

and certain of his chapters are in the highest degree interesting. His chapter on the origin of coal is perhaps more interesting than any other, and is full of suggestive reasoning. I have not seen the work cited in any of our treatises on geology, and yet the opinions of such an eminent chemist must have some weight in the treatment of problems wherein chemistry alone can furnish a satisfactory solution.

J. P. O'REILLY

Dublin, October 22

Suicide of Scorpions

THE self-destruction of the scorpion when hard-pressed is unquestionable. I have on several occasions invited sceptics to witness the tragedy (!) in this part of Europe.

The scorpion we frequently meet with in and about "Sierra Morena" under stones and in crevices, is a large light-brown species often more than two inches from head to sting.

Having procured one I have placed it in a circle of glowing charcoal embers a foot or so in diameter; after vain attempts to get away it raises its tail over its back, pierces its head with its sting and dies, precisely in the way described by Dr. Thomson (NATURE, vol. xx. p. 577).

F. GILLMAN

Provincia Jaen, Linares, Spain, October 20

Superficial Earthquakes

CAN any correspondent oblige me with an explanation of the following facts? The earthquake which took place at Virginia City some time ago was not felt by the workmen in the mines. Some years ago a much more violent earthquake shook the town, breaking chimneys, overthrowing houses, and so on. But it was hardly to be noticed in the mines; indeed, not at all in the deeper shafts.

E. BURKE, Jun.

October 16

Coloured Lightning

ABOUT 4 P.M. to-day we had a pretty severe thunderstorm, accompanied by heavy rain, and the entire heavens were overcast by one unbroken cloud; three or four flashes of lightning were of a distinct blue colour, and then followed a flash of beautiful rose colour, succeeded by more flashes of blue lightning. Will some of your correspondents explain the cause of change of colour? and oblige

A CONSTANT READER

Welland, Ontario, Canada, September 28

"MEMORIA."—The correspondent who signs herself thus must send her name if she wishes her letter to be inserted.

OUR ASTRONOMICAL COLUMN

THE SATELLITES MIMAS AND HYPERION.—The following are approximate times of the greatest western elongations of *Mimas* during the first week in November:—

	h. m.		h. m.		
Nov. 1 ...	14 24	G.M.T.	Nov. 4 ...	10 15	G.M.T.
" 2 ...	13 1	"	" 5 ...	8 52	"
" 3 ...	11 38	"	" 6 ...	7 29	"

Observations of *Hyperion* during the present opposition are required before a reliable ephemeris of this satellite can be furnished. The true motion of the peri-saturnium is yet doubtful, unless Prof. Asaph Hall has been able to decide upon it from later observations than have been published. As we have stated before, Mr. Marth some years since conjectured that it might be as great as +75° annually, and this rate of motion accords with Bond's determination of the place of the peri-saturnium in 1848 and Hall's results from Mr. Lassell's observations in 1852, and his own in 1875. So far as we know the Washington measures of 1878 are not yet published; probably they may throw more light upon the subject.

ANUARIO DEL OBSERVATORIO DE MADRID.—The seventeenth volume of this compilation (for 1879) reaches us late in the year. It is one of those useful compendiums of which the *Annuaire du Bureau des Longitudes* is

probably the oldest, and may be taken as the type. Astronomical phenomena and details occupy a considerable space, and the volume is therefore fitly noticed in this column, but there is a great amount of miscellaneous information, geographical, meteorological, physical, and otherwise, which will recommend it to a larger class of readers. We remark some few points to which exception might be taken on the score of want of accuracy or completeness; thus the independent discovery of *Hyperion* by Mr. Lassell is not recorded, and the number of Uranian satellites is set down as eight, though four are queried with good reason. The discovery of Tuttle's comet is dated in 1858, no mention being made of its appearance in 1790. It is doubtless through a misprint that Encke's comet is stated to have appeared in 1695. Many of the miscellaneous tables are very full, as, for example, those of the altitudes of mountains in all parts of the world, the length of rivers, and the meteorological conditions in various parts of the peninsula, and as regards Spanish science, &c., the volume is no doubt to be considered authoritative. There are many who have occasion to consult works of this kind, who may like to have their attention directed to the present publication of the Royal Observatory at Madrid.

A NEW PRIVATE OBSERVATORY.—Observatories erected, equipped, and maintained in activity by private individuals are numerous in this country, and, as will appear from Prof. Holden's recent report, there are many of them in the United States; but the number of known observatories of this class upon the continent of Europe is not great, and the more interest therefore attaches to the addition of a new one to the list. Dr. Jedrzejewicz gives some account of an observatory he has constructed at Plónsk, about 37 miles from Warsaw, or in lat. 52° 37' 39", and long. 20° 30' 59" E. of Greenwich. The principal instrument is an equatorially-mounted refractor by Steinheil, of 6.4 inches aperture, to which are attached filar and other micrometers, and a spectroscope. Acting upon the advice of Dr. Vogel of Potsdam, Dr. Jedrzejewicz has the intention of devoting his time mainly to the measurement of double-stars, selecting such objects as are well within the power of his telescope; indeed, he has already made a considerable advance in this direction, having secured 860 complete observations of 170 double or compound stars, the result of some 8,500 separate measures, and with the view to enable astronomers to judge of the amount of confidence to be placed in the observations that may be published from Plónsk, he has given a comparison of his measures of a number of stars, which do not exhibit change, with those of Struve and others, and the comparison will tend to induce reliance upon his work. One remark we may make which bears generally upon the selection of objects for measurement with such an aperture as Dr. Jedrzejewicz possesses: it appears to have been too much the custom with the generality of observers who devote themselves to double-star astronomy, to accumulate a large number of measures of well-known, we may almost say, historical binaries, to the neglect of other objects, equally within the scope of their instruments, and equally deserving of attention. A carefully-considered list of stars is an essential in the actual state of this branch of the science, if the labours of the observer are to possess their utmost attainable value, in the future. The numerous discoveries of Mr. Burnham in particular confirm us in this view; his various lists exhibit many stars which it is highly desirable to keep under observation, and which do not yield in point of interest to other better-known binaries.

GEOGRAPHICAL NOTES

THE Japan papers report, with expressions of great regret, the loss, of which we have already had news by telegraph, of the *A. E. Nordenskjöld*, the little vessel