

driven by Day is Shining-hair. All the sky and earth glisten with the light of his name. Jarnved, the great iron-wood forest lying to the east of Midgard, is the abode of a race of witches. One monster witch is the mother of many sons in the form of wolves, two of which are Skol and Hate. Skol is the wolf that would devour the maiden, Sun, and she daily flies from the maw of the terrible beast, and the moon-man flies from the wolf Hate.

The philosopher of Samos tells us that the earth is surrounded by hollow crystalline spheres set one within another, and all revolving at different rates from east to west about the earth, and that the sun is set in one of these spheres, and the moon in another.

The philosopher of civilisation tells us that the sun is an incandescent globe, one of the millions afloat in space. About this globe the planets revolve, and the sun and planets and moons were formed from nebulous matter by the gradual segregation of their particles, controlled by the laws of gravity, motion, and affinity. The sun, travelling by an appointed way across the heavens, with the never-ending succession of day and night, and the ever-recurring train of seasons, is one of the subjects of every philosophy. Among all peoples, in all times, there is an explanation of these phenomena, but in the lowest stage, away down in savagery, how few the facts discerned, how vague the discriminations made, how superficial the resemblances by which the phenomena are classified!

In this stage of culture, all the daily and monthly and yearly phenomena, which come as the direct result of the movements of the heavenly bodies, are interpreted as the doings of some one, some good acts. In civilisation, the philosopher presents us the science of astronomy, with all its accumulated facts of magnitude, and weights, and orbits, and distances, and velocities, with all the nice discriminations of absolute, relative, and apparent motions, and all these facts he is endeavouring to classify in homologous categories, and the evolutions and revolutions of the heavenly bodies are explained as an orderly succession of events.

(To be continued.)

### UNIVERSITY AND EDUCATIONAL INTELLIGENCE

CAMBRIDGE.—Exactly 102 names are in the Cambridge Mathematical Tripos list this year (including three Ægrotant honours). The significance of this is not quite apparent, but lower in the list will be found two whose degree is allowed, but who are not to count it as an honour's degree. These men did well enough in the part of the examination they took to deserve a "poll," and not an honour's degree. Trinity has passed more than a score, St. John's 14, several colleges eight; but Jesus, Sidney, and Magdalene, as usual, have few mathematicians. Christ's has picked up well, having no fewer than ten in mathematical honours; Trinity Hall gets in only two, and Downing has one representative.

Prof. Humphry announces that his lectures on Anatomy and Physiology (the Muscular and Circulatory System) will be resumed on February 3, while his classes for the second M.B. and for the Natural Sciences Tripos recommence on Friday, February 6. Mr. Wherry (recently elected surgeon to Addenbrooke's Hospital) began a class in osteology on January 21, continuing on Mondays, Wednesdays, and Fridays at 1 P.M. Dr. Paget's lectures on the Principles and Practice of Physic begin on Monday, February 2.

### SCIENTIFIC SERIALS

*The Quarterly Journal of Microscopical Science*, January.—H. M. Ward, on the embryo-sac and development of *Gymnadenia conopsea*, pl. 1-3.—Fred. Elfving, studies on the pollen bodies of the angioperms, pl. 4.—F. O. Bower, on the development of the conceptacle in the Fucaceæ, pl. 5.—Dr. Cunningham, on certain effects of starvation on vegetable and animal tissues.—J. E. Bloomfield, on the development of spermatozoa; part I, *Lumbricus*, pl. 6, 7.—F. M. Balfour, on the spinal nerves of *Amphioxus*—G. A. Hansen, the bacillus of leprosy, pl. 8.—Notes and Memoranda.—*Proceedings of Dublin Microscopical Club*, April, 1879, to October, 1879.

*The American Naturalist*, vol. xiii. No. 12., December, 1879.—George H. Perkins, archæology of the Champlain Valley.—

G. de Mortillet, the origin of the domestic animals.—F. Brendel, historical sketch of the science of botany in North America from 1635 to 1840.—E. D. Cope, on the extinct American rhinoceroses and their allies.—Recent Literature; General Notes; Scientific News.

