

magnificent fabric of the heavens, there is a system or order of bright stars, the nearest of any others to us, which form a vast circuit, one within another, like so many rings or circles, and that these are in continual motion round the sun, which is in the centre or middle of the whole. They have named these planets, which word signifies moving or wandering orbs, or balls, because they are always moving in their several orbits or circles, round their centre the sun, from whom they receive all their light, as you know we do upon this world. They call them by their following names. *Mercury Venus, Mars, Jupiter, Saturn*, say nothing of the *Georgium Sidus*, or of the fixed stars, which are by some supposed to be suns at immense distances, with planets, or globes, too remote to be seen by us, whirling around them continually.

Of these amazing works, I have thought it right to give you a hint, that you may see what reason you have to stand in awe of that great God, who made all, and who upholds all, (as the Bible tells us) by the word of his power. I hope, you will be able to consider, ere long, that, in a very sublime and important sense also, and according to the philosophy of the Bible, God hath established his truth in the heavens. They were made for signs and for tokens of his invisible glory. When you understand them rightly, you will perceive, that they are not vast collections or monuments of dull matter only, but lively pictures of spiritual things, which convey thoughts to the soul through the outward senses. In the mean time, let me desire you to read the eight Psalm, with these reflections in your mind; and when you come to the third verse, ask yourself if David had not reason to sing; *When I consider the heavens (O Lord) the work of thy fingers, the moon and the stars which thou hast ordained. What is man, that thou art mindful of him, and the son of man, that thou visitest him?*

I have given you a hint or two concerning the commonly received opinion of the stars or planets, which are nearest to the globe of earth on which we live: But there are others of great size and distance, which the astronomers call *fixed stars*, because they change their situation very little, or not at all, in our view, and from their twinkling piercing light, [for the planets have a duller and more steady light] are imagined to be suns, like our sun, sending forth rays to some dark worlds about them. Their vast distance is almost unconceivable by man. The nearest of the fixed stars has been computed by some astronomers to be at least an hundred thousand times farther from us than we are from the sun; consequently, this distance must be many hundred thousand millions of miles. If a cannon ball were to set out from the earth, as speedily as from the mouth of a cannon, and to continue on at the same pace in a straight line, it has been calculated, that it would be above six hundred thousand years in its passage to the nearest of these stars.

My dear child, what astonishing grandeur is here! What immensity! What glory! and yet all this is infinite, all hath a bound, and therefore is not so much to the greatness and majesty of God as a small grain of sand to all the stars and all their distances put together. What tongue can utter, what thought can conceive, rightly, of such subjects as these! and how much less of the Maker of them! should not this teach us humility? Should not what he has done, awe us into

obedience concerning all that he has said? Who by his own searching can find out God? Who can know him, with any possible certainty, but by his own revelation or aid?

Friend of Youth.

THE BOOK OF NATURE LAID OPEN

—o—
“Let us read
The LIVING PAGE, whose every character
Delights, and gives us wisdom.”

ANIMALS.

In ascending from the VEGETABLE to the ANIMAL KINGDOM, one cannot help his attention being forcibly engaged by the singular construction, and amazing properties of those little wonders, found at the bottom of ditches, and adhering to the underside of the broad-leaves of Aquatic Plants, known by the name of *Fresh-water Polypuses*.*

If the *Sensure Plant*, the *Hedysarum Gyran*, and *Venus' Fly Trap*, may be considered as so many links at which the vegetable creation ends, these living plants, if I may use the expression, and animal flowers which are found adhering to the rocks, on the sea shore, may, as well as the Oyster, and other shell fish (which form the connection betwixt the animal and the mineral kingdom,) be reckoned among those at which that mysterious and multitudinous order of beings begins, which is continued in such an infinitude of shapes and sizes, shades and differences, and possessed with such a number of dissimilar appetites and instincts, from the lowest gradation amongst the number of these imperfectly formed animals, till it arrives at that most complete piece of nature's workmanship—that capstone of the inferior creation, or link which unites it with superior intelligences—MAN.

