The Galaxy or "Milky Way" (to which our sun and system belongs) is said to contain alone upward of *twenty-one million of stars*; and these stars are *suns*, and we may reasonably suppose each to be surrounded by a retinue of worlds like those attendant upon our sun. What an innumerable number of minor worlds must then exist! And as the mind labors to comprehend the extent of the magnificent scene, what eager questionings crowd upon us! Are all those worlds inhabited? Do living, thinking beings dwell upon them. If so,

> "———————— Do they bear
> The stamp of human nature? Or has God
> Peopled these purer realms with lovelier forms
> And more celestial minds? Does Innocence
> Still wear her native and untainted bloom?
>
> "Has War trod o'er them with his foot of fire?
> And Slavery forged his chains; and Wrath, and Hate,
> And sordid Selfishness, and cruel Lust
> Leagued their base bands to tread out light and *truth*,
> And scatter woe where Heaven had planted joy?
> Or are they yet all paradise, unfallen
> And uncorrupt? existence one long joy,
> Without disease upon the frame, or sin
> Upon the heart, or weariness of life;
> Hope never quenched, and age unknown
> And death unfeared; while fresh and fadeless youth
> Glows in the light from God's near throne of love?"

But the imagination only wearies itself in its attempts to solve the mysterious problems, and we cannot fail to be impressed with the utter insignificance of man, and the omnipotence of Him who

> "Summons into being with like ease
> A whole creation and a single grain,"

and we are led to exclaim with the Psalmist—"When I consider thy heavens, 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?"

But while we marvel at the *sublime* and *infinite*, we cannot fail to be delighted with the *beauty* and *harmony* everywhere displayed in the celestial regions.

What ideal scene of majestic beauty can surpass that presented by the solar system, could we view it as a whole!

Blazing out from the centre and illuminating the whole grand spectacle, a fiery globe 800,000 miles in diameter, and flying around this with inconceivable velocity, the planets, each at the same time whirling upon its own axis, and carrying with them their satellites, which also revolve about them as they revolve about the central sphere; the comets, with their long fiery trains, sweeping up till they almost graze the sun, and then speeding away again in their long elliptical orbits, crossing the path of the planets and darting out into the profound depths of space till they seem lost in the trackless waste of ether; meteors and shooting-stars darting hither and thither, and finally the whole system itself in motion, plunging through space with a velocity of more than 17,000 miles per hour, yet with every orb moving with the utmost precision and regularity, would indeed be a scene of grandeur surpassing anything of which we are able to conceive.

Or consider the effects which must be produced in some of those systems having *colored suns*. Take, for example, a planet revolving about Psi Cassiopiæ. This is a triple star, consisting of a red, a blue, and a green sun. Imagine a world bathed in soft-blue sunshine one day, the next in emerald green, and this succeeded by a fiery-red day. Or think of the beautiful phenomenon of a bright-green sun just rising to view, while another blood-red or violet-blue one is sinking beyond the opposite horizon.

Many of the star-clusters and nebulæ present to the astronomer the most beautiful and pleasing pictures. A cluster in Toucan is described as being "compact and of an orange-red color at the centre, while the exterior is composed of pure white stars, making a border of exquisite contrast." In the Southern Cross is a group of over a hundred stars of various colors, looking upon which, says Herschel, is "like gazing into a casket of precious gems."

Indeed the whole heavens, viewed from certain standpoints, would appear to flash with jewels of every conceivable hue; and throughout the universe we meet with objects and scenes which evince the same Divine love of the beautiful which we behold in the painting of the delicate petals of the summer flower, and the rich tints and graceful arch of the rainbow.—CHAUNCEY C. JENCKS.

The Teaching of Natural Philosophy in Schools.

Read by the REVD. P. MAGNUS, B. A., B. Sc.

BEFORE THE COLLEGE OF PRECEPTORS.

No fact is, at the present day, more generally recognised than that Science-teaching should form an essential element in Education. But a long time often elapses between the recognition of a principle and its practical application; and in the Sixth Report of the Royal Commission on Scientific Instruction, published in the middle of last year, we are surprised by the statement that of the endowed schools of the country not more than thirty per cent. have introduced Science into their school course; and that of these scarcely more than one-quarter devote to it as much time as four hours a week. The statistics furnished by the Commissioners are so important that I quote them *in extenso*. "Information was also sought from the Head-masters of the 202 schools which appear in the Report of the Schools Inquiry Commission as possessing endowments of over £200 per annum, and from 128 of these schools replies have been received..... Among the 128 schools from which we have received returns, Science is taught in only 63, and of these only 13 have a Laboratory, and only 18 Apparatus, often very scanty. Out of the 128 schools definite information has been received from 87. Of these 30 allot no regular time whatever to scientific study; 7 only one hour a week; 16 only 2 hours; while out of the whole number only 18 devote as much as four hours to it." If this is the case with respect to the boys' endowed schools, we cannot help fearing that the statistics would present a still more unfavourable appearance, if they had been collected from private adventure schools of both sexes.

The reasons of this indifference to Science are not far to seek. They lie partly in the inertia common to all institutions, in consequence of which they yield but gradually to change; and partly in the supposed cost of introducing Science-classes into schools, in the difficulty of obtaining Science-masters, in the general uncertainty with respect to the branches of Science that ought to be taught, and in the adverse influence of the older universities, which have not hitherto attached the same importance in their examinations to Science as to Language and Mathematics. All these causes, we may hope, will gradually be removed. In the meantime public attention cannot be too frequently called to the advisableness of making Science lessons a necessary