LEAD MINING IN TEESDALE.

The early history of Lead Mining in Teesdale is wrapt in so much obscurity that our conclusions must, to a great extent, be drawn from conjecture. It has been surmised that the Romans wrought lead mines, and also procured iron in the district: whether this was actually the case or not, is more than we would venture to assert, but, at the same time, there are facts which conspire to give plausibility to the conjecture.

That the Romans procured lead ore and smelted it in Britain, is fully established, for in the British Museum, two piece of lead are preserved, bearing the Roman stamp. Derbyshire and Cornwall are pointed out as the localities from whence the Romans drew their supply of lead, but it does not follow that these were the only ones. Teesdale, and the adjacent dales, have proved the most productive fields of any in the kingdom, and we may conclude that a clever, energetic, and adventurous people like the Romans, would not be slow to avail themselves of the mineral wealth of this region. This surmise is strengthened from the fact that "Bale Hills," composed of slags and other debris, the residue of smelting operations, are numerous in the district. Now, the identity of the form of smelting, evidenced by these slags, and other remains which are acknowledged to be Roman in their origin, urge us to the conclusion that lead mining, and the smelting of lead ore in Teesdale, are as ancient in their date as in other parts of the kingdom. Wood was uniformly used for smelting, either in its native state, or in the form of charcoal; and the abundant forests then existing
in Teesdale, would form a powerful inducement to mining speculation.

About ten years ago, a successful effort to obtain lead from one of these bate hills, took place at the Gaunless Smelt Mill. Some workmen in the employ of Mr. Mark Sherbeck had observed a large accumulation of ancient slags at Penny-hill plantation, about a mile from the lead mill. They were at first uncertain as to whether the slags were the remains of lead or iron ore, but after assaying a portion, the fact that the slags were of lead was satisfactorily proved. The adventurers having made all necessary arrangements with the proper authorities, set energetically to work. The whole of the slags were carted to the lead mill, and after undergoing the usual series of operations, produced upwards of 296 cwt. of lead.

Whilst these slags were being removed, unmistakable tokens were found that not only had lead ore been smelted on the spot, but also sheet lead manufactured. Numerous scraps of sheet lead were discovered, together with a considerable quantity of fine loamy sand, unlike any other in this locality, and probably brought from a distance. By means of this sand a small pit had been formed, into which the lead ore had been run, and at the bottom of this pit was found a piece of lead three or four stones in weight. Even if the process of smelting had not been here conducted by the Romans, we may hazard the conjecture that these primitive works date back to a period antecedent to the Norman conquest; and it is not unlikely that the sheet lead manufactured on this desolate height was used for covering the roofs of some of the earlier churches erected in Teesdale.

We may suppose that mining speculations would be but little followed in England, for a long period after the Conquest. The barons were warlike in their propensities, and, as they were of the dominant race, the pursuits of peaceful industry would meet with no encouragement. Even after the Normans and Saxons had begun to amalgamate, the wasting foreign wars in which the English monarchs were perpetually engaged, would have the effect of denuding the country both of its population and its treasure. The destructive and fearful contest which, in the 15th century, raged between the rival houses of York and Lancaster, also contributed to prolong the era of ignorance and crime not unfairly known as the "dark ages." These and similar causes would prevent the commercial resources of the country from being developed, and it is likely that mining operations, if conducted at all, would be carried on to a very limited extent.

Mining would probably be resumed in Teesdale after the Tudor dynasty got firmly seated on the throne; and, if any records previously existed they have been irretrievably lost. It is authentically stated that, in the reign of Edward the Sixth, lead mines were worked in the parish of Eggleston. Tools and implements have, however, at various times been discovered, which bear the impress of a much earlier date.

To be continued.
Having glanced at the ancient history of Mining in Teesdale, we now come to an era in which the mists that have enveloped our past history clear away, and a new epoch dawns upon us, in which mining speculations have been carried on with the spirit and enterprise which have raised Teesdale to present eminence as a mining field, and bestowed on the population those substantial blessings which render their lot an enviable one compared with that which their fathers experienced.

As we have no record to show that mining speculations, previous to this period, were conducted on scientific principles, and as it is essential to give an outline of the characteristics of our mineral veins, perhaps a slight digression on that head may not be out of place.

Lead veins are divided by Mr. W. Foster, in his "Sections of the Strata," into various kinds. Those which are productive run nearly east and west, and are called rake veins. Some of these are called gase veins, from being widest at the top, and gradually contracting until they terminate in the lower sills. Others, which he denominates slip veins, show more diversity in their form, and have the appearance of a number of irregular steps, from the sloping of the strata in different places. Pipe veins, again, are more circular in their form, and lie at every variety of inclination from the perpendicular; but they seldom, if ever, assume a horizontal direction. Then there is the flat or dilated vein, which opens out horizontally, not unfrequently to a considerable width. In addition to these varieties of veins, there are frequently lodes forming junctions with them, like branches of trees, leaving the main vein in every direction; and transverse or cross veins, which are never, so far as we know, productive—not only so, but they in general destroy the productiveness of the vein they intersect. These veins often make a great disruption in the strata through which they pass; a very remarkable instance of which was discovered a few years ago at Close House Mine, where some workmen employed by the Lead Company, in driving a level, came to a cross vein, and after getting through it, found that the strata on the opposite side was thrown up 90 fathoms.

The sides of a vein are called its checks, and, in Teesdale, the veins have an inclination, or, as miners call it, a rake, towards the north; and the strata, unless interrupted by the crossing of a vein, or some other cause, rise towards the west. The interior of the vein presents a great diversity of forms. Sometimes the rock throughout is sparingly mixed or impregnated with ore; at other times there are ribs of pure galena, at certain distances from each other, varying in thickness; and at other times a single rib in the vein is 2 or 3 feet thick. Occasionally the veins open into irregular chambers, containing water, and mingled with the water are gravel, clay, detached fragments of rock, and pieces of galena in nearly a pure state. As a rule, wet veins are more productive than dry ones, and this goes to support the theory that they are formed through mineral springs. Another fact which strengthens this conclusion is that the core-occurred nearest the surface runs more quickly in melting; and if that which is worse to work be exposed to the atmosphere, its porosity is increased, and it is more easily acted upon. From this we would infer that the ore at the bottom of the vein is first deposited, and the deposit is continued through an indefinite period, until the fissures are filled up.
According to recent experiments, it is highly probable that the wonderful agency of Electricity has been manifested in the beautiful processes carried on in Nature's subterranean laboratory. This is the more apparent from the fact that the cheeks of veins frequently bear evidence of having been subjected to the action of very powerful heat, such as electricity is calculated to produce, and the ores procured from these veins are generally blue or sulphate of lead, and white or carbonate of lead, which latter is produced in much smaller quantities than the former. On the top of the vein is what the miners call a rider, which sometimes runs out to the surface, and consists generally of different kinds of spar, impregnated with ore, and in some cases mixed with the ores of iron, copper, zinc, and other metals. This rider often bears down a considerable depth into the centre of the vein, and in other cases there is a post 2 or 3 feet thick on each side. The width of the veins in Teesdale varies from 2 or 3 feet to 30 feet and upwards. The best ores are those, of course, which contain the greatest per centage of lead, and are most free from an admixture with other metals. The best ores seldom contain less than 15 or 20 per cent of sulphur; but, while the inferior ores contain a less per centage of lead, they also contain a much larger amount of silver. This is accounted for on the ground that the other metals which are found in combination with the lead, while in the form of ore, cannot be separated, on account of their weight, in the process of washing; but, when the smelting takes place, the silver is released from its combination with the other metals, and has a strong affinity for lead, amalgamates with it. The average amount of silver contained in the Teesdale ores is 10 oz. per ton of 21 cwt.; so that, if a mine will yield lead of a good quality, with this amount of silver, it is more profitable than if the per centage of silver was rather greater, and the lead of an inferior quality.

Having given this short outline of the character of our mineral veins and their productions, we resume the thread of our history. The London Lead Mining Company commenced their works in Teesdale more than 150 years ago, and the principal motive which influenced them was one of a philanthropic character. Several gentlemen belonging to the Friends, travelling in Teesdale, had their attention arrested, and their sympathies aroused, by the signs of poverty and destitution which they beheld; and, with the characteristic benevolence of the religious denomination they belonged, began to think of the best means of ameliorating the condition of the working people. The conclusion they came to was, that the readiest method would be to try to develop the resources of the dale in more efficient style than had hitherto been practised, by carrying on mining and smelting in an energetic manner. This, they contemplated, might be effected by the substitution of coal for wood in smelting. Whether coal had been in use previously in any part of England for smelting purposes, or to them belonged the discovery of its adaptation, we are not in a position to ascertain; but certain it is, if it had not been discovered, mining speculations would long ago have been nearly if not completely suspended, and the principal part of the population of the upper district of Teesdale would have had to look elsewhere for the means of obtaining a livelihood. However, to the Lead Company belongs the honour of being the first incorporated association for "Lead mining and smelting down lead ore with pit-coal and ses- coal!"—and though the Founders of that Company have long rested with their fathers, and their names are buried in the oblivion of the past, the work they commenced still lives, and to them the inhabitants of Teesdale owe a debt of lasting gratitude. The enterprise with which mining operations are still carried on by the Company, and the desire they manifest to preserve the health and lives, and to elevate the moral and social condition of their workmen, exhibit the same sagacity and benevolence which led their predecessors to open out the mines of Teesdale.
HISTORY OF LEAD MINING IN TERSDALE.

Continued from No. 44.

Soon after the London Lead Mining Company commenced operations in Tersdale, they had difficulties of a formidable nature to contend with. The jealousy of local speculators, incompetent and self-seeking agents, and the prejudices of an ignorant and semi-barbarous population, would conspire to discourage them in the course of their enterprise. The directors also, not being stationed in the district, and having to trust to local representatives, could not so well cope with the difficulties of their position. One great drawback was the imperfect method of washing their ore, the whole being ac-
accomplished by hand-labour, till long after the establishment of the company. Another disadvantage was the obtaining competent workmen for the smelting department, and the distance the ore had to be conveyed to the smelters. The Teesdale ores procured by the company during the earlier stages of their history, were carried to the Whitfield and Acton Smelt Mills, in Northumberland, a distance of 20 or 30 miles, for the most part over bleak and pathless moors.

Whether what is called the "Scotch Hearth" was used for smelting operations, prior to the reign of William and Mary, is not distinctly known, but it is certain that the Governor and Company were the first to introduce the reverberating or smelting furnaces into their works at Whitfield.

About 80 years ago, Henry second Earl of Darlington, with the vigour of intellect which distinguishes his race, foreseeing the benefits that would accrue to the population from a better development of the mineral wealth of the district, erected the first smelting furnaces in Teesdale, at Langdon Beck, about 8 miles west of Middleton. This establishment, which comprehended all that was then known of the art of smelting, was the precursor of those complete and well-organized smelt mills which have since arisen in the Dale, where every resource of modern science has been brought into requisition, not only to free the lead from the impurities it naturally contains, but also to extract that more valuable product — silver — with which the metallic veins of this region are impregnated.

The beautiful process of refining which had long been known in France, was brought into England at the close of the 17th century — not unlikely by some of those unfortunate refugees who were driven from their native land by the Revocation of the Edict of Nantes.* Thus, while Spitalfields and Coventry trace from this date the rise of their silk manufactures, which enabled them to compete with the looms of Italy and France; so the northern part of our Island has gained advantages of as substantial a character, in the introduction of the process of refining, which, while it improved the quality of the lead, made the emoluments arising from it considerably greater.

It is probable that refining was first practised in the north at Whitfield Mill, which was generally afterwards termed capola mill; and some of the earliest workmen were natives of France.
The first Agent employed by the Lead Company, of whom we have any account, was a Mr. Wm. Ainsley. Of his fitness for the office we are not able to speak, nor yet of several of his successors; but it is beyond doubt that the affairs of the Company were never superintended in that businesslike manner calculated to ensure success, until the first Mr. Stagg was entrusted with the management of the Company’s works in Teesdale and the adjacent districts. From this period—upwards of 60 years ago—dates all the greatest improvements which have taken place in the various departments of the Governor and Company’s works. Mr. Robert Stagg, sen., and Mr. Joshua Stagg, sen., both held important offices under the Company, in Teesdale and at Alston Moor. The mines at Flake Bridge, Racket Gill, Parkin Groove, and Wire Gill, may be enumerated among their earlier efforts, and although none of these were so productive as some of their later discoveries have subsequently proved, yet they were sufficiently so to make a small return for the capital expended, and to excite hopes of further success.

About this time, stamping and crushing machines were introduced. Previous to the invention of these powerful auxiliaries, the whole labour of washing the ore, and separating it from the refuse with which it is encumbered, was performed by hand; and whilst the men were engaged toiling in the bowels of the earth, in the most painful postures, with an insufficient supply of light and air, and their lives constantly jeopardized,—boys of tender age, and even women, were laboriously employed, with heavy iron implements, in pounding the rock containing ore, before it could be submitted to the manipulation of the washers. Even the lever or brake sieve is comparatively but a modern invention, and superseded the hand sieve previously in use.

As many of our readers, doubtless, are unacquainted with the processes of dressing and washing the produce of the mines, we purpose here giving a brief account of the manner in which these operations are conducted—leaving a description of the more modern inventions to a future stage of our history.

The place where washing is carried on is generally selected from its proximity to the level mouth or opening of the mine, and if it be at a lower range it is better, as the water which flows freely out of the mine is then made available. The rock, &c., which is brought out of the workings, is first deposited in teams; here a grate is placed, through which a stream of water washes the clay and smaller particles, a boy being employed to place the work on the grate, and another to assist the operation of the water. Those pieces of the work which show no indications of ore, are thrown aside as useless, and are called deade; and those which are pure ore are likewise laid aside to be conveyed to the smelt mill. The clayey or slimy particles are collected in pita or reservoirs, to be afterwards submitted to a different treatment, and the principal part of the work, as it is picked or separated, is taken to the crushing mill and there emptied into a large hopper. In some small mills there is a contrivance for supplying the mill with work as it is wanted; generally, however, this forms employment for a boy.
The mill consists, first, of a large water-wheel, from 24 ft. to 32 ft. in diameter, impelled by a stream at or near the top. The supply of water for efficiently working a 24 ft. wheel, should not fall far short of 200 cubic feet per minute. 22 cubic feet per minute, at the ordinary velocity of the stream, are considered equal to one-horse power, and the water-wheel of a crushing mill should not be less than eight or ten horse power. To both sides of the wheel machinery is attached; comprehending, on the principal (or rough) side, one pair of rough and two pairs of smooth rollers. The rough rollers are those which first receive the work, and the teeth of these rollers, acting together, draw the work in as it is hauled on to them. The work then passes down troughs, placed at a proper inclination, between the smooth rollers, and thence into a box called the rough box. A stream of water is constantly flowing along with the work, and a boy is continually throwing the crushed matter out, while the slivery particles pass away with the water, and are deposited in pits which furnish employment for the slime washer. An arrangement, very useful in preventing breaks, consists of two of the brasses belonging each pair of rollers being made to slide in a metal frame. A strong lever is attached to each, with a heavy weight at the end, and if any substance too hard to be crushed gets betwixt the rollers, the lever lifts, and suffers the roller to press backward, and thus relieve itself of the obstruction.

(To be continued).
HISTORY OF LEAD MINING IN TEESDALE.

No. IV.

One of the greatest secrets of success in the mining speculations of the Lead Company, has been their perseverance, and by this they have not unfrequently succeeded where others have failed. In some well authenticated cases, local parties who occupied the ground before them, and gave up in despair, were within a few steps of acquiring a handsome fortune.

A case of this nature occurred at the Manor-gill Mine, which had been commenced by a family named Walton. After trying for a considerable time, with only a limited amount of success, they resigned their right to the Company, preferring regular employment and a fixed salary to the uncertainty of speculating on their own account. A few days after they had concluded terms with the Company, they cut a vein of great value, which, if it had been their fortune to alight upon it when working for themselves, would have amply repaid them for their labours, and raised them to a state of comparative comfort and affluence. This happened upwards of 60 years ago. Some years later, mining speculations were decidedly on the ebb in Teesdale, and, with the exception of the Cross Fell Mining Company, the value of the metal procured was inadequate to the working expenses. The local adventurers were dispirited, and their exertions crippled by the want of capital, when the Lead Company, at this time, obtained the lease of a tract of ground in which the Lodge-syke Mine was subsequently opened.

This ground had been held by four gentlemen resident in the neighbourhood, of whom one was the late Mr. Collinson, of Woodside. After re-
pented trials, they had abandoned their enterprise. The Company's agent, Mr Joshua Stagg, son, after obtaining possession, commenced immediate operations. Four men were employed, whose efforts, for a while, were as unsuccessful as those of their predecessors; and Mr Stagg at length became so fully convinced of the impracticability of further proceedings, that he ordered the men to desist. On the same day, Mr Collinson (the gentleman above alluded to) visited the place, and seeing the men depressed by the unwelcome order they had received, endeavoured to cheer them; and told them that, although they had hitherto been equally unsuccessful with his colleagues and himself, yet it was his belief the ground would eventually be found productive, and he then recommended them to make an attempt a short distance from where the previous works had been commenced. Thanking him for his disinterested advice, which they agreed to adopt, two of them waited upon Mr Stagg, and begged his permission to try for a few weeks longer. Mr Stagg answered that, as a faithful servant of the Company, he should not feel justified in expending the funds entrusted to him, without reasonable hope of remuneration, and he therefore refused to comply with their request. He added that they were at liberty to prosecute their search, but it must be at their own expense; and he concluded by expressing an opinion that the prosperity of Teesdale, as a mining district, was approaching to a close.

