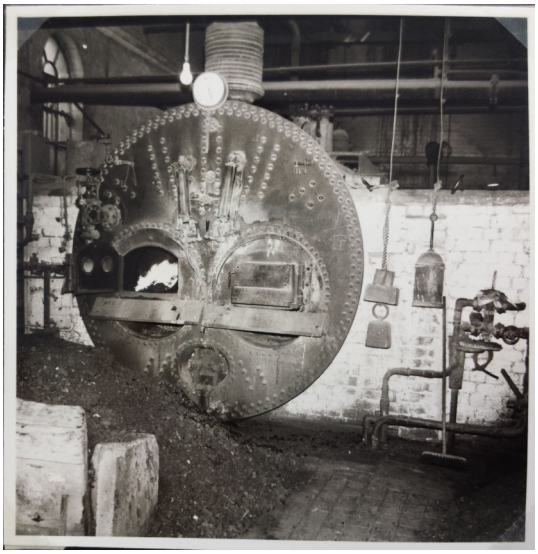
Cafferata and Company – A Hundred Years of History

Cafferata and Company enjoyed a history that lasted more than 100 years and had a significant impact on the economy and life of Newark on Trent in Nottinghamshire. It was founded by William Cafferata, the son of an Italian dentist who worked across northern England. Born in Liverpool, William was apprenticed in 1827 as a merchant to Thomas Rodick before starting his career as a book-keeper in 1834. By 1847 his career had progressed and he was listed in Gore's Directory as a stock and share broker with offices in Exchange Street East. He continued in business in Liverpool as a broker until 1862. In that year, William looked for an investment opportunity. He finally settled on a small company near Newark, owned by the Newark Plaster Company[1]. He was already familiar with Newark as a town, having been married there by his wife's brother, Rev. John Waterworth, in 1839.

William Cafferata

In January and June 1862, William bought land and buildings at Beacon Hill, including a newly erected gypsum and plaster mill, gypsum mines and quarries. It may be that the works was for sale due to the death of the owner as a newspaper report in 1867 describes William as having taken over from "the late Mr Ragsdale"[2]. The company also included a brick works and a boiler works. The diverse nature of the undertaking would have been part of its appeal, but his initial interest appears to have been the boiler making aspect[3]. William advertised the iron works quite widely, including in the "Stamford Mercury" and other regional papers[4]. Cafferata and Company made a range of boilers, including Lancashire and Cornish boilers. Lancashire and Cornish boilers were of similar design, the chief difference between them being that a Cornish boiler had one fire tube whereas a Lancashire boiler had two. They were of a relatively simple design and should have been reliable.


A Left Hand Lancashire Boiler at the Cafferata Works (Photo Courtesy of Saint Gobain)

Unfortunately, one of the Cornish boilers supplied by Cafferatas exploded at the Stark and Co. dye works in Norwich on 25th September 1866, killing seven men. Only the fact that most of the workforce were on their lunch break at the time of the explosion prevented many more casualties. At the inquest, Mr Fletcher, chief engineer of the Manchester Association for the Prevention of Steam Boiler Explosions, pointed out that a top quality boiler should have been capable of running at the 100lbs pressure at which it was being operated, and that the iron plates appeared brittle. He also said that a first rate boiler shouldn't have needed caulking as much as this one did[5]. To make matters worse for Starks, the insurers refused to pay out for the £2000 damage caused as, although

insured for fire, the boiler wasn't insured against exploding! Starks attempted to recover their losses by taking Riches and Watts, who had installed the boiler, to court. In that action a witness, Mr Bramwell, attributed the accident to a combination of poor materials and poor workmanship in the boiler. The judge said that the boiler had clearly not been supplied according to the terms of the contract and found in favour of Starks[6]. This had the effect of driving Riches and Watts into bankruptcy and, in turn, the administrators of Riches and Watts sued William Cafferata for £5000. Although he disputed his liability, William settled the claim for £2000 in damages[7].

This disaster led William to change the direction of the business. In 1868 he instructed some Nottingham auctioneers, Pott and Neale, to sell the Great Northern Engine and Boiler Works, along with the fixed and movable plant. This included an 8hp moveable engine and a 40hp Cornish Boiler. There was also a part finished engine offered for sale, as well as various tools, dies, lathes and other equipment. The auctioneers added that the plant was situated close to the Great Northern Railway and even went as far as saying they could put a connecting siding in to assist with transport. For some reason, the sale was called off in 1868 but was re-advertised the following year, with a sale date of July 6th and 7th 1869. The 1869 adverts stated that William "had retired from the business"[8]. Once he had sold the boiler making business, some of William's skilled workers would have had to find new employment and at the end of 1869, Exeter boiler makers W W Martin proudly announced that they had engaged William's foreman who brought with him experience in making over two thousand boilers[9]. However, some of the workers would have been kept on in Newark, as the skills of the boiler making department would have been useful when Cafferata & Co. began using steam locomotives on their railways in the quarries. They bought their first in 1882 and ran them right into the middle of the twentieth century, buying their last in 1961[10]. These engines would sometimes need modifying to run on the quarry lines and it would have been a definite advantage to be able to do this "in house".

Furnaces at Beacon Hill (Photo Courtesy of Saint Gobain)

They also used stationary and moveable engines for various tasks within the works, and continued to use Cafferata produced boilers for many years. The last of these boilers known to have been operating was one of a pair, scrapped in 1920, in the Old Mill at Cafferata's plant at Newark[11].

As well as the boiler making side of the business, William's 1862 investments included the original Beacon Hill Plaster Works, also known as The Great Northern Plaster Works. Located to the east of Newark, the plaster works which William bought was at the foot of Beacon

Hill which forms an outcrop to an extensive deposit of gypsum and it was this outcrop which was worked.
Although William Cafferata was the new owner, there was continuity within the business through Mr Dominic D'Ascanio, an Italian from Comigliano who had become works manager in 1854. He remained in charge, staying with the company for many years until 1888 when ill health forced him to retire at the age of 78[12]. He was succeeded by his son, Mr Louis D'Ascanio.

