

CHAP. III.

Matter.

All matter *diamond*.

of these substances. **DIAMOND.** position never ascertained

the diamond. Mode of crystallization. Crust appear in the

**DIAMOND**

Its importance to vitality. Its generation of animal life. It has never been looked upon as a primary cause of organization. Not produced by the earth, but originates in the sun. Descends to the earth with black specks, in a crystalline form, as snow composed of carbon, hydrogen, and oxygen. Appearance of snow after lying on the ground causes atmospherical phenomena, on our atmosphere

**DIAMOND**

production of animal life. They preponderate alternately in nature. Progress of organization. Carbonic acid gas thrown to the earth's surface. Animals arranged according to their specific gravity. Vital Principle predominant throughout nature. 168

All animal matter progresses the same as the butterfly, which has three distinct successive stages

with a view to occasion the destruction of the larvæ of the grasshopper. In general, wet weather is most favorable to the propagation of mildew, funguses, rust, and the small parasitical vegetables; dry weather to the increase of the insect tribes. —

four different species of the locust which are remarkably destructive. Almost every year whole provinces, the most fertile in Asia and Africa, are laid waste by their depredation. In Tunis and Algiers, swarms of the *Gryllus Migratorius* appear so numerous, that they darken the face of the sky like a threatening cloud. These pernicious animals are wafted there by the southerly winds in the month of April. In May they take their departure for the interior parts of the country, to propagate their young; these make their appearance in their larva or caterpillar state during the month of June, when they commit vast depredations. The first columns

destroy every green shrub and pile of grass; and their devastation has not ceased when they are succeeded by other swarms that press upon their rear, devouring the tender branches and stalks of plants which their forerunners had left. This dreadful

### 342 THE DISCOVERY OF THE VITAL PRINCIPLE,

of existence: in each transition or change it deposits its outward case or shell, which forms the bed, cave,

days and nights, without apparent intermission, passing over Smyrna, must have been, according to accurate observations made at the time, three hundred yards in depth, upwards of forty miles in width, and nearly five hundred miles in length. Captain Basil Hall calculated, that the lowest number of locusts in this enormous swarm must have exceeded 168,608,563,200,000; and, in order to assist the imagination, Captain Beaufort determined that this cloud of locusts, which he saw drifting by when he lay at Smyrna, if formed into a heap, would have

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or resting-place for itself and successors: the parent-insect labouring to leaven the earth or bed

forests fall a sacrifice to their voracity, so that, in the Hartz alone, the trees destroyed were calculated at a million and a half; and the inhabitants of this extensive range of country were threatened with a want of fuel to continue their mining and smelting operations, and consequently with ruin, entirely dependent as they were upon those branches of the useful arts. Subsequently these *Bostrichi*, when arrived at their perfect state, in the form of winged beetles, migrated in swarms into Suabia and Franconia, there to commit similar ravages. At length, after repeated injuries, the powers of nature interfered to mitigate the evil, which want of scientific knowledge, as we shall presently shew, had allowed to gain so alarming a head. Between 84 and 89, in consequence of a succession of cold and moist seasons, the numbers of this scourge were sensibly diminished: it appeared again, however, in 190; and, so late as 96, there was great reason to fear for the few fir trees that were left.

the production of a successor or future species, the seed of which, being contained within its own

to the effects of gas escaped from the pipes for lighting the road, which had just been laid down; and legal proceedings were actually commenced, for the removal of the nuisance, against the gas company which had undertaken the supply. Entomologists, it is true, were

sphere by every organized animal, is always ascending from the earth-bed, and forming an

more distinct species, and often the same plant is infested by several species. The oak is frequented by a variety of other insects besides the numerous species of *cynips*, nor is this a solitary example, for it happens also to other plants. Furthermore, the insects themselves, or the diseases they produce, frequently become very important articles of food, medicine, and commerce: for example, the *coccus* (the cochineal insect), the *lac* insect, and the *cantharis* (Spanish fly), the gall apples of the *Silvia pomifera* (the apple-bearing sage), and the nut galls of the Levant.

They are excrescences on a species of oak, called by botanists *quercus infectoria*. At the season of the year, when the young shoots make their appearance, a small insect (*cynips quercus folii*) deposits its eggs in them; when the maggot is hatched it produces an excrescence of the surrounding parts, nearly of a spherical form, which is the gall-nut; when mature, the maggot eats its way out, to undergo the ordinary but singular transmutations of insects of this kind —

enlarged and more perfect sphere above, inclosing the parent-insect and its earth-bed, as ashes, within the new circle.

It is the dead tissue which forms the egg or seed-bed. Eggs may be divided into three species :

1st. The black egg, or seed of the infusoria or lowest animals.

2d. The red or improved grade, forming the annelida.

3d. The white or perfect, which produces the annelida.

3d. The white or perfect, which produces the articulata or animals, (forming an irregular crustaceous mass.)

This earth is one continued series of all the parts of DIAMOND is composed from DIAMOND ; particle after particle being thrown off and collected ; so that it is formed by decomposition.

The granite rocks may be considered as denoting the peculiar line of gravity in every sphere ; these always grow surface