The mill reek in 1754

To historians and philosophers, Edinburgh is perhaps best known for being the centre of the Scottish Enlightenment. To its inhabitants, until recently, it was known as ‘Auld Reekie’, acknowledging its smoky atmosphere. Those of us who take an occupational history have heard the Scots words ‘stour’, for dust and ‘reek’, for smoke. Indeed, a friendly wish in Scots is ‘Lang may your pipe reek’. Well, we know a lot about stour and reek now, and it is certainly best to avoid living or working in an atmosphere of either. I have spent much of my career examining their effects on health, but one type of reek I have seen little of was that from lead refining. Ramazzini drew attention to lead poisoning in De Morbis Artificum Diatriba of 1714 and was quoted on the subject in Pott’s 1775 account of scrotal cancer in chimney sweeps, but I doubt that lead poisoning was well known in Britain in that era.

The Enlightenment led to a number of societies in Edinburgh. The Philosophical Society, founded in 1738, became the Royal Society of Edinburgh in 1783. In 1754, it published three volumes of Essays and Observations, edited by Alexander Munro primus and David Hume. These rare books contain, inter alia, the first chemical description of a gas, carbon dioxide, by Joseph Black, observations on the moons of Jupiter and an account of how a patient cured himself of secondary syphilis by taking double the recommended dose of mercury. Occupational medicine was not forgotten. James Wilson, surgeon, wrote:

‘I send what I have observed concerning the disease which the people at Leadhills call the mill-reek, and which all the inhabitants there are subject to; but it mostly seizes, and violently affects the men whose daily business it is to melt down the lead. The melting houses, where this is done are called mills; because the bellows there are worked by water-mills.’

He then describes abdominal pain, clammy skin, colic, a sweet taste, constipation, loss of appetite, giddiness, headache, delirium and death. He points out:

‘The reek or smoak rising from the melting lead is believed to be the cause of this disease; because the melters who are most exposed to the smoak which comes out often full in their faces, are most subject to this disease, the mill-reek. The people here say they have seen birds, in a calm moist day, attempting to fly thro’ the smoak of such a chimney, fall down dead. Cattle, which pasture near to mills, are often killed; and therefore shepherds take great care to keep their sheep at a distance; which, if not by the smoak, must be hurt by the grass, which I often see made blue by the smoak falling on it.’

Unfortunately, Wilson’s recommended treatment, dietary measures and purgation, can only have made matters worse. The unfortunate inhabitants of Leadhills had few other employment opportunities, and it is unlikely that the owner of the mines, the Earl of Hopetoun, would have cared even had he known their plight.

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