

For the Pearl.

SACRED PHILOSOPHY.

NUMBER OF THE HEAVENLY BODIES.

"He telleth the number of the stars; he calleth them all by their names. Great is our Lord and of great power, his understanding is infinite."—PSALM cxlvii: 4. "Lift up your eyes on high, and see, who hath created these. He draweth forth their armies by number; he calleth them all by name."—ISAIAH, xl: 26. "The host of heaven cannot be numbered, neither the sand of the sea measured."—JEREMIAH, xxxiii: 22.

It is related of the eloquent Massillon, when on the august occasion of pronouncing the funeral oration of Louis XIV., surnamed "the Great," that amidst all the pageantry of deceased royalty, his silence remained unbroken for so long a time, that the grandees of the court became alarmed lest all their great expectations should be defeated by the failure of their renowned orator. At length the mysterious silence ended: the preacher arose, and casting an awful glance over his noble auditory, in a solemn and almost stifled voice, exclaimed, "My brethren! God alone is great!" Powerful beyond description was the effect of this unexpected appeal, and yet we have sometimes been inclined to consider it merely as the language of art—a brilliant stroke of oratory intended to dazzle and overwhelm. Be this as it may, of one thing we are certain, that it is purely the voice of nature, and the language of the heart, which is breathed forth from the intelligent beholder of the glories of a midnight sky, in the emphatic words, "God alone is great." The earth on which we dwell, in all its loveliness, variety and magnificence, is calculated to fill us with vast conceptions of the grandeur of Him whose power constructed so stupendous a globe—reared its mountains—formed its valleys—channelled its rivers—extended its plains—and spread verdure and beauty on every side. But when we contemplate the countless orbs of the firmament—the unnumbered hosts of worlds scattered wide and vast over the illimitable expanse, these feelings of awe and wonder are impressed upon us with ten-fold sublimity and force.

"Who turns his eye on Nature's midnight face
But must inquire,—What hand behind the scene,
What arm Almighty, put these wheeling globes
In motion, and wound up the vast machine?
Who rounded in his palm these spacious orbs?
Who bowled them flaming through the dark profound,
Numerous as glittering gems of morning dew,
Or sparks from populous cities in a blaze."

None but those who have considered the immensity of the great vault of heaven; the still, solemn, uniform motion, and the prodigious number of stars, will form any worthy conception of the amazing proof of the infinity of the Eternal mind, which is involved in the declaration, that "God telleth the number of the stars, and calleth them all by their names." And those only who have witnessed as an ocular reality, the immeasurable expansion of the celestial regions, with the infinite number of spheres which glitter in the boundless extent, can rise to the sublimity of Isaiah's language, when he asserts in the elegant and energetic terms of inspiration,—"He draweth forth their armies by number: he calleth them all by name: through the greatness of his strength, and the mightiness of his power, not one of them faileth to appear." Man, with all his powers, so great, so wonderful, cannot count the particles of dust which float in a single sun-beam,—his arithmetic cannot number the drops of water which compose the many mighty billows of the wide-rolling ocean,—and the sands of the sea-shore baffle all his powers of computation. But these, grand and impressive as they are, are really nothing to the wonders which our optical instruments disclose to us in some regions of the heavens. And yet the calculation of all the majestic bodies which adorn every part of the skies, is "a very little thing," with the Almighty. Who then can withhold his enlightened assent to the inspired position—"Great is our Lord, and of great power; his understanding is infinite."

COMETS, one of the three classes, into which astronomers divide the heavenly bodies are, for the most part, considered few in number. This undoubtedly is the popular notion, and yet the appearances of several hundred have been recorded; and it should be remembered that many are invisible on account of their traversing that part of the heavens which is above the horizon in the day time. Almost every year we have the account of one or more comets seen, and it sometimes happens that two or three are visible at the same time. But it can be proved, according to the philosophy of chance, that the number of comets may be unlimited. In an elaborate dissertation, "On the Mechanism of the Heavens," by Mrs. Somerville, we have the following able remarks on the subject:—"A hundred and forty comets have appeared within the earth's orbit during the last century, that have not again been seen; if a thousand years be allowed as the average period of each, it may be computed by the theory of probabilities, that the whole number that range within the earth's orbit must be 1,400; but Uranus being twenty times more distant, there may be no less than 11,200,000 comets that come within the known extent of our system." At this account of nature, the profoundest mind may well stagger! Extend the idea to other worlds, and systems of worlds, and man is bewildered and lost in the grandeur of the conception. "Lo! these are parts of his ways, but how little a portion is heard of him? but the thunder of his power, who can understand?"

Great as the number of the comets appears to be, it is absolutely nothing when compared to the number of the FIXED STARS. For the convenience of description and reference these have been classed into groups, called constellations. Such divisions, however, are purely of human invention, and have no reference to any thing connected with the stars themselves. The region of the stars is also divided into two hemispheres, the one north and the other south. Of the constellations in both hemispheres the ancients knew 48; the moderns have increased the number to more than 100. The stars of the constellations are again distinguished into classes, according to their apparent brightness, and are termed *magnitudes*. The brightest stars are said to be of the first magnitude; those which fall so far short of the first degree of brightness as to make a marked distinction are classed in the second, and so on down to the 16th degree of magnitude. Below the sixth or seventh degree of magnitude, none are obvious to unassisted vision. Many of the stars of different magnitudes which appear to the naked eye as single bodies, are not so, but a combination of several. "One has been ascertained to be a sextuple star, or six associated together; two others are quadruple or groups of four; several are triple; and still more are double."