Although part of the area bought by William Cafferata was un-mined, a quarry had already been established. The top rocks, called the Cocks and Hens, were extracted by digging a hole about 5 metres square, installing timbering, and digging out the rock, found in large layers, or "swells". When one swell, which could be up to 5 metres thick, was exhausted, the hole would be filled and the quarrymen would move to another swell. Reaching the lower rock was more precarious with the quarrymen adding rock climbing to their more traditional skills. They would find a foothold and cling to the quarry face, then drill a hole with a chisel, put in a tot of blasting powder, tamp this down with clay, then blow it with a straw fuse. All the rock, together with the overburden, would be blown to the bottom of the quarry, where it was separated, the overburden being spread around the lower slopes of the quarry[13]. The gypsum was then loaded into wagons and pulled, by steam power, to the processing plant. Five stationary engines operated the tramways on incline planes which extended a distance of nearly a mile and a half. This was a large undertaking; in 1867 the tramways could move 1000 tons of material a day, or more than 250,000 tons over the working year. (The quarry would shut for Sundays, holidays and when the weather was too wet.) 3000 tons of coal was needed each year for the steam engines, transported to Beacon Hill via the Great Northern Railway[14].

At the plant, not far from the Beacon Hill quarry, the gypsum would be manufactured into baked plaster in bakers' ovens. The ovens would be heated in the early hours of the morning, then, when judged hot enough, about two or three tons of the gypsum would be rolled in by hand, in lumps about six or eight inches cube, and left there for 18 hours. It is said that in later years, Cafferata's produced a bowling team that could not be beaten, so skilled were they at lobbing lumps of gypsum into exact places in the ovens, of which ultimately a dozen were in operation[15].

The doorway to an old Keenes Oven
(Photo Courtesy of Saint Gobain)

Once gypsum was heated to about 80°C. it started to lose its water content with the process being most efficient at a

temperature of between 110° and 120°C. Care was needed not to overheat the gypsum or it would lose its ability to set. When ready, the gypsum was dragged out of the ovens on 'peels', or long-handled shovels, and on to the edge runners. These were large steam powered presses that crushed the gypsum. It was then taken to the mill where it was ground and passed through sieves called dressers before being bagged and taken to the railway for transportation. This process remained essentially the same for many years[16].

In 1864 William Cafferata had built a mineral mill to produce ground gypsum, with burr-stones and centrifugal dressers that had been patented. The mill drive steam engine was extraordinary for the times, the cylinders revolving round the crankshaft. It had, however, a lack of balance, and constantly vibrated. Shortly after Redmond Parker Cafferata took control of the business it was replaced by a 120 horsepower Yates and Thorn engine, driven by an 18 ft. flywheel and a broad belt.

Number 5 Grinder and Dressing Machine
(Photo Courtesy of Saint Gobain)

In the early days at Beacon Hill three types of plaster were produced: Fine and superfine (baked) plaster for surgical and dental work, Potters' (boiled) plaster for the pottery trade and Building plasters. The lower quality boiled plaster was produced in pans rather than in ovens. Demand for fine and superfine plaster was fairly brisk, although complaints sometimes arose about the quality of the products. Potters' plaster also gave rise to complaints and there was little demand for building plasters[17].

The boiler accident at Norwich showed how hazardous working in a Victorian industrial undertaking could be and Cafferata and Company was just as dangerous for its employees – over the course of the years a number of accidents were reported. The first happened not long after William Cafferata took over the Great Northern Works. In October 1862 an engine driver called William Squires was working on an engine when his foot was smashed “in a shocking manner” by a crank whilst he was reaching for something. William Cafferata agreed to pay for Mr Squires’ medical treatment, but it wasn’t the first time he had been injured at the plant: A year earlier he had been hurt whilst using a lathe[18].

A more serious accident occurred in 1864. On Tuesday 19th July a 51 year old worker, William Plummer, was killed whilst working at the Beacon Hill quarries. Mr Plover had been engaged as a day labourer to clear a gypsum pit and was working under an old hedge at about quarter to three in the afternoon. The weather was very hot and consequently the earth in the pit was dry

and loose. A fellow worker, William Hall, said he heard Mr Plover shout "Look out!" and on turning round saw him lying on the ground with some earth on top of him. It appeared that the roots of the hedge, with attached earth, had fallen on his head and broken his neck. Mr Hall freed Mr Plover and carried him out of the pit whereupon Mr Plover "gave one gasp and died." An inquest was held at the Rutland Arms in Newark, and James Cafferata, William's eldest son, gave evidence that a "ganger" was employed to ensure safety in the gypsum pits. He also stated that the piece of earth that killed Mr Plover wasn't the one that he had been working on at the time. Apparently Mr Plover was working to the left of the fatal piece of earth, and had not had time to get out of the way when it fell. The Deputy Coroner, Mr Newton, presided as the jury returned a verdict of "Accidentally Killed". Mr Plover left a wife and family, but it wasn't recorded what happened to them[19].

An indication of how far factory safety has come in the last 150 years can be seen from the accident which afflicted George Nicholson in April 1868. As he was walking by a shed at the Beacon Hill Works, some plaster which had been placed on top of the shed to hold down a covering, fell on him and broke his right leg just above the ankle. It is difficult to imagine today that an unsteady roof repair of this nature would be permitted.[20].

Gypsum Miners at Newark

Gypsum mining was obviously a dangerous business, as it was only a few months later, in October 1868, that two of William Cafferata's workers were hurt in what the Nottinghamshire Guardian called "another sad accident" at Beacon Hill. This time, Joseph Hives and George Johnson were working at the top of the hill when an unexpected land-slip threw the two men into a gypsum pit some forty feet below. Both were seriously injured and taken to hospital; Mr Johnson's left leg was broken badly, he suffered cuts and bruising to his head and internal injuries. Mr Hives was "most injured in the lower part of the body and the ribs". Both were taken to hospital to be treated[21].

As well as the gypsum pits themselves, the railways that ran in and around the Great Northern Works could also be unsafe. In September 1874 Arthur Wiffin, a labourer, was in charge of a truck moving marl up the inclined tramway at Beacon Hill when it left the tracks. A boy was controlling braking, but he didn't hear a signal to stop in time and the truck overturned, fracturing

Mr Wiffin's leg above the ankle, resulting in his removal to hospital. It is interesting to note in today's litigious times that the Guardian reported "No blame is attributable to anyone"[22].