The men returned to their companions in a desponding mood, and, finding Mr Collinson still there, asked how he would proceed under similar circumstances? He urged them to continue, and in the end they consented. By his suggestion, they prepared a small dam, and brought a "squat hush" in a direction he pointed out. This was a work of some days, and on its completion they eagerly awaited the result. Fortune favoured them, and, after a few hushes, the "rider" or top of a vein was struck. We much question whether the discoverers of the golden treasures of Australia or California felt a greater thrill of pleasure than those men did, when they found their toil rewarded. Their hopes had been derided, and they well knew that, upon their success depended whether they should be able to earn a livelihood in the locality of their birth, or be compelled to wander forth among strangers, in search of that employment which was most congenial to their tastes and early training.
They ceased operations till Mr Stagg should again visit them; and resolving to give him an agreeable surprise, they concealed the evidences of their discovery. On his arrival, they shewed their preparations, and pleaded for his support; but he told them he had determined not to expend a penny more without the certainty of a return, and he thought that they, as working men, with their labour only to depend upon, were blamable in prosecuting their unprofitable task. After listening to his remarks, they said they would prove that their labours had not been so utterly profitless as he imagined, and they then exhibited the vein. As he gazed upon this palpable evidence of their success, a smile lit up his countenance. The important bearing of the present discovery on the future mining speculations of Teesdale, were fully apparent to him; and in joyous tones he congratulated them on their good fortune.

After the lapse of more than half a century, this mine still furnishes employment to a number of workmen, who generally find their efforts well remunerated. It is said that from this mine, in one single year, 16,000 bings of ore were sent to the smelt-mill; and there is no doubt that the opening of Lodge-syke Mine was an important event in the history of Lead Mining in Teesdale, and gave a powerful impetus to subsequent adventure. It is averred that the Company, after receiving a fair amount of interest for their outlay, invested the surplus as a provision for contingencies; and it is probable that this gave a degree of stability to their transactions, which enabled them to surmount many future difficulties.

Those men who, by their energy and perseverance, in the midst of discouragement, made the trial which turned out so eminently successful, deserve to be held in grateful remembrance, and we gladly record the names we have heard: viz. Messrs Richard and George Lee, Mr. Isaac Raine, and Mr Mark Armstrong. The latter gentleman still survives, and has been long employed as an agent by the Governor and Company.

(To be continued).
HISTORY
OF LEAD MINING IN TEESDALE.

Eglinhope Banks, June 20, 1856.

Sir,—I beg leave to state, that the account given in the "History of Lead Mining in Teesdale," published in the Teesdale Mercury, respecting the conduct of my late grand-uncle, Mr Joshua Stagg, of Eggleston, is just the reverse of the truth, according to the accounts I repeatedly heard from Richard Lee and George Watson, two of the discoverers of Lodge-syke Mine.

The state of the case, as I learned it from them, was to the following effect.

Thomas Dodd, Esq., of Nenthead, then principal mining agent (superintendent, as we say now), without whose sanction no bargain of any kind could be let in the Governor and Company's concern, let a bargain for the discovery of the Lodge-syke vein to Richard Lee, George Watson, Isaac Raine, and I forget the name of the fourth man, on the condition that they were to receive £8 per fother for all the lead to be made from ore raised in the Lodge-syke Mine during the period of two years, dating from the time of letting the bargain, and in the meantime to have 30s per month advanced on account, to enable them to live.

Having wrought one year unsuccessfully, Mr Dodd (not Mr Stagg, who was only subordinate agent, and could not do so) endeavoured to stop the trial, on the pretence that he saw no probability of success, and therefore did not consider himself justified in risking the Company's money over it.

This was a blank to the poor men and Mr Stagg, who were all sanguine of success, and who having found out so many places where the vein was not, considered they were so much nearer finding out where it was, but Mr Dodd obstinately persevered in refusing the "lent money," without which no belly-timber could be obtained, and bellies, like mines, require propping inside, or they soon collapse, or in mining phraseology, the sides "run together." The upshot of the matter was, that Mr Dodd would not risk any more money, but at Mr Stagg's earnest request, graciously permitted him, at his own risk, to furnish the men with provisions, as nearly all agents at the time were shopkeepers and provision-dealers; of which latter class Mr Stagg was one. The mine was won about half a-year later, leaving the men only half a-year to clear all off, but such was the excellence of the mine, they told me, after clearing themselves of all debts, they had £70 each left, for which they said they were "thankful to God and Mr Stagg, but not to Mr Dodd." You will observe that the names of the workmen are erroneously given in your account, but this might easily happen after a lapse of 40 or 50 years. I am only anxious to clear the name of my friend.
There is another error I will point out. In a former paper you say, the Devonshire furnace was first introduced in the north of England at Whitfield Mill. In this you are misinformed; it was first introduced at Eggleston Mill, and then at Whitfield Mill; in both cases by my grandfather, the late Robert Stagg, Esq., of Alston.

Your correspondent informs me he was led into the error by the misapplication of the term "learn."

In this dale the inhabitants, in speaking, often put the effect for the cause, and also speak elliptically, thus, if they were speaking of a person teaching another, they would say "He is learning him;" and if a mistress were frying eggs, they would say "She is frying herself."

Now the fact was, that men were sent from Eggleston Mill to teach the Whitfield men furnace smelting, but your correspondent's informant told him they went to learn furnace smelting, meaning they went to teach them (the Whitfield smelters) the art of furnace smelting, but your correspondent being a very grammatical sort of man, gave the dictionary construction of the terms instead of the provincial one, which is the more remarkable as he is a native of the dale.

I am, Sir, yours obediently,

ROBT. RICHARDSON.

The Editor of the Teesdale Mercury.

Mr. Editor,—Since writing my last communication on the "History of Lead Mining," I have become aware that, principally through defective information, I was led into errors, which have caused strictures on the subject; and, in addition to what other correspondents may communicate, I feel myself bound to give publicity to some further information I have received on the subject of the opening of Lodge-syke Mine, which places the character of the late Mr Joshua Stagg, sen., before us in the most favourable light. It is but due to his memory, and an act of justice to surviving friends, to say that his conduct in reality was such as to render him worthy of the esteem of the present generation. It appears that he did not hold the responsible situation which I at first supposed, but was merely a subordinate under Mr Thomas...
Dodd, sen., of Nenthead, who had the general superintendence of the whole of the Company's mining operations in the Teesdale district, as well as at Alston Moor and the localities in the north. Mr. Dodd being of opinion that Teesdale was a worthless mining field, was opposed to expending money which he thought would never bring a return, but he consented to expend a certain sum, and if when that was exhausted nothing was discovered, to give it up as a hopeless case. Time wore on, and the prospect grew more gloomy instead of brighter. The last farthing was disbursed, and still they were the subjects of the "hope which long deferred makes the heart sick." In the meantime, Mr. Stagg, feeling a special local interest, and deeply sympathising with the men, took upon himself the risk (on finding Mr. Dodd inexorable) of advancing money on his own account, or, what was equivalent, provisions. In addition to the encouragement given by Mr. Collinson to persevere, Mr. John Richardson, sen., who was frequently engaged in the neighbourhood, told them he had sometime before discovered sider impregnated with ore in crossing a sheep track, but could not point out the exact locality. In reference to the statement made in my last communication, concerning the men ultimately making the trial on their own account, which resulted in the discovery, I have only the authority of my informant, whom I considered perfectly trustworthy.

In the interim, another local speculator was watching with eager expectation the result of the trials, and as the Company were so unsuccessful, for a while he indulged in sanguine hopes that they would abandon it as a profitless enterprise, as their predecessors had done. Upon their relinquishing the ground, he was prepared to commence upon it, as he had discovered unmistakable evidences of the treasures which were concealed beneath the surface. In a future paper I shall give some particulars of the subsequent fortunate career of this gentleman as a mining speculator.
I have also ascertained that the original partnership consisted of six instead of four partners. The names of the whole I am also enabled to state, on the authority of Mr. Armstrong. They were Messrs. Richard Lee, George Watson, John Bussay, Isaac Raine, Richard Raine, and John Raine. Although it will be seen that Mr. Armstrong was not one of the original partners, yet he formed one of the second partnership, who were more successful. I may perhaps say with safety, than any partnership ever formed in the district. They commenced operations immediately after the others had discovered the vein, and being fully convinced from the shape or inclination of the vein northward, at the top, that the first set of men were too far south, they sunk a shaft more to the north. The result showed the correctness of their conclusions, for in six weeks they procured the astonishing quantity of 1212 bings of ore, and there is little doubt that the shape of the vein was what had led to so many failures. It could be traced some miles to the eastward and westward of where they were engaged, but having an inclination of 1 in 2 in the elevated ground where the mine was opened, the leading northward was greater than had been anticipated.

In reference to the earlier communication about smelting operations, your readers will perhaps learn from another correspondent that Eggleston, not Whitfield, was the locality where the Derbyshire smelting furnace was first tried. The origin of the mistake will also be shewn. But I have heard nothing to the contrary that, at Whitfield, both hearth smelting and refining were carried on at an early date. Prior to the erection of what is commonly called the Low Mill at Eggleston, the Company had the Stob-green Mill, situated in the same locality, but it was at the Low Mill that the Derbyshire furnace was first introduced by Mr. R. Stagg, esq. The only question is whether the Company or the Earl of Darlington were the first to introduce this improvement in smelting operations, as, under that enterprising nobleman, it was introduced at Langdon before Gannless Mill was commenced. Nevertheless, a workman who was engaged under the Earl of Darlington, but who is now in the employ of the Lead Company, and can recollect events which transpired upwards of 60 years ago, is inclined to give priority of introduction to the Company.

I wish to act on the principle of giving honor to whom honor is due, and if I fail, it will not be intentionally. If any other correspondent with more time—better means of information—and more attractive style of communication, will continue the subject, I will gladly take my leave of the public; but until some other more competent writer will occupy my place, I feel it a duty I owe to the editor of the *Theedale Mercury,* and the public generally, to communicate all the information I can on these matters of local interest.

I am, Sir,

Yours, &c.

• • • •

In alluding to our correspondent’s concluding paragraph, we beg him to feel assured that we are most grateful for the pains he has taken to enrich our columns with the fruits of his talents and research. We have the more pleasure in making this statement, as the "History of Lead Mining in Teesdale," to which he has been the chief contributor, has met with the warm approbation of our readers, and has been commended by personages whose claims to literary excellence are allowed by the country at large.—Ed. T. M.
Shortly after the opening of the Lodge Syke Mine, several important changes took place in the Company's establishment. Mr R. Stagg, sen., was either dead, or had become insapsituated, through accumulating infirmities, from carrying on the smelting works in Teesdale and Cumberland with that vigour and energy necessary to permanent success. A son of his, also, who was preferred to a very responsible situation, died after he had held it but a short time; and Mr Dodd, on account of his age, and his engagements at Alston Moor, wished to be exempt from his duties connected with Teesdale.

Under these circumstances, the company were led to look for an eligible person to take charge of their affairs in Teesdale, and their choice ultimately fell upon Mr R. Stagg, jun. At that time Mr. Stagg was fulfilling the duties of agent to a large commercial firm in Newcastle-upon-Tyne, and it is said that he felt considerable hesitation in accepting a situation of so much trust and responsibility, with his necessarily limited stock of knowledge on the subject; but, at the earnest solicitations of his friends he was induced to try, and, as events proved, the right man had been chosen for the right place.

A slight digression on the character of this gentleman, who was the author of many wise and good regulations for the workmen of the Company, may not here be considered out of place.

Mr Stagg was very methodical, and practically carried out the idea that "Order is Heaven's first law." "Everything in its proper place" was one of his fundamental rules; and unflinching rectitude guided all his transactions. An important characteristic was his determined perseverance; and his quick perception, in the adaptation of different men for different situations, was extraordinary. Where he saw native talent, accompanied by sober and industrious habits, he was ever ready to lend a helping hand; and to his patronage of the rising genius of several of the younger workmen, may be attributed many of those improvements which subsequently were effected in the practical operations of the Company.

By curbing, with a firm hand, the depraved habits but too prevalent among the mining operatives, and with a fixed determination to suppress the intemperance which went far to destroy the social happiness, and to suppress the sense of moral responsibility among the workmen, he most endearingly endeared himself to the intelligent and good of all ranks. In lieu of the low pleasures in which the workpeople had been accustomed to indulge, he substituted enjoyments of a higher caste, and opened out to them avenues for obtaining knowledge, which they had hitherto neither possessed nor dreamt of. After early prejudices were overcome, few men have received more spontaneous tributes of respect, than did Mr Stagg.

One of his first acts was to prohibit his men frequenting public houses; and "partnership drinks," in especial, he resolutely discouraged. In order that our readers may have an idea of these, it may be as well to glance at their origin. When first the Company commenced operations in Teesdale, there were no monthly payments of "subsistence money;" but, instead, once a quarter, when bargains were taken, it was customary to advance each man ten shillings. This sum was usually spent at the public house, where each partnership had an 'open account.' In discharging these accounts every man contributed an equal share, so that if one of the partnership was disposed to cultivate habits of sobriety, he might isolate himself from the society of his companions, but was still amenable for a share of the sums disbursed in their
bacchanalian orgies. Thus many, through the force of circumstances, were launched into the vortex of intemperance, who might otherwise have been sober and industrious men.

Mr Stagg saw the magnitude of these evils, and struck at their root, and did not rest satisfied till the "partnership drinks," at least, were abolished.

A while after Mr Stagg came into office, his uncle, Mr Josiah Stagg, sen., died, and Mr Dodd also; and so fully convinced were the Company of the superior abilities of the subject of these remarks, that they placed him at the head both of their mining and smelting departments. One of the first evils connected with the working of the mines that Mr Stagg remedied, was the practice of letting bargains to men who got others to work them at a lower rate of wages. This he completely abrogated, as being opposed to all sound principles of justice. Being deeply sensible also of the ruinous consequences of long credit, he obtained an advance in the "subsist money" to £2 per month. By this means, families were enabled to supply themselves with the most essential necessaries of life, and to pay for the whole or principal portion monthly. Finally, in a career of 30 years or upwards, as chief agent of the Governor and Company, no single business transaction of Mr Stagg could be construed to his disadvantage.
HISTORY OF LEAD MINING IN
TEESDALE.

No. VIII.

About the year 1820, the Company extended
their efforts to benefit the moral and social condi-
tion of their workpeople. Mr. Stagg was deeply
impressed with the importance of doing something
in the way of educating the rising generation, as
he recognised the fact which is acknowledged to be
a statistical one, that "Ignorance is the mother of
Vice," and that unless the working classes were
better educated, the most stringent rules would
not be sufficient at all times to curb the turbulent
passions of an ignorant population. His first re-
quest was for a school, and this led to the erection
of the present spacious school room, where the chil-
dren of the workmen obtain a very fair education,
in the most useful branches of learning; and es-
pecially since they secured the services of the pres-
cent efficient master, has the progress of the chil-
dren been of the most satisfactory character.

In the year 1821, the Skears mine was com-
menced, which from its easy distance from Middle-
ton (only about a mile), makes it very convenient
for the workmen residing there. This mine, although
not so productive as Lodgesyke and some of more modern date, has yielded a large amount of
ore, which has amply repaid the capital expended.
The same year, the Company engaged an experi-
enced medical practitioner to attend upon the work-
men and their families, thus relieving them from
the burden inseparable from personal or domestic
affliction, where there are bills of medical attendants
to pay. About the same time, the Company com-
menced erecting those cottages for their workmen,
commonly known as New Town, or, more properly,
Masterman Place, so called as a mark of respect to
the then governor of the Company; and these cot-
tages each have a garden attached, which, while
laid out in a very tasteful manner, and abounding
in every variety of floral beauty, the more substan-
tial requisites are not forgotten; for their vegetable
produce shows a care and skill in the manage-
ment, highly creditable to the workmen. These
beneficial alterations had not been many years in
operation when a period of unprecedented depres-
sion ensued, which nearly terminated mining op-
erations in Teesdale for a season. At all events it
was fortunate that the members of the company
were extensive capitalists, and had an active, ener-
getic, and economical local superintendent, who,
while faithful to his employers, deeply sympathised
with the workmen. There was a combination of
causes to produce this depression. Lead was sell-
ing at its minimum price, being at from £11 to
£13 per ton. The Lodgesyke mine was denuded
of the richest portion of its mineral treasures, and no other at all approximated to it in richness; and the work procured from the mines entailed a proportionate increase in the expenditure in washing operations, as the yield became less; but, at this juncture, an event took place which relieved the Teesdale district from the pressure of its redundant population. The event we refer to was what is commonly called the first pitmen’s strike, which took place about the year 1830, in connection with the most important collieries of the North. Very opportunely for the coal owners, lead mining was in the depressed state mentioned above, and through that circumstance they were able to secure a good supply of tolerably efficient workmen. Parties who had scarcely before ever left their native dale, migrated to a fresh sphere of labour, where, although strong pecuniary temptations were held out, they knew they would be regarded with feelings of bitter hostility by those workmen whose places they were intended to fill. The writer well remembers being the witness of affecting scenes, when manly bosoms heaved with emotion, and eyes glistened with tears as they looked on those scenes which were alike hallowed by the recollections of childhood and the pleasing reminiscences and tender associations of more mature years; and even after they had got fairly located in their fresh places of abode, the old homesteads were still dear to their hearts; and when the speculations of the Company were again crowned with success, the majority of them gladly responded to the call to return, and cheerfully resumed those labours which were more congenial to their tastes and early habits.
HISTORY OF LEAD MINING IN TEESDALE.

After a period of very severe depression, which caused many to seek in the coal fields employment that was more remunerative, the prospect, in connection with mining speculations, began to brighten, and especially after the Thornberry mine had turned out so prosperous, many of those involuntary exiles who, from stern necessity had left their native dale, gladly availed themselves of the opportunity now offered of returning to the sphere of labour that was more congenial to their tastes.

The Thornberry mine is situated in the manor of Eggleston, and was wrought with some degree of success many years before it again became productive in the year 1832; and it furnishes a very striking instance of the precarious character of mining speculations. The writer has heard it said, that for nearly 40 years, no amount of any moment of ore had been procured. Sometimes an old working would be discovered, which excited hopes in the expectant workmen that the "old man," as they called the genius loci, would have left behind him some gleamings of mineral treasure; but it must have been very tantalising to find their hopes were something like the delusive mirage of the desert, which leads the thirsty traveller to imagine that the cooling waters of the transparent lake are before him, but the pleasing thought of speedy relief gives place to deep despondency, as the optical delusion is superseded by the painful reality that he is probably still far distant from the grateful element.

