

*A Relation of some strange phenomena<sup>1</sup>, accompanied with mischievous effects in a Cole-work in Flint-shire; sent March 31. 1677. to the Reverend and eminently Learned Dr. Bathurst, Dean of Bath and Wells, by an Ingenious Gentleman, Mr. Roger Moslyn, of the Inner Temple, who, at the said Doctor's request, obtained it from his Fathers Steward and Overseer of his Cole-works, who was upon the place when the thing was done; the same Mr. Moslyn being also assured of it from his Father, Sr. Roger Moslyn, Lord of the Mannor, and several others, who were Eye-witnesses.*

**T**HE Cole-work at *Moslyn* in *Flint shire* lies in a large parcel of Wood-land, that from the Countries side which lies to the South hath a great fall to the Sea-side, which is direct North; The dipping or fall of the several Rocks or Quarries of Stone that are above the Cole, and consequently of the Cole lying under them, doth partly cross the fall of the ground, so that the dipping of it falls within a point or less of due East, which is the cause, that the Pits that are sunk at the Sea-side in the same level with the full Sea-mark, are not short of the depth of the others that are upon the higher ground, above fifteen or sixteen yards; so that they lie some sixty, some fifty, and the ebbest forty yards under the level of the Sea. This above-mentioned work is upon a Cole of five yards in thickness, and hath been begun upon, about six or eight and thirty years ago: When it was first found, it was extream full of Water, so that it could not be wrought down to the bottom of the Cole, but a Witchet or Cave was driven out in the middle of it upon a level for gaining of room to work, and drawing down the Spring of water that lies in the Cole to the Eye of the pit; in driving of which Witchet, after they had gone a considerable way under ground, and were scanted of wind, the Fire-damp did by little and little begin to breed, and to appear in crevisses and slits of the Cole, where water had lain before the opening of the Cole with a small blew. sh flame working and moving continually, but not out of its first seal, unless the Workmen came and held their Candle to it, and then, being weak the blaze of the Candle would drive it, with a sudden fizz, a way to another Crevisses, where it would soon after appear blazing and moving as formerly. This was the first knowledge of it in this work, which the Workmen made but a sport of, and so partly neglected it till it

had gotten some strength, and then upon a morning the first Collier that went down, going forwards in the Witchet with his Candle in hand, the damp presently darted out violently at his Candle, that it struck the man clear down, singed all his hair and clothes, and disabled him for working a while after; some other small warnings it gave them, insomuch that they resolved to employ a man of purpose, that was more resolute than the rest, to go down a while before them every Morning to chase it from place to place, and so to weaken it. His usual manner was to put on the worst raggs he had, and to wet them well in water, and as soon as he came within the danger of it, then he fell grovelling down on his belly and went so forward, holding in one hand a long wand or pole, at the end whereof he tied Candles burning, and reached them by degrees towards it, then the Damp would flie at them, and if it mis'd of putting them out, it would quench it self with a blast, and leave an ill-sented smoke behind it: Thus they dealt with it till they had wrought the Cole down to the bottom, and the water following and not remaining as before in the body of it among sulphureous and brassie Mettal that is in some veins of the Cole, the Fire-damp was not seen or heard of till the latter end of the year 1675, which happened as followeth.

After long working of this five yards Cole, and trial made of it in several places, it was found upon the rising grounds (where the signs of the Cole, and the Cole it self came near the day) that there lay another Roach of Cole at a certain depth under it, which being sunk to, and tried upon some out-skirts of the main work, it was found at fourteen yards depth, and wrought, proving to be three yards and a half thick; and a profitable Cole, but something more sulphureous than the other, and to reach under all the former work. This discovery of so promising a work encouraged us to sink some of the ebbest Pits, that we had formerly used on the five yards Cole, down to the lowest Roach, and accordingly we began in one that was about thirty two yards deep, which we went down with perpendicularly from the first shaft, and sunk down twenty yards before we came to the said Roach, in regard it was at the Sea-side, and upon the lowest of the dipp where the Rocks successively thicken as they fall) having pick'd it, and being sure of it, we let it rest, having had for a considerable time, as we sunk the lower part of it, many appear

appearances of the Fire-damp in watery crevisses of the Rocks we sunk through, flashing and darting from side to side of the Pit, and shewing Rainbow-colour-like on the surface of the water in the bottom; but upon drawing-up of the water with Buckets, which stirr'd the Air in the Pit, it would leave burning, till the Colliers at work with their breath and sweat and the smoke of their Candles thickned the Air in the Pit, then it would appear again, they lighting their Candles in it sometimes when they went out; and so in this Pit it did no further harm.