Workers had to exercise great care getting to and from work as between the Beacon Hill works and the town was a busy railway crossing, which consisted of the two main lines and the sidings. Many workers used this crossing and the crossing keeper had a difficult time getting them to take sufficient care on the tracks. Doubtless William Johnson thought he was taking care at the crossing in the summer of 1878 as he watched the express pass by on the main line. Unfortunately for Mr Johnson, he was standing on one of the sidings and didn't notice a train of empty trucks being shunted nearby. The engine, which was travelling in reverse, hit Mr Johnson on the upper part of his body, knocking him down into the paths of the trucks which then ran over him, killing him instantly. At the inquest in the Newark Arms Hotel, the jury returned a verdict of "Accidental Death"[23].

Quarrymen at Hawton

It is a matter of conjecture whether this low point prompted a change in thinking at Cafferata & company, or whether fortune smiled on the company, but fewer serious accidents were reported over the next few years. In 1895 however, a 39 year old brick maker, James Staveley, was found lying dead on the top floor of the kiln. He had been on duty all the previous night as a night stoker. As was common at the time, the inquest was held at the Newark Arms Hotel where Dr Brown stated that he had performed a post-mortem that revealed the Staveley had heart disease. He left a wife and children and, as a consequence of the lack of a welfare state at the time, the jury kindly gave their fees to the widow[24].

In April 1903 a further fatality occurred at the Beacon Hill works when William Smalley, a 57 year old worker was killed. One of Smalley's jobs was to change the grinding stones at the top of the mill, which entailed getting into the machinery. Whilst that happened, the engine driver was, of course, under instruction not to start the engine. It was the engine driver's assistant, Joseph Hardy, whose job it was to go to the mill and ensure everything was in order and the men were clear of the machine. On the day in question, Hardy went to the mill and spoke to Smalley who told him that he was going into the machine. On his way back to the engine, Hardy stopped to talk to some men and forgot what Smalley had told him. Consequently, he told George Everitt, the

engine driver, that the men were ready to start. Smalley was dragged into the machine and killed instantly. The inquest, held at Newark hospital, returned a verdict of accidental death and recommended that "a more competent person ought to be employed to convey messages from the mill to the engine driver". Hardy was "severely admonished" by the coroner for his failings[25].

There were more serious accidents over the next few years. In August 1906 Walter Atkinson, a carter employed to load and carry bricks died after his horse bolted and the cart ran over him at the Cafferata Brickworks. Severely injured, Atkinson was taken to Newark hospital and his wife was called to see him. At the inquest, she said that, before he died, he told her that a steam engine at the works had come up and startled the horse, causing it to bolt. Other witnesses said that the horse was quiet and used to working around engines and trains. Another verdict of accidental death was returned[26].

Hawton Quarry
(Photo Courtesy of the British Geological Survey)

Nor was this the last incident. In 1908 John Sutton had both legs broken, one in two places when a roof collapsed at the Barton mine[27]. Only two years later, in early 1910 at Hawton, Pietro Jaconelli, a 21 year old Italian stoker who worked on the Ruston Steam Navvy was killed. At Hawton an inclined railway had been constructed for the removal of clay, the buffer at the bottom being simply some upturned rails. The trucks containing clay were hauled up the slope by rope attached to a steam engine at the top. On the day in question, as a truck was being hauled up the slope the rope broke and it ran backwards, out of control. It hit the buffers at the bottom causing the rails to shatter and one of them struck Jaconelli, killing him. Redmond Barton Cafferata, the manager at Hawton, said that it was his opinion that the rope had started oscillating and become caught around an automatic stopper. As the truck moved further up the slope, the rope came under more stress to the point of failure. Yet another accidental death verdict was added to the tally[28].

Another death was recorded at the company in 1917, when Theophilus Pepper, a 25 year old miner at Barton, died when a roof fell on him. The roof, estimated to weigh 50 tons,

completely buried Mr Pepper. It took an hour and a half for the rescue party to reach him by which time he was dead[29]. In 1923, Cyril Pilsworth, a locomotive assistant suffered a broken leg and crushed foot following an accident. Pilsworth was walking beside the engine when some coal on which he was walking gave way and he fell on the line in front of the engine. Although the coal caused Pilsworth's accident, it also saved him from more serious injury as some of it caused the engine to derail before it could do more harm[30].

Further serious incidents occurred in the1930s. Some of these were freak accidents such as the one that befell Arthur Johnson in 1930 in the Hawton quarry. A crane, emptying stone into a railway truck, was instructed to stop. When it did so, a stone was catapulted from its skip a distance of more than 40 feet, hitting the unfortunate Mr Johnson on the head, hospitalising him[31]. Others were more mysterious such as when Arthur Jones was brought from the Cafferata brick works displaying a head injury he said was the result of a landslide or clay fall whilst he was working in a clay pit. But no-one saw the accident and there was no sign of any clay fall in the pit and Mr Jones's tools were as he had left them. Mr Jones was taken to hospital where he contracted sepsis and died[32]. Only a couple of months later there was a fatality at Hawton. John Rasen, a labourer, was working with another man, drilling holes and filling them with explosives for blasting. For some reason, when Rasen was tamping the explosives into the hole, it ignited and exploded, killing him. An inquest was held and, despite the presence of Mr Felton, HM Inspector of Mines and Quarries, no reason for the explosion could be found. The enquiry focused on whether a spark could have caused the explosion, either from Rasen's copper-headed rammer or from a steam-powered navvy that was working some 30 yards away. There was no evidence that either of these was the cause and the jury returned a verdict of accidental death[33].

Steam Crane at Hawton

When he took over in the 1860s, William Cafferata changed the methods of working at the gypsum mines to the point where it was almost unrecognisable. The Newark Advertiser chided its journalistic rivals for not keeping up with the way things had changed and invited its readers to visit the pits at any time. I'm not sure whether the same freedom and welcome would gave been extended by Cafferatas. By 1867 the company was employing about 180 people extracting around 250,000 tons of material per year[34].

