

we shall find their homeland in Western Asia. Our tall men of Mount Carmel have many structural points in common with the tall Cromagnon. History, it is said, repeats itself; the Cromagnons blazed the trail from Asia to Europe; the ancient Palestinians may not be the ancestors of the Cromagnons but only distant relatives; at a much later date, Western Asia gave Europe its forms of speech and also, we presume, the primitive speakers of the Aryan tongue.

The most surprising result of the excavation of the caves of Mount Carmel is the light thrown on the mentality of early stone-age mankind. Care of the dead is one of the hall-marks of humanity. The Mount Carmel people had a care for their dead. The youngest child was placed in its grave in a sitting position with limbs flexed under the trunk and arms folded. The tallest of the men had in his embrace the fossil jaw of a boar; we do not suppose it was in a fossil state when placed in his dead arms; we suppose it carried with it a meal of which he had been fond—a pig's tongue. We must also suppose that those who placed the supply of food in the grave beside him believed that death was not the end of life. Even thus early man seems to have softened the blow of death with a hope of immortality.

Another very unexpected discovery was this. When the hip joint of one of the men was cleared of limestone breccia, it was found to be shivered. On closer examination a perforation was found at the centre of the injury, filled in with cave earth. When the earth was removed from the perforation of femur and pelvis and a cast taken of it, we had before us the image of a four-side spear-head. We did not know that such weapons had been invented at so early a date; we believed that the only fighting weapons possessed by men then were stone clubs. A spear to penetrate the whole thickness of the hip joint of a large-framed man and to enter the pelvis as this weapon did must have been finely tempered and driven with exceeding force.

Science News a Century Ago

Solidification of Carbonic Acid

QUOTING from the *Scotsman*, the *Mechanics' Magazine* of February 24, 1838, said: "Mr. Kemp, of Edinburgh, who has been so successful in his experiments upon the liquefaction of the gases, has succeeded in reducing carbonic acid gas to the solid state. This experiment, which had been previously shown in Dr. Hope's class-room, Mr. Kemp exhibited before the Wernerian Society at their last meeting, in the presence of Professors Jameson, Forbes, Graham, Trail, Welsh, Pillans, Dr. Neill, and a number of other scientific gentlemen. The gas requires a pressure of thirty-six atmospheres to reduce it to the liquid form. When the pressure was removed by opening a small stopcock on the condensing apparatus, the cold, produced by the rapid evaporation of the liquid, was so great, that the whole mass was almost instantly reduced to the solid state; and in this condition, although the temperature could not have been less than 180 degrees below zero Fahrenheit, it was handled and tasted by many of the gentlemen present. . . . This is the first time that the solidification of carbonic acid has been accomplished in Great Britain. Many important results may be expected to accrue from it . . . there can be no doubt, that any liquid may be

frozen by it, and it will be a powerful agent in producing the condensation of those gases which have hitherto resisted all attempts to reduce them to their liquid form."

Kenneth Kemp, who for some years assisted the professor of chemistry, Thomas Charles Hope (1766-1844), died in 1843 at the early age of thirty-six years.

Reform of the Patent Law

IN the issue of *The Railway Magazine and Annals of Science* of February 1838, is a contribution by Mr. J. Hackett entitled "Suggestions on a New System of Granting Patents for Inventions". After a brief review of the Patent Law at that time and the disabilities inventors suffered from and the loss to society through the discouraging effects of the system which then prevailed, the writer went on to say that nothing short of a new system based upon a new principle was required. "The only measure that I can conceive," he said, "calculated to produce the beneficial effects so much required, is a national institution, in which are a number of suitable apartments, with models, plans and specifications of the most useful machines, manufactures, etc., now in use, patented and unpatented, classed in proper order—over each department in the proposed national establishment, persons suitably qualified should be appointed to arrange in order, protect from injury, and be accountable for every model, plan and specification committed to their charge." Individuals desirous of obtaining a patent were to send notice to the secretary of the institution and, on the receipt of the plans and specifications and a fee of £1, protection was to be obtained for one year. At the expiration of this year, or the patent being put into operation, £5 annually was to be paid.

Wind Measurements at Birmingham

IN a letter published in the *Athenæum* of February 24, 1838, Mr. William Ick, the curator of the Birmingham Philosophical Institution, gave some observations made with a self-recording anemometer and a rain gauge. In a violent gale on December 18, 1837, he said, which continued without intermission for 14 hours, the anemometer registered the highest force of the wind as 16½ pounds on the square foot. This gale was exceeded on December 20 when the highest pressure recorded was 21¼ pounds. Other records were taken on January 2 and February 9, 12 and 15 of 1838. "I shall offer no comments on these facts," he added. "The British Association have voted a sum for the erection of an anemometer at Plymouth, and Mr. Osler has very nearly completed the instrument. If another were erected in the northern part of the island, and several others in distant stations judiciously chosen, in the continents of Europe and America, a comparison of the results might in a few years furnish important information respecting the laws which regulate the force and direction of aerial currents and their influence on temperature, humidity, etc."

The inventor of the anemometer to which Mr. Ick referred was Abraham Follet Osler, who was born in Birmingham on March 22, 1808, and succeeded to the glass-making business of his father, which he carried on until 1876. His self-registering meteorological instruments were installed at Greenwich and elsewhere. He was elected fellow of the Royal Society in 1855 and died at Edgbaston on April 26, 1903.