THE GUARDIAN.

"HOLD FAST THAT WHICH IS GOOD."

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POETRY.

THANK-OFFERING.

(BY THE LATE LADY FLORA HASTINGS.)

In every place, in every hour,
Whate'er my wayward lot may be;
In joy or grief, in sun or shower,
Father and Lord I turn to thee.

Thee, when the incense-breathing flowers
Pour forth the worship of the Spring,
With the glad tenants of the bowers
My trembling accents strive to sing.

Thee, when upon the frozen strand
Winter, begirt with storms, descends;
Thee, Lord! I hail, whose gracious hand
O'er all a guardian care extends.

Thee, when the golden harvests yield
Their treasures to increase our store;
Thee, when through ethers gloomy field
The lightnings flash and thunders roar.

Thee, when athwart the azure sky
The starry hosts their mazes lead,
And when thou sheddest forth on high
Thy dew-drops on the flowery mead.

Thee, when my cup of bliss o'erflows—
Thee, when my heart's best joys are fled;
Thee, when my breast exulting glows—
Thee, while I bend beside the dead.

Alike in joy and in distress,
Oh! let me trace thy hand divine;
Righteous in chast'ning, prompt to bless,
Still, Father! may *thy* will be mine.

LITERATURE.

AN ADDRESS DELIVERED BY THE REV. GEORGE McDONNELL, AT THE OPENING OF "THE ASSOCIATION FOR PROMOTING USEFUL KNOWLEDGE," AT BATHURST, NEW BRUNSWICK.

[CONTINUED.]

I PROFFER these remarks as pointing out something like the course which we ought to follow. In order to an Association attaining to any thing like a good degree of success, every member should regard his membership as pledging him "*bona fide*" to discharge that share of the business which shall properly fall to him. Difficulties and discouragements, and these of no trifling nature, there doubtless are in the way, but surely it were exceedingly discreditable to us, both individually and collectively, if, owing to their existence, we were to fold our hands in sluggish apathy, or in selfish indifference refuse to exert our best energies for the general good. Still more would it be so, should we prefer to spend our time and strength in folly and dissipation. We ought to remember that our capabilities and opportunities have been entrusted to our stewardship by the great Lord of creation and bounteous benefactor of all, who will require of us an account of the manner in which we execute the trust with which we have been charged. It is by *struggling* with difficulties and discouragements that we overcome them.—In the efforts thus required and put forth, the mind is nerved, expanded, and in every respect improved. The very exertions necessarily bestowed upon even *endeavouring* to conquer obstacles, infallibly procure their own reward.—Our exertions may after all prove unsuccessful, or not completely successful as to the desired result, but if rightly conducted, we shall not only have the testimony of "the man within the breast", that we have done what we could, we shall also be the more likely to succeed in any future effort.

A glance at the experience of a few of the most distinguished of philosophers,—of some of the brightest luminaries that go to form the galaxy of the scientific world, may evince how many were the discouragements and difficulties with which they had to contend. By looking for a moment to the history of these master spirits, we shall perceive a little of the opposition that asailed them.

The true theory of our planetary system was revived and improved by Copernicus in the beginning of the sixteenth century. I use the word *revived*, for though from him it took, and justly obtained the name of "the Copernican system," what Copernicus effected was perhaps rather a restoration than a discovery. This theory holds that the sun is at rest in the centre of the planets which revolve around him, forming what are called the *primary* planets; these again have their satellites, or secondary planets, or moons, which revolve around them. Thus our moon revolves about the earth, which again annually revolves about the sun, as well as daily upon its own axis, which latter motion of the earth is the cause of the diurnal motion of the heavens. Pythagoras and several ancient philosophers were aware of "the true system of the world," and taught it. But after the time of the celebrated Archimedes who adhered to it, it was neglected until it became unknown. It remained in oblivion during a long lapse of ages, until the illustrious Prussian* again brought it to light, and exhibited its lustre and beauty in a manner previously unknown. This distinguished man, after his return to his native country, from his travels in Italy and from Rome, where he had held a Mathematical Professorship, applied himself diligently to improve the science of Astronomy. His uncle, the Bishop of Warmia, had appointed him to a canonry, but his inclination led him rather to the investigation of scientific principles, data, and facts, than to engage in ecclesiastical labours. We have the fruits of his researches in his Latin treatise "On the Revolutions of the Celestial Orbs," in which he maintains that the sun occupies the centre, round which the earth and the other planets revolve.