As well as gypsum and plaster manufacture, the brickyard was producing 30,000 bricks a week. They were not especially satisfactory. Unless burnt very hard, they would retain their granular structure and could not stand up to the weather. Even so, many houses in Newark can still be seen with bricks from this period.

William Cafferata's business partner, Edward Waterworth

It may be that the necessity of paying £2000 damages to Riches and Watts in 1868 put William under financial pressure but in 1869 he took his brother-in-law, Edward Waterworth into the plaster making side of the business as a junior partner. It is interesting to note that the plaster quarrying and brick making side of the business remained under William's sole control. Under the terms of their partnership, William had two thirds of the business and Edward one third. The profits were to be split amongst the two of them in those proportions, with William receiving a £300 per year salary for running the business. Initially contracted for a period of ten years, the partnership was extended by 21 years in 1879, by William's widow and executrix Elizabeth Cafferata. It was continued by her son Redmond Parker Cafferata following his purchase of Elizabeth's share of the business[35]. Edward Waterworth died in 1899 but his executors chose to continue the partnership until 1911 when it was finally dissolved.

As well as the physical matter of gypsum extraction and plaster making, running a Victorian company was not always straightforward. In 1870 William sued a Mr G Bartlett of London for £18 5s 11d for plaster supplied. Mr Bartlett didn't appear and judgment was given to Cafferata and Company[36]. Cafferata and Company also experienced labour difficulties. In August 1873, Thomas Young was brought before the magistrates court in Newark and charged with absconding from William's service, in breach of an agreement to work until the end of the brick making season. William claimed damages from Young of £6 and was awarded £5 compensation with Young having a further £2 2s to pay in costs with a warning that if he defaulted, he would serve seven weeks in prison[37]. This was a lot of money when a week's wages was typically 18s[38]. Just a few weeks later, William was on the receiving end of a court action when he was sued by one of his workmen under the Master and Servants' Act for 8s 9d in lieu of unpaid wages. Joseph Lilley had given notice to leave on Thursday but was dismissed on the preceding Tuesday after refusing to do work he considered dangerous. The 8s 9d was the balance of the wages from Tuesday to Thursday. The magistrates found that Lilley didn't prove his case and therefore dismissed it, with Lilley to pay 4s costs. The Nottinghamshire Guardian reported that Lilley replied "Well, I've not got it" when asked for the money but didn't record the consequences of this refusal[39].

William's health in the 1870s must be a matter of conjecture, but he was obviously concerned for the future of Cafferata and Company. In June 1874 he wrote his will which outlined his plans for the future of the business. He left all of the business to his wife, Elizabeth, but directed that his sons, Redmond Parker and Adolphus Moubert Cafferata should take responsibility for the management of the business. Redmond was to be paid a salary of £350 per

year, with Adolphus to be paid £150. This reflected their differing levels of experience; Redmond had been working for the company for some time in the capacity of cashier, but Adolphus was still a teenager. It is unclear how long Adolphus remained working for the company but by 1878 he was in a partnership with Saunders, Stafford and Co, making bricks at Sandiacre, Derbyshire[40]. He subsequently underwent a more radical change of career, becoming a doctor and moving to Belgium.

William's will laid out some conditions as to how the company should be run following his death; his trustees (Elizabeth and his sons) could use any of the Company's capital, stock and effects to carry on the business as they saw fit and could use any of William's personal estate to the same purpose. The trustees could also "employ clerks, workmen and others in and about carrying on the said business and at such salaries, wages or other remuneration as my trustees may think fit." If the trustees thought that the business couldn't be run at a profit they had the power to close it and sell its assets, making any money realised part of William's personal estate. William also gave Redmond, Adolphus or any other son involved in the business the power to buy the business, by giving six month's written notice and paying a price determined as either the previous year's profits, or the average of the profits in the previous three years. In the event of a dispute over the price, a team of three arbiters, one determined by the purchaser, one by the trustees and one mutual choice, would determine the price to be paid[41].

Cafferatas' Locomotive Hilda at Hawton
(Photo Courtesy of Alan Bowler)

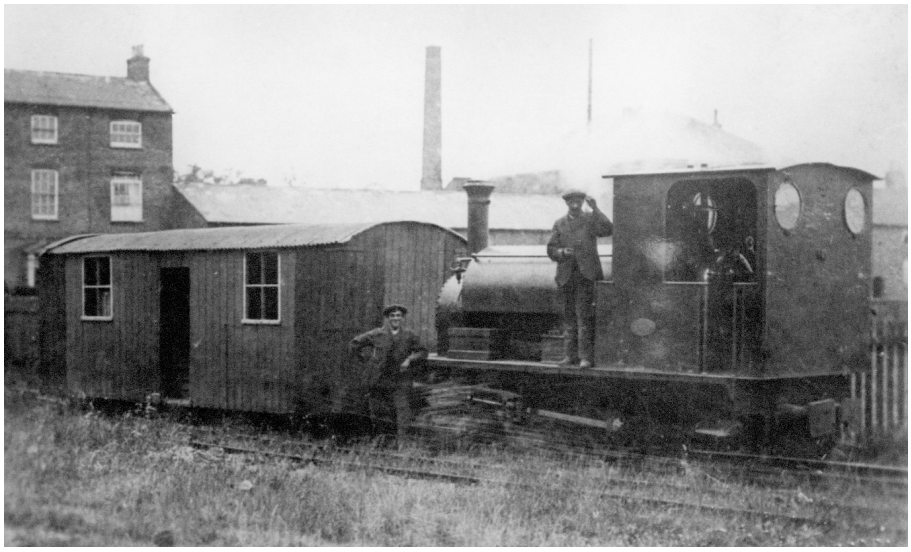
William died on 5th September 1874, leaving his widow, Elizabeth in control of the company. After being in control for over six years, she sold her interests in the company to her son, Redmond Parker Cafferata in April 1881. As previously mentioned, Elizabeth Cafferata was in partnership with Edward Waterworth in the plaster making side of the business so there were actually two separate deeds of sale. Elizabeth's two thirds share of the plaster business was valued at £6624 and the whole of the brick making and gypsum getting was valued at £5978. This would put a total value on the business of around £16,000.