With something like the feelings of the disappointed traveller, would we suppose that the miner, when hopes of success had for a moment dawned upon him, only to end in mockery, again resumed his labour at the stubborn rock; but, at last, however, unexpectedly, the mineral treasure which they had so long sought was laid open to their astonished gaze, and, with grateful hearts, a deputation carried a specimen of the ore sought to Mr Stagg, who shared in their joy on beholding this first fruit of the rich harvest which this mine in a short time yielded, comparatively to the large amount expended in the research,—for no less a sum than £30,000 had been disbursed ere this first pledge of future success had been obtained.

Shortly after, a discovery made by Mr H. L. Pattison, in connection with smelting operations, conferred a great benefit on those engaged in the manufacture of lead. This process, known as the separating or crystallizing process, while it increased the number of operatives employed, effected a considerable saving to the employed, as the silver could be separated from the principal portion of the lead at such a low temperature that little waste took place. The lead which is now refined contains about 200 ounces of silver per ton, against 10 ounces as formerly.

But, while we are indebted to Mr Pattison for this discovery, yet local parties have carried it out to a high state of perfection. For these improvements, in Teesdale, we are indebted to the late Mr J. D. Stagg and his colleague, Mr. R. Richardson, (the present indefatigable agent of the Lead Company at Eggleston), who, with untiring energy, seconded by the workmen under their orders, were not satisfied until they obtained the consummation of their wishes.

(To be continued.)
HISTORY OF LEAD MINING IN TEESDALE.

The further development of the mining industry of the district having led to inquiries from many of our readers on the subject, we have availed ourselves of the opportunity to draw up a brief History of Lead Mining in Teesdale, in the compilation of which we have been kindly assisted by Mr. William Pinkney, of Egglestone.

It has been conjectured that the Ancient Britons or the Romans were the first to work the lead-mines of Teesdale, mining-tools and implements certainly older than the Saxon era having been at various times discovered in the dale. The Romans undoubtedly procured lead in the North of England, as specimens have been found in the remains of their stations and camps at Whitley and elsewhere. The mines in Swaledale and Arkendale are said by tradition to have been worked before the time of the Roman occupation; and traces of the primitive methods of obtaining the ore by means of "hushing," may be observed on the moors adjacent to the Wear, the Tees, and the Swale, the ancient watercourses and boundaries of the reservoirs being still distinguishable, though dried-up, and covered with vegetation that has been the growth of many centuries. On high ground, on both sides of the river Tees, some of the old smelting-pits, with heaps of slag beside them, may yet be discerned among the heather; and the abundance of wood in Teesdale, at that early historic period, would be of the greatest service to the miner. Near Barnard Castle, at Penny Hill (from the Celtic Pen, a headland), there lay some twenty years ago, a large accumulation of slag left by the ancient smelters. This attracted the attention of some workmen employed at Mr. Mark Sherlock's mines, and they, after assaying part of the slag, obtained leave to try their skill upon the whole of it. They set eagerly to work, and all the slag was carted to the Gaunless Smelt Mill, about a mile distant, where, after being put through the usual series of operations, it yielded more than 206 cwt. of lead, proving how imperfectly it had been originally manipulated. Whilst this slag was being removed, unmistakable evidence was afforded that, not only had lead-ore been smelted on the spot, but also sheet-lead manufactured. Numerous scraps of sheet-lead were discovered, together with a considerable quantity of fine loamy sand, unlike any other sand in this district, and unquestionably brought from a distance. A small pit had been formed in this sand, into which the lead-ore had been run, and at the bottom of this pit was found a piece of lead three or four stones in weight. On the rising ground west of Mr. Amos's farm, in Marwood, near Barnard Castle, there were, thirty years ago, many of these antique smelting-pits, and a vast quantity of slag, showing that smelting on a large scale had here, at some remote date, been conducted; but the slag unfortunately was not tested, the whole of it being led off with the view of repairing the adjoining highway.
For several centuries after the Romans quitte
Britain, there is but slender record of mining op
erations in this country, though no doubt the Saxons as
well as the Normans followed mining to some extent.
In the fifteenth and sixteenth centuries, however,
mines in the North of England were regularly worked;
yielding both lead and silver. In 1468, Edward the
Fourth granted all mines of gold and silver, and all
mines of lead holding gold and silver, north of the
Trent, to Richard Earl of Warwick (Lord of the
Manor of Barnard Castle) John Earl of Northumber
land, and others, for forty years. In 1475 the same
king gave the mines of Alston Moor to Richard Duke
of Gloucester, Henry Earl of Northumberland, and
others. In 1478 King Edward granted (on the sur
render of former claims) all mines of gold, silver,
copper and lead, in Northumberland, Durham, and
Westmorland, to William Coderswick and Doderswick
Vaverswick, two immigrants from Flanders, who, it
appears, introduced new methods of working the mines,
extracting the metal from the ore by a purer process,
and thus obtaining a good profit for themselves in ad
dition to paying a large royalty to the king. The
"lord of the soil and the curate" were also remunerated
from the produce of the mines. Little more is
said about lead-mining until the reign of Queen Eliza
beth, when an association was formed entitled the
Society for the Mines Royal, on whom was bestowed
a grant of gold, silver and copper, within all the
mining counties, with liberty to assign parts and por
tions. There is a document still extant, dated Septem
ber 28th, 1571, from which we learn that, on that
day, Robert Bowes and Charles Chaytor, esquires,
at an inquisition held at Flakebrigge, in the manor of
Egglestone, in Teesdale, surveyed and valued the
Flakebrigge lead-mine, formerly the property of
Charles Earl of Westmorland, attainted of high treason.
It appeared that "the premises were much wrought
in the time of the said Earl, and that presently they
are in great ruin and decay." The mine was leased
to Ralph Bowes, for twenty-one years, at the yearly
rent of sixty shillings. Robert Bowes, knight, and
George Bowes, esquire, had been lessees of a lead-mine,
within the New Forest, Teesdale, under King Edward
the Sixth, their lease being dated February 4th, 1550.
Early in the sixteenth century, owing to the increasing
scarcity of wood wherewith to smelt the ore, the pur
suit of lead-mining in Teesdale seems to have been in
a great degree abandoned, and much distress was
experienced by the people, who did not readily take
to other occupations.
The London Lead Mining Company—still flourishing, and to which the district owes so much—was established in Teesdale nearly two hundred years ago. The foundation of this Company is assigned to several members of the Society of Friends, who, journeying through Teesdale, had their attention arrested, and their sympathies aroused by the signs of poverty and destitution they everywhere beheld; and forsook mines and the crumbling ruins of workshops, shewed how entirely the industrial progress of the people had been checked. The mines, they were told, were still as prolific as ever, but there was no fuel with which to smelt the lead. All the wood was gone from the hillsides and the valleys, and the smelting-hearths of the miners were cold and deserted. The undrained and unsheltered land gave but scanty return to the unskilled hands that attempted to cultivate it, and famine awaited the population. To add to the horrors of the situation, the plague, twice within thirty years, had ravaged the district. The travellers, with the characteristic benevolence of the religious denomination to which they belonged, could not leave the scene of so much misery, without pondering upon some means of alleviation; and the conclusion they came to was to endeavour to revive the smelting of the lead. Experiments under their care, and at their expense, were made, and ultimately it was announced that lead-ore might be smelted through the agency of coal, in opposition to the opinion that had always hitherto been held that wood was indispensable. The theory was carried into practice, and there was formed the association still widely known as "The Lead Mining Company, for Smelting down Lead Ores with Pit-Coal and Sea-Coal." Thus the energies of the people were re-awakened, and prosperity, which has since known no diminution, was established.

In referring to the Lead Mining Company, or, as it is sometimes termed, "The Governor and Company," there is much with which the inhabitants of Teesdale ought to be acquainted, for it is primarily through the beneficent action of this company that the dale owes whatever wealth and importance it possesses. With the resuscitation of mining, came also improvements in agriculture, with a corresponding addition to the social comforts of the people. The neighbouring proprietors, stimulated by the example of the Lead Company, proceeded not only to develop the capabilities of the soil, but also to explore the mineral riches on their estates; and thus it is that the mining and agricultural interests of Teesdale have as it were grown up together, and become inseparably connected. The country is no longer bleak and barren; for the land in the valleys is divided into fertile fields, and woos and plantations have everywhere arisen to replace those consumed by the earlier smelters.

(To be continued.)
The Lead Company, having arranged with the owners of the soil, soon had a wide extent of country opened to their labours. Old mines were re-worked, and new ones commenced; and the town of Middleton, as being well situated for the purpose, was chosen as the Company's headquarters in Teesdale. The landed proprietors themselves, in several instances, worked the lead on their estates; and other associations, in imitation of the Lead Company, were also established.

It will now be necessary for us to give a brief description of the mineral veins, and the mode of working them, in order that our readers may the better understand our subsequent remarks. Lead veins are divided by Mr. W. Foster, in his Sections of the Strata, into various kinds. Those which are productive run nearly east and west, and are called "rake" veins. Some of these are termed "gash" veins, from being the widest at the top, and gradually contracting until they terminate in the lower sills. Others, which he denominates "slip" veins, show more diversity in their form, and have the appearance of a number of irregular steps, from the sloping of the strata in different places. "Pipe" veins, again, are more circular in their form, and lie at every variety of inclination from the perpendicular; but they seldom if ever assume a horizontal direction. Then there is the flat or dilated vein, which opens out horizontally, not unfrequently to a considerable width. In addition to these varieties of veins there are frequently lodes forming junctions with them like branches of trees, leaving the main vein in every direction; and transverse or cross veins, which are never, so far as is known, productive:—not only so, but they in general destroy the productiveness of the veins they intersect. These veins often make a great disruption of the strata through which they pass; a very remarkable instance of which was discovered some few years ago at Close House Mine, where some workmen employed by the Lead Company, in driving a level, came to a cross vein, and after getting through it, found that the stratum on the opposite side was thrown up ninety fathoms. The sides of a vein are called its cheeks, and, in Teesdale, the veins have an inclination, or, as the miners call it, a "hade," towards the north; and the strata, unless interrupted by the crossing of a vein, or some other cause, rise towards the west. The interior of the vein presents a diversity of forms. Sometimes the rock throughout is sparingly mixed or impregnated with ore; at other times there are ribs of pure galena, at certain distances from each other, varying in thickness; and at other times a single rib in the vein is two or three feet thick. Occasionally the veins open into irregular chasms, containing water, and mingled with the water are gravel, clay, detached fragments of rock, and pieces of galena in nearly a pure state. As a rule wet veins are more productive than dry ones; and this goes to support the theory that they are formed through mineral springs. Another fact which strengthens this conclusion is, that the ore procured nearest the surface runs more easily in smelting; and if that which is worse to work be exposed to the atmosphere, its porosity is increased, and it is more easily acted upon. From this it may be inferred that the ore at the bottom of the vein is first deposited, and the deposit is continued through an indefinite period, until the fissures are filled up. It is not improbable,
either, that the wonderful agency of Electricity has been manifested in the beautiful processes carried on in Nature’s subterranean laboratory. This hypothesis may be maintained from the fact that the cheeks of veins frequently bear evidence of having been subjected to the action of very powerful heat, such as electricity is calculated to produce, and the ores procured from these veins are generally blue or sulphate of lead, and and white or carbonate of lead, the latter being obtained in much smaller quantity than the former. On the top of the vein is what the miners call a “rider,” which sometimes runs out to the surface, and consists generally of different kinds of spar, impregnated with ore, and in some cases mixed with the ores of iron, copper, zinc, and other metals. This rider often bears down a considerable depth into the centre of the vein, and in other cases there is a “post” two or three feet thick on each side. The width of the veins in Teesdale varies from two or three feet to thirty feet and upwards. The best ores are those, of course, which contain the greatest per centage of lead, and are most free from an admixture with other metals. The best ores seldom contain less than fifteen or twenty per cent. of sulphur; but while the inferior ores hold a less per centage of lead, they contain a larger amount of silver. This is accounted for on the ground that the other metals which are found in combination with the lead, while in the form of ore, cannot be separated, by reason of their weight, in the process of washing; but, when the smelting takes place, the silver is released from its combination with the other metals, and, having a strong affinity for lead, amalgamates with it.
The earliest method of working lead appears to have been by shafts—by following the surface indications of ore downwards—the driving of levels for drainage being of later origin. The general use of levels or galleries large enough to admit of ponies travelling in them is said to have been introduced into the northern lead-mines by Sir Water Blackett, about a hundred years ago. Cast-iron rails, instead of wood, were first used in Nent-force level. Tin pipes were first used for ventilation by Lord Carlisle and Company, at Tynemouth bottom mine. Mr Stagg, of Middleton-in-Teesdale, superintendent of the London Lead Mining Company—of whom we shall have to speak more hereafter—introduced iron pipes at Rumbgill; and Mr Dickenson first used lead pipes for the purpose of ventilation in the Nent-force level. Any of these materials were an improvement on the wooden boxes, which rapidly decayed, and so rendered the air impure, and which moreover could with difficulty be kept water-tight. Amongst the more important later improvements is the addition of inclined flues to carry off the smoke from the smelt-mills. That at Egglestone extends to a considerable distance along the moor, and the tall perpendicular chimney at the outlet may be discerned for miles. In our own time a valuable and interesting improvement has been made by Mr Hugh Lee Pattinson in the process of separating silver from lead, founded on the simple natural law that melted lead crystallizes, while silver remains fluid. A single ingot of silver, recovered by this process, was shown at the British Association's Meeting at Newcastle, a few years ago, weighing 17½ cwt., and worth upwards of £8000. Mr Pattinson's method was further improved upon in Teesdale, by the late Mr J. D. Stagg and the late Mr Robt. Richardson. The average amount of silver extracted from the lead at Egglestone is ten ounces per fother.

To resume our history. The London Lead Mining Company, at the commencement, had much uphill work. The prejudices of an ignorant population, and the imperfect modes of conducting some of the operations, together raised obstacles that would have disheartened men of less fortitude and perseverance. One great drawback was the rudimentary style of washing the ores as procured from the mines. Water there was in abundance, but machinery for this purpose had not been invented, and all the washing, for at least a century after this date, was done by hand-labour. The art of smelting had been so entirely forgotten, that workmen had to be specially educated for this branch, the outlay for which, was borne by their employers. The Teesdale ores, procured by the Company in the earlier stages of their transactions, were carried to the Whitfield and Acton smelt-mills, in Northumberland, a distance of nearly thirty miles, on the backs of "jagger galloways," for the most part over bleak and trackless moors. Most of the mines being situated in wild and desolate places amid the fells, were shut out from any better means of locomotion; and it is not fifty years since Lord Lowther went in the first carriage which passed from Alston into Teesdale, over Yad Moss.

More than a hundred years ago, Henry first Earl of Darlington, with the vigour of intellect which distinguishes his race, foreseeing the benefits that would accrue to the population from a better development of the mineral wealth of the district, erected the first
smelting-furnace" in Teesdale, at Langdon Beck, about eight miles west of Middleton. This establishment, which comprehended all that was then known of the art of smelting, was the precursor of those complete and well-organized smelt-mills which have since arisen in the dale, where every resource of modern science has been brought into requisition.

The Lead Company, represented by Mr Robert Stagg, first practised the art of refining, by means of what was termed the Devonshire furnace, at the smelt-mill they built at Egglesstone, some of the earliest workmen being natives of France. Thence the same system of refining was extended to Whitfield Mill.

In the neighbouring valley of the Lune, mining enterprise was, about this period, resumed. The Rev. W. Bell, of Laidithkirk, in the Lord Fitzhugh Magazine, gives the following abstract of authentic documents bearing on the subject:—"A list of the veins of lead in Lune Dale, in Charles Bainbrigge’s lease from W. Blackston Bowes, Esq., for the term of 31 years, of which twelve are past, and the mines are unwrought. Gave Squire Bowes a true list of all veins of lead and iron in Lune Dale (a.d. 1731). Then gave an account of the veins of lead, beginning at Saddlebowl hill. One vein runs to the north-west, under the hill, on the right, going up the dale. One vein to the north-west, going to Thringarath. A supposed iron-mine on Margill-hill point. One vein in Margill Tarn, which tarn was drained by Charles Bainbrigge, then undertaker of all the mines in Lune Forest. One vein jumps in close to the rocks in the hillside, and at many places quite off, but still dips until you come to the hoggystone that lies on the top of the veins. Afterwards the vein opens, and grows very broad and large at the entering into a high hill. On the point of a very high hill, fronting eastward to Wythes-hill, is a supposed mine of iron or other metal; it being so easy to come by, that shepherd-boys throw down the hill. Advancing, are several veins of lead, to the right hand of Margill Tarn, which Charles Bainbrigge drained; now a great pond, called Carles Tarn. Pass Wemmergill Beck, and when past, see three great veins, which run up to Arnigill, several miles long. Pass Arnigill to the Standards, are several veins of lead extending a long way. Mounting the hills to Close House are several veins, and some trials that have been made by the ‘Old Man.’ To Lunehead:—here are the finest and most certain mines of lead, with streaks and bags of lead-ore, which produce the best and finest for smelting in England, and got at the cheapest rate. In this place are the south veins, several miles long; the middle vein, the north vein, the north screen, the south screen; all brave and noble veins.—In connection with this subject (Mr Bell adds), it may be interesting to mention that, about a mile from the hall, up Wemmergill Beck, on the west side of the stream, there was formerly a smelting-mill. From an old account book of one of the carriers—James Dent, of Grassholm—I am able to state a few particulars in connection with it when it was at work. From November 2nd, 1760, to December 11th, 1760, Dent carried thither from Birkdale, 40 bings, 4 cwt. of lead-ore; from Lunehead, 95 bings, 12 cwt.; from Standards, 11 bings, 1 cwt.; from Cronkley, 2 bings, 2 cwt.; from Arnigill, 4 bings, 4 cwt.; and from Close House, 31 bings, 2 cwt.; total 184 bings, 7 cwt.

From July 16th, 1757, to September 25th, 1759, he carried lead from the mill to Wolsingham, to the amount of 629 4 cwt. The lead-mines in Lune Dale, we may add, are now worked by the Governor and Company; and the ironstone near Holwick, in the same locality, is only now in process of being opened out, by a company of whom Mr J. W. Pease, M.P., is, we understand, the head.

