The modern Philosophers have not only established a new Theory of the generation of vegetables, but have moreover found that there is such a thing as sex in plants as well as in animal nature. And hence the distinction of male and female, as well as Hermaphrodite plants is become very familiar: for the vegetable female require impregnation by the male vegetables in order to generation, as much as animals; nor will the seed produced by the female plants, if sown, grow without it, any more than eggs will produce chickens, which were laid by hens not impregnated: but since the parts serving to generation in vegetables are indeed the flowers, notwithstanding they are so beautiful, so gay, and so much admired; I shall have occasion to say more of this matter when I come to treat of that part of a plant.

The next thing to be considered in vegetation, is the mechanism or system of organs or vessels in a plant, by which a circulation of alimentary juices is carried on through the plant, and its vegetation effected. In order to this there is found to be two series or orders of vessels in vegetables. First—Such as receive and convey the alimental juices from the root to all the parts of the plant. These answer to the arteries, lacteals and veins in animals. Second—Tracheæ or air vessels, which are long hollow pipes, wherein air is continually received and expelled, *i. e.*, inspired and expired. Within these air-pipes, Malpigbi (the discoverer of this vegetable mechanism), shews all the former series of vessels are contained.

Hence it appears that the heat of a year, a day, yea single hour or minute, must have an effect on the air included in these tracheæ, *i. e.*, must rarify it, and consequently dilate the tracheæ, whence arises a perpetual spring or source of action to promote the circulation in plants; for by the expansion of the tracheæ, the vessels containing the juices are pressed, and by that means the juices contained are propelled and accelerated, and also comminuted and rendered more and more subtile, and so enabled to enter vessels still finer and finer; the thicker part of it being at the same time secreted and deposited into the lateral cells or vesicles of the bark, to defend the plant from cold and other external injuries.