Sir Win. Herschel enumerated upwards of 500 double stars, and Professor Struve of Dorpat, in 1826 surveyed 1000 double stars. Since then, it is stated, this professor has examined above 120,000 stars, and found 3050 to belong to the first four classes of double stars. Many thousands of stars that seem to be only brilliant points, when carefully examined are found to be in reality systems of two or more suns revolving about a common centre.

At various periods in the history of Astronomy, catalogues of stars have been formed. Hipparchus, in 129 B. C. made a catalogue of 1022 stars—all that are visible in one hemisphere to the naked eye, in the clearest and darkest night. Flamsteed with telescopes made another of 2884. Bode, in 1800, of 27,000, and Lalande, the same year, of 50,000. But with telescopes more powerful, and instruments more delicate for the determination of their places, these catalogues of stars have been vastly increased. "Mr. Bessel of Königsberg, observed in the short space of three years, between thirty and forty thousand stars, comprehended within a zone extending to 15 degrees on each side of the equator; but even this great number is but a small portion of the whole within the limit of the zone which he examined. To procure a more complete survey, the Academy of Berlin proposed that *this same zone* should be parcelled out among twenty-four observers, and that each should confine himself to an hour of right ascension, and examine it in minute detail. This was adopted; and the eighteenth hour was confided to Professor Inghirami, of Florence, and examined with so much care, that the positions of 75,000 stars have been determined in it." See *Edin. Rev.* No. 101, page 91. Now on the supposition that the other twenty-three positions of the zone presented an equal number of stars with the one thus carefully examined, the whole would form an amount of 1,800,000. And this but a spot in the magnificent spectacle of the heavens! Who then can estimate the number of the whole? In some parts of the heavens the stars are so near together as to form clusters, which to the unassisted eye, appear like thin white clouds. Many of these owe their brightness to the diffused light of myriads of stars. These brilliant portions of the heaven are denominated nebulae: no fewer than 2500 were observed by Sir Win. Herschel. In a clear night level your telescopes at

"A broad and ample road, whose dust is gold,
And pavement stars, as stars to us appear,
Seen in the Galaxy, that Milky Way,
Like to a circling zone, powdered with stars."

This immense but irregular zone of whitish light is called the Milky Way. What a field for lofty contemplation! Of the prodigious quantities of stars in this luminous belt, Sir Win. Herschel gives the following proof. On August 22nd, 1792, he found that in forty-one minutes not less than 258,000 stars had passed through the field of view in his telescope. On another occasion, observes Mrs. Somerville, "in one quarter of an hour he estimated that 116,000 stars passed through the field of his telescope which subtended an angle of 15'." This however was stated as a specimen of extraordinary crowding; but at an average the whole expanse of the heavens must exhibit about a HUNDRED MILLIONS of fixed stars that come within the reach of telescopic vision." Nor is this the testimony of a solitary mind. Sir John Herschel, the great astronomer of the present day, speaking of the *milky way*, says:—"when examined through powerful telescopes, it is found (wonderful to relate!) to consist entirely of stars scattered by millions, like glittering dust on the black ground of the general heavens." And Montucla, vol. iv. page 29, observes, "the more powerful the telescope, the greater is the number of stars seen. Lalande computed, that, with a forty foot telescope, a hundred millions were visible."

Assuming that our best telescopes can introduce to our notice the mighty number of 100,000,000 stars, shall we vainly suppose that at the extent of this unbounded range we have found the outer boundaries of Jehovah's empire? Shall we dare to limit the dominions of the Almighty by our limited powers and feeble instruments?

"Where ends this mighty building? Where begin
The suburbs of creation?
Say at what point of space, Jehovah dropped
His slackened line, and laid his balance by:
Weighed worlds, and measured infinite no more."