(To be continued.)
The Lead Company, for many years after they had established themselves in Teesdale, made a fair rate of progress, but there was nothing in their career particularly worthy of notice until, about a hundred years ago, the first Mr Robert Stagg was appointed their superintendent in this district. Mr Joshua Stagg (his brother) at the same time held office under the Company; and Mr Dodd, the manager at Nenthead, had the letting of the bargains to the workmen. The mines at Flakebridge, Rocket-gill, Parkin-groove, and Wire-gill, may be enumerated among the earlier efforts of these gentlemen; and although none of the above mines were so productive as some of the Company's later discoveries have proved, yet they were sufficiently so to make a due return for the capital expended.

About this period stamping and crushing machines were introduced at the Company's works. Previous to the invention of these auxiliaries, the whole labour of washing the ore, and separating it from the refuse with which it is encumbered, was performed by hand; and while the men were engaged working in the bowels of the earth, in the most painful postures, with an insufficient supply of light and air, and their lives constantly jeopardized,—boys of tender age, and even women, were laboriously employed, with heavy iron implements, in pounding the rock containing the ore, before it could be submitted to the manipulation of the washers. Even the lever or brake-sieve is comparatively but a modern invention, and superseded the hand-sieve previously in use. These operations are all done now by machinery of beautiful construction, propelled by water-power; and it is long since women were emancipated from toiling at the mouth of the mine; while boys, though still working, have tasks fitted for their strength.

The angler in the River Tees sometimes complains of what is called the "bush" in the stream, which proceeds from the periodical discharge into the river and its tributaries of the water of the reservoirs in which the lead-ore is washed. Although the Tees is discoloured by this intermixture, yet that there is nothing really hurtful to the fish will be apparent from the following statement:—At each mine where the washing is carried on there are three sets of "settling-pits," which receive all the water in which the lead has been washed, and which flows into the pits successively. In the first series of pits five per cent of lead is found, in the second two per cent, and in the third only one-quarter per cent. The water is then let off to find its way to the Tees, bearing with it no lead, but simply a sediment of mud.
One of the secrets of the success of the Lead Company has been their perseverance, and by this they have not unfrequently profited where others have failed. In some well-authenticated cases, local parties, who occupied the ground before them, and gave up dispirited, were within a few steps of acquiring a fortune. An instance of this kind occurred at the Manor-gill mine, which had been commenced by a family named Walton. After trying for a considerable time, with only a limited return, they resigned their rights to the Company, preferring regular employment and a fixed salary to the further uncertainty of speculation on their own account. A few days after they had concluded terms with the Company, they cut a vein of great value, which if it had been their luck to alight upon it when working for themselves, they would have realized a respectable competency.

Some few years afterwards the Company obtained a lease of the ground in which the Lodge-yke mine was subsequently opened, and which had previously been tried by local speculators to their serious loss. The partnership or bargain was let by Mr Dodd to six miners, named respectively Richard Lee, George Watson, John Bussey, Isaac Raine, Richard Raine, and John Raine. They were each to receive £8 per fother for all the lead raised during the period of two years from the date of letting the bargain, and, in the meantime, to have each thirty shillings per month advanced on account. They worked for a year with no result; and then Mr Dodd wished to put an end to the trial, as he did not feel himself justified in further expending the funds entrusted to him. The workmen, however, had not lost heart, they still were confident that they should find lead, and they entreated that they might be permitted to continue their labours. Mr Joshua Stagg so fully shared their hopes that he, on Mr Dodd withdrawing the men's "lent money"—without which they could not have lived—generously came forward, and said he would take the future risk upon himself, and promised to supply the miners with provisions at his own expense. This infused new spirit into the workmen, and they laboured with redoubled energy. Success ultimately crowned their endeavours, and one of the richest mines in Teesdale was thus opened out. In six weeks the miners procured the astonishing quantity of 1,212 bings of ore; and in one year, from this mine, 16,000 bings were sent to the smelt-mill. It is stated that the Company, after receiving a liberal amount of interest for their outlay in this mine, invested the surplus—a princely sum—as a provision for contingencies; and it is probable that this store enabled them to prosecute their after-researches to a successful issue; where other associations, possessing less command of capital, would necessarily have had to retire.
The Thornberry mine, in the parish of Egglescliffe, was, some time afterwards, added to the fortunate workings of the Company, though for the long space of forty years it had been unproductive. A new generation of miners had grown up to follow those who had first broken ground at this spot, before the vein was cut. At last, unexpectedly, the mineral treasure was come upon, and, with grateful hearts, a deputation carried a specimen of the ore to Mr Stagg, who shared in their joy on beholding this first fruit of the rich harvest this mine yielded; but the Company had expended no less a sum than £30,000 at Thornberry before success was assured.

There is another disappointment to which the miners are occasionally subjected, as well as that of long and weary labour before reaching the vein of lead; and that is the bitter discovery that the ancient miners have already been there; and by some now-forgotten and covered-up level, have penetrated to and removed the deposit of lead. We once heard a miner relate how himself and several others had taken a partnership, and had worked regularly for a fortnight, every day giving fresh evidence of their approach to the vein; but one morning, when they thought they had gained the point where the glittering ore would be revealed to their gaze, "A hollow sound," said our informant, "followed the blow of the pick, and the next moment we struck slap into the 'Old Man.'" The mine had long before been explored from some outlet of which they had no knowledge, and their toil had been in vain.

A few years after the opening of the Lodgesyke mine, Mr Robert Stagg, through increasing infirmities, felt that he could no longer conduct the smelting-works of the Company in Teesdale and Cumberland, with the vigour that he considered so essential to prosperity; and Mr Dodd, too, from advanced age, was sensible that he ought to retire from active life. The Company, with regret, accepted the resignation of these gentlemen, and their choice of a successor fell upon Mr Robert Stagg, jun., then fulfilling the duties of agent to a large commercial firm at Newcastle-upon-Tyne. Mr Stagg, jun., felt a degree of hesitation at first, in undertaking so important an office, in which was concerned not only the disbursement of great sums of money, but also the control of a multitude of workmen, and he asked time for consideration. Finally he accepted the position offered him, and entered earnestly and hopefully upon his duties. Soon after his appointment, his uncle, Mr Joshua Stagg, died, and Mr Dodd also; and he had already given such satisfactory proof of ability, that the Company at once placed him at the head of both their mining and smelting departments.

He immediately set about a thorough investigation of the whole works of the Company, together with an enquiry into the social condition of the miner, and he discovered much that he considered capable of improvement.
ment or remedy. He curbed with a firm hand the thoughtless and improvident habits of the miners; and determined to suppress the intemperance which went far to wreck the home happiness and lower the sense of moral responsibility among the workmen. He thus endeared himself to the intelligent and the good of all ranks, and his name became a power in the dale, and few men have received more spontaneous tributes of respect in the localities in which they dwelt than did Mr Stagg.

(To be continued.)
HISTORY OF LEAD MINING IN TERRASDALE.
(Continued).

One of the first acts of Mr Stagg, as the Lead Company's Superintendent, was to prohibit, as far as possible, his men frequenting public houses. What were called "partnership drinks," he resolutely discouraged, and did not remain satisfied until he had abolished them. In order that our readers may have an idea of these, we will say a few words concerning their origin:—

When first the Company commenced operations in Teesdale, there were no monthly payments of "subsist money," but, instead, once a quarter, when bargains were taken, it was customary to advance each man ten shillings. This sum was generally spent at the public-house where each partnership had an open account. In discharging these accounts each man contributed an equal share, so that if one member of the partnership were disposed to cultivate habits of sobriety, he might withdraw from the revels of his companions, but was still answerable for a share of the sum disbursed in their orgies. Thus, many, through the force of circumstances, were launched into the vortex of intemperance who might otherwise have been sober and industrious men.

Among other abuses connected with the working of the mines that Mr Stagg suppressed, was the practice of letting bargains to men who got others to work them at a lower rate of wages. This practice, he justly considered, was opposed to every principle of equity, and had a detrimental influence upon the Company's transactions. He observed the ruinous consequences that long credit entailed upon the miner, and he advanced the subsist-money to £2 per month. By this means families were enabled to supply themselves with the most essential articles of food and clothing, and to pay for the whole or the principal portion monthly.

He was sensible, too, that "all work and no play" was not good for the labourer, and, therefore, whilst he steadily disencouraged the low pleasures in which the men had been accustomed to indulge, he encouraged enjoyments of a higher cast: and besides affording them the opportunity for healthy bodily recreation, he opened out to them avenues of obtaining knowledge which they had hitherto neither possessed nor dreamt of.
Mr Stagg was aware of the importance of early education. He recognised the fact that "Ignorance is the mother of Vice," and that unless the working classes were better instructed, the most stringent rules would be insufficient to restrain them from evil. Therefore, about the year 1820, he founded a school, where the children of the workmen might obtain a fair education in the most useful branches of learning, and thus be fitted to enter creditably upon their allotted path in life. This school has more than realized all the hopes that were entertained of its efficacy; and in the noble building subsequently reared as the Company's School Room, we see still further efforts directed towards the benefit of the rising generation.

In 1821, under the same benevolent management, an experienced resident medical practitioner was engaged to attend upon the workmen and their families, thus relieving them of a burden which, in some instances, had been found almost insupportable.

At the same time, under the advice of their estimable Superintendent, the Company commenced erecting those cottages for their workmen, at Middleton, commonly known as New Town, or, more properly, Masterman Place, so called as a mark of respect to the then Governor of the Company. These cottages, which stand not far from the River Tees, have each a garden attached, where every variety of floral beauty is displayed, and where the more substantial requisites for household consumption are not forgotten. The produce is abundant, and the prize-lists at the local Horticultural Shows testify to the skill and care with which the Middleton cottage-gardens are cultivated. A walk through these gardens, which cover a large extent of ground, and permission to view which may be readily obtained, will, at the proper seasons, interest and gratify the visitor.

In a career of more than thirty years as Chief Agent of the London Lead Company, Mr Stagg neglected nothing that tended to elevate the social and moral condition of the miners; and, in every business transaction the same uprightness and force of character were manifested. A true philanthropist, his labours yet bear fruit; and, so long as the Lead Company flourishes, so long will the name of Mr Stagg be honourably remembered in connection with it.
Amongst the so-called diversions popular in the district when Mr Stagg undertook the management of the Lead Company's works, was cock-fighting, to which many of the miners were passionately addicted, and they would travel for miles to witness the "sport." Every town and village then had its cock-pit, which was resorted to by men of all conditions. In Steele's History of Methodism at Barnard Castle (a book full of valuable local information), we find the following anecdote on this topic:—"William Richardson [of Newbiggen] a class-leader, was proverbial for strict integrity of character, so that it became a common saying, "If there be a good methodist, old Willy Ritson is one." There was however, one occasion when this high opinion of his trustworthiness was shaken. Arrangements had been made amongst the miners for a great cock-fighting match to take place at Middleton, between the Weardale and Teesdale mains. Some of the combatants had to be sent from Manor-gill groveshop to engage in the bloody scene, but it became a question amongst the men as to the most proper person to be entrusted with such a commission, no little jealousy of each other being entertained. A thought, however, darted into the mind of some individual more penetrating than his fellows, that if Willy Ritson could get to take charge of them, they could not have a better man. They obtained his consent to deliver a bag, in which they had deposited the cocks, at a certain house in Middleton, without acquainting him with the contents. As he trudged along the fell, the secret was betrayed by one of the chanticleers popping his head through a hole in the poke, and setting up a loud crow. Willy was no doubt at first a little startled, and, indulging his soliloquising reflections, began to ruminate on the evils which his innocent companions would occasion; the cursing, swearing, gaming, &c., all presented themselves to his glowing imagination. But could it not be prevented, by destroying the cause? The thought was rather to the deed. He took them out, one by one, wrung off their necks, replaced them in the bag, and delivered it at the appointed house. As may be easily conceived, the fury of the cock-fighters was unbounded, and in the first transports of their rage his life was in no small peril."
The miners were also fond of pugilistic contests, which they followed to an inordinate extent, Sunday afternoons sometimes being devoted to the settlement of quarrels that had arisen during the week. Notwithstanding these rude habits, which were common then to the labouring-classes all over the kingdom, the Teesdale miners were thoroughly imbued with loyalty and patriotism. Of powerful and athletic frame, and daring and enterprising nature, they possessed in a high degree the qualities of soldiers; and in the early part of the present century, when England was threatened with a French invasion, there was not an able-bodied man among them but was enrolled in the Teesdale Legion, one of the volunteer regiments then formed for the national defence.

(To be continued)

Erakten.—In our last, for Thornberry-mine, read Alnwick mine.
In 1821 the Skears mine was commenced, which, being only about a mile from Middleton, is convenient for the workmen living at that town. This mine, although not so valuable as Lodgesyke and some of a more modern date, has yielded a large amount of ore, which has amply repaid the capital expended. The Little Eggleshope mine, in the estate of the Duke of Cleveland, was opened by the Company in 1848, and was for a time very productive, yielding a large quantity of ore of good quality, reaching, it is said, in one year, to 1000 bings. Of late the Eggleshope vein has been wrought most extensively at the neighbouring mine of Wiregill, in a westerly direction, also in the liberty of the Duke of Cleveland, the vein, in its opposite course, running into the manor of Bollihope, and touching upon a corner of the estate of T. Hutchinson, Esq., of Eggleston. Sharnberry mine, situate in the manor of Eggleston, has frequently yielded abundantly, but, at the present moment, the bulk of the ore raised is procured from an extension of the workings within the boundary of the Ecclesiastical Commissioners. Coldbury mine deserves to stand high on our list. It was wrought by the Messrs Hunt (a local association) before the Company obtained a lease of the ground, and although it was not at first so productive as Lodgesyke, yet it added a respectable item to the Company's general total, the ore containing a fair amount both of lead and silver. Coldbury has sometimes been reduced to a low ebb, and its entire abandonment was once recommended, but the enterprising policy of more extended trials has resulted in further success. Although a century has passed since its treasures were originally brought to light, yet it is now more prolific than ever, and it is probable that, this year, it will prove the leading mine in the Company's hands, its approximate yield for the twelve months being estimated at 5,000 bings. Redgrove mine also is producing well. The above are the principal mines wrought by the Lead Company in Teesdale, though new trials are made from time to time, one instance of which may be seen in Baldersdale, where several of the Company's workmen are at present in search of a vein of lead supposed to exist there. Lunesdale has not been a profitable field for the Company's explorations. The "Old Man" has been very busy there in centuries long past, and in his own cumbersome fashion, has contrived to reach the veins, and extract much of the lead.

The Company spare neither pains nor expense in the efficient carrying out of their operations; and a visit to their mines, smelting-mills, and other works, is interesting not only in a scientific point of view, but also for the opportunity it affords of inspecting some of the most perfect machinery ever invented for the saving of manual labour. It will be observed that nothing is lost. The produce of the mines is utilized to the highest degree known, and everything is conducted with a skill and precision founded upon the experience of a succession of wise and thoughtful directing heads.
The mines are, as a rule, wrought by means of levels. These are pierced to the surface at certain intervals for the purpose of ventilation, and where the mineral deposits in the veins bear down below the sole of the level, a shaft is sunk to a lower point, and the intermediate section is then worked. In this case it is necessary to have an engine for pumping out the water, and drawing the work. Occasionally a combined engine is used, as at Stanhope-burn mine, where an hydraulic-engine was first erected for the Company, for this purpose, by Mr Witham, of Huddersfield. At the Little Eggleshope mine, however, a most complete and effective arrangement, the invention of Mr Mark Pinkney, the Lead Company's engineer, is now in operation, and which, for the benefit of our practical readers, we will briefly describe. This engine was constructed for pumping exclusively, and the difficulty attendant upon the incompressibility of water was overcome by striking the valve at a point in the stroke when its work was done, by which the desired result was obtained. The drawing arrangements are equally effective. Up the shaft, and penetrating to the surface, is planted gearing for permitting a sheet-iron cistern to slide up and down. This vessel is filled out of a stationary cistern at the surface. The sliding cistern, when empty, is lighter than the waggon and cage which have to descend the shaft to the drift below; so that, when the suspended cage, containing the waggon going down the lower shaft, is disengaged, the sliding cistern is raised to the surface, and again filled with water, thereby counterbalancing the weight of the laden waggon at the bottom of the lower shaft, the same waggon having replaced the empty waggon that descended. Any difference there may be between the depths of the shafts is regulated by the size of the drums over which the rope turns. The sliding cistern, when it reaches the bottom, strikes a valve, which empties the water into a trough, whence it flows down the level, and is afterwards made available for ore-dressing outside.

The primitive mode of raising both water and ore was by means of a rough frame of wood, placed on the top of the shaft, with a wooden roller across the centre, wrought by two iron handles; and to this roller a rope was attached with a bucket at the end. We believe this method is still followed where new trials are making, and before the mine is brought regularly into work.

The mines, for the most part, are in lonely spots amidst the hills, though good roads have, of late years, been made, in several instances, connecting them with the main highways. Jagger galloways, however, are still largely employed in bringing the ore from the mines to the smelting-mills.
The Skears mine, near Middleton, is perhaps an exception to the general situation of the mines. To reach this mine from Middleton you pursue a path by the side of the Hudshope-beck—a rivulet that joins the Tees at Middleton. You enter upon the path at the bridge crossing the beck, at the further end of the town. The stream here runs between high wooded banks, the level space bordering the beck, being divided into gardens, where the miners who have the privilege of holding them, spend much of their leisure time in their cultivation. The path is tastefully laid out, and kept with scrupulous neatness, and would do no discredit to the finest grounds in the kingdom. In spring and summer the groves on each hand are vocal with the song of birds, and the murmur of the stream always sounds pleasantly in the dell. On the left of the beck, just where the walk commences, are the public baths established by the Lead Company; and beside them the stream forms a cascade, falling in a cloud of spray. As you proceed, you pass, on the right, the mouth of an old mining-level, embowered in honeysuckle, and close to it is a cottage built on the very edge of the beck. Crossing the brook by means of a wooden bridge, you speedily gain the Skears mining-shops, under the shadow of a steep cliff. The valley here contracts to a gorge in the limestone, that seems to have been cleft by an earthquake. The precipice rises to a great height on each side, and is half-concealed by trailing plants, whilst in the narrow channel at the foot of the rocks, the stream rushes in foam and tumult. Traversing this defile, you come out into open ground, everywhere bounded by lofty hills, and beyond this the road leads to other mines. You may return to Middleton by the higher path skirting the valley, and thus conclude a walk of no little interest.

