



Coprolite diggers at a pit between Barrington and Orwell in the 1880s.

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**tells the
story of
the men
who brought
brief
prosperity
to**

CAMBRIDGE

THE COPROLITE DIGGERS

In the middle of the last century, Cambridgeshire witnessed the brief flourishing of an industry which provided valuable artificial fertilisers. These found a ready sale to farmers, not only in this country but as far afield as Australia.

The industry was the digging or raising of coprolites. Properly speaking, true coprolites are the fossilised dung of prehistoric animals, but those found in Cambridgeshire were somewhat different. They were phosphatised nodules of clay, phosphatised shells and sponges as well as the skeletal remains of the plesiosaurs, pterodactyls, and other giant creatures which once roamed the county. In appearance, the coprolites resembled smooth, blackish-grey pebbles, some round, some elongated, and varying in size from a quarter of an inch to 2 or 3 inches in length or diameter. When two of the freshly-raised "pebbles" were struck together, they gave off a slight sulphurous odour—a rough test sometimes applied to confirm their genuineness.

The excreta of the prehistoric beasts was deposited in the Upper Gault which, in course of time, was washed away by a shallow sea, to the bottom of which the excreta sank and changed to phosphatic nodules. The

bones, teeth and so on of the dead monsters also sank and became phosphatised. All these were rolled and pounded by the movement of the sea and were carried along by the currents until, finally, a coprolite bed was formed, extending southwards from Soham in Cambridgeshire and westwards, beyond the county boundary, to Sharpenhoe in Bedfordshire.

These coprolites lay hidden, under a thick layer of chalk marl which, over the ages, replaced the former sea, until the fossil diggers, as the coprolite raisers were popularly known, brought them to light from about the year 1850.

Riches still untapped

Digging centred chiefly round Abington Pigots, Wendy, Whaddon, Bassingbourn, Wimpole, Barrington, Harston, Grantchester, the Barnwell district of Cambridge, Horningsea, Burwell, Wicken and adjoining parishes. The richest deposit of coprolites lies still under Cambridge itself. Certainly the largest yield—500 tons from one acre of land—

was recorded on Coldham's Common, off Newmarket Road in Barnwell, and it was in this neighbourhood that some of the first coprolites were raised for commercial use. The average yield was 300 tons an acre.

The coprolite beds lay at varying depths below the chalk, but usually it was considered uneconomic to dig those which lay deeper than 20 feet. Landowners leased their land to prospectors for, on average, a two-year period, at a rent of £100 and upwards per acre per quarter. At the end of the period, the land had to be returned in cultivable condition. In 1857, for example, the Town Council of Cambridge leased to one Robert Walton five acres of Coldham's Common at £100 10s. per quarter, and charged 15/- for every ton above 134 raised in each three months. Not more than two acres were to be dug at the same time.

Digging was done manually by gangs of labourers, armed with picks and shovels and dressed in the traditional garb of fustian trousers tied with string, flannel shirts with red neckerchiefs, and black caps with patent leather peaks. On their feet the workers wore heavy lace-up leather boots, with two or three overlapping "tongues" to prevent water from seeping inside. Iron overshoes,

known as "creepers", fastened to the soles of the boots, prevented the wearers' feet from slipping on the wet ground.

The coprolites raised from the deep trenches dug by the workers, had to be washed free of the mud clinging to them. This was done on the site, either in a mill erected near the workings or, more often and more simply, in a 12-foot deep pit. Into this coprolite earth was tipped, water was pumped in from an artesian well dug for the purpose, and the mixture stirred by harrows drawn by a horse attached by a long shaft to a post erected in the centre of the pit. The water, known as slurry, was then released on to the land through a trapped outlet at one side of the pit. The cleansed phosphatic nodules were next conveyed, by train or barge, to chemical works which paid up to £3 a ton for them, and where they were ground with sulphuric acid to form the superphosphate fertiliser.

