

## THOUGHTS ON THE BEAUTIES OF THE CREATION.

The more attentively we consider the face of nature, the more deeply we pry into its mysteries, and make ourselves acquainted with its secrets, the more do we acknowledge the wisdom of the Creator,—the more do we feel that “the Heavens declare the glory of God, and the firmament showeth his handy work.” Every advance in science, every new discovery in the structure and organization of the bodies that surround us, does but increase our admiration, and confirm our assurance that

The hand that made them is divine.

The *Geologist* investigates the crust of the earth. He observes the nature of its strata,—the position superiorly of such as are porous and permeable deeper down, those that are tenacious and resisting. He recognises in this arrangement the source of “the rivers that run among the hills.” He observes that had this order been reversed, the rain which falls from heaven would have deluged the surface of the earth without penetrating its bosom, and would in wild devastating torrents have swept from its face those fruits and plants that it now so beneficently nourishes and evolves.

The *Chemist* analyses what were formerly looked on as elementary substances. In the air he finds two gases, one of which is by itself fatal to animal life, while an undue proportion of the other would change the air we breathe into a corrosive poison; yet they are mixed in such proportions as to form the compound most suited to support that curious vital phenomenon, respiration. And whether this compound be examined in the depths of the lowest mines, or at the greatest heights to which men have ascended, the proportions of this combination are found to be unvaried. He examines the earths; he considers their use for the growth and support of plants; and he asks himself what should they consist of for this purpose. Plants he finds to contain oxygen, hydrogen, carbon, and salts. The two former can be derived from the air that surrounds the water which moistens them: for the latter, they are dependent on the soil in which they are rooted. However various the composition of this soil, it consists essentially of two parts. One is a certain quantity of earthy matters such as clay, lime, and magnesia: the other is formed from the remains of animal and vegetable substances, which, when mixed with the former constitute common mould. The rain, then, percolating through this mould, dissolves the soluble salts with which it comes in contact, together with the gaseous, extractive, and other matters formed by the decomposition of animal and vegetable remains. Saturated with these nutritious matters it is presented to the roots, by them it is readily absorbed and sent as sap to the leaves, there, by exposure to air, to undergo the final process of assimilation.

The *Botanist* here steps in, and adds his mite to that beautifully continuous train of evidence, which, like the golden chain of the poet, binds together heaven and earth. He observes the beautiful adaption of the plant, to the soil in which it is intended to grow. The stately red mangrove springs in a wet and boggy soil which could scarcely support it erect against the first passing breeze. But how wisely is this cared for! It arises from several roots each root rising some feet above the earth before it unites with its fellows to form the trunk: further, slender shoots about three inches in circumference, quite bare, and jointed, grow from the trunk and branches in great abundance, then descend into the earth, take root, and thus afford support to the parent stem. The cocoa, which is a large tree of the shores of the torrid zone, grows in pure sand, which it interlaces with such a prodigious quantity of fibres, as to form around it a solid mass. It is on this basis that it withstands the most furious tempests in the midst of a moving soil.

A constant supply of moisture is necessary to the life of the plant; and when the thirsty soil fails to impart this through the root, how beautiful is the provision that enables the leaves to absorb the aqueous vapour from the atmosphere, and by the faculty they possess of radiating heat so to reduce their temperature during the night, as to cause the deposition on themselves of “the gentle dew from heaven.”

Heat is essential for evolving and maturing the delicate organs on which the reproduction of the plant depends. The organs are situated in the centre of the blossom, which, gathering the rays, reflects them in on its tender charge; an effect very much increased by its general incurved form. But what colours are most favourable to the reflection of heat?

Science has shown that light colours reflect, while dark absorb. But although this fact was so long undiscovered by science, how skillfully has it been taken advantage of by Almighty Wisdom! “Consider the lilies of the field.” Is not the dazzling whiteness of the snowdrop, the delicate tint of the hyacinth, the narcissus, and the early anemone intended to reflect the chill rays of a wintry sun, and to increase to the utmost the scanty heat it affords? Is not this intention assisted by their general low-lying position, which exposes them to all the heat the earth radiates? While the deep colours and lofty stems of the summer and autumnal flowers, clearly evince that such contrivance was

here needless and was therefore omitted. With equal care are they guarded against the effects of a too-scorching heat; and while with us they are found in the meadows, enamelling the soil, between the tropics they are raised aloft, and made the ornaments of the forest which by its foliage shelters them from the blaze of the mid-day sun, while, by their situation, they are sufficiently removed from the parched and burning earth.