Notwithstanding the beautiful simplicity and perspicuity which pertain to this theory, it was at first but coldly received, even by those who were not unfavourable, while by many more it was altogether repudiated and condemned.—What is very remarkable, Tycho Brahe, the Danish Astronomer, numbered himself among its adversaries. This ingenious theorist, whose observations as a practical astronomer are admitted to be highly valuable, regarded "the doctrine of the earth's motion as untenable, without abandoning the testimony of scripture: hence, he was led to imagine another system which bears his name; in which the sun, with all the planets and comets revolving round him, is supposed to perform a revolution about the earth in a solar year, while at the same time, all the heavenly bodies are supposed to be carried round the earth, from east to west, in twenty four hours.†

So well aware was Copernicus of the bigotry and intolerance which would asail him and display their hostility, that in his prefatory address to the Pope, to whom he dedicated his great work, these words occur. "If there be any who, though ignorant of mathematics, shall presume to judge concerning them, and dare to condemn this treatise because they fancy it is inconsistent with some passages of scripture, the sense of which they have miserably perverted, I regard them not, but despise their rash censure." Such was his distrust of the intolerance which prevailed, and pervaded the minds of men, that several years elapsed after the completion of this treatise, before he could venture to allow the manuscript to be sent for publication; and it was only a few hours before his death that a printed copy was presented to him, as a token of assurance that his views should go forth to the world, while he himself would be alike beyond the assaults of prejudice and persecution.

I may next refer to another "illustrious astronomer, mathematician, and philosopher,"—to Galileo of Pisa. If Copernicus suffered and was annoyed by reason of the ignorance and the superstition, the obstinacy and the presumption that swayed the prince and the peasant, the priest and the people, much more was Galileo made to feel their influence. In fact, he experienced the rage and the malignity of the spirit of persecution that obtained during the unbridled reign of terror. Having heard of the invention of the telescope by Jansen, he also succeeded in constructing one, and thereby effected a series of the most important astronomical discoveries. "He found that the moon, like the earth, has an uneven surface, and he taught his scholars to measure the height of its mountains by their shadow. A particular nebula he resolved into individual stars; but his most remarkable discoveries were Jupiter's satellites, Saturn's ring, the Sun's spots, and the starry nature of the milky way. The result of his discoveries was his decided conviction of the truth of the Copernican system."* His meritorious disclosures met, for a length of time, with neglect. This induced him, in 1631, to communicate them to Philip II. of Spain, but that bigotted prince was unable to appreciate their importance, and afforded him little or no encouragement. He met with a better reception from the Dutch. They sent Hortensius and Bleau to Florence to confer with him. This would have been cheering, but on the arrival of the deputation, they found this great man nearly overwhelmed by the storm which the Church of Rome had raised against him. Having been thrown into prison, he could only obtain a mitigation of his confinement by asking pardon on his knees, for asserting that the earth moved round the sun. Twice was he brought under the tender mercies of the inquisition; first in 1615 and again in 1633. On each occasion he was compelled to abjure the system of Copernicus. We can scarcely help being amused with the probably involuntary protest to which the conviction of truth gave rise, against the absurd malice of the falsehood and tyranny that enthralled the philosopher. It is said that when last before the inquisitorial judges, Galileo, after repeating the abjuration imposed, stamped his foot on the earth, indignantly muttering "yet it moves."

The setting of this luminary in the scientific world, was, it is remarkable enough, contemporaneous with the rising of another, and perhaps, still more resplendent sun. Galileo died in 1642, the year in which Newton, the "first of philosophers," was born. The true idea of the motion of the planets, which had been formed by Pythagoras, five hundred years before Christ, and renewed by Copernicus early in the sixteenth century, was by this most eminent mathematician and astronomer firmly established. The amiable mildness of his character shines conspicuously, and is rendered the more conspicuous from its union with unshaken resolution and indomitable perseverance. Safe from the rage of that vindictive persecution, to which

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* Copernicus was a native of Thorn, in West Prussia.—It is situated on the right bank of the Vistula.

† Murray's Encyclopedia of Geography, page 100.

* Maunder.