Vol. 14, No. 1, January.—Henry J. Rice, observations on the habits, structure, and development of *Amphioxus lanceolatus*.—Elliot Coues, sketch of North American ornithology in 1879.—F. Brendel, historical sketch of the science of botany in North America from 1840 to 1858.—The Editor, notes on the present position of affairs in the Philadelphia Academy.—Recent Literature; General Notes; Scientific News.

*Proceedings of the Academy of Natural Sciences, Philadelphia*, 1879. Part 2, April to October.—Thos. Meehan, on hybrid fuchsias; on special fecundity in plants; do snakes swallow their young? on *Lonas inodora*; on sex in *Castanea americana*; Variations in *Thuja* and *Retinospora*.—Rev. H. C. M'Cook, the adoption of an ant-queen; mode of depositing ant-eggs; on the marriage flights of *Lasius flavus* and *Myrmica lobricornis*; pairing of *Linyphia marginata*; on mound-making ants; notes on *Tetramorium caspium*; on *Myrmecocystus mexicanus*.—John A. Ryder: on a new Pauropod and its larva (*Eurypauropus spinosus*); on a new Chirocephalus, *C. holmanii*; on honey glands on *Catalpa* leaves; description of *Streptocephalus sealii*, sp. nov.—Dr. Chapman, on Amphiuma; placenta of *Miacacis cynomolgus*.—Dr. Dercum: the lateral sensory apparatus of fishes.—Dr. Leidy: on rhizopods in Sphagnum; fossil foot-prints of the anthracite coal-measures; explosion of a diamond; on *Orgyia*; on some coast animals of New Jersey; on *Cristatella ida*; on *Amœba blattæ*.—E. Potts: on the supposed sensitive characters of the glands of the Asclepiadaceæ.—E. Goldsmith, on amber containing fossil insects.—Angelo Heilprin, on some new eocene fossils from the Claiborne marine formation of Alabama, plate 13.

*Revue des Sciences Naturelles*, 2nd ser., tome 1, No. 3, December 15, 1879.—L. Tillier, contributions to a memoir on the geographical distribution of marine fish (conclusion).—A. de Saint-Simon, anatomical notes on some species of Pomatias.—Ph. Thomas, note on some species of horses found fossil in the neighbourhood of Constantine.—M. Leymerie, a sketch of the Pyrenees of the department of Aude.—Scientific Review, containing notices of French works on zoology, botany, and geology, published in 1879.—Bulletin.

### SOCIETIES AND ACADEMIES

#### LONDON

Royal Society, November 27, 1879.—“On certain Definite Integrals,” No. 6. By W. H. L. Russell, F.R.S.

January 6.—“On certain Definite Integrals,” No. 7. By W. H. L. Russell, F.R.S.

“On a Possible Mode of Detecting a Motion of the Solar System through the Luminiferous Ether.” By the late Prof. J. Clerk Maxwell. In a letter to Mr. D. P. Todd, Director of the *Nautical Almanac Office*, Washington, U.S. Communicated by Prof. Stoke, Sec. R.S.

Mr. Todd has been so good as to communicate to me a copy of the subjoined letter, and has kindly permitted me to make any use of it.

As the notice referred to by Maxwell in the *Encyclopædia Britannica* is very brief, being confined to a single sentence, and as the subject is one of great interest, I have thought it best to communicate the letter to the Royal Society.

From the researches of Mr. Huggins on the radial component of the relative velocity of our sun and certain stars, the coefficient of the inequality which we might expect as not unlikely, would be only something comparable with half a second of time. This, no doubt, would be a very delicate matter to determine. Still, for anything we know *à priori* the contrary, the motion might be very much greater than what would correspond to this; and the idea has a value of its own, irrespective of the possibility of actually making the determination.

In his letter to me Mr. Todd remarks, “I regard the communication as one of extraordinary importance, although (as you will notice if you have access to the reply which I made) it is likely to be a long time before we shall have tables of the satellites of Jupiter sufficiently accurate to put the matter to a practical test.”