

Science News a Century Ago

Polarisation of Light from the Sky

At a meeting of the Cambridge Philosophical Society on March 3, 1834, the Rev. Temple Chevalier described experiments which he had made on the polarisation of light from the sky. The general results were that light from the clear sky is polarised: that the effect begins to be sensible at points 30° distant from the sun, and that the maximum of polarised light proceeds from points at 90° distance from the sun; a fact which seems to indicate that the reflection which occasions the polarisation, takes place at the surface of two media as nearly as possible of the same density.

On March 10, Prof. Airy gave an account before the Society of experiments on the same subject. It appeared that the light is polarised in a plane passing through the sun, and that the plane of polarisation is not reversed in approaching the sun, as had been formerly suggested by M. Arago. Prof. Airy found that he could observe the polarisation within 9° of the sun, in a horizontal direction, but that above and below the sun the traces disappeared at a distance considerably greater. It was found, in the course of these experiments that very rough surfaces, as a stone wall, a gravel walk, a carpet, produced some polarisation by reflection; and that the plane of polarisation in all cases passed through the point of reflection and the source from which the light came.

Forests of Holderness

On March 4, 1834, John Phillips, then keeper of the York Museum and professor of geology in King's College, London, read a paper to the Yorkshire Philosophical Society on the ancient and partly buried forests of Holderness. The country of Holderness, he said, was a large triangular district, bounded on one side by the "German" Ocean, on another by the estuary of the Humber, and on the third by the declining plane of the chalk. It was not properly a level but rather an undulating low district with isolated hills and devious ridges. The winding hollows which embrace the hills in the southern part of Holderness were generally filled with sediment from the tide which, if allowed free access, would cover them five, ten or more feet deep.

Phillips's paper had been written as a result of two visits to the district when a large drain nearly parallel to the River Hull had laid bare a considerable number of plant accumulations at a level greatly below that of the water of the Humber.

Hydro-Oxygen Microscopic Exhibition

On March 5, 1834, a hydro-oxygen microscopic exhibition was opened at Mr. Stanley's Rooms in Old Bond Street. Speaking of the exhibition, the *Times* declared it to be the most interesting the metropolis could boast, and one which to the man of science and the searcher after the mysteries of Nature was invaluable, by opening up sources of knowledge which, but for the powerful agency employed, must otherwise remain closed against all attempts at investigation. For those readers who had not seen the microscope, it was explained that it magnified the common flea to a size considerably greater than the largest elephant. The objects exhibited included the wings of insects and crystals of saline substances; special interest being displayed in some beautiful

crystals of chromate of potash. "The ingenious gentlemen who superintend the exhibition likewise display some examples of the polarisation of light, which exhibit all the colours of Newton's scale of tints. These experiments attracted much attention from the scientific gentlemen who were present."

Royal Society, March 6, 1834

On this date the reading of a paper was commenced (Mr. Brunel in the chair), entitled: "On the Structure and Functions of tubular and cellular Polypi, and of Ascidiæ" by Joseph Jackson Lister, F.R.S. The reading was resumed and concluded (Mr. J. W. Lubbock in the chair) on March 13, following. [Sir Joseph (afterwards Lord) Lister, who was one of the four sons of Joseph Jackson Lister, wrote the biography of his father in the "Dictionary of National Biography".] The paper was published in full, under a revised title, with four plates, in the *Philosophical Transactions* for 1834. Its modest opening sentences run thus:—"The more obscure functions of vitality are of such difficult investigation, and possess at the same time so high an interest, that anyone contributing, in however small a degree to increase our information regarding them, may hope to meet with indulgence. Having observed the existence of currents within the tubular stem of a species of *Sertularia*, their investigation led to additional particulars relating to that family of Zoophytes, and other compound animals more or less resembling them, some of which it is hoped may be new in physiology". The drawings in illustration were traced by a camera lucida slid over the eyepiece of the microscope; and the author recommended its use to other observers because of the facility with which correct graphic records and measurements might be obtained.

Sir Edward Parry in Australia

Admiral Sir Edward Parry, the distinguished arctic explorer, was as well known for his philanthropy as for his discoveries. The care of those under him was always a matter of great concern. After making three voyages in search of the North-West Passage, and holding for four years the office of hydrographer to the Navy, he was appointed Commissioner of the Australian Agricultural Company in New South Wales. This concern had been incorporated by Royal Charter and granted a million acres of land, for the purpose of promoting the production of fine merino wool and other agricultural produce. Its affairs, however, had been sadly mismanaged, and with the sanction of the Admiralty, Parry accepted the office of Commissioner. He left the Thames in July 1829, landed at Sydney in December, and shortly afterwards took up his residence at Carrington, on the harbour of Port Stephens, about ninety miles north of Sydney. Here he found full scope for his activities and it was afterwards said: "At Port Stephens he found a wilderness but left it a land of hope and promise". He laboured incessantly to improve the lot of the settlers, the convicts and the aborigines, opening schools, promoting games, and himself frequently conducting divine service. On March 9, 1834, he preached a farewell sermon which led his successor, Colonel Dumaresq, to remark to a friend: "I have travelled a great deal during my life, and mixed much with men, but," pointing to Sir Edward, "in all my travels I never met with his equal."