

was done, is a wiser man than most of the South-American Presidents.

The American Geographical and Statistical Society has just received a letter from Dr. Livingstone, containing an account of his explorations, several weeks later than any previously transmitted. He has been engaged in surveying the Shire, a branch of the Zambezi, which flows, for more than a hundred miles, through a cotton-growing region. The quality of the cotton was so excellent that he distributed none of the American seeds sent out by the British Government. The members of the expedition were in good health, and every thing went on prosperously. According to the reports of the natives, the Shire is an outlet of the great central sea Nyanza—the same reservoir whence flows the Nile.

M. Du Chailu, a Frenchman, has just returned from an exploration of Western Africa south of the Gaboon river. He found the country covered with dense forests of palm, ebony and india-rubber trees. His course was through a magnificent prairie country after leaving the Kong mountains. He believes that a system of parallel mountain-chains crosses the continent from east to west, in the region of the Equator.—*Illinois Teacher*.

—The following facts in physiology are curious and interesting: A man is taller in the morning than at night to the extent of half an inch, owing to the relaxation of the cartilages. The human brain is the twenty-eighth of the body, but in the horse but a four-hundredth. Ten days per annum is the average sickness of human life. About the age of 36, the lean man generally becomes fatter, and the fat man leaner. Richter enumerates 600 distinct species of disease in the eye. The pulse of children is 180 in a minute; at puberty it is 90; and at 60, only 60. Dr. Lettom ascribes health and wealth to water; happiness to small beer; and all diseases and crimes to the use of spirits. Elephants live for two hundred, three hundred, and even four hundred years. A healthy full-grown elephant consumes thirty pounds of grain per day. Bats in India are called flying foxes, and measure six feet from tip to tip. Sheep in wild pastures practice self-defence by an array in which animals stand foremost, in concert with ewes and lambs, in the centre of a hollow square. Three Hudson's Bay dogs draw a sledge, loaded with 300 pounds, fifteen miles per day. One pair of pigs will increase in six years to 119, 160, taking the increase at fourteen per annum. A pair of sheep, in the same time, would be but 64. A single female horsefly produces in one season 20,080,320 eggs. The flea, grass-hopper and locust jump 200 times their own length, equal to a quarter of a mile for a man.—*Upper Canada Journal of Education*.

—Death has of late thinned the ranks of Edinburgh's men of science and letters. Some of the last veterans of the old *Edinburgh Review*, the foremost of Scottish Metaphysicians, and one eminent in her ranks of native Geologists, have rapidly followed one another to the tomb; but a sense of sorrow not less intense than that which was felt on the painful and sudden loss of Hugh Miller, has been occasioned by the death of Dr. George Wilson, the first Regius Professor of Technology in the University of Edinburgh. Dr. Wilson is widely known as the biographer of Cavendish and Reid; the author of "Researches on Colour Blindness," and other scientific works; besides numerous valuable papers contributed to scientific periodicals, and to the Transactions of the Royal Society and other learned bodies of which he was a member. His researches embraced a great variety of subjects, and included many discoveries of interest and value; among which may be noted his investigations into the history of medical electricity, and his discovery of fluorine in sea-water and in blood.

Dying, however, in his forty-first year, when, to those who knew him best, he seemed only to be ripening for the works of his matured genius: the best of his productions very partially indicate the wide range of thought and the original capacity of his mind. He has left incomplete the biography of his old friend and colleague, Professor Edward Forbes; and many of his papers furnish mere glimpses of the original views in his favourite science of Chemistry which he had purposed to work out in the leisure of later years he was never destined to see.

In addition to his professorship, Dr. Wilson was Director of the Scottish Industrial Museum. Of this national Institution a writer in the *Athenaeum*, has justly remarked: "Dr. George Wilson was in no small degree the originator of that museum; he gave to it his heart, his genius, and his hopes of success and fame." It would not, indeed, be unjust to say that his life was in some degree the sacrifice made by his devotion to that favorite object. Of a warm and generous nature, and with the well-tempered enthusiasm of true genius, he threw his whole heart into whatever he did; and his loss is mourned in his native city with demonstrations of public grief rarely manifested with like intensity. His remains were followed to the grave by the City Magistrates, the professors of the University, and the representatives of scientific societies and public bodies: and the day of his funeral was observed as one of public mourning. Such an expression of general grief, was due perhaps even more to the worth of a singularly upright and genial Christian man, than to the admiration excited by his rare eloquence as a lecturer, and the fascination of a peculiarly winning and attractive manner, alike in public and private. To those who knew him in the intimate relations of private life, his loss creates a blank that nothing can replace. To a wider circle it may suffice to say, the world has lost in him,—at the early age of forty-one,—a most faithful and conscientious servant of science, and a singularly honest and painstaking searcher after truths. What he has done will give him a place among the honored ranks of our scientific discoverers,—but what he

was capable of doing, had life been granted to him, would have rendered all he has done of little account.—*Canadian Journal of Science*.

