Richard arkwright essay

Sir Richard Arkwright, the inventor of the water frame was born in Preston in 1732. Sir Richard lived in Rock House which overlooked the mill. Richard Arkwright was knighted by George III and had two daughters and one son in his first marriage. He went to Cromford at the age of 39 in 1771 and established Cromford Mill what became the first ever successful water powered cotton spinning mill. As a young man Richard Arkwright worked as barber and made and sold wigs across the country.

In 1768, he and John Kay, perfected the voll- er spinning device, this came to be known as the water frame. Sir Richard Arkwright patented the inve- ntion a year later and set up a horse- powered mill in Nottingham. He then went seeking a greater source of power, built a mill powered by water in Cromford in 1771. This was a huge success and in 1786, Richard Arkwright became Sir Richard Arkwright and was made High Sheriff of Derby- shire. Sir Richard Arkwright sadly Sir Richard Arkwright by Joseph Wright of Derby, 1790 passed away in 1792 at the age of 59.

Sir Richard Arkwright’s contribution to Cromford was immense and has not been forgotten. Cromford Village Cromford Village has changed hugely thanks to Arkwright. His mill brought a lot of jobs to the village due to mill workers, tourism and the changes that were made to Cromford. The village was very different before Arkwright’s arrival; Cromford was a small and scattered village dependant upon agriculture and the mining and smelting of lead. Arkwright built the first mill in 1771 and therefore needed many mill workers.

Cromford village at the time did not have the facilities to house the workers so during 1776-77 Arkwright built a row of houses on North Street where the mill workers lived. North Street was the first system- atically planned industrial housing n Derby shire and is amongst the finest of its type ever built in Britain. In the houses, the top floor were used as used workrooms by the weavers. The many windows on the top floor were designed to allow a fair amount of light to occupy the workrooms. Richard Arkwright II (Sir Arkwright's son) built a school in 1832 North Street on North Street which was altered and enlarged later.

The main reason why North Street was built was because the second mill was being built during the same time and this meant more workers but there wasn't enough housing to accommodate all the mill workers. North Street was named after the prime minister at the time, Lord North. Sir Richard Arkwright also provided each of his workers with a garden and a pig sty, this was for food so the workers would stay fit and healthy and work well. In 1790, Sir Richard Arkwright established a Saturday market to cater for the needs of his growing community.

The market was only one of a number of changes he made to Cromford. Earlier in 1778 Arkwright built The Greyhound Hotel (formerly known as The Black Greyhound Inn). This was built mainly for the visitors and businessman who came to Cromford to see the mill. Nearby there is also an opening into the underground goit which carries water from the Bonsall Brook and Cromford Sough to the cotton mills. These two streams were the main source of power for the mill. There was also the Greyhound Pond which was one of

five ponds which used to provide the supply and power of water to the mill site.

This was situated behind the Boat Inn and below the railings are the remains of the wooden shuttering that controlled the flow of water from the pond to the mill. The Boat Inn was another one of the numerous changes made by Sir Richard Arkwright and this was built in 1772. It was originally known as the Cap-in-Hand and then the Bull's Head. Also, the school built in the early 1830s by Richard Arkwright Junior on North Street was a major change to the village. This showed the number of people who had moved to Cromford and settled down with children.

St Mary's Church was also finished after Sir Richard Arkwright's death. St Mary's Church began building in 1786 and the completion of the private family chapel came three years after Sir Richard's death. Due to this Sir Richard Arkwright had to be buried in Matlock. Richard Arkwright Junior completed the building, this plain Georgian building was also extensively renovated by Peter Arkwright with two rows of windows knocked into one and arches and corner turrets added in Gothic style.

The Cromford Canal was completed in 1793 of which Sir Richard Arkwright was a major supporter although not financially. The High Peak Railway completed in 1831 was built on canal principles, both of these communication links were built in Cromford due to its development after Sir Richard's arrival. Cromford Village and Watercourses Cromford Mill Sir Richard Arkwright built his first mill on the Cromford site in 1771. He made changes to the first mill during 1771-1800 and also added a second mill.

Early pictures show that Arkwright’s first mill had five floors, well lit by windows along its length.

The upper two storeys were removed between the wars after a serious fire. Sir Richard had three water wheels on the mill site but there is no site evidence to show where the first water wheel was positioned. There is a strong possibility that the first wheel was situated at the end of the original building where the Bonsall Brook may have run through. The second wheel was located mid-way down the original building; there is site evidence to support where the wheel was situated. There is the brick work, algae and scratches on the wall, and lack of windows to support this.

The second wheel was also an undershot wheel until the wheel was moved into the corner and the undershot was replaced with an overshot wheel. A wooden aqueduct was added later in 1786 but was replaced in 1821 by an iron one. There were different bricks to support the aqueduct, blocked up windows, bricks on adjacent warehouse to support shaft and algae on the walls. The third wheel was situated at the end of the extension, this was also an overshot wheel. The evidence supporting this is the wheel pit at the end of the building, there are bricked up holes for beams, algae and marks on the wall and no windows.