Redmond decided to look further afield as the Beacon Hill quarry was showing signs of giving out. One of his first acts as head of the company was to take a lease on an existing quarry three miles away at Hawton, which included a mill run by Wilson & Robinson. The land was

owned by Revs. Robert Sutton and Alexander Holden, who were said to have bought it in anticipation of the future expansion of Newark in that direction. The initial lease was for 21 years from 25th March 1882, and it was renewed regularly. The lease set a royalty rate of between 6d and 1/6 per ton of gypsum extracted, according to its quality, and a royalty of 1/6 per 1000 bricks or tiles made from clay extracted from the site. A minimum rent of £450 per year was set, in case not enough gypsum was extracted, and rents were set for the use and occupation of buildings on the land, including an annual rent of £125 2s for use of the tramway and railway buildings. The lease also committed Redmond to keep the buildings in good order and to make the land good after extraction, including preserving the topsoil[42]. Figures don't survive from the beginning of the lease, but after the reorganisation of the company in 1922 royalties from the Hawton pit averaged well over £1000 per year.

The quarry on the 158-acre Hawton site was, in fact, simply a circular hole, 100 yards in diameter. The methods of extraction were similar to those at Beacon Hill, although once having been extracted, the gypsum was transported away from the rock face in barrows, along narrow walkways forty feet above ground. One man had fallen off with a load once. Amazingly he had only suffered a sprained ankle. It was obvious that a serious accident was quite possible.

The lease at Hawton also included a horse-drawn, narrow gauge tramway which linked the Hawton works with the River Trent at Spring Wharf. This was converted to steam in 1901 with the purchase of a new 0-4-0 tank engine from Manning, Wardle & Co. It was used up until the 1940s. The rails were removed shortly after the Second World War, and little trace now remains, apart from a crossing keeper's cottage on Farndon Road, loading shed at Spring Wharf and the outline of the track-bed running through Queen's Sconce.



Cafferatas' 0-4-0 Locomotive at Spring Wharf
(Photo Courtesy of Alan Bowler)

Cafferata and Company used a range of methods of transport over the years – as well as the previously mentioned cable railway at Beacon Hill and the horse drawn tramway from Hawton to the Trent they used a mix of standard and narrow gauge railways within their quarries and employed a variety of locomotives ranging from new, through second hand to home made. The home made locomotive came about when a sentinel steam wagon owned by the company collapsed in a street. The boiler was salvaged and, in the 1930s, was converted into a narrow gauge

locomotive This survived until the 1960s before finally being scrapped. The works at Beacon Hill at Hawton were connected to the main line by sidings and Cafferatas also used a company owned barge on the Trent. High volume goods like plaster and bricks were cost-effective to transport by water and, presumably to preserve the company's interests in this area, a member of the family was, for many years, one of the directors of the Trent Navigation Company[43].

An astute businessman, Redmond was keen to guard and expand his markets wherever possible. In May 1887, he appeared before the Committee of the House of Lords who were discussing the Trent Navigation Bill. Over the preceding 25 years, the Trent had silted up to the point where 28 ton barges couldn't navigate. Part of the Bill proposed dredging the river so 40 ton barges could pass, as well as repairing the banks and managing the water supply. In his evidence, Redmond said that the plaster output of Cafferata and Co was now averaging about 33,000 tons a year, but competition from French plaster had taken about 7,900 tons. This was down to transport costs. French plaster came to London from Rouen in boats at a cost of 4s per ton. Redmond's freight fees from Newark to London by rail were 9s 2d per ton. If the Bill were passed, Redmond would be able to use boats to transport his plaster and he said that would be able to recover all of his lost trade. He also told the Committee that at one time he had done a considerable trade with London in Cafferata bricks but again, transport costs were prohibitive. With water carriage he estimated he could regain his brick trade too and he envisaged running his own vessels for this purpose[44].

Having expanded and ensured himself a gypsum supply for many years, Redmond Parker modernised the plant and established his own large growing family, of seven sons (an eighth son had died in infancy) and five daughters, in Irnham Hall, near Corby, Lincolnshire. Anecdotally, there is a story that the Great Northern Railway, being anxious to please an important customer, gave Redmond a slip carriage of his own, to be attached to the express passing through Newark at five in the evening, to take him to Lincolnshire, where it was again slipped off. Redmond was supposed to have used this facility only at weekends, spending weekday nights in The Cottage at the works[45]. In his book The Railways of Newark on Trent, Michael Vanns describes this as an extravagant claim.

Hubert Marie and Bernard Joseph Cafferata at Hawton

In 1894, his two eldest sons, Hubert Marie and Louis William, were taken into the business, Hubert being given the practical side and Louis the office and business side. Trade at this time was very good, the demand exceeding supply. The company advertised for labour in the local papers all over the east of England: The Essex Newsman, Lincolnshire Chronicle and Northampton Mercury all carried adverts in the 1890s calling for "Steady Labourers, used to pick and shovel" who could "find regular employment at Messrs. Cafferata's Plaster Quarries, Newark-on-Trent"[46].

More ovens wore installed to try to keep up with the demand. The Hawton mill took a long time to complete and, moreover, they were having trouble with the Hawton quarry. By the time his third son, Redmond Barton Cafferata, joined the firm in 1897 to look after Hawton, traffic was too much for the small loco that was supposed to be dealing with it. A large, saddle-tank loco was bought, but its weight was so badly distributed that it smashed the tracks several times and once was even seen with its front wheels waving around in the air. An interesting story about the transport at Hawton survives. Two new locomotives were purchased, the smaller of which (a 6-in. Fowler) was for use at Hawton. This was delivered to the Midland Railway Station, but no facilities existed for loading it on to a horse-drawn wagon for transport to Hawton. The engine had a pony truck under the cab. A pair of shafts were attached and a stout cart horse made a gallant but unsuccessful effort to pull the engine (5 tons) on its rail wheels up the slope to Castlegate. Steam was raised in the engine and with the horse steering, pulling and being pushed, the cavalcade, preceded by a man with a red flag and followed by a crowd, delivered the engine to the works[47].

