

of the circulation. Injections are to be given occasionally, and such other treatment adopted as the urgency of the case seems to demand.

I have associated the subject of "*colic*" with that of "*bots*," because it often happens, that, when a horse is tortured with either one or the other forms of colic which I have named, and has his head turned round anxiously regarding his sides; some persons are very apt to conclude that the subject is "*troubled with the bots*," and in view of giving the so-called "*bots*" their "*ticket of leave*," the animal is compelled to swallow a juvenile apothecary's shop, and as much other stuff as can conveniently be poured down; which is more likely to destroy the horse, than the bots. I must confess that the subject of bots brings me into "*deep water*," as the saying is: for very many horse-men, and farmers, too, have always, and still entertain the idea that the *bot* is an enemy to the equine race, and is the cause of much inconvenience and torment; and I have found it very difficult, on some occasions, to undeceive men on these matters. I hope, however, on this occasion, to convince some of my audience, that "*bots*" are not so destructive to horses as they are represented to be.

Mr. Bracy Clark, who has paid considerable attention to the subject, informs us that, "*Bots*, are not, properly speaking, worms, but the larvæ of the gadfly, which deposits its eggs on the horse's coat in such a manner, as that they shall be received into his stomach, and then become bots. When the female fly has become impregnated, and the eggs are sufficiently matured, she seeks among the horses a subject for her purpose, and approaching it on the wing, she holds her body nearly upright in the air, and her tail which is lengthened for the purpose, is carried inwards and upwards. In this way she approaches the part where she designs to deposit the eggs, and suspending herself for a few seconds before it, suddenly darts upon it, and leaves the egg adhering to the hair by means of a glutinous liquor secreted with it. She then leaves the horse at a small distance, and prepares the second egg; and poising herself before the part, deposits it in the same way; the liquor dries, and the egg becomes firmly glued to the hair. This is repeated by various flies, till four or five hundred eggs are sometimes deposited on one horse. They are usually deposited on the legs, side, and back of the shoulder—those parts most disposed to be licked by the animal; in licking, the eggs adhere to the tongue, and are carried into the horse's stomach in the act of swallowing. The bots attach themselves to the horse's stomach, and are sometimes, though less frequently, found in the first intestine. The number varies considerably; sometimes there are not half a dozen, at others they exceed a hundred. They are fixed by the small end to the inner coat of the stomach, to which they attach themselves by means of two hooks."

I shall reason analogically, and therefore propose to enquire into the history, habits, &c., of some of the lower orders of animality; so that you may perhaps, infer that the presence of bots in a horse's stomach is no deviation from the general rule which seems to pervade all creation. In the study of animal physiology, we discover that animals and insects, require the operation of certain forces in order that their peculiar vital properties shall be manifested. They all require food, water, and oxygen: food, for the development of organised tissues; water, to maintain an equilibrium between the solids and fluids; and oxygen, for promoting various changes, uniting some particles for the benefit of the whole fabric, and disengaging others destined for excretion. These have to be obtained under various circumstances. The number of the different species of reptiles known to naturalists is about 1300, and there are at least 100,000 species of insects; among this vast assemblage of animate forms, a great proportion obtain *food, water and oxygen*, in a situation, and at a temperature, which is most congenial to each species; each one of which, as a race, exhibit great varieties in physical organisation and habits, and hence the necessity for that diversity in geographical distribution which seems to surprise some men. Each species of animal and insect carry about with them, in their own organisation, the fertile embryonic habitation, for successive parasitic development, and all are, to a certain extent, dependent on each other for both food and life. It has been truly said that there "*is life within life*." Begin with the body of man for example, and you will find that it is infested with thirty-nine distinct species of entozoa; these are not confined to a single location, like the bots, to the digestive cavity of the horse; but some are to be seen in the eye, bronchial glands, kidneys, liver, gall, bladder, intestines, muscles, and even in the blood. There are several other species of entophyta, to the number of ten, inhabitants of the skin and mucous surfaces. So that the master can boast of a larger number of living parasites within and about his body, than we have yet been able to find in his servant, the horse. And if the former can carry about in the