by the warm abodes they live in ; and their food, consist­ing of chyle, lymph, and excretions in a recent state, is already half prepared for assimilation. We know that their food must be of this soft and liquid nature ; for many worms, having no oral aperture, seem to imbibe all their nutri­ment through minute pores in the skin, or by the process of endosmose ; and the whole of what they imbibe is pro­bably assimilated. Even in such worms as have a mouth, this is never armed with cutting or triturating instruments, but constitutes a simple pore for the entrance of a soft ma­terial upon which suction can operate. As in the nematoid worms there is both a mouth and an anus, we may con­clude, that of their food some part is feculent and excre- mentitious; and the same inference may be made from every species of similar structure. The Trematoda or flukes have no anus, and their mouth is certainly ill defined, but they have an alimentary canal, ramified in a dendritic fashion ; and Rudolphi believes it to be proved, by the colour of the matter in these vessels, that their food is also partly excrementitial, for the worm, naturally colourless, is often dusky, or variously tinctured by the nature of its food.@@1 It is singular that this order appears to receive no part of its nourishment from cutaneous absorption, a mode of supply very general in the class, and especially remarkable in the order Acanthocephala. When a specimen of an Echinorhynchus is taken fresh from the bowels, it is small, flattish, and flaccid ; but shortly after being immersed in a glass of water, it has become larger, swollen, and dis­tended like a sac ; and the most conclusive experiments have proved that the water of distention could only have passed inwards through the skin, the structure of which is peculiarly adapted to the office. If any part of the skin of the *Echinorhynchus Gigas* is held up opposite to the light, and examined from the internal side with a common lens, we perceive a remarkably elegant net-work of vessels, sprinkled over with minute pearl-like vesicles, which are, as it were, the centres of the anastomosing branchlets, or perhaps merely dilatations of the vessels at their points of coalescence and union.@@2

The nematoid and acanthocephalous worms have dis­tinct sexes ; but the Trematoda and many Cestoidea are androgynous, that is, each individual of the species pos­sesses the organs peculiar to both sexes, and may of itself fecundate its ova, although, with regard to some of them, it has been supposed that the union of two individuals is necessary, as is the case with the slug and snail. In other worms, the female or reproductive organs exist alone ; and in the cystic Entozoa no generative apparatus has been pro­vided. “ They would seem to be gemmiparous, and to have the reproductive power diffused over the whole cyst, at least in the Acephalocysts, in which the young are not developed from any special organ, or limited to any parti­cular part of the cyst.”

The great majority of the higher Entozoa are oviparous ; but we have several exceptions among the Nematoids, and one at least among the fluke-worms, which are viviparous. The distinction is however immaterial, for in both kinds the ovaries possess a similar structure, and the eggs accu­mulate in them in the same fashion. In the oviducts of the viviparous Cucullani, as of the oviparous Echinorhynchi, there are found the same bodies which Rudolphi conjectures to be cotyledons, or little placentae, into which the ovules are fixed, so that even in this respect no difference exists. The ovules of the oviparous species are of two kinds, con­taining either an unformed and inconspicuous embryo, or one that is fully formed, but motionless. The ovules of the viviparous species, on the other hand, contain a moveable embryo.

The number of ova produced by a single worm is sometimes prodigious, and almost incredible. *Ascaris lumbricoides* contains, when pregnant, many thousands ; *Ascaris nigrovenosa,* according to Goeze, may have 700 living young at a birth ; and the *Cucullanus* as many. But what are these to the calculations of Dujardin,@@3 who supposes that one *Tania serrata,* with its 200 articulations, may con­tain in the united chain not less than twenty-five millions of ova? And it is in fact not uncommon to find eight or ten of these productive monsters in one poor dog. From this fertility we might conclude the numbers within the body of those animals which they infested would be fear­fully great ; but this is seldom the case, and least of all with those very species that we have instanced as so marvellous in their productive powers. The Tænia or tape-worm is often solitary, and rarely numerous in any individual. It is not difficult to reconcile this apparent contradiction of means and end, when we call to recollection the numerous accidents to which both worms and eggs are exposed, from the nature of their sites; how many undeveloped ova, how many young, how many adults, must daily pass away.

We have already slightly indicated the diseases that may arise from their presence and multiplicity, an injury that some physico-theologists would fain persuade us is coun­tervailed by a series of benefits that animals derive from their parasites. One gravely tells us, that by their mo­tions they cause a gentle irritation in aid of the intestinal functions, which, moreover, may stimulate the other viscera to the discharge of their duties, and prevent their falling into a state of inaction favourable to the commencement and increase of organic diseases. Another insists that the Entozoa drink up the superabundant chyme, chyle, or mu­cus, in the bowels. Another believes that they were created as a wholesome check on the pride and vanity of man, as trials of his patience and other virtues, and “ finally to se­cure to him an entrance into an immutable and eternal state of felicity when that of probation is at an end, so that the gates of death may be to him the gates of peace and rest !”@@\* Now it may be commendable to look for good in every thing ; but this, we think, is looking rather too far, looking also into a sort of kaleidoscope, in which we see all beautiful though unstable pictures patterned out of worth­less things.

The relationship of the Entozoa with other animals is involved in much obscurity, but we cannot therefore con­cur with Bäer in his proposal to exclude them from a na­tural classification of the animal kingdom ; nor do we ex­actly understand Rudolphi’s notion when he says they con­stitute a peculiar fauna, rather than any order or class pa­rallel with the ordinary divisions of systematists. If the zoosperms are to be reckoned distinct beings, they must probably go to throng the chaos of infusory animalcules ; and Dujardin has discovered in the earth-worm and in the slugs a parasite *(Albertia)* that combines with the structure and habits of an entozoon many of the peculiarities of the rotatory animalcules. The hydatids may represent the hydraform polypes ; the tape-worm the *cesium Veneris* of the gelatinous medusæ; the Acanthocephala have some ex­

@@@1 Dr Drummond doubts whether the colour is dependent on the contents of the intestine. "It is certain that in a mass of individuals (of Echinorhynchus acus) found in the same portion of intestine, considerable diversity of colour prevails ; and where there has been only a transparent mucus present, I have found specimens of a pure white, and others of a bright orange.” *Mag.* *of Nat. Hist.* n. s. ii. p. 519.

@@@' Rudolphi *Entoz. Synop.* p. 582. See also Owen in *Cyclop, of Anat. and Phys.* ii. p. 126, and Drummond in Charlesworth’s *May. of Nat. Hist.* ii. p. 517—8.

*@@@3 Ann. des Sciences Nat.* n. s. vol. x. p. 34. And so of *Filaria nutdinensis* Rudolphi writes : “ Filariæ nostræ prole quasi farctae sunt; quod si harum longitudinem illius vero minutiem spectas, fcetuum multa millium millia singulis tribues.”

@@@4 Kirby’s *Bridgewater Treatise,* vol. i. p. 331.