

health, the contents of the small intestine are propelled into the cæcum, and also to the mechanism of the ileo-cæcal valve which in the normal does not permit regurgitation. It is evident that nature intends that there shall be a sharp division between the small gut, which is a digestive tube, and the large bowel, which is essentially a receptacle for the by-products of digestion. The high vascularity of the small compared with that of the large intestine is in keeping with this view. The observation of Vaughan Harley, that after the removal of the colon in dogs there was an increase in quantity of feces, but mainly due to unabsorbed water, the nitrogen and protein absorption being only slightly diminished, is additional evidence in favor of it. This observation also indicates that practically all the nutritive material, except water, for the maintenance of nutrition is absorbed from the small intestine.

The principal way in which ileo-cæcal regurgitation may cause gastric symptoms, is by causing auto-intoxication. In the normal condition it is highly probable that bacterial growth, inimical to health, is unimportant in the small gut for reasons which have already been given, but in the large intestine the conditions for bacterial growth are much more favorable. Now, in case of regurgitation at the ileo-cæcal valve, so far as germ growth is concerned, it is probable that the growth in the two bowels is more or less alike, especially if ileo-cæcal regurgitation is accompanied by ileo-stasis. This would result in auto-intoxication, for the small intestine has not the same defensive action as the large bowel. The question then presents itself, how does auto-intoxication produce gastric symptoms? In answer to this, I should say, first by causing mental depression, which again would have a marked action on the stomach, for the gastric digestion is closely dependent on the mental condition; secondly, by the action of chemical substances which have a direct action on the functions of the stomach. Recently a good deal of attention has been devoted to the study of these bodies, and most interesting results obtained. In illustration, I may mention that tyramine, a derivative of tyrosin, has been isolated from intestinal contents and found to be chemically related to adrenalin; and like the latter, it has marked stimulating action on the ends of the sympathetic, and would, therefore, tend to produce both gastric and intestinal stasis; thirdly, by diminishing the immunity of the individual, resulting in infection of some form which is invariably characterized by gastric symptoms.

*Cæcal Stasis as a Cause of Ileo-stasis.*—This is of special interest on account of the importance given to it by Sir Arbuthnot