

## **Mrs. Abiah Darby on developments in the Darby ironworks at Coalbrookdale, 1708-1763**

(Letter from Mrs. Darby, *circa.* 1775, in T. S. Ashton, *Iron and Steel in the Industrial Revolution*, Manchester: Manchester University Press, 1924, Appendix, pp. 249-252. It was at Coalbrookdale that Abraham Darby first succeeded in smelting iron with coke in the early 18<sup>th</sup> century.)

Esteemed Friend,

Thy very acceptable favour of the 9<sup>th</sup> ulto. claim'd my earliest acknowledgments, which I should immediately have made, had not thy kind condescension in taking notice of my late honour'd Husband, and requesting to be inform'd of any circumstance which may be interesting relating him, caused my delay-to recollect what might occur concerning his transactions or improvements in the Manufactory of Iron, so beneficial to this nation. But before I proceed further, I cannot help lamenting with thee in thy just observation, " that it has been universally observed, that the Destroyers of mankind are recorded and remembered, while the Benefactors are unnoticed and forgotten". This seems owing to the depravity of the mind, which centres in reaping the present advantages, and suffering obscurity to veil the original causes of such benefits; and even the very names of those to whom we are indebted for the important discoveries, to sink into oblivion. Whereas if they were handed down to posterity, gratitude would naturally arise in the commemoration of their ingenuity, and the great advantages enjoyed from their indefatigable labours I now make free to communicate what I have heard my Husband say, and what arises from my own knowledge; also what I am inform'd from a person now living, whose father came here as a workman at the first beginning of these Pit Coal Works.

Then to begin at the original. It was my Husband's Father, whose name he bore (Abraham Darby and who was the first that set on foot the Brass Works at or near Bristol) that attempted to mould and cast Iron pots, &c., in sand instead of Loam (as they were wont to do, which made it a tedious and more expensive process) in which he succeeded. This first attempt was tryed at an Air Furnace in Bristol. About the year 1709 he came into Shropshire to Coalbrookdale, and with other partners took a lease of the works, which only consisted of an old Blast Furnace and some Forges. He here cast Iron Goods in sand out of the Blast Furnace that blow'd with wood charcoal; for it was not yet thought of to blow with Pit Coal. Sometime after he suggested the thought, that it might be practicable to smelt the Iron from the ore in the blast Furnace with Pit Coal: Upon this he first try'd with raw coal as it came out of the Mines, but it did not answer. He not discouraged, had the coal coak'd into Cynder, as is done for drying Malt, and it then succeeded to his satisfaction. But he found that only one sort of pit Coal would suit best for the purpose of making good Iron. -These were beneficial discoveries, for the moulding and casting in sand instead of Loam was of great service, both in respect to expence and expedition. And if we may compare little things with great-as the invention of printing was to writing, so was the moulding and casting in Sand to that of Loam. He then erected another Blast Furnace, and enlarged the Works. This discovery soon got abroad and became of great utility.

This Place and its environs was very barren, little money stirring amongst the Inhabitants. So that I have heard they were Obliged to exchange their small produce one to another instead of money, until he came and got the Works to bear, and made Money Circulate amongst the different parties who were employed by him. Yet notwithstanding the Service he was of to the Country, he had opposers and ill-wishers, and a remarkable circumstance of awful Memory occurs; of a person who endeavour'd to hinder the horses which carried the Iron Stone and Coal to the Furnaces, from coming through a road that he pretended had a right to Oppose: and one time when he saw the horses going alone, he in his Passion, wished he might Never Speak More if they should Ever come that way again. And instantly his Speech was stopped, and altho' he lived Several years after yet he Never Spoke More!

My Husband's Father died early in life; a religious good man, and an Eminent Minister amongst the people call'd Quakers.

My Husband Abraham Darby was but Six years old when his Father died-but he inherited his genius-enlarg'd upon his plan, and made many improvements. One of Consequence to the prosperity of these Works was as they [were] very short of water that in the Summer or dry Seasons they were obliged to blow very slow, and generally blow out the furnaces once a year, which was attended with great loss. But my Husband proposed the Erecting a Fire Engine to draw up the Water from the lower Works and convey it back into the upper pools, that by continual rotation of the Water the furnaces might be plentifully supplied; which answered Exceeding Well to these Works, and others have followed the Example.

But all this time the making of Barr Iron at Forges from Pit Coal pigs was not thought of. About 26 years ago my Husband conceived this happy thought that it might be possible to make bar from pit coal pigs. Upon this he Sent some of our pigs to be tryed at the Forges, and that no prejudice might arise against them he did not discover from whence they came, or of what quality they were. And a good account being given of their working, he erected Blast Furnaces for Pig Iron for Forges. Edward Knight Esqr a capitol Iron Master urged my Husband to get a patent, that he might reap the benefit for years of this happy discovery: but he said he would not deprive the public of Such an Acquisition which he was satisfied it would be; and so it has proved, for it soon spread, and Many Furnaces both in this Neighbourhood and Several other places have been erected for this purpose.

Had not these discoveries been made the Iron trade of our own produce would have dwindled away, for woods for charcoal became very Scarce and landed Gentlemen rose the prices of cord wood exceeding high-indeed it would not have been to be got. But from pit coal being introduced in its stead the demand for wood charcoal is much lessen'd, and in a few years I apprehend will set the use of that article aside.

Many other improvements he was the author of. One of Service to these Works here they used to carry all their mine and coal upon horses' backs but he got roads made and laid with Sleepers and rails as they have them in the North of England for caryng them to the Rivers, and brings them to the Furnaces in Waggons. And one waggon with three horses will bring as much as twenty horses used to bring on horses' backs. But this laying the roads with wood begot a

Scarcity and rose the price of it. So that of late years the laying of the rails of cast Iron was substituted; which altho' expensive, answers well for Ware and Duration. We have in the different Works near twenty miles of this road which cost upwards of Eight hundred pounds a mile. That of Iron Wheels and axletrees for these waggons was I believe my Husband's Invention.

He kept himself confined to the Iron Trade and the Necessary Appendages annex'd thereto. He was just in Ms dealings-of universal benevolence and charity, living Strictly to the Rectitude of the Divine and Moral Law, held forth by his great Lord and Saviour, had an extraordinary command over his own spirit, which thro' the Assistance of Divine Grace enabled to bear up with fortitude above all opposition: for it may seem very strange, so valuable a man should have Antagonists, yet he had. Those called Gentlemen with an Envious Spirit could not bear to see him prosper; and others covetious; strove to make every advantage by raising their Rents of their collieries and lands in which he wanted to make roads; and endeavour'd to stop the works. But he surmounted all: and died in Peace beloved and Lamented by many.