Cafferatas' Locomotive Hilda at Hawton
(Photo Courtesy of Alan Bowler)

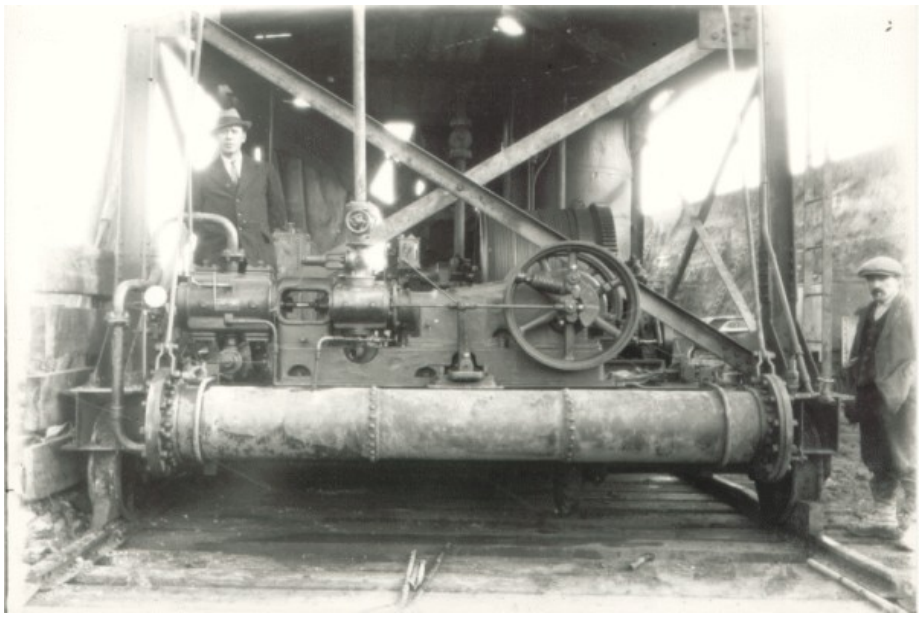
Still at Hawton, a large fire occurred in April 1902 when a long, zinc roofed wooden shed was set ablaze. The shed, used for storage, was soon well ablaze and, with the flames fanned by a strong breeze, could not be saved despite the prompt arrival of the Newark Fire Brigade. They did manage to stop the blaze from spreading to any of the adjoining buildings. Around five thousand sacks and about eight tons of prepared plaster were destroyed but the building was covered by insurance[48].

In 1902, a lease was taken out on land at Barton, near Thrumpton, and mining was started. As with the Hawton lease, a royalty was paid for the gypsum extracted each year. After it was extracted, some some of the gypsum from Barton was sold direct to customers, the rest used Barton's easy access to the Trent from where it was transported by barge to Nottingham, before being carried by rail for processing at Newark[49].

Towards the end of the 19th century, labour disputes arose. In 1872 Cafferata and Company took John Brown to court, alleging that he had threatened other workers with violence if they didn't support his demand for an extra 1s in wages. The case was proved and Brown sent to prison for seven days with hard labour[50]. There was a short strike late in 1899 when, out of 100 men

working at the Newark pit, 70 came out on strike on Tuesday 31st October. The strikers attempted to prevent the other 30 from returning to work on the Wednesday but the police were called and the strikers dispersed. The police remained guarding the works and mining continued. There were some fights between strikers and non-strikers in the town that evening. Picketing continued on Thursday, the police continued their guarding and Cafferata and Company issued 13 summonses to the ringleaders for intimidation. Successful negotiations were held between strikers and management; an increase in the amount paid per wagon of gypsum mined was granted and the strikers agreed not to intimidate those who had remained at work. Cafferatas also withdrew the summonses for intimidation[51].

A longer dispute took place in 1907 when, in July, 300 plaster miners from several employers went on strike at Gotham. Some employers granted the men's demands but Cafferata and Company did not. 26 of their miners remained on strike for 18 weeks, although the dispute remained mostly peaceful. The strikers joined the Gas Workers and General Labourers Union, but management made it a condition of returning to work that the men leave the union. Two plaster workers, John Sutton and Samuel Hinds returned to work and workers from Italy were imported to take the strikers places. One evening, when leaving the Gotham works, Sutton and Hinds were confronted by around 20 strikers, verbally threatened and Sutton was hit in the face by Harry Talbot, a plaster miner. Talbot and Jim Priestley, a labourer, were charged with assault and using threats, but the case was withdrawn on payment of costs after Talbot and Priestly apologised and promised that they wouldn't interfere with the workers again[52]. Although apparently resolved, the dispute may have left an undercurrent of resentment as, when Redmond Barton Cafferata stood for election to the Town Council in 1911, his opponents tried to use the issue of cheap Italian labour against him[53].



The steam compressor at Hawton

There were also times when Cafferatas were threatened by external labour disputes. A coal mining strike in 1912 caused much disruption on the railways but Cafferatas were able to use the Trent to transport their products and having good reserves of coal enabled them to maintain full time production at the works[54]. They were less fortunate during another coal strike in 1920

when a lack of coal for pumping operations forced them to lay off 104 men at the gypsum pits[55]. During the general strike of 1926, Cafferatas were unable to take deliveries of or transport materials, but was otherwise unaffected, with all men reporting for work[56].

Meanwhile, two experimental pans for boiling plaster (a process traditionally held in contempt by makers of baked plaster) were installed. But financial troubles began to loom. The cost of production was rising dangerously above an economical level. I wonder whether the financial problems may have influenced Isabella Waterworth to end the partnership that her husband had started in 1869.

In 1908, after nearly thirty years in charge, Redmond Parker Cafferata relinquished his control of the firm due to failing health and his three elder sons took charge, although Redmond remained involved in the running of the business, as well as its owner.

The collapsed Steam Truck in Newark

As well as the pressure of rising production costs, the company was receiving many complaints about the variable qualities of their plasters. The main direction of the company passed to Louis William, Redmond Parker Cafferata's second son, who was a balanced businessman, although he had no technical training. Redmond Barton, his third son and the manager of the Hawton works, decided a laboratory should be set up, one of the first industrial research laboratories in the country. The focus of Redmond's experiments was in the use of "retarders" which could delay and regularise the setting times of the plaster. Unfortunately, his work in this area was largely unsuccessful.

