetable food, the structure of the gastric glands is evidently different from that of the corresponding glands in predaceous birds; but as these anatomical details have not as yet tended to elucidate in any degree the purposes to which they are subservient in the process of digestion, I pass them over as being foreign to the object of our present inquiry.*

It is essential to the perfect performance of digestion, that every part of the food received into the stomach should be acted upon by the gastric juice; for which purpose provision is made that each portion shall, in its turn, be placed in contact with the inner surface of that organ. Hence the coats of the stomach are provided with muscular fibres, passing, some in a longitudinal, others in a transverse, or circular direction; while a third set have an oblique, or even spiral course.† When the greater number of these muscles act together, they exert a considerable pressure upon the contents of the stomach; a pressure which, no doubt, tends to assist the solvent action of the gastric juice. When different portions act in succession, they propel the food from one part to another, and thus promote the mixture of every portion with the gastric juice. We often find that the middle transverse bands contract more strongly than the rest, and continue contracted for a considerable time. The object of this contraction, which divides the stomach into two cavities, appears to be to separate its contents into two portions, so that each may be subjected to different processes; and, indeed, the differences in structure, which are often observable between these two portions of the stomach, would lead to the belief that their functions are in some respects different.

* These structures have been examined with great care and minuteness by Sir Everard Home, who has given the results of his inquiries in a series of papers, read from time to time to the Royal Society, and published in their Transactions.

† See Fig. 51, vol. i. p. 106, and its description, p. 107.