How beneficent was it of Divine goodness to ordain, that corn, so necessary to the support of man, should grow not on bulky vegetables, requiring much space and length of time for reproduction, but on small slender plants, which spring up almost as soon as the seed is put into the ground. In the former case, the destruction of a crop would have been followed by famine for many years; in the latter, there is nothing more than inconvenience for a few months.

But, beyond all measure, the most interesting as referring to the curious and intricate of the works of the Almighty, are the discoveries of the *anatomist* and *naturalist*. Every step he makes in the acquaintance with nature, every new fact that he discovers, opens to him such a boundless exhibition of wisdom, goodness, and mercy, that,

Transported with the view, he's lost  
In wonder, love, and praise.

He observes the countless tribes of fishes “that have their way in the deep, and occupy themselves in the great waters.” How admirably is their shape adapted to cleaving their way through the watery element; how powerful the muscles of the tail, by which chiefly they are propelled; how ingenious the situation and construction of the air-bladder, by which they are enabled to rise or sink at pleasure; but, above all, how beautiful is the mechanism of their respiration! That which to animals with lungs would be painful and laborious, is, by the substitution of gills, rendered easy, and free from trouble. The fish fills its mouth with water, and, instead of swallowing, suffers it to pass through its gills. To each branch of the gills is distributed a vein and artery, by means of which the blood is exposed to the vivifying principle contained in the water, or in the air which is held dissolved in the water; and thus the same change is produced as in us by the passage of the blood through the lungs,—it is arterialized, and rendered fit for the nutriment of the body.

In birds the great object seems to have been lightness, to enable them to soar through the spacious fields of air, the element it was intended they should occupy. For this purpose their bones are hollow, and filled with air; their lungs are continuous, with a number of air-sacs; which run down into the abdomen, occupying much space with little weight, while, at the same time, they assist in the rapid aeration of the blood, so necessary to animals of such quickness of motion and rapidity of impulse. Their wings are widely extended, in comparison with the size of their bodies, by which means they are enabled to condense a considerable body of air, which, by its elasticity, assists them in their flight. To enable them to maintain their position in the air, it is necessary that the centre of gravity should lie beneath the line of their wings, else they would tumble over in their flight. To attain this object, one of the large muscles for elevating the wing is actually placed with the depressors of the wing on the front of the breast, and made to turn, as it were, over a pulley, to gain the back of the pterion, and enable it to exert its proper action. The means by which a bird, while sleeping, maintains its hold on the branch, is equally admirable. The tendon running from the muscle, which is situated high up on the thigh, to the extremities of the talons, runs behind the joint, or elbow, of the leg. As the bird sits down, this joint is bent, and the tendon passing over it, is, of course, strained; from which results, mechanically, the closure of the talons round the object on which they are placed, and thus, without any muscular exertion, the hold is kept while the bird sleeps.

And now, as we approach man, and the higher order of animals, facts crowd on us in such countless abundance, in such rich profusion, that we know not how to reject, or which to select. They are too important to be curtailed, too numerous to be inserted at the end of an article. But, before we part, let us glance with our mind's eye over the few, but interesting, facts we have collected. Let us observe their exquisite ingenuity—their beautiful adaptation and suitability to circumstances. And shall we then attribute them to a blind chance,—an indiscriminating destiny. No; we shall not so far insult our reason. Voiceless though they be, they declare, in language not to be misunderstood, the existence of an ever-wise and ever-bounteous Creator, “God over all, blessed for ever.”

P. B. I.

TITLES OF OLD BOOKS.—The following are the titles of some of the books which were in circulation in the time of Cromwell. The authors of those days must have thought there was “something in a name.”—“A most delectable, sweet-perfumed Nose-Gay, for God's saints to smell at.”—“A pair of Bellows, to blow off the dust cast upon John Fry.”—“The Snuffers of Divine Love.”—“Hooks and eyes for Believers' Breeches.”—“High