Redmond Parker Cafferata died on 19th December 1913, having, in his spell at the helm, been responsible for substituting locos for horse-drawn traffic, introducing Keenes and Parian cement, organising the hand-cleaning of the extra superfine plasters, and expanding the firm to different sites at Newark, Hawton and Barton Fabis (where there was also a wharf by the Trent). By the time he died, Cafferata & Co. employed over 500 people and was described by Redmond Barton Cafferata as *"the largest concern of its kind in the British Empire"*[57]. Redmond Barton was keen to promote the company – in a speech before his election as town councillor in 1911, he asserted that Cafferatas *"had more machinery in motion than was comprised in the whole of the*

remainder of the machinery of Newark" and that he employed 120 quarrymen with wages averaging 27s per week[58].

The Ruston Excavator at Hawton

In the years before his death, Redmond Parker Cafferata had considered the organisation of his company and how it could provide for his family in the future. In his will, he appointed Louis, Hubert and Redmond as trustees to oversee legacies for his wife and children. They were all to be granted sums of varying amounts to be held in trust and paid for from the company's profits. Redmond directed that, as soon as possible after his death, the company should be restructured as a limited liability company with shares held by his children in accordance to the size of the legacy each one had been allocated. Redmond's will directed that the trustees were to be paid £500 a year each for running the company although the will did stipulate that they had to attend the premises and be actively involved in the management of the business[59].

However, the restructuring of the company was interrupted by the Great War. Redmond was commissioned in the Royal Naval Reserve and worked in the secret service in Switzerland and Greece. Bernard Joseph, Redmond's fifth son, became a captain in the Royal Army Service Corps and was sent to India. While they were away, the War Office stepped in to ensure its supply of dental and surgical plasters, and sponsored work in the quarry and installed a new mechanical extractor. This Ruston Navvy proved very reliable. But a disaster occurred during the war—the mineral mill was burnt down. The fire was started by an attempt to grind sulphur in what was known as a Peg Mill. A spark from a flint ignited the sulphur, and very soon the mill was a sheet of flame till only a charred skeleton was left. The two Insurance Companies involved eventually paid up and the mill was rebuilt[60].

Although Redmond was absent for much of the latter part of the war, he did return to Newark from time to time. In June 1917 was he was on leave when the Newark Tradesmen's Association paid a visit to Cafferata and Company. The visit was comprehensively reported in the Newark Advertiser and their account provides an interesting insight as to the workings of the company at this time.

The delegation from the Association was met at Bowbridge by Redmond, Louis and Hubert Cafferata and taken to the works at Hawton where they were shown around. The Advertiser took up the story:

A tour of the works at Hawton – In front of the old loco shed

"Spanning the quarry are narrow plank pathways dizzily perched on elevated trestles along which the workmen barrow the spoil. Their ability and skill in this job is almost uncanny to the onlooker, but they follow the music of the plank as if it were an ordinary feat. Meanwhile the stone is being loaded into trucks on the narrow gauge railway running along the bottom of the pit, whence it is carried to the mills at Bowbridge. Suddenly a bell sounded, and the men simultaneously climbed out of the pits on to the banks, quickly producing short pipes and lighting up. The reason came two or three minutes afterwards, when the first "charge" went off, a beautiful little blasting explosion, which dislodged some tons of rock and soil. A second crump was heard and seen, and the men got back to the stone face again. As the quarrying proceeds and the stone is extracted, the filling-in of the ground follows. All the clay is replaced, the soil being kept for the top layer. It is soon brought again under cultivation. Continual pumping is necessary to keep the quarry from filling with water, and pumps lifting 200,000 gallons of water per hour are at work. If this ceased, within 14 days the quarry would be full of water – a veritable inland lake."

"Returning to the cleaning sheds and machinery, the party were interested in watching the women at their benches chipping all excrescences off the stone, and preparing it for the mill. The powerful installation of engines and plant was inspected, and machinery similar to that seen in a flour mill was seen in full working operation, converting the gypsum into terra alba, as used in paper manufacture, and also for artificial manures and cement, etc."

From Bowbridge, the party were then taken by carriage to the Beacon Hill Works where the tour continued. It was an impressive undertaking:

The visit was a revelation of the extent of the business done and the capacity of the plant, steam and electric, 600 horse-power engines, etc., which were here provided. Everything was laid out

on the latest plan and most effective and labour-saving principles. Science is harnessed to industry, the laboratory having its important place in the scheme of things here obtaining. Operations, intricate and involved, and automatically carried through by the immense range and variety of machinery provided. The biggest mill, housed in what must be by far the largest building in Newark, revealed how Messrs. Cafferata had captured the leading position, probably in the world, in their trade, and maintained their overseas activities against all competition. Here, in this mammoth mill, the stone is received from their quarries and carried through all its processes without being man-handled. Immensely strong grinding pans, hoppers, conveyors, and mixers take up the material and pass it along until it is tagged up for transport. The railway trucks can be loaded under cover at 12 bays, 12 trucks at a time. Everything works with the smoothness and silky running of a well-oiled machine, and cleverly designed."

The guests also saw the fitting and repair shops and then visited the brick making plant where the drain on the workforce caused by the war was apparent. The Advertiser stated that:

A tour of the works – at Beacon Hill

"recourse has been made to female labour. They are almost entirely responsible for the brick-making now done, and bricks for important munitions works in this country have been made by Newark women and girls. The clay is loaded in the trucks at the pit, and taken up by wire rope haulage to the crushing and mixing pans, and thence carried to feed the presses. From the moulds, the bricks are deposited onto a circular table, ready for barrowing to the kilns, to which they are wheeled by girls. The output was given as 20,000 per day, which was probably under the mark."

The Association also visited the Wire Tie Department where the Curry Patent Tyer was manufactured. This benefited Cafferata and Company and provided a steady profit for the business.