And comes the answer from any but the fool—"the building ends where our geometry fails—Jehovah dropped his slackened line just at the limits of our astronomy—the suburbs of creation are the distant points to which our telescopes convey us." Or to cite the spirit-stirring words of the Christian orator of the world:—"Fancy may take its flight far beyond the ken of eye or of telescope; it may exultate in the outer regions of all that is visible; and shall we have the boldness to say that there is nothing there; that the wonders of the Almighty are at an end because we can no longer trace his footsteps? that his omnipotence is exhausted because human art can no longer follow him? that the creative energy of God has sunk into repose because the imagination is enfeebled by the magnitude of its efforts, and can keep no longer on the wing of those mighty tracts?" Let it be considered that the different catalogues of fixed stars made by astronomers have depended on the power of glasses by which the celestial regions have been examined; and hence the number has augmented in proportion to the superiority of the instruments employed. What then would be the vast total produced with glasses of infinitely higher magnifying powers? And "who shall assign a limit to the discoveries of future ages? Who can prescribe to science her boundaries, or restrain the active and insatiable curiosity of man within the circle of his present acquisitions? The day may yet be coming when our instruments of observation shall be inconceivably more powerful!" Referring to one of the calculations of Sir Win. Herschel, Dr. Thomson in his "Sketch of the Progress of Physical Science," remarks:—"If we compute from such a narrow zone, the whole celestial vault must display, within the range of telescopic vision, the stupendous number of more than five billions of stars. If each of these be a sun to a system similar to ours, and if the same number of planets revolve round it, then the whole planets in the universe will be more than FIFTY-FIVE BILLIONS, not reckoning the satellites, which may be much more numerous." On this subject also, Sir John Herschel, an authority on any question of Astronomy, observes that—"every increase in the dimensions and power of instruments, which successive improvement in optical science has attained, have brought into view multitudes innumerable of objects invisible before; so that, for any thing experience has hitherto taught us, the number of the

stars may be REALLY INFINITE, in the only sense in which we can assign a meaning to the word." If such be the building, what must be the architect? If such the effect, what must be the Cause? If such be creation, what must be the Creator; that Creator who "numbereth the stars, and calleth them all by name." EDITOR.

THE PEARL.

HALIFAX, FRIDAY EVENING, APRIL 20, 1838.

BRITISH NEWS.—By the March packet we have received intelligence from London to the 8th of March. The two leading topics of interest are annexed:

REPRIMAND OF MR. O'CONNELL.—On Wednesday, the order of the day for the attendance of Mr. O'Connell having been read,

The Speaker said—"Is the honourable Member in his place?" Mr. O'Connell rose and said—"I am here, Sir;" and then sat down.

The Speaker—"The honourable Member will please to stand up." Mr. O'Connell accordingly rose; and the SPEAKER addressed the offender as follows—

"Mr. O'Connell, you have permitted yourself to be betrayed into the use of expressions at a public meeting, with respect to which this House has come to the following resolutions—That the expressions in the said speech, containing a charge of foul perjury against Members of this House in the discharge of their judicial duties, are a false and scandalous imputation on the honour and conduct of Members of this House: that Mr. O'Connell having avowed that he had used the said expressions, has been guilty of a breach of the privileges of this House: and, finally, that he be reprimanded in his place."

At the conclusion of the reprimand, Mr. O'CONNELL, without sitting down, addressed the House. He said that it was not because they had passed a long-winded resolution, asserting their purity by a majority of nine, or nine-and-twenty, or even two hundred, that the country would judge them to be pure. In the opinion of the country, the House had no more vindicated itself by that vote, than Judges who authorized the taking of ship-money would have been justified in public opinion by a declaration of their own purity and patriotism. It was admitted on all hands, that the decisions of Election Committees were biased by party interests and attachments; and what, he wished to know, was that, but an admission of perjury? The House had done absolutely nothing to vindicate itself from the charge he had brought against it. Give him a Committee, and he would prove that charge; he would meet their resolutions by evidence. "Sir, I mean to move that this Committee shall be formed, and I shall submit, upon that, to any thing which the House may think fit. I have repented of nothing—I have retracted nothing. (Hear.) I mean not to use harsh or offensive language. (Cries of "Oh, oh!" from the opposition.) But I re-adopt what I before said. I admire their attention to a subject which introduces the name and sanction of the Deity. (Hear hear.) I repeat what I have said, but I wish I could find terms less offensive in themselves, and equally significant. (Hear, hear.) I am bound to re-assert what I have said, for I am convinced of nothing by a vote. (Hear.) Sir, I now move for the appointment of a Committee."

CENSURE OF MINISTERS.—In the House of Commons, on the 6th of March, Sir William Molesworth moved the following Resolution:

"That an humble address be presented to her Majesty the Queen, respectfully expressing the opinion of this house that in the presented critical state of her Majesty's foreign possessions in various parts of the world, it is essential to the well-being of her Majesty's Colonial empire, and the more important domestic interests dependent on the prosperity of the colonies that her Majesty's Colonial Minister should be a person on whose intelligence, firmness, and capability, the house might be able to place reliance; and declaring that, with all due deference to the constitutional authority of the crown, the house is of opinion that her Majesty's present Secretary of State for the Colonies did not enjoy the confidence of the house or country."

To which the following amendment was moved by Lord Sandon, and, after a warm debate, lost by a majority of only 29 in favour of Ministers.

"That an humble address be presented to her Majesty, expressing to her Majesty our deep regret that the tranquillity of her Majesty's provinces of Upper and Lower Canada should have been disturbed by the wicked and treasonable designs of disaffected parties in those provinces, by which many of the inhabitants have been seduced into opposition against the authority of her Majesty. To assure her Majesty that we have observed, with the utmost satisfaction, the zeal and fidelity which have animated the loyal inhabitants of her Majesty's North American provinces, and that we cordially rejoice in the success which has attended her Majesty's regular troops combined with the services of the loyal inhabitants. To assure her Majesty of our continued determination to