beeled Shoes for Dwarfs in Holiness.”—“Crumbs of Comfort for the Chickens of the Covenant.”—“A sigh of Sorrow for the Sinners of Zion, breathed out of a hole in the wall of an earthen vessel, known among men by the name of Samuel Fish.”—“The Spiritual Mustard Pot to make the Soul Sneeze with devotion.”—“Salvation's Vantage Ground! or, a Louping Stand for heavy believers.”—“A shot aimed at the devil's head-quarters, through the tube of the Cannon of the Covenant.”—“A Reaping Hook well-tempered for the Stubborn Furs of the Coming Crop; or, Biscuits baked in the oven of charity, carefully conserved for the Chickens of the Church, Sparrows of the Spirit, and the sweet swallows of Salvation.”—“Seven Sobs of a Sorrowful Soul for Sin; or seven Penitential Psalms of the Princely Prophet David, whereunto are also annexed Wm. Hummie's handful of Honey Suckles, and divers Godly and Pithy Ditties now newly augmented.”

VITALITY OF INSECTS.—“If the head of a maniferous quadruped, or of a bird is cut off, the consequences, of course, are fatal. But the most dreadful wounds that imagination can figure, or cruelty inflict, have scarcely any destructive influence on the vital functions of many of the inferior creatures. Loeuwenhoek had a mite which lived eleven weeks, transfixed on a point for microscopical investigation. Valiant caught a locust at the cape of Good Hope, and after excavating the intestines, he filled the abdomen with cotton, and stuck a stout pin through the thorax; yet the feet and antennae were in full play after the lapse of months. In the beginning of November, Redi opened the skull of a land tortoise, and removed the entire brain.

A fleshy integument was observed to form over the opening, and the animal lived six months. Spallanzani cut the heart out of three newts, (in Scotland called asks,) which immediately took to flight, leapt, swam, and executed their usual functions for 48 hours.—A decapitated beetle will advance over a table, and recognise a precipice on approaching to the edge. Redi cut off the head of a tortoise, which survived 18 days. Col. Pringle decapitated several libellulæ, or dragon flies, one of which afterwards lived for four months, and another six; and, which seems rather odd, he could never keep alive those with their heads on above a few days.

MUSIC.—Haydn used to relate, with much pleasure, a dispute which he had with a music-seller in London. Amusing himself one morning, after the English fashion, in shopping, he inquired of a music-seller if he had any select and beautiful music? “Certainly,” replied the shopman, “I have just printed some sublime music of Haydn's.” “Oh,” returned Haydn, “I'll have nothing to do with that.” “How sir, you will have nothing to do with Haydn's music! And pray what fault have you to find with it?” “Oh, plenty; but it is useless talking about it since it does not suit me: show me some other.” The music-seller, who was a warm Haydnist, replied, “No, sir, I have music, it is true, but not for such as you;” and turned his back upon him. As Haydn was going away, smiling, a gentleman of his acquaintance entered, and accosted him by name. The music-seller, still out of humour, turned round at the name, and said to the person who had just entered the shop: “Haydn!—ay, here's a fellow who says he does not like that great man's music.” The Englishman laughed; an explanation took place, and the music-seller was made acquainted with the man who found fault with Haydn's music.—*Life of Haydn.*

NATURAL CURIOSITY.—We have now in our possession the tooth of some unknown animal, which weighs about three and a half pounds, and measures seven and one-fourth inches long, four and one-fourth inches wide, and nineteen inches over. It is in a good state of preservation, with the exception of the parts uncovered by the enamel, which is partially decayed by being exposed to the air. This tooth, with a number of other fossil remains, was dug up from about eight feet under the surface of the ground, near the Paw Paw, in Van Buren county, about forty miles north of this place; by some persons who were digging a mill-race. We can give no possible conjecture to what sort of animal this tooth belonged, unless it was to the great mastadon, the history of which animal is only to be found in the traditions of the Indians.—*Niles (Mich.) Gazette.*

ENORMOUS HEAPS OF GRAIN.—A Sheffield gentleman, on whose veracity we have the strictest reliance, informs us that on passing the Vistula, a fortnight ago, he saw at Dantzic, heaps of wheat on each side of the river, five or six feet deep, of considerable breadth, and extending nearly 7 miles. It is preserved from the effects of the weather by a peculiar kind of matting and soft cloth. Several thousand persons are constantly employed in turning this immense quantity of grain, and exist upon it, the simple preparation of their meals being, to boil the corn in the waters of the Vistula: they reside in straw huts, erected adjoining the scene of their employment. This as-