Another of the mines we will particularly notice is that at Wiregill, not far from Egglesstone. It stands at the base of a wild hill, by the side of a mountain torrent. Our first sight of this mine was in winter, several years ago. It was one of those cold bright days, when exercise sets the blood a-glow, and when to live and breathe are pure enjoyment. There was snow on the hills, and the atmosphere was so transparent that objects at a great distance were plainly visible. Down the rugged path came a string of jagger-galloways, bearing their sacks of ore to the Egglesstone mill, their drivers cheerily singing or urging on the animals with kindly words. The brook flowing past the mine, and the pool below, were con-
gealed, and the huge waterwheel was clogged with ice.
Inside the men's lodgings, however, an immense fire
was burning, and there was no apparent lack of pro-
visions. There was no want, either, of intellectual
food, for there were both books and newspapers.
Being at the close of the week, some of the workmen
were preparing to leave for their homes, and we
readily consented to walk with them over the fell lying
between the mine and Middleton. With quick and
active step, with which we had no small difficulty in
keeping pace, our fellow-travellers mounted the steep
and slippery height, pointing out, as we went, all that
was attractive in the landscape. On gaining the
summit, we paused near a pile of stones there built up,
and the view that met our gaze well rewarded us for
the toil of the ascent. On the right were Cross Fell,
Mickle Fell, and the range of hills at the source of
the river Tees; all clad in their spotless vesture of
snow. Lower down, the dark heath here and there
cropped out amidst the snow on the hillsides, and the
enclosed land in the vale had not yet received its
snowy covering. We could see the Tees for miles, its
waters reflecting the wintry sunbeams, as it circled
through the fields, or momentarily sought the shelter
of the woods. Down the valley, on our left, there
were church-spires, steeples, villages, and farmhouses
innumerable, and we could perceive the thick smoke
indicating the sites of towns. The wide expanse, east-
ward, was bounded by the snow-capped Cleveland
Hills. When we began to descend towards Middleton,
the prospect of that town, nestling as it were in the
depths of the valley, with its environment of hills,
was pleasing in the extreme. The whole route, indeed,
comprised a succession of pictures so eminently beau-
tiful, that they will never be effaced from our memory.
At Middleton we parted with the companions of our
walk, who were going forward to Mickleton; and,
shortly afterwards, we were on our return journey to
Barnard Castle.
HISTORY OF LEAD MINING IN TEESDALE

(Continued).

It has been well said that "The character of the lead-miners is much influenced by the barren and secluded moorlands in which they live, but beneath a reserved exterior, they have great kindness of heart, and much natural intelligence." In connection with this statement, it may be remarked that, in the lead-mining districts of Teesdale, the ministers of the Established Church, of the societies of Wesleyan Methodists, Baptists, and Primitive Methodists, all labour acceptably and faithfully, and the several places of worship have no scarcity of devout and attentive hearers. The parish-church of Middleton is of ancient foundation; and up to the time of James I. it is believed that divine service was also maintained in a little chapel at Durpitt (or Deorpeeth) about four miles above Middleton. No trace of this building remains, but it is not unlikely that, in old times, service was celebrated in it by Austin Friars, from their house at Barnard Castle, who seem, in the Papal period, and before the Reformation had shed its purer light, to have conducted a kind of mission-work in the dale, visiting and consoling the sick, and exercising a beneficent influence amongst the unlettered population,—functions which are now benevolently fulfilled by self-denying members of the Church of England and of Dissenting congregations. The church for the upper part of the dale now stands in the township of Forest and Frith: it was built and endowed by Henry second Duke of Cleveland, and is capable of accommodating 300 worshippers.

Mr Steele states that the Wesleyans commenced their labours amongst the lead-miners of Teesdale about the year 1747; and it is recorded that the venerable founder of Methodism himself preached at Newbiggen and other places. The Wesleyans still retain a hold upon the affections of the people, and have several chapels in the dale. Mr Steele accurately characterises the dalesmen as "a robust, hardy race, a type of primitive days; plain and unsophisticated in their manners, but firm and steady in their principles."

The Primitive Methodists also have their places of worship, one of their chapels—that at Bowlees—being a large and imposing edifice. The site was given by Henry second Duke of Cleveland, and the circumstance is thus related:—The promise of the site was procured from His Grace by one of the members of the Primitive Methodist body, who, meeting the Duke one day, made known to him the wants of his brethren. His Grace demanding to know what good the Primitive Methodists had ever done, that they should ask such a favour?—the supplicant immediately replied that "They had made the drunkard cease to drink, the swearer cease to swear, and the poacher to lay down his gun." Arguments that were as weighty with the Duke as they would have been with any other reasonable person.
Mr Thomas Sopwith, F.R.S., in his notes of an excursion in Teesdale, speaking of the disposition and employment of the people says:—"The farms in High Teesdale are chiefly occupied by miners; and however rustic the outside of their dwellings, the interior not unfrequently presents an admirable specimen of neatness, cleanliness, and order. The strength and activity of the hardy race of men who inhabit them are accompanied by kindness of disposition, and no one who has experienced their civilities can readily forget them, or attribute them to any other source than a well-meaning mind. Women, as Ledbury says, are everywhere kind and attentive. In this district they are remarkably so. If it be pleasing to contemplate excellence in works of fiction, it is still more refreshing and instructive to witness it in real life. A comely matron presiding in a humble, but clean and neat abode—the mother of blooming and athletic children—a form and countenance retaining much of the grace and vivacity of youth—a ready smile, at once bespeaking a hospitable welcome and a cheerful mind—manners as free from awkwardness on the one hand, as from forwardness on the other, and apparently regulated by the influence of real kindness and genuine good sense. Such is a rapid sketch of female character, drawn in the lonely wilds of Teesdale, and the fidelity of the portrait was approved at the time by other and more competent judges than the artist."

Mr Sopwith, in this journey, was accompanied by the Rev. Anthony Hedley, and Professor Pillans, of Edinburgh, and the following anecdote of their rambles, from Fordyce's History, may not be unacceptable to our readers:—Professor Pillans wore a travelling suit and straw hat, scarcely fitted for Sunday appearance in church, and, at a morning consultation, on that day, it became a matter of discussion how the day was to be spent. The Rev. A. Hedley, himself one of the ablest preachers and most benevolent and enlightened members of the Establishment, said, "I will go and hear the best preacher, whether in church or meetinghouse." The Professor, from the cause above-named, preferred the Temple of Nature, and was afterwards found to have made the rocks and woods resound with his eloquent delivery of Mrs Hemans' fine sonnet on the Homes of England. An evening's ramble led the active Professor to admire art as well as nature, and in his rustic dress, and armed with a huge pole, picked up in the woods, he approached the hall at Egglestone, and sat some time under its porch, enjoying the beauty of the scenery. An open window displayed a rich array of books in the interior, and the Professor, who supposed the family to be absent, ventured to indulge in a temptation as irresistible as the sight of a good library. Great was his surprise and consternation to behold the family and a circle of friends! Explanation of his unwonted visit, in such a costume, so armed, and on a Sabbath evening, seemed beyond hope; and a speedy retreat was made. Safely returned to the inn, carrying the sturdy sapling, nearly seven feet long, he rejoiced in his escape, and declared he would keep the said sapling as a household god; but, alas! on the following morning, a portion of it had been taken to light a fire. The worthy landlady, observing that the Professor did not enter the church, at once expressed her opinion to his two companions that he "surely mun be a Papist."
Among the mining population of this district are the descendants of a number of miners who, about the year 1758, emigrated from the High Peak of Derbyshire to work the Langdon Beck mine, in Teesdale, of which they had taken a lease. At that time, a man might travel all the way from the borders of Scotland into Derbyshire, along the high ground constituting “the backbone of England,” and never put foot on cultivated land. The Rev. W. R. Bell thus remarks upon the arrival of these Derbyshire miners:—“It is said that thirteen families came. Their enterprise, however, was not rewarded with the success they expected, and some of them very soon returned to their native county. The Barkers, Drabbles, Redforns, Smedleys, Stalers, Rowbottoms, and Wagstaffs remained. Of these the Drabbles, Rowbottoms, and Wagstaffs have disappeared from the dale, but of the rest numerous representatives still exist. The ‘captain’ of the company was Mr Josiah Wagstaff. His tombstone in Middleton churchyard, on the south side of the chancel, bears this inscription, ‘In memory of Josiah Wagstaff, who died January 29, 1776, aged 58 years; with his two children.’ The parish-register has this record, ‘Daniel, son of Josiah and Jane Wagstaff, Middleton, buried October 26, 1760.’ Also this, ‘Thomas Stealey, of Forest, a native of Derbyshire, died Jan. 6, buried Jan. 8, 1806, aged 64 years.’ The late worthy host of the Langdon Beck Inn, a grandson of one of the Derbyshire immigrants, was able to relate a few interesting particulars of their history; but their descendants, generally speaking, have almost quite forgotten them.” It is a coincidence that, in Derbyshire, there is also a village of Middleton, for the most part supported by the adjacent lead-mines.

Connected with the statistics of lead-mining in Teesdale, it may be mentioned that, in 1767, a canal was projected, to extend from Stockton to Winston, with lateral branches; and Hutchinson, the historian, who advocated the scheme, estimated, amongst the other articles of carriage, 3,080 tons of lead annually from Teesdale.

(To be continued.)
HISTORY OF LEAD MINING IN TEESDALE.

Concluded.

About thirty-five years ago there was a temporary depression in the Lead Mining of this quarter. Lead was selling at its minimum price, and the yield of the mines had to a certain degree fallen off. Under these circumstances a number of the miners sought employment in the neighbouring coal-field. The Manager of the Lead Company did not, however, sleep at his post; and by the judicious expenditure of capital, in the vigorous prosecution of new trials, matters were soon retrieved. The price of lead again advanced in the market, the mines once more became prolific, and those workmen who had left the dale, returned with alacrity to resume their old occupations.

Mr Stagg, soon after this, to the regret of the Company and their workmen, and followed by the good wishes of the inhabitants generally of the locality, retired from the management of the Company's affairs, and took up his residence at Dishforth, where his useful and well-spent life was prolonged for more than twenty years, his death occurring on the 27th of March, 1857.

Mr Stagg, on his retirement, was succeeded in the office of manager by his son-in-law, Mr R. W. Bainbridge, who had associated with him, as superintendent of the ore-dressing and smelting departments, his brother-in-law, Mr J. D. Stagg. The latter gentleman relinquished his appointment after holding it for about four years; and the whole management of the business of the Company then devolved upon Mr Bainbridge. This he held for a lengthened period, till assisted by his son, the late Mr H. K. Bainbridge, who, until his lamented decease, in 1870, performed the duties previously fulfilled by Mr J. D. Stagg.

Mr Bainbridge, who resides at Middleton House, has now been principal agent for the Governor and Company for nearly thirty years; and we are justified in saying that in him the Company have a manager possessed of firmness, sagacity, and approved talent; and whose long experience has given him a perfect knowledge of the mineralogy of Teesdale—a qualification essential to the successful and economical working of the association he represents. In every department of the Company's extensive transactions, Mr Bainbridge's superintendence is apparent, and the minutest details are subjected to his inspection. Nor is Mr Bainbridge alone in his painstaking endeavours, for he has around him a staff of intelligent co-labourers, who ably emulate his untiring exertions. Moreover, this gentleman's name is not solely connected with the affairs of the Lead Company, for there is no benevolent or philanthropic institution throughout Teesdale—no religious or literary society—without his earnest and substantial assistance.
In addition to maintaining the educational establishments for the benefit of the miners and their children, already noticed in these chapters, the Company annually expend large sums in contributing to libraries, sick and clothing clubs, horticultural societies, and all charitable institutions in Middleton and the neighbourhood. They have also constructed good roads, and procured an abundant supply of pure water for the town. These improvements are not stationary, but are continually extended as need arises.

In the higher part of the dale, bordering upon Cumberland, there are lead-mines worked by bodies of shareholders. Some of these associations enjoy a measure of prosperity, and by all of them, we are told, the welfare of the workpeople is carefully studied.

The following extract from an article describing the town of Middleton, that appeared in our columns some few years ago, may not be unacceptable as a conclusion to this History: "Upper Teesdale may be said to begin, in ascending the valley, at the town of Middleton, one of the great seats of the lead-mining industry of the North of England. On approaching Middleton from either the east or the south, the scene is equally striking and attractive. From the east you descend a hill, and enter the town between rows of neat cottages with their accompanying gardens, the distance being filled up by the hills amidst which the Tees takes its rise, with occasional glimpses of the river itself, as it flashes round some heath-clad promontory, or rolls madly over the opposing rocks. From the south you descend to the bridge crossing the Tees, and before leaving the eminence, the town and its surroundings are fairly within the scope of vision. The town is placed on the side of a hill sloping gently to the Tees, and is bisected by a smaller stream, having its source in the gorges of the heights to the north of the town, whence much of the metal that forms the staple wealth of the place is drawn. Middleton thus appears to crown the summits of two activities, on one of which the venerable Church rears its sacred and time-honoured head, and on the other stands the spacious and commanding residence of the chief Agent of the London Lead Company; whilst on the margin of the river, and bordering the banks of the rivulet here joining the main stream, are green meadows, the brightness of their summer hue agreeing well with the water sparkling in the sunbeams. The variously-tinted hills form a setting for the whole, as appropriate as it is magnificent. . . .

The town of Middleton is clean, and compactly-built, and contains a commodious town-hall, and several excellent inns; whilst, as we have said, it is the seat of rich lead-mining operations. There are also school-rooms, libraries, and other institutions for the education of the artisan, most of which are maintained by the Lead Company, who truly have here distinguished themselves by rare benevolence, and a sincere interest in the wellbeing of those in their employment. The Company, through their highly-esteemed agent (R. W. Bainbridge, Esq.), are doing an amount of good which, though not all visible to the eye, is nevertheless the means of spreading happiness and peace, and a knowledge of those things which are good both for this world and that which is to come. See the pure water springing from the public fountains—the cottage-gardens brilliant with seasonable flowers—the pleasant houses shaded by fruit-trees—the firm and well-made roads—and last, not least, the cheerful and contented population;—and ask how it is that the treasures yielded by the frowning hills have been so well applied to the benefit of man?—and you will be told that "The Company" have done it all! The Company, we rejoice to say, are prosperous, and it ought to be the prayer of every inhabitant of Teesdale that they may long remain so!"
TEESDALE LEAD MINERS' STRIKE.

REFUSAL OF THE MEN TO RESUME WORK.

On Saturday night, a mass meeting of the miners employed in the London Lead Company's mines in Teesdale, at present on strike, was held in the long-room of the house of Mr. Joseph Raine, Cross Keys Hotel, Middleton-in-Teesdale, for the purpose of considering what steps should be taken in the present state of affairs. The differences which have unhappily existed between the miners and their employers were nearly all adjusted some time ago, the only difficulty which stood in the way being the amount of money which each man should be allowed to earn. The men claimed to be allowed to earn as much as they were able to do, the company, through their agent, Mr Bainbridge, seeking to limit the amount to 17s. 6d. per week.

In the course of last week, however, Mr. W. T. Scarth, the agent to the Duke of Cleveland, succeeded in mediating between the parties, and, having obtained from Mr Bainbridge a promise that the bargains should be let in the Teesdale mines in the same way as they were let in the company's mines in Weardale, where the men have recently earned an average of 20s. 6d. per week, the meeting of Saturday night was called to consider this proposition before the men returned to work. There was a large number of miners present. Mr. William Parkin, of Middleton, was unanimously appointed chairman.

The Chairman, in opening the meeting, said they had fought a very hard battle, and had been victorious in a number of points, and as they had had a great many meetings, and one thing had been stated at one meeting and another at another, he would just briefly state wherein they had been successful, in order to put their case fairly before them. The dissatisfaction which existed as to the management of the fund, had been put right, and, whereas it was previously the rule to turn every man out of the fund who left the place, no matter how long he might have paid into it, it was now open for a man to remain in it if he left the district. They had also succeeded in getting a more ready-money system adopted, and instead of not obtaining their money till the end of twelve, fifteen, or sometimes eighteen months, they were now to get it quarterly, or monthly, if they wanted it. They had got a better system of bargain-letting, and in place of 44s. lent money they had obtained 54s. They had also succeeded in raising the wages of the washer boys 6d., 8d., and 1s. on their previous earnings, in addition to which they had reduced the boys' hours by six per week. Lastly, they had been promised that their bargains should be let with the like intention as they were let to those men who were averaging over 20s. 6d. a week at the company's Weardale Bolihope Mines.

This last part was somewhat mystifying, though, if they took the promise of Mr Bainbridge to Mr Scarth, namely, that the bargains in Teesdale should be let with the like intention as in the Weardale Bolihope Mines, it appeared plain enough. The Chairman having read the conditions of the promise, asked the meeting if that meant that no more than 17s. 7d. a week was to be earned—(Cries of "No.")—or did it mean that they were to have the privilege of making an average of 20s. 6d. if they could? (Cries of "Yes.") He himself certainly understood so, because they were to get every privilege in Teesdale that the Bolihope miners had. He then read the following notices, which he said had been posted up during the past
The first was as follows:—"Bargains will be let on Monday at 9 o'clock for all dead work places in the Teesdale mines, and for all workings in the Little Eggleshope and Skears mines. The ore workings in the other mines will be as team room arises.—Middleton House, July 19, 1872.—R. W. Bainbridge." The second notice was posted on Saturday, and was to this effect:—"Teesdale mines bargains, Monday, 22. In the event of the ore dressing at Coldberry, Wiregill, and Sharnberry being got into immediate progress, as well as Redgrove, ore workings may be conditionally let to 36 men at Coldberry, 28 at Redgrove, 40 at Wiregill, and 24 at Sharnberry, in addition to the ordinary workings at Skears and Little Eggleshope. But the engagement of fewer hands this summer is desirable, not only to enable accumulations to be dressed up, but to afford more opportunity for the winter employment of miners.—R. W. Bainbridge."