The extension was added in the mid 1780s, there is an evident vertical line towards the right of the mil to show the extension. Two of the three water wheels were added during the extension but were destroyed long ago. The windows were originally Georgian windows. Arkwright’s second mill was built during 1776-77 and was seven storeys high even though there is no site

evidence to prove this. The width of the mill was 30 feet, the evidence here are the Cromford Mill Site, 2002 remains of the end wall where there is a clear difference in brickwork. This mill was the same width as the first.

The water wheel for the second mill was an overshot pitchback wheel. The 20 feet deep pit, dividing wall added later was made of different brickwork and water supply flowing from the first mill site are all good evidence to back this statement up. There were also stone beams on the floor to support stationery. There are question marks about whether the building built in 1791 can be called a third mill or an extension to the second mill. There is evidence that it is an extension because there is no independent power uses wheel of the second mill.

The extension was 4 storeys high; the buildings are still standing at this current time. The width was 30 feet; buildings are still standing, there is a depression in floors from people walking between two sets of machines, and the same width of the first and second mills. The other buildings surrounding the mills are the warehouse and the walkway. The warehouse is adjacent to the first mill, could have possibly been part of the mill; the evidence here is that there is a bricked up hole for gear wheel in the wall by the aqueduct.

The walkway is placed over the gate in red brick, the new entrance to the mill site. The evidence is obvious here; the mill manager’s house is situated opposite, original entrance very likely to be on the other side of the first mill due to Grace Cottage and Counting House both on that side. The town of Styal has had many changes since the introduction of the Quarry Bank Mill in 1784. It was built by Samuel Greg and was water-powered, similar to the

Cromford Mill. The Quarry Bank Mill had its power transferred from the wheel axle via a series of gears along vertical and horizontal shafts.

There was also a weir built to provide power. The excavations show that the first wheel was located inside the northern end of the existing mill in line with the clock tower. Improvements have been made over time, the mill was extended in 1796, there was a second wheel added and the stone weir and dam added to increase volume of water and flooding of river upstream to create a greater store of water. New wheels replaced the old ones in 1801, 1807 and during 1816-20. There are many similarities with the mill in Styal to the mill in Cromford.

The Quarry Bank was built 13 years after the Cromford Mill and was built similarly to the original mill in Cromford. The Quarry Bank Mill was 5 stories high and 30 feet wide like the Cromford Mill. The other similarities are that they both had a large number of windows and the water courses were altered as time went on as well as extensions made. Samuel Greg and Richard Arkwright had their houses close to their mill and the houses they built for their workers both had gardens. Both, Arkwright and Greg built a church and shops for workers.

As they had their mills outside the city, there was no land shortage, only a shortage of labour. The only differences are that Styal had no pubs built and had a different number of churches built. Styal could also use the river directly unlike Cromford which had ponds and other water features such as the Greyhound Pond and Bare Pit Slouse. As there was a shortage of labour in the Cromford Mill, Arkwright had to employ new workers from outside. He

put adverts in papers and up on the streets of Cromford to find new people. Not only did the mill need a good supply of labour, it also needed a constant supply of water to the wheels.

This was provided by the combined flow of the Cromford Advertisement for Workers, Derby Sough and the stream, Bonsall Mercury, 1771 Brook. As the extensions were built and the mill grew in size, it was a necessity to increase the water supply and improve the efficiency of the wheels. Bare Pit Slouse Water Wheel Powering Mill When Arkwright extended his first mill 1785-86, he improved the water supply by separating the Cromford Sough and the Bonsall Brook. The water from the Cromford Sough was delivered to the mill on a raised embankment and aqueduct, this made it possible to install a larger and more efficient waterwheel.

Cromford Mill and Watercourses Sir Richard Arkwright also built his own machine and this had its advantages. Sir Arkwright’s machine had an advantage over the spinning jenny, this was that it could be operated by young people with very little experience. The key feature of Arkwright’s machine was the rollers. Arkwright used three sets of paired rollers all turning at different speeds. Many other people experimented with the roller Spinning Machine spinning but it was Arkwright who perfected it.

He realised you had to have the rollers a certain distance apart, if they were too close, the rollers would grip both ends of the same cotton fibre and snap it. If they were too far apart, it would not grip properly and produce uneven, lumpy yarn. Sir Richard Arkwright’s new process of roller spinning was a major success because it enabled much larger quantities of cotton to be

spun more quickly. Conclusion Cromford Mill was not the only building Sir Richard Arkwright built. Arkwright went on to build factories in Derbyshire, Lancashire, Staffordshire and Scotland.

British laws made sure that Arkwright was not able to sell his technical information and his own machinery overseas. Even without this, Arkwright died a wealthy man and this is able to see with the large number of buildings and churches Arkwright built which are still being preserved by many societies. Arkwright built houses for his workers and a grand castle for himself. Sir Richard Arkwright’s success did not go unrecognised, he was knighted in 1786 and made High Sheriff of Derbyshire. Sir Richard Arkwright is still remembered and his name lives on in the industrialised world.