"Messrs. Cafferata make a great use of sack bags, all their plaster being sent out in this form. The need for a safe and ready and secure tyer for the bags is very important. They have a special

plant for manufacturing the tyer. Coils of wire fed into the machines are cut into lengths, looped at each end, passed along collecting strings, and formed into rolls containing many thousands. These patent tyers are put round the mouth of the bag, twisted by a little hand tool, giving a steady capacity of 400 bags per hour. It is impossible for the tie to burst or the bag to become unfastened. Messrs. Cafferata have supplied several millions of this patent tyer to he British Government and have an order for a million from the French Government. Three machines produce 15,000 ties per hour, but these are not sufficient to cope with the demand."

The visit concluded with tea, speeches and a hearty round of self-congratulating[61].

After the war, the reorganisation of the company could finally take place but it took several more years for the process to be completed. The business was incorporated as a Limited Company in 1922 as CAFFERATA AND COMPANY LIMITED, with an authorized capital of £150,000 and £93,000 in shares issued. The first Directors were the three brothers who had been responsible for the running of the company before the war; Louis William Cafferata (Chairman and Managing Director), Hubert Marie Cafferata and Redmond Barton Cafferata. But they were now joined by brothers Bernard Joseph and Cyril Francis (a chartered accountant) who became company secretary. The company was profitable for the family members: in 1926, Redmond Barton's tax returns showed he was paid £3000, putting him well into the super tax bracket. The three main directors, Hubert, Louis and Redmond were receiving more than £1000 per year in share dividends, and even the non-active members of the family had an income of more than £100 per year, a not inconsiderable sum.

A truck of the inter-war years :
the chain drive wasn't effective in muddy quarries

Post war, there had been little progress in the laboratory; the first step was to improve, or at least standardise the quality of the product. Edgar Arundel, a qualified chemist, was employed and a structured programme of experimentation was instituted. In 1928, Gerald Cafferata, son of Redmond, joined the firm straight from London University, at the age of 22. He immediately took an interest in the quality of plasters and soon showed a talent for scientific experiment. But the complaints situation was becoming critical. Claudius Ash, one of the big dental houses, wrote: *"We really must ask you to make your plaster more regular.*

There is nothing but trouble with it, all along the line". Gerald Cafferata discovered that one of the problems lay in the ovens which were difficult to evenly charge. A decision was made to stop using ovens for baked plaster and focus entirely on making boiled plaster. There was a slight degradation in colour of dental grade plaster but it was much more reliable. A bigger problem was overcoming a traditional prejudice against boiled plaster. However, this was swiftly overcome by the better quality and complaints disappeared. In fact, few customers seemed to notice that the production method had changed[62].

Despite the problems facing the firm around the time of the First World War, the company remained viable. When the limited company had been set up in 1922, it was divided into a number of departments, for example plaster, cement and minerals. Each quarry and works was also treated as a separate department, as was the farm. The farm was 125 acres in size and formed part of William Cafferata's original purchase in 1862. It remained operational until 1931, when it was closed, having only made a profit in two of the years since the war.

An Exhibition Stand in the Classical Style
(Photo courtesy of Saint Gobain)

Some innovative ideas were tried in the 1920s: new plaster making machines were installed at Beacon Hill, which could produce slabs of plaster, reinforced with Norfolk reed, which were 60 feet long. They were used in a similar way to modern plasterboard, but unfortunately they weren't load bearing so were phased out of production by the early 1930s.

About 1930, certain American plasters of an entirely new type were appearing. These had a very low water mix, but a very high strength. The dental people began to pressurize Cafferatas to produce a similar plaster. Gerald Cafferata, after a year or more of intensive research work, was able to evolve a secret process which resulted in a plaster of even higher strength than those of American manufacture.

During the inter-war years, the brickyard was re-opened. Its capacity was around 100,000 bricks a week but the Beacon Hill marl gave the bricks a monotonous red colour. Attempts were made to etch the dried bricks with acid, and to immerse them in chemical solutions to

produce a more varied colour, resulting in the multi-coloured brick process for which Bernard Joseph Cafferata secured a patent. Eventually, with the labour shortage of the Second World War and the general slump in building, the yard was closed It was at this time that Cafferata & Co made the last of their major acquisitions, purchasing Jericho Farm at Hawton. A new quarry and brick works was opened there in the late 1930s with the Jericho brickworks continuing production until after the Second World War[63].

In 1935 another change of direction was needed. Redmond Barton retired to France and Hubert Marie was in failing health. Discussions were started with British Plaster Board Limited regarding a takeover. British Plasterboard issued shares in order to finance the purchase of the whole of the share capital of Cafferata and Company. Cafferata shareholders were offered a mix of ordinary and preference shares as well as a cash payment for their shares in Cafferata and Company[64]. It is perhaps unsurprising that the offer was accepted, given that whilst Redmond Parker Cafferata had 13 children, only one grandchild, Gerald, was involved with the company. Louis William, getting older and nearing retirement would, presumably, have welcomed the income generated by selling his shares. Following British Plasterboard's takeover, he resigned and moved to Norfolk. Louis died in 1941 and Hubert in 1944.

A Post-War Office Photo with Gerald Cafferata in the Centre

On British Plaster Board's takeover, Cyril Francis was appointed chairman and joint managing director with Bernard Joseph. Cyril retired in 1943 and Bernard left in 1946. Gerald Cafferata was subsequently appointed chairman and managing director.

Until the re-organisation of the gypsum companies under British Gypsum in the 1960s, Cafferata's, in common with the other acquired concerns, operated more or less independently within the Group. This perhaps encouraged an essentially family atmosphere. Gerald Cafferata said: *"If a man joined us he could expect to have a job for life, not only for himself but for his sons and grandsons. This kind of feeling is perhaps dying out slowly, but there is still, among the older people here, what you might call Cafferata pride"* [65].

Subsequent developments included the construction of a Keratin Retarder plant of larger capacity at Jericho in 1968, and the opening of the Grange quarry to join the existing two, in late 1969.

By this time though, the company was in no sense independent and in 1973 Gerald Cafferata retired, ending more than 100 years of Cafferata business in Newark. Although the Beacon Hill works was renamed "The Cafferata Works" in 1974, it now no longer exists and today, the only indication of the site's history is the aptly named Cafferata Way.

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