Mr Thomas Tallentine, Middleton, proposed that the men should all go back together or none at all. (Cheers and applause in which several miners called out they would second the proposition).

The Chairman called upon the meeting to consider calmly before it expressed an opinion. He would like for all parties to be pleased; but he feared that a number of the men would not be pleased if they went back, nor would others be pleased if they had to stop away. He believed that there were a number of the men who had fallen in with fresh situations who would not come back again. [A Voice: "No, but he ought to be able if he wants to go back."] He would not like any man to go from his native place if he could earn a pound a week in it, and now after they had obtained that were they going to drive them away from home? [A Voice: "All men who want bargains ought to have them."] (Loud Cheers). If the full complement of men returned to the mines they would only be able to put in half time at present, as he would show them. He knew that a great number of the boys would never go back to washing again, and supposing bargains were let to the whole of the men with only half the complement of boys, they would be in a downright fix, for the washing would only go on at half the rate it should do, and the men instead of being able to put in full time and earn a pound a week, would only be able to have half time and earn 10s a week. He would ask them whether it was better for them to stay where they were at present, working full time and getting 30s a week, than come back to the mines and work half time at 10s a week.

A Miner inquired if Mr Scarth would stand by them if they did not try on the offer made, with its conditions imposed.

The Chairman answered that Mr Scarth was desirous that they should try the offer which had been made, and they could not go back to him and ask him to assist them again till they had tried it on.

Another Miner inquired what was to become of those men who were refused bargains.

Mr W. Morton, secretary, said there were 100 men at most of the mines where only 40 were now wanted, such as Coldberry, for instance, and in such cases he would like to know who was to pick the men, or which of the men were to be picked out to be allowed to go back. [A Voice: "He'll pick those that have never been at any mass meeting," and cheers.] He should like to know on what principle the men would be chosen. [A Voice: "They'll pick nowt but blacklegs."]
The Chairman said if he were one of the company he would have the best mines at work, and therefore he thought it would be better to leave the matter in the hands of the company to choose the places they would set at work, the men belonging to those places being of course selected to go in. He then made a long and earnest appeal to the meeting, calling upon those present to do nothing rash, and to remember that they had gained seven most valuable points, which might be lost to them if they did not proceed with proper consideration.

A Miner said that those who were debarred from taking bargains would gain nothing by the strike, and therefore if Mr Bainbridge wanted to select his men, it was better that they should not give him a chance of doing so. (Applause).

Mr John Allison said Mr Bainbridge knew that the majority of the strong boys would never return to washing again, and he had therefore made up his mind to select only a few men out of the 500 that came out, giving as his excuse for doing so, that the inside labour would be larger in proportion to the outside labour. They could not tell whether there would be more men than boys, for though a lot of the boys had not come back, there were also a number of men who would not go into the mines again; and seeing that they were going to work fathom work he did not see they had any cause to mind the teaming.

The Chairman said they had obtained virtually all
that they wanted, and it would be just stupidity to stand out further. It was a mere cavil on their part after all, for he did not believe there would be any more men ready to go back than they wanted; indeed, he did not believe they would get all they did want.

Mr Morton asked if the Cornish men did not strike at the same time as themselves; and whether they were stopped when they went back? (Cries of "No," and applause).

Mr E. Grey expressed his opinion that they would never let the bargains till they got lads sufficient. He moved that the whole of the men stand out as usual, till all had the privilege of going back at once.

A Miner seconded the proposition, amidst immense cheering.

The Chairman again urged the meeting to accept the conditions offered, and try them.

A Miner remarked that they could not try them if they would not let them. He wanted to know whether they had been fighting for about 150 or for all. (Cries of "For all," and loud applause.)

Mr Morton said they had no guarantee that even the number named on the notice would get bargains, because the notice said that ore workings would be conditionally let.

Mr Joseph Brown said it was just about nine years since he occupied a similar position to that occupied by the Chairman, and at the end of the agitation he was cast overboard without a helping hand being reached out to save him from starving. He had expected to see a division amongst them at the commencement of the present agitation, but they held together manfully, and he was convinced that this scheme of letting only so many bargains at each mine was nothing but a plot to separate and divide them. It was intended to get some of them to work and keep the others out, in order that when those out made applications for bargains the company might be able to bring them back to the old terms. Let them take care how they favoured such a move as that.

The Chairman asked how they were to act if they did not intend to accept the conditions of Mr Bainbridge, or what steps should be taken to prevent men who were not present from taking bargains on Monday morning.

Several suggested that the delegates should wait on Mr Bainbridge and tell him that the men could not take any bargains till the whole were allowed to do so, whilst others suggested that a mass meeting should be held on Monday, to catch the men who were not present.

Mr Wm. Armstrong proposed that the delegates should wait on Mr Bainbridge, and inform him that the men would allow the washing boys to go in for three weeks without the men, on the understanding that at the end of the three weeks there should be a general bargain day for the whole of the men that chose to return to take their bargains.

A Miner in the meeting seconded the proposition, and it was put by the chairman as an amendment to the proposal to have a mass meeting on Monday, but there was hardly a hand held up for it. After a long and desultory conversation, during which several methods were proposed.

Mr W. Morton moved that the meeting be adjourned for a week, and that the delegates wait upon Mr Bainbridge on Monday morning, and endeavour to obtain some proper understanding to lay before the meeting.

This motion, on being seconded, was carried by acclamation; and the meeting, which was very excited throughout, broke up at a late hour.
Mr W. Watson: The fallacy that runs through the memorial is that it implies that there is a fixed due paid without reference to the price of lead. The idea seems to be conveyed that the Duke does not suffer in the same proportion as the lessees, whereas he certainly does in depressed times, according to the sliding scale.

Mr Bainbridge then entered at length into the history of the negotiations conducted with his predecessors and previous lessors, as to payment of rates and other matters, and he maintained with regard to the sliding-scale as then existing, that it was simply applicable as to what was to be the value of the Duke's royalty for the time being, and it did not, as a matter of fact, so fluctuate as to give the lessees the benefit in adverse times. Whatever might be the Duke's reduced revenues he contended that it put nothing into the company's pockets, inasmuch as when a depression existed the products of the mines were not of the same value. The sliding scale did not determine the value of ore in relation to the lead market.

In reply to Mr Scarth, Mr Bainbridge said the miners had received an average wage during the past year of 17s. per week, and in the course of the discussion he insisted that the render in kind which was commuted to a money payment, should be lowered, adding that the sales had taken place at the top of the market. He proceeded to give statistics:—In 1876 there were raised 11,305 bings 6 cwt., at 14s. 5 3/4d. commuted royalty for one-seventh; and five bings 5 cwt., at a commuted royalty at 10s. 1 3/4d., on a basis of one-tenth. The total rent-yield from the bulk amounted to £8,192 15s. 9d. In 1877 there were 8,497 bings 5 cwt., at a commuted royalty of 13s. 2 1/2d. per bing on a basis of one-sixth, and 170 bings 6 cwt., at 10s. 3/4d. per bing, on a commuted royalty of one-ninth. In 1879 they had a three-fold example.
LEAD-MINING IN TEESDALE.

THE LONDON LEAD COMPANY AND
THE DUKE OF CLEVELAND'S
ROYALTIES.

IMPORTANT CONFERENCE AT
MIDDLETON-IN-TEESDALE.

On Friday morning last, Mr. W. T. Scarth, J.P., the Duke of Cleveland's Chief Agent, who was accompanied by Mr. W. Watson (of the firm of W., W., and W. J. Watson, Barnard Castle, His Grace's solicitors), met a deputation of Teesdale lead miners at the office of the London Lead Company, at Middleton. Mr. R. W. Bainbridge and Mr. C. B. Bainbridge, the chief superintendents of the company, were also present. The conference had been arranged in consequence of a petition having been forwarded to Mr. Scarth, at Raby, praying for a reduction of dues, and which the petitioners hoped would be presented to the Duke of Cleveland. The conference was opened shortly after eleven o'clock, and the proceedings lasted several hours, the discussion being of a comprehensive and thoroughly exhaustive character.

Mr. Scarth, at the commencement, said the text of the petition having been printed in extenso in the columns of the Teesdale Mercury, and this, too, before the document itself had been presented to the Duke of Cleveland, he had asked the Proprietor of the Teesdale Mercury to send a representative to that meeting. He went on to say that at the last interview when he met the deputation, he had suggested that they should have a meeting in the presence of Mr. Bainbridge.

Mr. Bainbridge said he favoured the idea of the men representing themselves. That was his wish, as he wanted the subject considered as an independent matter.

Mr. A. Morton: Yes, Sir; you gave us to understand that.

Mr. Scarth: affirmed that the petition contained statements which were not borne out by the facts.

Mr. Bainbridge said he was prepared with the facts.

Mr. Scarth: If you read the Teesdale Mercury you will find that it states that the lessee's dues are respectively one-sixth, one-eighth and one-ninth.

Mr. Bainbridge: It is rather a round-about way of expressing it.

Mr. Scarth: The fact is the dues are one-seventh, one-ninth and one-tenth, which are paid to the Duke of Cleveland, and this requires some explanation which the public don't get.

Mr. Bainbridge: I took the same view, and when I read it I said, "Here is an error;" but when we come closely to look at it, it is easy of explanation, as the respective proportions of the lessees and lessees are in fact at the rate of six to one in the more productive mines.

Mr. Scarth: As it reads it would convey the idea that a duty of one-sixth was paid. It may be perfectly correct, but any person reading this petition would imagine that the Duke of Cleveland's royalty was actually according to that rate.

Reference having been made to a letter sent to Mr. Scarth, on the 31st of August, 1878, wherein Mr. Bainbridge said, "I am instructed at the approaching quarterly bargains to reduce 82 pickmen in the Teesdale district, about two-thirds whereof will be in the mines held under the Duke of Cleveland, and the remaining one-third within the poor mines of the Ecclesiastical Commissioners adjacent to Eggleston"—
Mr Scarth said that, in 1878, the price per ton of lead sold by the company was £17 16s. 11d.

Mr Bainbridge: That was only for a small quantity, I apprehend, which our people sold, and then they determined to hold out for a better market; and it so happened that the market came down, and down, and down still. I may take the opportunity of saying that several of these average sales for subsequent years were much within the average price throughout the kingdom. Mr Bainbridge went on to describe how the company accumulated lead, in the hope of a rising market.

Mr Scarth: Consequently you must take an average of years.

Mr Bainbridge: They might take the average of the company's sales up to the end of 1881. He had always told Mr Scarth that the figure of the company's sales was higher than it would have been if they had gone on selling their products throughout the year.

Mr Scarth: Therefore, I say, you must take an average.

Mr Bainbridge: If you take an average up to 1881 I am quite prepared to adopt it.

Mr Scarth said he made it out to be £19 per ton.

Mr Bainbridge: I wish it had been so.

Mr Scarth: In 1869, according to the company's sales, lead realised an average of £18 18s. 8d. per ton; in 1870, £19 1s. 5d. per ton; in 1871, £18 17s. 5d. per ton; in 1872, £20 1s. 10d. per ton; in 1873, £23 6s. 6d. per ton; in 1874, £21 12s. 9d. per ton; in 1875, £22 18s. 2d. per ton; in 1876, £22 3s. 6d. per ton; in 1877, £20 9s. 5d. per ton; in 1878, £17 16s. 11d. per ton; in 1879, £14 8s. 3d. per ton; in 1880, £17 4s. 9d. per ton; and, in 1881, £14 9s. 9d. per ton. Mr Scarth proceeded to explain what he termed was another fallacy in the petition, which set forth that the Duke of Cleveland, as lessor, received a fixed payment, whereas it varied with the fluctuating price of lead, at the rate of 5s. for every £1 per ton in the price of lead. The consequence was that the Duke of Cleveland suffered equally with the lessees, and that in point of fact His Grace's income from the royalties in question was reduced fully one-half last year. In proof of this Mr Scarth said that last year when lead averaged £14 0s. 9d. per ton the Duke of Cleveland's income from the mines leased to the Lead Company was reduced to £3,873, as against £9,370 before. Again, in 1873, when the price of lead was £20 per ton, the Duke's income was £7,085 11s. 8d.; and, in 1873, when lead was £23 6s. 6d. per ton, and the ore raised was only 9,100 bings, the sum paid to the Duke was £8,147. Clearly, then, the Duke participated in the bad times.
10,270 bings 7 cwt., at 8s. 8d., based on one-seventh; 334 bings 8 cwt., at 6s. 8d., based on one-ninth; and 55 bings at 6s. 0d., based on one-tenth.

Mr Scarth said that year £4,590 17s. 2d. was paid to the Duke, the number of men employed was 508, and the price of lead per ton as fixed by the company's sales amounted to £14 8s. 9d.

Mr Bainbridge continued.—In 1880 there were raised 9,715 bings 5 cwt., at 10s. 9½d. per bing, based upon one-seventh, 268 bings at 8s. 6½d., based upon one-ninth, and 170 bings at 7s. 6½d. per bing, based upon one-tenth.

Mr Scarth: The duty-payment in money that year was £5,416 1s. 8d., the number of men and boys employed 492, and the price per ton £17 4s. 9½d. In 1874 the price of lead was £21 12s. 9½d. and only 479 men and boys were employed, and in 1877 when the price of lead was £20 6s. 5d. you had 691 men and boys employed. Mr Scarth further stated that £19 1s. per ton was the basis of the sliding-scale, whereas the average price of lead sold by the company, according to their own returns, during the 13 of the 42 years of the leases, was £19 6s. His impression was that the Teesdale mines, as a separate mining property, had paid uncommonly well, and he would remind them that after all, a bargain was a bargain, and whilst the London Lead Company could at any time terminate the leases, the lessor could not, so long as the covenants were observed.

Mr Bainbridge said it was entirely discretionary with the company as to the number of men they employed, and so it should be. He went on to say that certain items of expenditure had increased, and that they had paid a higher rate for timber. The principal ground of complaint, however, was that the Duke of Cleveland exacted one-seventh when he ought to exact less, and that was the real case as between landlord and tenant. When the lease was executed the incidence of local taxation had not been enlarged, but the parochial burthen, when mines were rated, fell absolutely and exclusively upon the company, and, as to making a bargain, and wanting to break the lease, he candidly asked Mr Scarth if anybody could have foreshadowed, when the leases were executed, the depression which had set in on the lead trade, and which would undoubtedly continue. They would have made no complaint if the higher sales had gone on, but when lead came down to £14 and £15 per ton the whole circumstances were altered.

Mr Scarth repeated that the Duke's income from this source, in consequence, had been reduced one-half.

Mr Bainbridge: You look at it from a landlord's point of view.

Mr Scarth asked if the Duke was to have nothing?

Mr Bainbridge continued that owing to the extremely low price of lead they had been obliged to curtail their explorations for fresh veins to the minimum of their legal obligations under the terms of their leases. He might tell them that at Ash Gill Head they had spent £6,127 7s. 6d.; in the north side plot, £7,940; and in the south side plot, £7,782, making an aggregate of £21,830 in trials alone in these plots, and that was a serious question for them to consider. He went into further statistics showing the aggregate outlay of the company for the past year. They paid £611 in poor-rates alone.

Mr Scarth said these uncertainties were peculiar to lead-mining.

Mr C. E. Bainbridge went into some calculations showing that the average cost of production of a ton of lead was last year, including duty-ore and other expenses, £13 1s. 9½d., exclusive of ore-carriage to mill, smelting costs, and carriage of lead to shipping wharf, as against an average sale price of pig lead at £14 0s. 9½d. per ton. Hence some idea might be formed of their present difficulties.
Mr R. W. Bainbridge then went minutely over the map, and pointed out that at Little Eggleshope east and west ends, they had met nothing but barrenness, and the same results had attended the explorations of the company elsewhere.

Mr Bainbridge, jun., then compared the productive character of the Greenhoth mines—rich in silver, which was now worth 4s. 8d. per ounce—with the poverty of the existing workings held under the Duke by the company.

Mr Bainbridge, sen., followed by saying that the explorations in the north and south plots ought to have been bringing them in mines to take the place of the present ones, but they had not. He further submitted as a most important point the question of submerged ore, intimating that Mr Bowes's dues above water-level were one-twelfth, and under water-level one-fifteenth. They would be driven to work below water-level, and this at an enormously increased cost.

Mr Scarth reminded Mr Bainbridge that the London Lead Company had had the offer of the Greenhoth royalty. As the discussion proceeded he contended that the number of men employed did not at all depend on the price of lead, seeing that in 1875 when lead was upwards of £20 per ton, only 420 men and boys were employed, being the smallest number of any in the 13 years.

Mr Bainbridge said that certain of their mines would gradually diminish, and this fact was apparent to their men, and too much importance could not be placed upon the statement. The men saw that the open mines were being exhausted, and that new ones were not being opened out in Teesdale to take their place. The inevitable result would be a collapse of the mining industry in the dale. As the conversation went on Mr Bainbridge said he would like Mr Scarth's attention riveted to the question of the future of Teesdale. That in reality was the great question, for, whilst in prospecting they had buried in the bowels of the earth many thousands of pounds, and had sustained these losses, he submitted that they had acted in the most commiserating manner towards their workpeople. This would readily be admitted by everybody, and surely the company were entitled to some consideration. This, however, could not go on unless they had more favourable terms with regard to the dues, to encourage them to increase their explorations.
Mr Scarth maintained that the Duke of Cleveland's Teesdale mines, as a separate district, and disconnected from their Weardale and Alston Moor mines, had returned a fair profit to the lessees, in proof of which Mr C. E. Bainbridge had stated that the cost of producing a ton of lead last year was £13 14s. 9d., whereas the selling price that year was £14. He deduced from this that even in a year of extreme depression the price left a bare margin of profit, whilst in the years when the price was £20 and upwards the percentage of profit must have been very large.

Mr W. Watson suggested that in future the lessee's dues should be adjusted upon the basis of a double sliding-scale, which he explained to mean that the proportion of duty-ore to be rendered, as well as the price per ton, should be regulated by the average price of lead, and rise or fall accordingly, thereby encouraging the Lead Company to persevere in their explorations even in the worst of times, and at the same time securing to the lessee a fair share of the results, if successful.