—Mr. Faye has called the attention of astronomers and of all lovers of astronomy to the rare opportunity for important observations presented by the total solar eclipse which will take place on the 18th of July next. This eclipse will traverse the earth from California to the Red Sea. The total darkness will travel across North America about the 60th degree of North latitude, leaving it at Hudson's Straits, and leaping the Atlantic, pass across Spain, strike the Balearic Isles, pass through Algeria, and crossing the Nile north of Dongo'a, take leave in Ethiopia. He names seven stations as specially favorable for observation, viz., 1. In Oregon between the Pacific ocean and the Rocky Mountains. 2. In Labrador, in lat. 59° N. 3. and 4. In Spain on the Atlantic and on the Mediterranean coasts. 5. At Ivica in the Balearic isles. 6. At Kabylia in Algeria. 7. At Dongola on the Nile.

At the time of the eclipse, Venus, Mercury, Jupiter and Saturn, will be in the vicinity of the Sun, and form a sort of rhomboid about it. Such a spectacle will not be visible again for many ages.

The objects to be secured by these observations may be arranged under four heads. 1. The more exact determination of the errors of the lunar tables. 2. The determination of the longitudes of places too remote from each other to be connected by the electric telegraph. 3. The verification of the present data for the solar and lunar parallax and the flattening of the earth. 4. The solution of certain questions respecting the physical constitution of the sun, and of the space in its vicinity.

Mr. Faye proposes that at the two principal stations photographic methods should be substituted in place of direct observation. A telescope of large object glass and long focus should be used, and a large number of proofs should be taken between the first and last contact, taking care to keep horizontal the collodionized plate. During the total obscuration, the whole object glass should be uncovered, and the most sensitive plates employed in order to obtain proofs on a large scale of the aureola and solar flames, while observers provided with hand telescopes, with fresh eyes, should deliberately study all particulars which photography can not secure.

As to the meteorological phenomena, Mr. Faye proposes to add the sympiezometer as more quick to show the rapid fluctuations of the atmosphere; and instead of the common thermometer to use a self-registering Breguet's metallic thermometer carried into the air by a captive balloon. The variations of the magnet should also be observed, for if the earth's magnetism is affected by the spots which periodically obscure part of the sun's disk, may it not be affected by the more rapid obscuration of the same by the moon? Possibly the wires of the electric telegraph, arranged now with and now against the direction of the eclipse may show perturbations too fugitive to be detected by bar magnets.

The station at Ivica seems to combine all the advantages offered by the peak of Teneriffe. Here especial attention should be given to the form and prolongations of the aureola, the nature and intensity of its light, and also to the zodiacal light, which is now made to play so important a part in the solar system. Careful search should also be made for the small planets near the sun, suspected by Mr. LeVerrier. Perhaps, moreover, it may be possible to notice clearly the motion of the cone of the lunar shadow, the lower base of which should traverse the surface of the sea at the rate of 900 metres per second, while the upper terminus, if visible, will show by its distance from the zenith the height of the upper strata of our atmosphere.—*Sullivan's Journal*.

—The discovery of a planet between Mercury and the Sun, has shewn how much ingenuity may accomplish with very small means. While Le Verrier was calculating the position of the hidden planet, Mr. Lescarbault, Doctor in Medicine of the Faculty of Paris, residing at Orgères in the *arrondissement* of Châteaudun, with an ordinary telescope, a pendulum of his own construction, a watch as chronometer, and in an observatory built with his own hands, obtained a view of the hidden satellite when it was crossing the Sun's disk. Le Verrier has honoured him with a visit, and the two names are associated in the glory of the discovery. Mr. Lescarbault has since been decorated with the cross of the Legion of Honor.

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