

the planets, this tidal influence has been at work to cause coincidence of rotation and revolution. But as a most able writer, Prof. Coakley, has pointed out, the formula which expresses the elongation of a satellite's diameter in a line directed to its primary does not express a similar elongation towards the sun in the case of Venus and Mercury.

If m , a , r , represent respectively the mass of the central body, the distance and radius of its satellite, then we have for the attractive force upon the nearer hemisphere, the centre and the outer hemisphere,

$$\frac{m}{(a-r)^2}, \frac{m}{a^2}, \frac{m}{(a+r)^2},$$

and it will be found that the diameter is lengthened according as the difference of the first and second expressions exceeds the difference of the second and third. In the case of Venus and Mercury the difference is so slight that we are warranted in doubting such a result as coincidence of revolution and rotation. It must be remembered, however, that mathematica! astronomy has never shown a connection between the elements of

a body and its rotation period. This has always been deduced from observation, and the Italian observer is very confident as to the correctness of his statement. Saturn rises now before midnight and may be beautifully seen in the morning hours. After January 10th the careful observer may note the retrograde motion of the planet among the stars, that motion which so puzzled the ancient students of astronomy. Neptune is also retrograde in the constellation Taurus, and will continue so until the 15th of February, after which his motion is direct. Mars and Uranus are morning stars throughout the month. The former will be very close to β Scorpii, a beautiful double star, on the 27th. A hope has been expressed that the tiny moons of Mars may be seen this year by observers in Canada, as the opposition occurs when the planet is near its perihelion. An occultation by the moon of the 6th magnitude star ϵ Leonis occurs at 11h. 14m. on January 16th, and an occultation of γ Tauri on February 5 at 11h. 18m., approximately. We shall be glad to compare notes with any of our correspondents who may observe these phenomena.

EDITORIAL NOTES.

THE great army of teachers will be entering on their work just as this number of our Magazine comes to them. Let us seek to make the year happy by gladdening the spirit of the learners by bringing into their lives the spirit of the gospel of peace and good will. The spirit of education ever seeks to enlighten, to set free the mind of the child from the narrowing effect of the darkness of ignorance. The teacher unconsciously may thus be the liberator of the scholar. The higher plane of work is that he be a

co-worker of set purpose in this noblest of all labour. So mote it be. Happy New Year to all the readers of THE CANADA EDUCATIONAL MONTHLY.

THE WESTERN UNIVERSITY.

IN London, Canada, for the last ten years there has been in operation a good medical school, whose students have given a creditable account of themselves; there is also a theological school (Huron College) under