Mr Bainbridge said he would be quite prepared to recommend this suggestion to his directors.

Mr Scarth said he was also in favour of its adoption; but, before the Duke of Cleveland could entertain the question, the receipts and payments of the London Lead Company, from the commencement of their present leases, would have to be examined by a professional accountant, with a view to shew the actual results of their operations, as it was utterly futile to lay before His Grace any statement which was not borne out by facts. He might tell them that the whole of the Duke's income from his landed property in Teesdale had been spent in building houses for the miners and other improvements, and His Grace, even mindful of his obligations, had continuously contributed to the institutions of the dale and to the benefit of the inhabitants.
Mr Bainbridge said that the improvements in Teesdale, as carried out by the Duke, in the formation of small holdings, had militated against the operations of the Lead Company, inasmuch as the dormitories were a considerable distance from the company's mines. The men, carrying their wallets, were exhausted before they reached their employment, and, moreover, they were anxious to get away from the mines to their work on the farms. He himself had given many an aged miner a lift on the road to his work.

Mr Scarth said he was really surprised to hear that Mr Bainbridge held such a view, because it had always been understood that these little farm holdings were a great advantage to the miners. The district was much more healthy now than it formerly had been, and he would ask any miner whether he would not sooner go home to his rosy-cheeked children, with plenty of milk and dairy produce, than live in the confines of Middleton town.

Mr W. Watson remarked that the miners must surely be better off with their cottages and little farm-holds, at easy rents, than if they had to depend wholly upon their earnings at the mines, and that, in point of fact, the Duke of Cleveland by this means largely aided his lessees to maintain the mining population of Teesdale, enabling them to work for a lower scale of wages than they could otherwise have done.

Mr C. H. Bainbridge said it was useless to deny the fact that unless the price of lead improved British lead-mining was a dead letter.

Mr Bainbridge remarked that since 1854 the London Lead Company had paid the Duke of Cleveland, in dividends, £35,024—a quarter of a million of money.

Mr Scarth replied that the Company had taken away the backbone of the Duke's land, and if that amount of the lessee's dues had been so large, the Company's returns from the Teesdale mines must have been proportionately great.

After further discussion, in the course of which Mr Bainbridge drew pointed attention to the American, Spanish, and Chinese competition with which the home industry had to contend,

Mr Scarth repeated that it would be necessary before the Duke of Cleveland could entertain the question in a tangible form that he should know the rate at which lead had been sold, the cost which had been incurred in raising the ore, together with all receipts and expenditure, in order that he might determine whether the undertaking had been remunerative or not.

Mr Bainbridge argued that the lease up to the present time was no criterion as to what the terms of the lease ought to be in the future. They were now arranging for the future—the past was gone.

Mr Watson suggested that the adjustment of the scale should abide the result of a private examination of the Lead Company's operations as shown by their books for the last thirteen years, to be made by a professional accountant appointed by the lessor.

The suggestion, together with the contemplated adoption of a second sliding-scale, was approved of, after some discussion, by all parties, as embodying a sound and equitable principle, and presenting a practical solution of the difficulty.

Mr A. Morton, one of the deputation, thanked Mr Scarth for the kind and courteous manner in which he had entertained the question, and, speaking in the name of the whole of the lead-miners in Teesdale, he expressed a conviction that the Duke of Cleveland's chief agent would act justly and conscientiously in the responsible and important position which he held.

The deputation then withdrew, it being understood that a corrected memorial would be prepared for presentation to the Duke of Cleveland.
SNATCHES FROM MEMORY.

By a Dalesman.

Lodge Byke mine is situated on a mountain slope, and, as I have previously stated, about three miles north of the town. It is generally known as Marl Beck, which is the name of a small stream that takes its rise near the mountain summit, and flows past in a direct line to Hudeshope Beck. Leaving the district road for a few moments, after crossing the bridge, you find yourself in front of the old mine shop, and enclosed between two right lines, with the opening or mouth of the mine at the angle, for the buildings form two sides of a square.

The exact date on which this mine was opened and its buildings erected is probably not to be found, except in the records of the old Governor and Company, but from detached verbal statements handed down from sire to son, I am led to believe it was opened in the early part of the present century. For some time previous to the discovery of Lodge Byke vein, mining in Teesdale was considerably depressed, so much so, that a deputation was sent down by the Company to consult with their officials as to the best course to be adopted to relieve it of the strain the depression had so long imposed upon its resources. Mr Dodd, who was then at the industrial helm, gave it as his opinion that Teesdale as a mining district was fast becoming exhausted, while his subordinate, Mr Stag, confidently asserted that there was yet a vast amount of mineral wealth concealed beneath the surface of those hills, with which the miners of Teesdale have for long been so familiar. The theories advanced by the latter gentleman created such a favourable impression in the minds of those present, that one of the deputation declared that so far as he was personally concerned the struggle should be continued. How long these capitalists had to contend with adverse circumstances I have not hitherto been able to ascertain, but that Lodge Byke mine was opened and worked during Mr Stag's reign, and continued so up to the time of his resignation in 1850, may be safely accepted as an historical fact, and that for a long course of years it was one of their best mining properties. Possibly these conflicting or rival opinions, presented to the deputation by the cashier and his chief, were the source of considerable friction between the two gentlemen, and constituted the ladder by which the former gained the ascendancy over the latter, and his relegation to a second place in the councils of his employers. Further differences having crept in between the new authority and the old, until their relations became so strained that the former finding his plans frustrated by the latter, summarily dismissed him from the service.
An appeal was made to headquarters for redress, but they refused an audience, and, on it becoming known that the unfortunate gentleman's case was a hopeless one, and that he was involved in pecuniary difficulties, bailiffs were despatched from Barnard Castle to take possession of his effects. This course it appears was objected to by some of the holder spirits of the place, who, disguising themselves, proceeded to the residence of their old master, and collaring three officers of the law, dragged them down Huds and through the Market Place on to the county bridge, where a halt was made, and the captives were considerately allowed a short interval to prepare themselves for a sudden transit into a future state of existence. This being over, they were again seized, and suspended by the heels over the parapet of the bridge, with the agonising prospect of a watery grave beneath. Their pitiful appeals, however, softened the hearts of their captors, and they were granted a reprieve, on condition that they would not repeat their official visit, and on being released, almost with lightning speed, they disappeared in the distance, Mr. Dodd being now deprived of the means of living, left the town, and where he terminated his career I have never heard suggested, but his opponent, Mr. Stag, died at Dishforth, in Yorkshire, to which place he retired, after resigning the position he so long and successfully held in the company's service.

Having been in the employ of the said company, I naturally felt anxious to obtain some information respecting the discovery of the vein, and the opening and working of the mine with which I first made an outside acquaintance. For this purpose I interviewed not only the oldest miner, but the oldest living connection between the prosperous days of the mine referred to and the present day, and he told me the following short and simple story.

He said, "I was born in Arkengarthdale, in 1812, and came with my father into Teesdale in 1828. I was then 11 years of age, and I commenced work soon after my arrival. Lodge Syke and Coldberry mines were then in full operation, and as the Company held the drawing in their own hands, I obtained a horse at Lodge Syke top level, where I remained until I was seventeen. Both levels were working at this mine, and the Company had to employ six horses, and divide their service into night and day shift, in order to cope with the work, for the mine literally swarmed with men. Simpson Wilkinson, of Holwick, was my teacher." I here interjected the remark that Simpson was one of the volunteers so recently described by Major Hugginson in the columns of the "Teesdale Mercury."
"Yes," replied my informant, "and he used to tell me that when he did not wish to do duty he tied a penny piece on to his leg underneath his stocking until the part was sufficiently inflamed to procure him his excuse." This last piece of information greatly amused me, as some years ago I had read an article on "Malingering in the British Army," quoted from a book written by Henry Marshal, Deputy-Inspector General of Army Hospitals, showing the prevalence of simulating disease in that part of the National Service, and the scheme adopted by the military surgeons to detect and punish the offenders, and I also thought, as I had often done before, that human nature is much the same the whole world over.

Resuming his story he said, "While I was driving I earned fairly good wages for a youth of my age, as we were obliged to push along to keep the men at work, and the masters gave us some encouragement, as it was to their advantage to do so. Although hard pressed to keep up with our work, I had occasionally to take my horse and put in a night shift at Colderry, which mine was then giving a good account of itself. At the time my father and I left our native dale, there was not much gold in circulation, but there was a large paper currency in £1 notes, with which the people did a good deal of their business. At the same time there was not that confidence in paper money that is reposed by all classes at the present day. After I had commenced work at Lodge Syke, I noticed there were no waggons in use on the washing floors, as all the work was done with barrows, which was very hard upon the lads, and I often felt grateful I was not one of their number, as I had frequently observed that they did not always meet with the treatment they deserved. Anthony Dent was washing foreman, and he booked all the ore as it was lifted by the carriers. But the real work of washing or dressing the ore was let by the men to Wm. Lee, John Collinson, and Jos. Richardson, at so much per bing. Henry Parmley and Wm. Morton took part, and they engaged as many lads as they thought necessary from time to time. On one occasion I had to go to the low shop, and on my return journey Mr Dent accompanied me.
During our short walk up the mountain slope he invited me to guess the number of bings of ore he had sent to market for the past twelve months. I told him that I could not do so, but that I thought they could not have done more, for they had worked nearly all the hours there were between Sunday and Sunday. This he admitted to be not far from the truth, and then proceeded to state that he had booked 15,000 bings, which was a good year's work.” I then enquired of this veteran of the dale if he could tell me who discovered the vein, and he said “no,” but he continued, “an old workman told me one day, while at work, that four men took a bargain of the company to prospect for ore, but they had no means to support them while fulfilling their engagement. Mr Ralph March, who was then at the mill, was importuned to supply them with bread for a month. But the poor fellows, after a month's hard toil, found their efforts unrewarded, and had again to appeal to their creditor for another installment of the staff of life. Times were hard all round, and the miller had some misgivings as to the wisdom of a further extension of credit to men in such penurious circumstances. At last, after a few more interrogatories, the old gentleman consented to grant them another month's supply, and the men returned to their work stimulated to further effort. Fortunately for all concerned, before the end of the second month the vein was struck, and the sun of social prosperity again burst forth, and sent his cheering and life-giving rays into the depressed and half-starved cottage homes of the miners of Teadale.”

Personally, I have no doubt the mine would be opened with all possible despatch, as the employers would naturally be anxious to recoup themselves for any loss they had sustained prior to this their latest discovery, and I question whether any of their successive enterprises ever equalled in yield let alone surpassed the old Lodge dyke vein. The statement of Mr
Dent, and the fact that one partnership alone sent to the surface over 900 hogs of ore in a single quarter, will assist those engaged in that occupation in their conclusions that there had lain concealed for an indefinite or undefined period within the bowels of this mountain a large and valuable deposit of lead ore, awaiting the discovery and extraction by some civilized community.

But it is a difficult matter in the absence of documentary evidence to extract the exact truth from struggling traditional statements, for they will not always bear the light of investigation. I have, however, an impression, from remarks dropped in my presence when a boy, and assisted by the foregoing statements, that these mines were opened a few years before the advent of this Arkengarthdale youth and his father into Teesdale, as the Company had then acquired land and erected, and had in course of erection, a number of cottages for their workmen, so it is most improbable they would have adopted such a course in times of acute distress. The erection of Middleton House, by Mr Stag, in 1816, also strengthens this impression, as the expenditure involved in building such a palatial residence would not be justified in other than prosperous times. The first erection was a thatched, well-built tenement, but whether it did not agree with his architectural tastes or its internal arrangements did not meet his convenience, I cannot explain, for it had a very brief existence, as it was replaced by the present structure. The stone (except the dressings) was quarried on land now in the occupation of Mr Robert Lee, Dent Bank, but then occupied by one Miles Walton, and conveyed to the building in the Company's own carts. I may also mention that the Baptist Chapel was built in 1827 by Mr Stag, and, consequently, formed part of his private estate. A few years after this active official of the Governor and Company had provided those of his own religious persuasion with a neat little chapel and minister's house out of his own private purse, the tide of prosperity began to ebb. The mines ceased to yield their usual quantity of ore, and the situation was aggravated by a considerable drop in the price of lead.
This, as might have been anticipated, reacted on the earnings of the men. Discontent simmered in their breasts, when in 1832 it took a more demonstrative form, for nearly one half of the miners revolted against the conditions under which they had to live, and there was a general exodus to the colliery districts of Durham and Northumberland. Cart loads of household furniture and effects might be seen daily moving in the direction of the districts selected, and the sad lot of these underground toilers reminds us of an old adage, which says that “you had better endure the ills you have than fly to those you know not of.”

These poor fellows and their families had scarcely got settled in their new homes when that direful plague, cholera morbus, which had raged with such deadly effect in the year 1831, broke out again in a very violent form in Newcastle, when 2,476 persons were fatally smitten by the plague; Gateshead suffered a loss of 616 of its inhabitants, while Tynemouth had to lament 751 fatal cases, South Shields following with 37 per cent. of its population suddenly swept into eternity, or 641 against 905 in the visitation of 1831.

But it is not my purpose to pursue these comparisons further, for sufficient for me is to know and to record that although many Teesdale families were fatally attacked, a few survived, though smitten, and returned to their old homes, but four-fifths of the whole, from one cause or another, never returned to their native dale.

Whether the few Alston Moor miners, employed at Lodge Syke, followed their Teesdale comrades to fresh fields and pasture new I cannot definitely state, but their mention reminds me of a story told of the superintendent and his overman. I have often heard it said that Mr Stag had a predilection for his own countrymen, as he cherished an impression that as miners they were vastly superior to the men of Teesdale. Mr John Pinkney, who had been a practical miner himself, but who had risen to a position of great responsibility under his superior, had too often to combat this idea, which had led to frequent debates in the office of his superior. On one occasion, while each was earnestly advocating the respective claims of his favourites to the premier position, the Superior offered to bet his Overman a new hat that he would prove to his (the Overman’s) satisfaction that the miners from Alston Moor were decidedly superior to those of Teesdale. The Overman accepted the challenge, a test case was planned and put into execution at Lodge Syke, when the Teesdale men came off victorious. The Superior honourably paid his bet, and the Overman received his wager, and enjoyed the inward satisfaction that he had sustained and settled once for all the character of the Teesdale miner, and that he would hear no more of the superiority of the men imported from the other side of Yad Moss.
SNATCHES FROM MEMORY.
(By a Dalesman.)

II.

Here I found this old deserted chamber where once a warm and cheerful grate had brightened the face of many a Teesdale youth in a dark, damp, dirty condition, and which, together with the unbroken silence that prevailed, would have impressed a mind that had not emancipated itself from the shackles of superstition, that it would form a favourable retreat for some of those spectral forms which so tormented and terrified those who lived and laboured in the mine when in its early stages of development. A few boards did duty as shutter to the window, and as part of the buildings form a sort of lobby or entrance to both mine and changing room, the few rays of light admitted were of a very meagre description, and reminded me of some of those insanitary sights of which I have read long ago, which so frequently met the eye of Howard, the philanthropist, in his humanitarian efforts to procure prison reform. Here Robert Redfern and John Crowther, whose duty as woodmen occasionally necessitated their occupying a portion of the old chamber, cracked their jokes with each youth as "round the fire formed a circle wide," and if any of the party chose to question Robert as to the time of day, he would have good humouredly replied by presenting his watch to the questioner upside down, so that if he were deceived he might deceive himself. But it is now a good many years since Robert and John sailed into harbour, the former in a boat called the "Methodist," and the latter in a boat named the "Ranter," for the politer and more popular terms of Wesleyan and Primitive had not then come into general use with the miners of Teesdale. As I left this now unfrequented part of the buildings for the repairing shop at the rear, I passed the blacksmith's shop, where I have often seen the perspiring forms of Joe Lowe, blacksmith, and John Robinson, striker, busy at the forge, but as the door was shut and the shutter up, I took it for granted that I was not wanted. The following lines, however, will not unaptly express my thoughts on this occasion, and are suggestive as to what has become of these two workmen, whose occupation brought them into contact with and made them known to every man and youth at the mine.

No more the sharpener's small rings,
No more the striker's deafening hum,
No more his brawny arm he swings,
No more 'tis needed if he could,
His fire's extinct, his coal is gone,
His striker too has lost his wind,
Relentless death this work hath done,
And robbed us of this Vulcan's son
Who left this vacant shop behind.
I then turned the corner for the repairing shop
aforementioned, and once occupied by John Farnsley,
joiner, and Peter Wilkinson, his assistant, but there
was no screeching of the plane nor rasping of the saw
to remind me of the presence of these knights of the
bench. But on referring to the obituary shelves of
my memory, I found that in the month of March,
1840, while I was working at Coldberry. Foot, some
lads had been and were still engaged sludging the mill
dam in order to improve the summer storage, and
under charge of the late Henry Hunter. Peter and
John were called to repair the sluice, and the weather
being what some people term sloppy, Peter took a
serious illness from the effects of the exposure, and
died in a few days. John being considerably Peter’s
junior, was better able to resist the ill-effects of their
working, so that his personal claims upon the services
of the sexton were not preferred and duly acknowled-
ged until 1888, or 39 years later. Middle Bake
was next visited, where hundreds of youths have
laboured by the light of an open fire for many weary
hours after the autumn sun had sunk beneath the
horizon, but nothing but wreck and ruin met my
observant eye. All trace of one row of teen cases has
been completely obliterated, and the other may be
described as dilapidated walls and doors. The grates
over which the “house” passed in its initial stage of
separation have been removed, and the flooring over
which my own youthful feet have followed the “house
laden” barrow to the hopper or shoot under a scorch-
ing summer sun has been torn from its bed and trans-
ferred to some other field of duty. The foreman, Mr
W. Lee, Newbiggin, with whom I had a short service,
and who was then fast blooming into manhood, has
since exchanged that bloom for unmistakable evidences
of age and decay. With this solitary exception all
the others of his class then in active service with their
manager or head have fallen a prey to that grim
monster which spares neither age, grade, nor sex in
his deadly work, so that the gentleman referred to
may say, in the language of Job’s messenger, “I am
alone escaped to tell thee.” Nor have the mine over-
men escaped, for not one of their number then in
charge has been able to resist the inevitable and fatal
blow for their corporeal frames are now reducing
themselves into their primitive elements in that place
where “There are both great and small, and the
servant is free from his master.” The clerks and office
staff who worked up the accounts of their masters from
year to year have also been ordered to clear out and
to present an individual account of themselves to that
Judge from whose judgment there is no appeal. Such
are a few (and only a few) of the changes which a few
swiftly passing years have brought upon us, and such
is the aggressive, impartial, and uncomprising attitude
assumed by the last enemy towards poor mortals, that
he had the effrontery a few years ago to command that
tall gentlemanly figure which presided with such
authority at the quarterly bargains, and which was so
often seen flitting about the grounds of Middleton
House, to bow to his inexcusable will, and to accept a
clod of earth for his pillow and the green award for
his covering.
SNATCHES FROM MEMORY.

