

immediately feel pain on breathing the air of a great city. That analysis is very imperfect, even in the case of fluid and mineral substances, is sufficiently evident from the discordant results given by persons who have analyzed the same bodies, although in each case they have carried out their figures to three or four places of decimals; a piece of hypocrisy and affectation, parallel to that of a Chancellor of the Exchequer, laying before Parliament the estimates of the year, amounting to 50 or 60 millions, and professing to give the exact amount, even to the odd shillings, pence and *farthings*. But that all animals deteriorate the air they breathe, is acknowledged, and that combustion has a similar effect is equally certain. That the air in the centre of a city must thence be affected is abundantly obvious, where there are not currents of wind to produce a constant change; and though the deterioration may not produce much effect in a day or a week, yet the effect on the animal frame in months and years may be very considerable. What affects animals, affects also vegetables: for animals and vegetables very nearly resemble each other.

Although chemical analysis can detect nothing, the effect of city air is proved by certain chemical experiments. Muriate of silver tarnishes much more quickly in London than in the country; and water cannot be kept so long from putrefaction in London as in the country. In addition to the impurity of the air in London, physiologists assert, that the want of motion and violence in the air of a great city has an injurious effect on animal life. They allege, that in the organs of respiration, there is not only an apparatus for the reception of fresh air, but also such a construction as to cause the air to come with violence against the lungs, and that the motion and agitation of the external air powerfully aids the effect of this provision of nature. Now no where is there so little agitation of the air as in the City, and I have many times read in the newspapers of terrible gales of wind, of dreadful shipwrecks on the coast, and of the tearing up of trees by the roots in the country, and I never knew that such gales had occurred until I read these accounts. The effect of a large supply of air on vegetable production may be seen in the superior growth of plants on the banks of the Thames and in Temple Gardens. The throwing open wide streets like Regent-street, or like that in contemplation from Black-friars-bridge to Islington, is not only ornamental and convenient, but highly conducive to the salubrity of a great city. The smoke of a great city is also in a high degree hurtful to vegetation. All plants which have gum on their leaves, such as roses, laurels, and the gum cistus, soon perish in London, from the smoke and dust adhering to them. Evergreens suffer more than other plants because their leaves are exposed all the year to the smoke, soot, and foul air. This is the more readily accounted for when we consider that the leaves of plants perform the same functions as the lungs and stomach of animals. From the deleterious effect of smoke on animals and vegetables we may see the benefits which result from effecting a more perfect combustion, and thus diminishing the quantity of smoke; also the good effects of furnaces so constructed as to consume smoke. An oil gas company at Edinburgh began to erect their works in the immediate neighbourhood of the botanic garden, Mr. Ellis remonstrated with the company