

mer inhale atmospheric air, and exhale carbonic acid gas, the latter appropriate carbon and exhale oxygen, it was not until Dumas and Bousingault¹ called particularly the attention of naturalists to the subject, that it was fully understood how direct the dependence is of the animal and vegetable kingdoms one upon the other, in that respect, or rather how the one consumes what the other produces, and *vice versa*, thus tending to keep the balance which either of them would singly disturb to a certain degree. The common agricultural practice of manuring exhibits from another side the dependence of one kingdom upon the other: the undigested particles of the food of animals return to the ground, to fertilize it for fresh production.² Again, the whole animal kingdom is either directly or indirectly dependent upon the vegetable kingdom for its sustenance, as the herbivorous animals afford the needful food for the carnivorous tribes. We are too far from the time when it could be supposed that Worms originated in the decay of fruits and other vegetable substances, to need here repetition of what is known respecting the reproduction of these animals. Nor can it be necessary to show how preposterous the assumption would be that physical agents produced plants first, in order that from these, animals might spring forth. Who could have taught the physical agents to make the whole animal world dependent upon the vegetable kingdom?

On the contrary, such general facts as those above alluded to, show, more directly than any amount of special disconnected facts could do, the establishment of a well-regulated order of things, considered in advance; for they exhibit well-balanced conditions of existence, prepared long beforehand, such as only an intelligent being could ordain.

SECTION XXX.

PARASITIC ANIMALS AND PLANTS.

However independent of each other some animals may appear, there are yet many which live only in the closest connection with their fellow-creatures, and which are known only as parasites upon or within them. Such are the intestinal Worms, and all the vermin of the skin.³ Among plants, the Mistletoe, Orobanche,

¹ DUMAS, *Leçon sur la statique chimique des êtres organisés*, Ann. Sc. Nat. 2de sér. vol. 6, p. 33; vol. 17, p. 122.

² LIEBIG, *Agricultural Chemistry; Animal Chemistry*.

³ See above, p. 76, notes 1 and 2, and p. 77, notes

1 and 2; see also RUDOLPHI, (K. A.) *Entozoorum sive Vermium*, etc., q. a., p. 31. — BREMSER, (J. G.) *Ueber lebende Würmer im lebenden Menschen*, Wien, 1819, 4to. — DUJARDIN, (F.) *Hist. Nat. des Helminthes*, etc., q. a., p. 32. — DIESING, (C. M.) *Historia Vermium*, etc., q. a., p. 32.