



12 LIMEKILNS IN STAINFORTH

... a particularly fine example of a kiln ...

Lime (or quicklime) is obtained by heating limestone (when it becomes calcium oxide) and is used for making mortar or as a fertiliser or bleach. In the Stainforth area of the Dales, the ready availability of limestone resulted in a profusion of kilns so that lime could be produced close to where it was required.

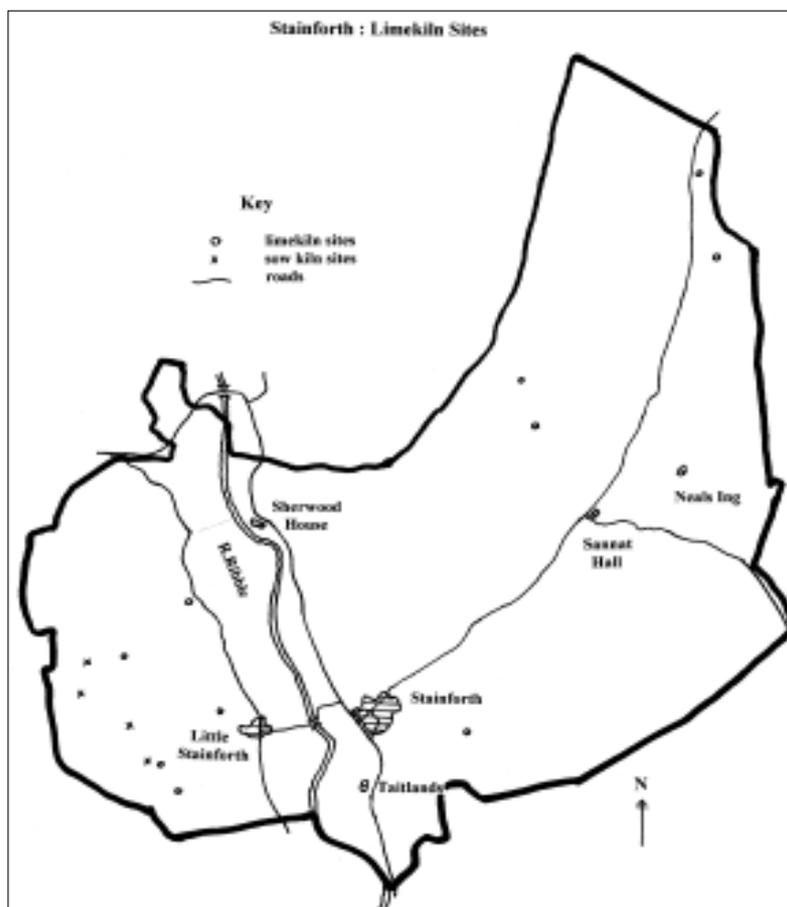
Part way up Goat Scar Lane, leading to Catrigg Force, there is a particularly fine example of a limekiln, one of over a thousand across the Dales. In Stainforth parish, nine field kiln sites have been identified but only three have survived more or less intact. The kiln on Goat Scar Lane is the only one visible from a right of way, though it has no public access.

Most field kilns were constructed with an outer lining of limestone blocks, often with sandstone or flagstone 'throughs' to give added strength. The interiors were in the form of a bowl, widest in the middle, lined with fire-resistant stone or occasionally firebrick. At the bottom of a typical kiln is an open archway, called the draw hole opening. There would have been a metal grate at the bottom of the bowl.

When operational, kindling wood was piled on the grate with small lumps of coal above that. Small pieces of limestone rock were then added on top of the coal, with alternate layers of coal (or other fuels) and stone filling the entire bowl. In most cases, the top would have been sealed with turfs and clay. The kiln was then fired and left for up to a week to allow the burn to go right through the kiln. Checks were made, using a poking hole in the archway. When experience told the operator that the burn was complete, the kiln would have been emptied by raking and forking the burnt lime through the draw hole under the archway.

Burnt stone came out as still recognisable lumps of stone—not as powder—but darker in colour and lighter in weight than when it first went in at the top. It would then have been taken away by packhorse for use as building lime, for use in local tanneries or for use on the land.

Many of the field kilns were built at the time of the Enclosure Movement when the fells and moors were being parcelled up into individual fields separated by stonewalls and allocated to different farmers of substance within the parish. The moorland pastures were naturally very acidic and offered low quality grazing. To justify the enclosure process, and its expense, they had to be improved by inserting drains, by paring off the rushes and mosses that



covered the moors, and by applications of lime.

When burnt lime—or cob lime as it is known locally—was brought from the kilns to the fields it was piled in small heaps and left to slake, or break down, by the action of rain. It was then raked across the surrounding field.

In the mid- to late 19th century, lime extraction on an industrial scale developed on the southern boundary of the parish. There were two major operations here, the remains of which are still visible today: the Hoffmann and Murgatroyd kilns. The impressive Hoffmann Kiln and attendant quarry are actually just outside Stainforth parish and in Langcliffe, but a lot of Stainforth men worked there. The public right of way from opposite the Youth Hostel to the kiln probably first developed as a means of getting to work at the kiln. The Craven Lime Works began operations at the

Hoffmann site in 1872, and the kiln continued in use until 1939; two steel kilns also had been in operation.

On the Stainforth side of the stream that separates the two parishes was a quarry operated by Thomas Murgatroyd from the 1870s, when the railway was built. This site operated for 30 years or so. He extracted limestone in the quarry behind Reddings Barn, a quarry that was later partly infilled by spoil from the Craven Lime Company's operations, and sent some down the former rail incline (now followed by the public footpath down to the stile in the wall at the bottom of the slope) directly onto railway wagons. Another incline, visible near the wooden stile just beyond the barn, took stone to the massive triple bottle kiln that stands partly hidden by undergrowth (marked on the 1895 OS map as 'Old Limekilns'). These three kilns operated in a similar way to the old field kilns, with burnt lime being loaded on to rail wagons from the mouth of the kilns. Technology and high production costs led to the closure of both businesses.

Until probably the 18th century, kilns were much simpler in design, and were more akin to a traditional charcoal clamp than to a more modern limekiln. They were small and not easy for the untrained eye to recognise. A number of such sites have been located within Stainforth, though there may well be many more waiting to be discovered. These clamp kilns are called sow kilns. They are rounded in shape, from 9–12 feet across, with a narrow neck. Surviving sites are 3–4 feet deep, but centuries of natural infill of soil and vegetation growth make it impossible now to discern their exact form. All of the sites found have small quarries associated with them.