(By a Dalesman.)

While my lower extremities were taking me down
the road to Coldberry Foot, where I found Mr Matt.
Thompson in possession, I was busy rummaging the
shelves of my top storey for memorandums, some of
which I found rather dusty, while others turned up
incredibly fresh. One informed me that I was pulling
moist at that place for the use of Charles Bain-
bridge, of Keelton and Edward Gargett, of Forest,
while walking in some pits in the spring of 1849, and
this vegetable product was utilised to prevent leakage.
Another reminded me that in the autumn of 1860 we
(the cutting washers) had frequently, after daylight
had gone, to wheel our barrows up this very road to
Lodge Syke for the purpose of wheeling off "ket"
from the nicking trunks, in order to complete our
day's work. A third found me as successor to our
present store manager, Mr Lowe, in the manage-
ment of the patent frames, a mechanical invention,
which had displaced the old German pulley bridge,
three years previously. Coldberry mines are situate on
the slope of another member of the Pennine Range,
and on the opposite side of the valley to that of
Lodge Syke, but, like the latter mine, the exact date
in the history of the old London Lead Company's
mining operations, when the first vein was dis-covered
and a mine opened, remains a mystery to living
memory. I may say, however, that forty years ago a
gentleman, then fast approaching his three score years
and ten, and once influentially connected with the
company, told me that the old workings at Wire
Gill and those of Hunt's old vein, at Coldberry, were
in operation at the same time, and as the latter were
more promising than the former, they were continued,
whereas the former were abandoned. That there is
some truth in this statement may be inferred from
the fact that there is neither a single living connection
with Wire Gill old workings, nor any one who has
any recollection of same, whereas we have at least one
living link with those at Coldberry in the person of
Mr Robert Kipling, of Stottley Lane, a gentleman 66
years of age, and who worked on occasional shift at
the latter mine over seventy years ago. Although Mr
Kipling, when in his teens, was connected with level
work at Lodge Syke, from 1823 to 1828, after which
he was given charge of a horse, for shunting pur-
poses, at Manor Gill washing floor, he has no
recollection of any work being done at the neighbour-
ing mine. The probability is that the mine was laid
idle before Mr Kipling came into the dale in 1823,
and that rich as the vein is said to have been, its
bloom had been picked when John Hunt, father of
Richard Hunt, farmer, of Startforth, and late of
Middleton-in-Teesdale, discovered the vein at Cold-
berry, which bears his name, and which led to the
opening of the first mine on this mountain slope
before this now fast-closing century was many years
old. And I may also state that the Starforth farmer,
who is by trade a blacksmith, served the company in
the latter capacity for many years at the above mines.
At the time of my connection with the works at
Coldberry, in 1849, there was an output from later
adventures which kept all these outside the mine in
full employment.
It was not until 1854 that the more modern workings at Coldberry entered on a state of prosperity probably unequalled in the most prosperous days of the old vein in the first quarter of the present century. This was set down to the persistent effort and good judgment of the late Mr Jonathan Hunt, and which the company acknowledged in their own special way. Mr Hunt, I believe, took the mine under his direction and control when Mr Thompson removed into Westmoreland. Although the mine had been fairly prosperous under Mr Hunt's régime up to the period referred to, it was reserved for that gentleman to unfold the treasure that had been so long concealed from his predecessor. It was the opinion of the deceased overseer that the slate hills of this mountain ridge would warrant the expenditure of a trial level. This proposition (so it was said) met with a good deal of adverse criticism from his superiors, but ultimately he succeeded in taming down their objections, and they consented to his giving it a trial. Consequently a trial level was put on the plan, and a partnership of miners set to work, which was continued until the vein was cut at no great distance—neither horizontally nor perpendicularly—from the surface; but whether they met at first with that encouragement they thought they had a right to expect, I cannot now say definitely. Now, I wish here to observe that it was a custom with the masters to meet annually before the close of the washing season, and allocate to their respective partnerships all youths eligible for places in the mines during the winter months, and it fell to my lot to be billeted, along with three others, to this new adventure in the autumn of 1854. There were then only eight men at work in the mine, viz.-Wm. Todd, John P. Watson, Nicholas Anderson, Emersgill; and Wm. Gargett, sen., Bowles, who were busy blasting the roof, or, to borrow a mining phrase, "working a length," while Thos. and Jas. Dickinson, of Newbiggin; Jon. Ireland, and Jas. Beadle, of Forest, were employed driving the forehead.

It was by the latter number that we were taken into partnership, and the work proceeded in the ordinary way until twenty fathoms were driven, by which time we had reached the end of what was usually known as the long quarter, and which terminated on the first or second week in February, 1855. Twenty fathoms of promising vein were now laid open, and were divided in the bargain-room into two lengths of ten fathoms each. Messrs Dickinson and partners had first choice, while Mr Isaac Atkinson, with seven others, were appointed to work the other length, or remaining ten fathoms. With this discovery the prospects of both men and masters had greatly improved, for the mine was developed as fast as circumstances would permit, and proved a most fortunate adventure. From this time forward thousands of bings of ore were extracted from this stratum of rock, and the vein also proved rich, though more difficult to work in that member of the carboniferous group which underlies the slate hills, and locally known as the firestone. But the writer and one of the partners named Henry Robinson being the youngest members of the partnership were not allowed any further participation in the benefits of a bargain with Messrs. Dickinson, Ireland, and Beadle for our places were filled up at the quarterly bargains. Although Robinson and I had
served each a term of seven years, as Jacob did for Rachel, yet the unwritten law of Padanaram prevailed, and Laban sent us back to the washing-floors we had been obliged to quit the preceding autumn, for another couple of years, at the expiration of which I had to serve a further term with my partner, which made it practically ten years before I was registered in the company's books as a full grown man, and then only on condition that I paid a registration fee of £2 11s., with an annual contribution of thirty shillings, which it was said, would secure me certain benefits, but which, on quitting the works, or incurring the displeasure of the superintendent and being discharged, all were forfeited. This was no mere sentimental grievance, but a real hardship, for you were obliged to pay or go, and I have yet to persuade myself that it had its origin in philanthropic motives, for to my mind it smacked more of a good stroke of commercial policy on the part of the employer, as it practically put the shackles on to the workmen. It was also hard on the miners, whose sons had spent eight, nine, and as far as ten years on the washing-floors of their masters for a low weekly wage, with their winter experiences, and then to be told, on quitting the washing for the mine that they had not had sufficient experience to entitle them to share in full the benefits of a bargain, while others were taken or thrust into the mine and given all the benefits of an experienced miner, without a single day's previous service. Happily, we now enjoy more social freedom, although the little benefit gained has not been acquired without a struggle. But, I suppose, there is something more or less objectionable attached to every condition in life, for that great gift with all its pleasures and high expectations is not without its disappointments—it has its shadows as well as its sunshine—and if it has its drops of joy, it has also its draughts of ill between. This truth has been amply verified in the palace as well as in the cottage, for the highest lady in the land, whose jubilee was celebrated in such a pageant and convivial fashion on the 23rd of June last, has had to share the sorrows of a wife, a mother, and a widow, with those of her humblest subjects. Nay, even that great luminary to whom we are indebted as it were for life itself, and whose beneficent rays of light and heat are said to be never withdrawn from Her Majesty's territory, is not without his black spots. So is it in all the social concerns of life, whether those of the individual or those of communities. All are subjects to, and occasionally bound to submit to some dark passing cloud, and every day adds to our experience in this respect. In making these observations, I am reminded that while the masters were contemplating recouping themselves from this their latest adventure, and the
men were anticipating a few more comforts resulting from their labours, the aforementioned Henry Robinson was caught in the machinery of the mill at Coldberry, and every bone of his skin broken. This occurred in the summer of 1855, and the sad accident cast quite a gloom over the whole neighbourhood. I was then oiler of the mill at Little Eggleshope, and your readers may easily imagine how, as it were, it made my blood curdle as I poured the lubricating liquid on the revolving shafts, and thought of the tragic death of one of my late partners. But in giving an account of the fatalities that have occurred at some of the company’s mines during the past fifty years, and to be in chronological order, I ought to have stated that Thos. Beadle, of Low Houses, lost his life at Little Eggleshope washing floor, one Wednesday afternoon in the summer of 1853. I had been at the box the whole day, and on leaving for home at 4:30, the unfortunate youth took the shovel out of my hand to continue the work. But here we have another proof of the truth of the old saying that, “in the midst of life we are in death,” for so shortly after my departure the poor fellow was struck senseless by the contents of a waggon which had run over the platform above, and he died in a few hours, so that when I arrived on the following morning, with three days’ provisions over my shoulder, all that remained of the active and cheerful youth I had left only a few hours before had been carried home to await the usual inquiry and rites of burial. On December 23rd, 1859, the town was again thrown into a state of great excitement over the news that a young man, of nineteen or twenty summers, named Thos. Scott, had met with his death by a fall of stone in the Wire Gill mine, and happening at a season of the year when the youth of the town were employed in the mines, it naturally created a good deal of nervous excitement in the parental mind of the locality.
For the next ten years Fate had apparently somewhat relented, but on the 19th of January, 1879, he had again got the locality within his deadly grip, for two youths, named respectively John Collinson and John Beadle, were instantly killed by a fall of stone at the Coldberry mine on the above date. Great sympathy was felt for their bereaved parents, for whom Fate had carried off, in such a ruthless manner, two youthful and promising members of their households. It is hard lines to have your family cut down by disease, but in such a case there may have been some consoling influence at work, but to have them deprived of dear life, in a single stroke, creates a wound in a parent's heart which the world, with all its suggested soothing remedies, can never heal. One day in the month of August, 1872, the town experienced another sensation, news having arrived from Sharnberry that David Robinson, brother to the first-named victim, had lost his life by a piece of falling timber in the above mine. Six or seven years later, and the respected manager of the Temperance Commercial Hotel, Mr Redshaw, had to lament the loss of his second son, George, he having received his death blow from a fall of stone in the Coldberry mine. Sad as this may appear, it is incomplete without the names of Henry Robinson, nephew to the aforementioned Robinson, brothers, who received fatal injuries from a fall of stone in the Coldberry mine in January, 1886, and those of Anderson and Oastworth, of more recent date. Were it possible to enumerate all the accidents, fatal and otherwise, that have occurred on the company's works during the past fifty years, and to proportion them to the number of hands that have passed through the washing floors and mines, or to the number of fathoms excavated, or the quantity of ore raised, setting aside the thousands of tons of explosive consumed, I am persuaded they would be found to be comparatively few. To my mind these plausible reasons might be given for such a small number of accidents. Firstly, all youths over fourteen years of age have been found with work in the mines during the winter months, and as a good many of them were not always placed with the same partnership by the time they had to become partners themselves, they had been gradually initiated into the work. Secondly, the Teesdale miners have been a resident, and not a shifting class of workmen, and considering the dangerous and difficult work they have frequently had to perform, I am of opinion the services of the surgeon and the coroner would have been in more frequent request, for there has been many a Dargai taken by the Teesdale Highlanders without loss or injury to a single piper, but being under cover of ling and turf, it has never found its way into the public press. A third and not least important reason is that the masters provided each mine with a liberal supply of timber, which the men were allowed to use according to the dictates of their own judgment, for I have heard of an overseer who has warned his men against the consequences of neglect, but I have yet to learn that he ever complained of excessive use of such materials.
LEAD-MINING IN TEESDALE.

BURIED WEALTH IN COLDBERRY MINE.

[By our own Representative.]

When at the invitation of the lessee of the Teesdale lead-mining sets I paid a visit to the scene of former lead-mining activity, I was taken into Coldberry Mine, some two miles north-west of Middleton—an outlandish place, to be sure, but one where one would fain have wished to see the operations continued which were suspended nearly thirty years ago when the London Lead Company, which had worked the mines for more than two hundred years, "closed down." Coldberry, by the way, is the hope of the future, for prospecting which has been in progress for more than ten years has encouraged the hope that there lies buried in it a fortune simply waiting to be picked up. I made my acquaintance with the interior of Coldberry—the only lead mine I have ever seen—on an old-fashioned hand-propelled bogie accompanied by a lead miner who remembers the district when it was flourishing. Seated upon this four-wheeled contraption, which runs on iron rails, we entered the adit half-way up the hillside and could not help marking the thoroughness with which the London Lead Company had constructed it, the entrance being protected by cleverly-carved stone setts with which the adit is roofed for a considerable distance before the natural stone roof is reached. The way was lighted with an acetylene flare which I carried in front of me, and we pierced the bowels of the earth for eleven hundred yards before we reached the place where operations are now taking place. The roof of this adit has been wonderfully preserved. Here and there, where falls of stone have taken place, timber has been employed for making the roof safe. The way is winding, and many indications of the varied contents of the hill were pointed out by the guide as the journey proceeded. Thin coal seams, valueless as yet, were observed in the firestone strata through which we made our way, and there were a number of places where branch adits had been begun in the hope of finding fresh lead veins without going down below the firestone level.
In time we reached the end of the tortuous winding way, after encountering considerable pools of water en route, and at length came to a standstill. "This is where we alight," said the guide, and as we rolled off the bogle we observed a gaping pit well shored with mud-covered timber. When informed that there would be a descent of some sixty feet to where the lead ore had been discovered in quantity worth the excavating, one was inclined to shudder, but knowing that men have been working at that depth for some years and being assured that the air was not unfit for human consumption, we took our courage in our hands and began the descent by means of a series of ten-feet ladders. Platform after platform was reached and at length the sixth ladder having been safely negotiated we came to a wide working place or level where men were engaged in turning an apparatus for circulating fresh air into the mine and driving out any that might be injurious. From this wide level we proceeded on our tour of inspection, the way being lighted only by the acetylene flare which gave the place an uncanny appearance. But the effort was well repaid by what we saw—thick veins of undeniable lead apparently only awaiting excavation and elevation to the top of the shaft and transport to the daylight of the adit end. Handing me a pick my guide invited me to do a little lead-mining on my own account, and there stands before me as I write a beautiful bit of solid lead ore gathered by myself glinting in the sunlight and telling of possible tons of its kind that still await the miners of Teesdale.

There is no doubt of the existence of much lead in the mine that the London Lead Company were engaged in when on that memorable day in 1902 the order came from London that operations were to cease and many men of Middleton and Eggleston, Blackton and elsewhere in the vicinity were to look elsewhere for a livelihood. The walls of the mine shine with this remarkable deposit, and one would like to have waited longer and seen it worked and hoisted in kibbles to the top by means of the hand-worked winch which is at present the only method of getting it out. The experience set one thinking. Was the London Lead Company aware of the existence of these veins of lead in Coldberry? Undoubtedly it was, but how were they to be got at economically? In 1902 the price of lead ore had dropped to £9 a ton, and it was deemed impossible to continue operations for a return which was not economic.
And so the operations ceased. But there was no doubt that there were men in the company who believed what is now being proved, that the veins of lead were going downwards to the strata below the firestone.

Coming out of the mine and into the pure Teesdale air once more, we had ample proof of the company's expectations—now being amply verified—that there was probably as much lead ore in Coldberry as ever came out of it. Proof of that belief lies in the half-made adit at a lower random undoubtedly going in the direction of the place where we had seen the workings and in the finely constructed shaft from which it was expected that it would be possible to draw the mineral when it had been worked. In the fifty years preceding the stoppage of the London Lead Company's operations there were 55,000 tons of lead ore won without going below the firestone strata. The hope of the small local syndicate, with Mr R. W. Raine at its head, which has been so persistently boring into the interior of the hill, is that means will be found for modernising the plant, improving the ventilation, and altogether working the mine as a profitable concern. When one comes to consider what modern machinery can do to excavate, raise to the surface, wash, and prepare the ore for market, one can readily visualise a prosperous future for Coldberry. The ore is there undoubtedly. The men are getting it out every day, and every now and then one sees trucks laden with it leaving Middleton railway station for the market.
Outside the adit, where the old sheds and mine shops, more or less perfect, are still in use, one was able to witness the primitive method of treating the ore as it is brought out on bogies and tipped on to the sorting platform. There is plenty of water at Coldberry, and so the washing process is simplified, but it is all done by hand. Iron hammers are used for breaking the clods, and the broken metal is sorted by hand through a primitive iron grating that passes for a sieve. And even the washing is done by hand, a man standing on a platform and working an old-fashioned "jigger" which separates the ore—which has by now become precious—from the valueless material with which it has been bound up for untold ages. At the bottom of the washers, after the lumps of lead have been taken out, one sees the layer of thick lead sediment waiting to be shovelled out. This is the potential lead of the paint shop—valuable material indeed. There is finer lead than this—lead which actually floats on water, so light it is in weight, but with still a value. What is wanted is a crushing machine, and my guide informs me that with the use of this as well as machinery for raising the ore from the levels there could be as much dealt with in a week or two as is now dealt with in this primitive fashion in half a year.

One would like to see the Teesdale lead mines in full blast again. It would make such a difference to the trade of Middleton and the neighbourhood, and since lead ore is now commanding as much as £22 a ton it seems a pity that more cannot be done to get the precious stuff out. Money alone is needed to complete the work that these latter-day prospectors have begun. One can sincerely hope that the wherewithal will be forthcoming, but it can only come from those possessing it who share with these local prospectors the faith in Coldberry's future.

J.E.W.