Shale is here again

The current enthusiasm for fracking takes me back to the oil crisis of the late 1970s. I had been asked to see a post-thoracotomy patient and, when he recovered, found that his lesion had been pneumoconiotic. When I enquired which mine he worked in, he told me that it had been a shale mine and since Hunter’s old textbook stated that pneumoconiosis didn’t occur in shale miners, I did a little trawl round the local hospital’s pathology department, found some other cases, wrote them up and, knowing that the USA was opening up its massive shale oil reserves and interested in possible adverse health effects, applied for a grant to the US Department of Energy to study the risks of shale oil production. One patient turned into a research programme!

Occupational physicians will recall the story of the oil shale industry to the west of Edinburgh established in the 1850s by James Young, the production of the first mineral oil and the discovery of the second known cause of cancer, among the paraffin workers in West Lothian and later among the cotton spinners of Lancashire. The grant allowed us to study the workers in the Scottish oil shale industry in 1983–84, 30 years after the industry had closed, including their mortality and, among survivors, the risks of skin and lung disease. The results were used to provide risk estimates for the developing US shale industry.

In the course of this study, I was able to visit the developing mines in Colorado and was interested to see what must have been the first attempts to obtain the oil without having to send miners down to bring up the shale, using explosives and in situ methods for extraction. Of course, we were familiar with the production of gas from coal in the UK prior to the opening of the North Sea industry and British Coal was at that time experimenting with in situ production of oil from the coal deposits. Alas this advanced work was curtailed as the UK coal industry was decimated through the 1980s.

Recently, I was telling a retired Yorkshire coal miner something of the Scottish oil shale industry and he remarked that in his pit, there had been so much gas that it was put to use to heat the mine buildings. And, of course, we all know that methane is an ever-present hazard in mining. The Scottish shale industry, which made oil from stone, hence petroleum, was eventually put out of business by the discovery of liquid oil deposits in the USA, discovered while drilling for gas, hence gasoline. Now the writing is on the wall for the coal industry and soon may be for the oil industry with fracking and eventually, thanks to an increasing awareness of the changing climate, even for the gas industry. But those two synonyms, petrol and gas, will remind our grandchildren of the greedy exploitation of the world’s fossil fuels that led to the uncomfortable world that they will live in.

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