

stomach to receive and digest the food, by means of the gastric fluid exuded from its coats, supposed to be nothing more than *hydrochloric acid*. (We may here mention, that it is our intention, having received a pressing invitation to do so from a high quarter, to give a course of public Lectures, explaining the secrets of our personal practice in the production of animal substances without the agency of vitality, to which our attention was long and perseveringly directed—until lately held to be an utter impossibility.) However, we may mention, that though an acid makes its appearance on the introduction of food into the stomach, it is still a point of contention whether this acid takes any part in the solution, or digestion of the food. But in this popular work, intended for all, I shall not enter on scientific details, which would be rather repellent than attractive to the majority. The *duodenum* is the commencement of the small intestines, and receives the food from the stomach in the form of *chyle* through the pyloric duct. In its passage through the *duodenum*, the food receives the *pancreatic juice* from the duct connected with the *pancreas* or *sweetbread*. Here these fluids become changed into *chyle*—the pancreatic juice converting one portion into a white, thick, milky fluid, and the *bile* into a yellow pultaceous mass. The next intestine, the *jejunum*, conveys the food thus reduced inward,—acts upon it,—retains it a *short* time only,—and on this account is called the *empty gut*. There is little difference between this intestine and the next called the *Ileum*. Both these intestines are much convoluted, for the purpose of detaining the food in its progress a sufficient time to permit the absorbents connected with the *mesentery*, to extract the nutritious portions from the unnutritious, and carry it into the circulating system, for distribution over every portion of the animal system. The *ileum* terminates in the *blind gut* or *cæcum*, passing through a *valve* which prevents the return of the contents. The *cæcum* and *colon*, large intestines, serve as a store-house for all the food which is of no use to the system, generally known as *dung* or *fæces* but a portion of the absorbents extend their vessels, into these even, that as much nourishment as possible may be extracted from the food before it leaves the body. The *rectum* or *straight gut* forms the *terminus* of the *abdominal viscera* to receive the *fæces* before expulsion by *anus*. The *duodenum* and *rectum* are both straight, because it is not necessary that their contents should remain long in them.

As we wish our Readers to understand thoroughly the feeding of the domestic animals, and the *modus operandi*,—the proper method—and the reasons for it, they will excuse us, and bear with us, and not accuse us of being tiresome as we begin from the beginning.

The compound stomachs of *cattle* and *sheep*—the entire system of the ruminants—is divided into four compartments—the first being the termination of the *æso-phagus*, and is termed the *rumen*, *ventriculus*, or *paunch*. This large and roomy—occupies nearly three-fourths of the abdominal cavity and is divided into four unequal sacks by the duplicature, folding, or doubling of the coats of the *Rumen*. The food when first swallowed goes into the *Rumen* for rumination or maceration—it still remaining without alteration with a great portion of the fluids swallowed. This is accomplished by lubrication with *mucous* and *trituration* by the *papillæ* on its interior surface. The food next passes into the second stomach, or *Reticulum*, which is provided with a *honey comb surface*, which acts by rolling the food into pellets, to prepare it to be returned through the *gullet* to the mouth for *remastication*. Having a special office to perform, it is comparatively small and ovoidal, or oval shaped. The *æso-phagus* of *Ruminants* we would particularly remark, does not terminate in the first stomach it reaches, but extends through the series of four, its interior lining forming their roofs—so that, at the will of the animal, the food swallowed may enter the third or fourth stomach, without a particle of it entering the first