

freshest green. Mark his progress from his rise to his mid-day splendour, and from that till "he

Sinks gently midst that glorious canopy,
Down on his couch of rest,—ever like a proud
King of the earth—the Ocean."

Let us now direct our attention to the object itself and see how far our ideas are commensurate with its grandeur. Mark its dimensions—its diameter approaching a million of miles, and its circumference three. Its surface contains more than twelve thousand times the number of square miles there are on our globe, and its solid contents are 1,350,000 times the amount which the earth contains, so that it would take more than a million and a quarter of globes as large as our own to make one equal to the size of the sun. I give another estimate of the almost boundless dimensions of this great luminary. The earth contains about 264 thousand millions of cubical miles. Jupiter is 14 hundred times larger than the earth; Saturn 1 thousand times, and Uranus 80 larger than this world. Add the contents of these mighty orbs, and to the sum, those of all the other planets, moons and comets of the solar system: multiply the last total by 500; the product would not come up to the contents of the orb of day. And yet, this immense body, in the contemplation of which our noblest faculties are exhausted, is but one out of millions of millions, of similar globes which exist around us, in the vast universe of space!—Of its physical constitution, *how little do we know*. Of its envelopes of light, *what do we know*? Astronomers have discovered 3, rising above each other in variety and transparency. But how these oceans of light are generated, who can tell? Whatever the luminous matter may be, and whatever be its source, it is never at rest, but tumbling and weltering in endless agitation. The agency, by which its constant flood of light and heat is produced, is matter only for speculation.

Its spots is another phenomenon, which has brought out not a few speculative notions. What we know of them is, that the sun is never without them; that they are of various extent—from a thousand to 40 or 50 thousand miles in diameter; that they have a gyratory motion of their own, and that they often appear and disappear with amazing rapidity, though some have been observed to make 7 or 8 passages over the sun before they have entirely vanished. But the sun has its *faculae* as well as its *maculae*—that is, spots more luminous than its general surface. The whole disc of the sun is found to be studded with bright and shady spots,—giving his surface a mottled appearance. Some suppose that the sun is inhabited, others assert that it is an immense furnace, alimented by comets; and not a few that it is the abode of the Blessed.

The following are the latest theories respecting the source of the sun's heat:

1. That the sun is a heating body, losing heat.
2. The heat is due to chemical action, among materials belonging to his mass, or that the sun is a great fire.
3. That meteors falling into the sun give rise to the heat which he emits.

It is said that these three combine all the theories that have yet been proposed to account for his heat.

How many blessings does God shower upon the earth through this wonderful luminary? Familiarity with our blessings often produces indifference to their value. Is it not so with the sun? How little do we value its cheering and invigorating operations upon the Earth? But let its beams be withdrawn only for a short time, how changed would be the face of this earth! Barrenness, desolation and death, would everywhere reign.

Let us then be ever thankful to Him who hath promised that while the earth remaineth, seed-time and harvest, summer and winter, and day and night shall not cease.

From the sun let us pass to some of its attendant worlds, and direct attention to a few of their discovered wonders. The number of planets, and moons, and comets, and meteoric bodies which move around him, none can tell. Already astronomers have discovered over 70 planets, coursing round him, 20 satellites, and innumerable comets and meteoric bodies.

The most wonderful of the planets, and to which astronomers have directed most of their attention, are Jupiter and Saturn. Jupiter is the largest of the planets; and when viewed through our best telescopes, presents, with its moons and belts, a magnificent appearance. Just conceive a globe 1,000 times the size of our earth, with a surface containing a number of inhabitants 8,000 times more than the present population of our globe, revolving round its axis at the rate of 460 miles in a minute, and flying through the regions of the heavens at the rate of nearly 30,000 miles every

hour, carrying along with it 4 revolving worlds in its swift career, and continuing this rapid course, without intermission, age after age, for thousands of years,—and we behold a scene calculated to fill every reflecting mind with admiration and astonishment. While contemplating such a scene, how does it become us to raise our thoughts to that Almighty Being, who, at first formed so vast a globe, and launched it from His powerful arm, and whose incessant energy sustains its swift career, age after age? Saturn is another magnificent world, and courses round the sun 410,000,000 of miles, beyond Jupiter's orbit. The grandeur and sublimity of the spectacle presented by this orb are scarcely to be described. Could we station ourselves within a few thousand miles of its course,—its body—a thousand times larger than the earth—its 3 rings and 8 moons, would appear to fill the greater portion of the visible heavens. Let us, thus placed, conceive this planet,—flying before us at the rate of 22,000 miles an hour, carrying along with it, its stupendous rings—one of them 20,000 miles in breadth, and perhaps 150 in thickness, and in circumference 500,000, and revolving round it with a velocity of 900 miles a minute—and far beyond these 8 other spacious globes, larger than our moon, wheeling round it; let us endeavour to stretch our imagination to the utmost, to represent such a scene as nearly as possible to the reality, and suppose ourselves as spectators, how grand and overwhelming, and almost terrific would be the amazing spectacle! Amidst the emotions it would excite we could only exclaim, "Great and marvellous are Thy works, Lord God, Almighty." "Thy right hand, O Jehovah, is become glorious in power." Who can utter the mighty acts of the Lord? "The Lord God Omnipotent reigneth."—Is it possible to separate such scenes and operations from the idea of an eternal and Almighty intelligence who formed, and arranged, and set in motion such stupendous machinery? Could chance, or the fortuitous concurrence of atoms, have ever produced such a portion—and but a very small one—of celestial mechanism and preserved it, unimpaired in all its relations and movements, from age to age? Such an idea is fraught with the grossest absurdity that ever entered the human imagination. If a divine superintendent over creation did not exist, the whole frame of universal nature would long ere now, have been untinged, and the universe with all its splendid orbs, and mighty movements, have been transformed into a chaos, and scattered through the regions of infinitude. And since there is a God, that God, how great!

But time will not admit of my directing your attention to much more of the discovered wonders of the planetary system. A few remarks more, and we direct attention to the cometary world.

On turning to the heavens, it is found that ever since the first observations were made great changes have been taking place. The eccentricity of the Earth's orbit has been diminishing; the moon has been moving more quickly, and is now in advance, by about four times her own breadth, of what her place would have been, if it had not been accelerated.

To what will all this lead, it may be asked?—Lead to? why it will lead to this, that He who holds the whole machinery of creation as in the hollow of his hand, regulates the movements of every world and all worlds—individually and in system separately as one grand infinite whole,—to less than hair-breath movements, or position-changes, and that all intelligent existences—inhabitants of worlds, are as safe from the collision of worlds, or deranging influences, as if they encircled heaven's throne. And what have our most intelligent creation-system astronomers to admit? Just this—that what was at one time considered certain departures in the movements of worlds from laws—are but the carrying out of those laws in all their fulness and glory!

In my remarks on the mechanism of the heavens, I would say, there is harmony there; but it is the deep and solemn harmony of empyrean spheres. Poetry is there; but to be read in those eternal brilliants set in the deep-dark tablet of infinitude. Architecture is there; but it is the colossal structure of sun and system—of eluiter and universe. Eloquence is there; but there is neither speech nor language—it is the spangled significance of harmonious stillness. Wisdom is there; but it is the wisdom of Omnipotence!

JOHN BRUCE,
Inspector of Schools.

(To be continued.)