The number of animated creatures, is prodigious indeed! The whole creation teems as it were with existence!—The dry-land sends forth its multitudes;—the air hath its swarms;—the sea its numerous shoals;—and the very depositories of corruption produce their myriads! †

Yet notwithstanding these immense numbers!—this amazing diversity of form and bulk, of taste and habit, ALL are conveniently and comfortably lodged,—ALL are fed to their heart's content at the same common table, and in such a manner as not a fragment can be lost; while each pursues that particular path chalked out

* Cut one of these in two, the upper part shoots out a tail, and the under produces a head, cut one in three and the upper and under do the same, while the middle division produces both a head and a tail; cut one down lengthways to the middle, and you have a monster with two heads; divide these, again, as often as you please, and you have a Hydra with many heads; in short, cut the Polypus into ten, or ten hundred parts, the effect will be the same, and you will have as many Polypuses.

† In the class of INSECTS alone there are a greater number of species than there are kinds of Plants on the surface of the earth. In a little rain water after standing some days, Mr. LEWENHOEK discovered innumerable animalcules, many thousand of times less than a grain of sand, and in proportion to a mite as a bee is to a horse! Having examined the melt of a cod he concluded that it contained more living animalcules than there were people living in the world; and by a method he made use of in order to ascertain their comparative size with the thickness of breadth of a hair of his head, it was found that 216,000 of these minute creatures are but equal to a globe whose diameter is the breadth of a hair.—How amazing the wonders of Omnipotence!

for him by nature, without repining or envying the lot of his neighbour.

The unwieldy Whales in the Greenland sea, the numerous herds of Elephants which graze the extensive regions betwixt the river Senegal and the Cape of Good Hope; and the gigantic Ostrich of the sandy borders of Egypt and Palestine, room as much at large as the winged insect that sits from flower to flower, or the invisible Animalcule which swims in the liquid drop.—The Polar Bear of the Arctic Circle, wrapt up in his shaggy covering, the Ermine of Siberia in its furry mantle, and the Water-Fowl with her thick set only feathers, no doubt feel as comfortable as the Barbary Cow, almost naked, the Ruminator, sheltered from the tropical heats by his coat of mail, or the monstrous Hippopotamus (the Behemoth of Job) when he retires to cool himself at the bottom of the African rivers—These abhorred insects which feed upon ordure, or still more loathsome that rot in putrefaction, we have reason to believe, feed as deliciously as the Raccoon on his West-Indian sweets, or pampered Lapdog from the hand of its mistress—And if the foxes have holes, and the birds of the air have nests, we have no reason to suppose but the former feel as happy when they have formed their habitations at a convenient distance, from the hen roost, and the latter, when from their lofty situations they can behold the fowler at a distance, as the flocks and herds which graze our fields, or the domestic fowls which partake of our care and bounty. By this wise and happy arrangement, the harmony of the Universe is preserved, and the prodigious multitude of Earth's numerous tenants able to exist without disorder or confusion.

But if we attend to the internal structure of these wonderfully complicated and intricately woven machines, called ANIMALS, we will still find more reason to admire and adore that incomprehensible BEING, whose omnipotent has brought them all into existence. No wonder that GALEN, at the sight of a human skeleton, should relinquish his former scholastic thoughts; and that the Psalmist, on the contemplation of his material structure, should exclaim: “I am fearfully and wonderfully made;” but the greater surprise is, that so many skeletons of animals and animated wonders can be beheld with so much indifference by that creature to whom God has given reflection for the wisest of purposes, for to what purpose can the thoughts of man be better applied than to the contemplation of the DEITY through the medium of his works!—

“What variety of springs, what forces, and what mechanical motions (says BURTON) are enclosed in this small part of matter which composes the body of an animal!—What propriety, what harmony, and what correspondence between the various parts! How many combinations, arrangements, causes, effects, and principles, conspire to complete one end;—and as the writer observes: “In the single ounce of matter which composes the body of a Sparrow, we see all the instruments necessary for eating, for digestion, for respiration, for seeing, for hearing, for smelling, for flying, for the performance of every animal function, and of every motion. All the parts of the complicated machine are perfectly appropriated, completely adapted to their respective use; and all disposed with the most exact organization.” All this is very in-