Many people benefited by the boom in coprolites: the landowners who were not slow to let their land at inflated rents; the makers of pumps and washing mills; the chemical works and, above all, the large numbers of labourers employed on the diggings. At the height of the industry these men could earn piece work wages of over £2 a week; the current agricultural wage rate at that time, in many parts of the county, was 7s. to 8s. a week. Small wonder, then, that many men left their employment on the farms and that many migrated to the "coprolite villages" whose population increased considerably. Local clergy and others, however, were not happy at this situation. They deplored the moral effect of the high wages on men who, all too often, squandered rather than saved them, for even at the peak of the industry there were many who feared that the prosperity could not be permanent.

Soon after 1880 the decline set in. The seams of coprolites were not inexhaustible and, moreover, the economic depression of the late 19th century made farmers unable to spend money on expensive fertilisers. The overseas market declined too, with the rise of foreign competition. In 1887, for example, 170,000 tons of phosphates were imported from the United States, whereas only 55,000 tons of coprolites were raised from the two counties of Cambridgeshire and Bedfordshire.

The fall in output led to much

unemployment, and because of the depression many of the coprolite diggers could not get their old jobs back on the farms. The Chesterton Board of Guardians, at their October meeting in 1887, noted the large sum which would have to be spent on poor relief during the approaching winter because so many men and boys were out of work due to the coprolite works at Milton closing down. Already many of these unemployed had been detected pilfering from shops and breaking into houses, and the board complained that the only policeman provided for the protection of Milton and Landbeach was stationed at Waterbeach, and had a beat of nine miles in radius to look after.

The brickmaking firm of Swann in Newmarket Road, Cambridge, did continue to raise coprolites until 1895, but by this time they were losing sixpence on every ton.

In the first world war digging for coprolites was again begun, on a small scale for munitions-making, chiefly in Trumpington and Grantchester and near the roads to Haux-



Three coprolites with a pair of digger's iron "creepers".

ton and Barton. It was not, however, an economic proposition and the chief value of the diggings lay in the archaeological remains which were discovered during the course of the work. Indeed, throughout the boom period of the coprolite industry, valuable fossils, and Roman, Romano-British, Saxon and medieval objects were brought to light by the diggers who, very often, earned additional money from the scholars who haunted the sites in the hopes

that the picks and shovels would bring up something of interest.

Another by-product of the coprolite industry was the establishment of cement-making in Cambridgeshire. It was in 1881 that a Horningsea coprolite raiser arranged for the chalk marl above the coprolite beds to be analysed. It was found to contain the clay and chalk which are combined in the manufacture of cement. Almost at the same time, or a little earlier, the Prime family of Berrington, whose coprolite digging had led them to use the marl for lime burning, found that this marl burned to a hard clinker suggestive of Portland cement.

The Primes, therefore, established a small cement works in the village, but lost money in the venture, and the works came under the control of a Mr. Willis. He paid such poor wages that, in 1882, the workers set on him and threw him in a ditch. He attempted to defend himself with a sword stick, which made the mob attack him again, but he managed to escape and to reach his house. Order was eventually restored by the vicar, the Rev. Edward Conybeare, and on the following day Mr. Willis left Barrington for good.

The banking firm of Farrow then attempted to found a cement works on the road to Haslingfield, but they, too, ran into financial trouble. Eventually the works were taken over by the Natural Portland Cement Company which later changed its name to the Standard Cement Company. The first Deitsch kilns in England were erected in Barrington, and further improvements made in 1889-90 resulted in the kilns producing between 800 and 1,000 tons of cement a week, and in 200 people being employed in the works.

In 1889, cement making began in Shepreth and Meldreth, while two years later, Blewett & Co. established the Original Cement and Lime Works in Mill Road, Cambridge, next to Brookfields Hospital. In 1895, these became the Romsey Town Cement and Lime Company, owned by the building and brickmaking firm of Thoday & Son. The Saxon Cement Company was opened in 1901, in Coldham's Lane, Cambridge, to be followed, in 1904, by the Norman Portland Cement Company with their works in Cherryhinton. In this way, the short-lived boom of the coprolite digging developed into an industry which, today, provides employment for many people in the county.