

ed, in his famous discourse before the British Association at Liverpool in 1870, the service it may render in the investigations of physical science. And now we have Mr. Goschen claiming for it, in his rectorial address at Edinburgh, a prominent place in every subject that can occupy the mind of man. Whenever we have to deal with the past, the future, the distant or the invisible, the imagination is called into play; wherever analysis decomposes there is room for the imagination to construct. The value of imagination to the teacher is well known to students of the art of education. It is impossible to pourtray vivid pictures for the benefit of others if we

have not such pictures in our own mind. Mr. Goschen said to such of his audience as proposed to become teachers: "If, in entering upon your duties, you do not vigorously apply your imaginative faculties, you will be no better than mere machines, pouring out knowledge but not pouring it in." The distinction is a very important one. A great deal of knowledge is poured out that is not poured in; it is simply spilled because the teacher has not the imagination to realize what are the tastes, difficulties and habits of thought of his pupils. He cannot enter into their minds, and, as a consequence, his teaching cannot either.—*The School Guardian.*

ASTRONOMICAL NOTES—JANUARY—FEBRUARY.

THOMAS LINDSAY, TORONTO.

THE most beautiful of the northern constellations, Orion, is above the horizon during the whole of the night throughout this month, and very moderate optical power reveals many of its beauties. The multiple star σ just south and west of the southernmost star of the "belt" is resolved into five stars by a $2\frac{1}{4}$ inch telescope, and the star θ , the "trapezium," in the midst of the great nebula is resolved very beautifully into four stars by the same power. The fourth star of the trapezium is considered a very good test for a small telescope. The nebula itself in all its grandeur and mystery is of never-ending interest to observers. Among the planets, Jupiter is gradually approaching the sun. We note two occultations of Satellite I. in January favourable for observation, one on the 14th at 7h. 32m., standard time, and the other at 6h. 5m. on the 30th. On Feb. 6th a very close conjunction of Jupiter and Venus,

a sight not often seen, will take place. The latter evening star throughout the month is becoming more brilliant every day. Mercury, now west of the sun and morning star, attains his greatest elongation on the 19th. He rises on the morning of that d. at 6h. 15m., standard time, in the direction E. $31^{\circ} 12'$, south. More than ordinary interest has been taken in observing Venus and Mercury since the announcement by Prof. Schiaparelli that these planets rotate as our moon does, once in a period of revolution. Notwithstanding the attainments of the distinguished Italian his statement is open to very grave objections. Such a condition of planetary rotation would be caused by the tidal influence of the sun while the planet was still plastic. This would tend to lengthen the diameter of the revolving body in a line directed to the centre of its revolution. In the case of our moon and of the Satellites of