Having brought our first Pit thus forward, we were to consider of another to follow it, both for free passage of Air, as for furtherance of the work, and being desirous to get it in some forwardness before Summer, (when the heat of the weather at some time, and the closeness of the Air in foggy weather at other, occasions the Smothering-damp) it was resolv'd, for expeditions sake and saving of some charges, to sink a Pit within the hollows or deads of the upper work, at 16 or 17 yards distance from the first Pit; this we proceeded in till we came 6 or 7 yards deep, then the Fire-damp began to appear as formerly, accompanying the Workmen still as they sunk, and they using the same means as afore, sometimes blowing it out with a blast of their mouth, at other times with their Candles, or letting it blaze without interruption. As we sunk down and the Damp got still more and more strength, we found that our want of Air perpendicularly from the day was the great cause and nourisher of this Damp; for the Air that followed down into this Pit, came down at the first sunk Pit at the forementioned distance, after it had been dispersed over all the old hollows and deads of the former work, that were fill'd up with noysom Vapors, thick smothering Fogs, and in some places with the Smothering-damp it self: Nevertheless we held on sinking, till we came down to 15 yards, plying the work night and day (except Sundays and Holydays) upon which intermission the Pit being left alone for 48 hours and more, and the Damp gaining great strength in the interim, by that time the Workmen went down, they could see it flashing and shooting from side to side like Sword-blades cross one another, that none durst adventure to go down into the Pit: Upon this they took a Pole and bound Candles several times to the end of it, which they no sooner set over the Eye of the pit, but the Damp would flie up with a long sharp flame and put out the Candles,

dles, leaving a foul smoke each time behind it. Findithat things would not allay it, they adventured to bind some Candles at a hook hanging at the Ropes end that was used up and down in the Pit; when they had lower'd down these a little way into the shaft of the Pit, up comes the Damp in a full body, blows out the Candles, disperseth it self about the Eye of the Pit, and burneth a great part of the mens hair, beards and clothes, and strikes down one of them, in the mean time making a noise like the lowing or roaring of a Bull, but louder, and in the end leaving a smoke and smell behind it worse than that of a Carrion. Upon this discouragement these Men came up, and made no further trial; after this the Water that came from it being drawn up at the other Pit was found to be blood-warm, if not warmer, and the Crevisses of the Rocks where the Damp kept, were all about fire-red *Candlemas* day following. In this juncture there was a cessation of work for three days, and then the Steward, thinking to fetch a compass about from the eye of the Pit that came from the day, and to bring wind by a secure way along with him, that if it burst again it might be done without danger of mens lives, went down and took two men along with him; which serv'd his turn for this purpose; he was no sooner down, but the rest of the Workmen that had wrought there, disdainig to be left behind in such a time of danger, hasted down after them, and one of them more undiscreeet than the rest went headlong with his Candle over the Eye of the damp-Pit, at which the Damp immediately catched and flew to and fro over all the hollows of the work, with a great wind and a continual fire, and as it went, keeping a mighty great roaring noise on all sides. The Men at first appearance of it had most of them fallen on their faces, and hid themselves as well as they could in the loose fleck or small Cole, and under the shelter of posts; yet nevertheless the Damp returning out of the Hollows, and drawing towards the Eye of the Pit, it came up with incredible force, the Wind and Fire tore most of their clothes off their backs, and singed what was left, burning their hair, faces and hands, the blast falling so sharp on their skin, as if they had been whipt with Rods; some that had least shelter, were carried 15 or 16 yards from their first station and beaten against the roof of the Coal, and sides of the posts, and lay afterwards a good while senseless, so that it was long before they could hear or find one another: As  
it

it drew up to the Day-pit, it caught one of the men along with it that was next the Eye, and up it comes with such a terrible crack, not unlike, but more shrill than a Canon, that it was heard fifteen miles off along with the Wind, and such a pillar of Smoke as darkened all the sky over head for a good while: The brow of the Hill above the Pit was 18 yards high, and on it grew Trees 14 or 15 yards long, yet the mans Body and other things from the Pit were seen above the tops of the highest Trees at least a hundred yards. On this Pit stood a Horse-engin of substantial Timber, and strong Iron-work, on which lay a trunk or barrel for winding the Rope up and down of above a thousand pound weight, it was then in motion, one Bucket going down and the other coming up full of Water. This Trunk was fastned to the frame with locks and bolts of Iron, yet it was thrown up and carried a good way from the Pit, and pieces of it, though bound with Iron-hoops and strong Nails, blown into the Woods about; so likewise were the two Buckets, and the ends of the Rope after the Buckets were blown from them stood a while upright in the Air like pikes, and then came leisurely drilling down: The whole frame of the Engin was stirr'd and moved out of its place, and those Mens Clothes, Caps and Hats that escaped were afterwards found shattered to pieces, and thrown amongst the Woods a great way from the Pit. This happened the third of *February 1675*, being a Season when other Damps are scarce felt or heard of.

*Mr. Leewenhoecks Letter written to the Publisher from Delft the 14th of May 1677, concerning the Observations by him made of the Carneous Fibres of a Muscle, and the Cortical and Medullar part of the Brain; as also of Moxa and Cotton.*

S I R,

**Y**Ours of the 22th of *February* mentions, that some of your Friends did wish, I would with all possible exactness observe the *Carneous* Fibres of a *Muscle*, and also the *Cortical* and *Medullar* part of the *Brain*.

I acquainted you formerly in my Letter of the first of *June 1674*, that those *Carneous* fibres of *Muscles* did consist of very small globuls; yet for the further satisfaction of your Friends; I have laid aside all my former Observations, to make quite new ones.

Among other, I took the flesh of a *Corn*; this I cut asunder with