

Science News a Century Ago

Heathcoat's Steam Plough

IN the *Gentleman's Magazine* of 1837, under the date April 18, it is said: "A deputation named by the Highland and Agricultural Society of Scotland met at Red Moss, near Bolton, according to appointment, to inspect the steam plough invented by Mr. Heathcoat, M.P. for Tiverton, and working under the direction of Mr. Parkes, Engineer. The deputation was composed of the Marquess of Tweeddale, Vice-President, Sir John S. Forbes, Mr. Oliphant, M.P., and other Members, with Mr. Gordon the Secretary. The machine has been made by Mr. Heathcoat, to operate in the first instance on moss, in which it is very efficient. The engine is of 15 horse-power, and the plough is attached by a band of the width of about two inches. The length of the furrow in the ground operated upon was 304 yards, breadth 18 inches and depth 9 inches. The furrows were cut on an average in four minutes and a half, which is equal to about half an acre turned over by the hour. The deputation, and many other gentlemen present, from different parts of the United Kingdom, expressed themselves highly gratified by the efficiency of the machinery."

John Heathcoat (1783-1861) was famous as the inventor of lace-making machines, and had a mill at Loughborough which was destroyed during the Luddite riots of 1816. After this, he removed to Devonshire and in 1832-59 represented Tiverton in Parliament. His plough was patented in 1832.

Natural History Collections from New Zealand

IN *The Times* of April 19, 1837, is the following note from a correspondent: "It will, perhaps, not be uninteresting to your readers who are lovers of natural history to know that the bark *Guiana* arrived this morning from Van Dieman's Land, on board which is a young naturalist (whose name I did not learn) who has been out to Van Dieman's Land and New Zealand, collecting in the various branches of natural history. I was favoured with a sight of his splendid collection of insects, shells and bird skins; but more particularly with three fine living opossums, one of which is white, the only one which has left its native woods. As they are to be deposited for a short time in the Surrey Zoological Gardens, previous to their removal to the country, this paragraph in your valuable and widely circulated paper will give many naturalists an opportunity of seeing them previous to their removal. I also saw a box containing from 400 to 500 roots, of the curious and splendid terrestrial orchidæ of the above countries, many of which are new and will be a grand acquisition to our gardens; they are valued at the sum of £700."

David Douglas's Observations in America

WHEN David Douglas (1798-1834), a Scottish botanical collector, was killed in the Sandwich Islands, he left various manuscripts which ultimately came into the hands of Major (afterwards General Sir) Edward Sabine (1788-1883), brother of Joseph Sabine (1770-1837), secretary of the Horticultural Society, to whom Douglas had been recommended by Sir W. J. Hooker. The manuscripts consisted of several volumes of lunar, chronometrical, magnetic, meteorological and geographical observations, and

these formed the subject of a paper entitled "Observations taken on the Western Coast of North America by the late Mr. Douglas" read to the Royal Society on April 20, 1837, by Major Sabine.

Douglas began life as a gardener, and was sent to the United States as a collector first in 1824. After his return home, to make himself fit to render service to geographical and physical science, he began to study the principles of science and the methods of observations, and at one time worked at these subjects for eighteen hours a day. The observations he left in manuscript included among other things observations of the magnetic dip and intensity at various stations in North America and the Sandwich Islands.

Comparative Anatomy of the Brain

AT a meeting of the Royal Institution on April 21, 1837, Mr. Solly, of St. Thomas's Hospital, gave a lecture on the comparative anatomy of the nervous system and especially of the brain, and illustrated his views by reference to a number of well-executed drawings. Avoiding all minute details, he confined himself to the leading parts of his subject, of which he conveyed a very clear idea to his audience. He commenced with some remarks on neurine and its two kinds—the pulpy and the fibrous—whose offices he explained, and then proceeded to trace the nervous system, from the state in which it exists in the lowest kingdom of Nature in which its existence has been demonstrated, up to that in which it is found in man. In doing so he explained the most interesting points in the nervous system throughout the various divisions of the animal kingdom, and how the different senses are more or less developed according to the wants of each individual, as for instance, the sense of sight in birds. He also demonstrated most clearly that the simplest forms in which it has been possible to detect the nervous system are accurate types of its more complicated forms, and ended by briefly explaining the anatomy of the human brain. (*London Medical Gazette*, April 29, 1837.)

Conditions in Germany

THE following extract is taken from an editorial article in the issue of the *British Annals of Medicine* for April 21, 1837:

"Germany at present is in a very anomalous position. Her people are the best scholars in Europe, but they are without political freedom; they know nothing practically of representative self-government. The descendants of Arminius remain passively obedient to the princes under whose feet they happen to be born; and if in the different states the burthen bears unequally, this depends in no way on the will of the people, but on the accidental temper of the government. Government—paternal government—is carried to a revolting extent. Absolute ministers dictate to the people—a full-grown adult people—what they shall read. Only a certain number of foreign newspapers can enter Prussia, the press is submitted to censorship; an Austrian student could under no pretext obtain permission to visit France or England. Schönlein, Oken, Arnold—names which pronounced before a German student make his countenance light up with recollections of glowing thoughts and revelations of Nature—the most illustrious men have been driven, for liberal opinions, from their natural spheres—from the unnatural country, of which they were the glory, and are the shame".