



Between the Lines

Land of Oak & Iron Mapping Project Newsletter

September 2019

We return to holding two meetings a month in September and over the winter period. Mills and waggonways teams continue to beaver away and make good progress. A brief history of "Mining Institute" below explains its roots, history and future plans whilst on page 2 is a glimpse of some of the unique information held.

Volunteer meeting September 2019

We were joined by guests at both of our September meetings. Maggie Thacker, from The Gatehead Archive joined us at Winlaton. She is heavily involved with a project that, when it opens in August 2020, will greatly improve access to the Gateshead Central Library historical archive collection of over 10,000 books and around 1,000 maps, and was interested to understand how our mapping group operated. Our guests from "The Common Room" brought maps and knowledge to share; a report on the evening forms page 2 of this Newsletter.

The developments at both organisations will give greater access to the resources they hold, and be very useful to the mapping volunteer group in developing maps of Land of Oak & Iron.

The North of England Institute of Mining and Mechanical Engineers

During the early 19th Century the north-east's coal industry was amongst the most developed in the country. Exhaustion of shallow coal deposits required mines to be sunk ever deeper. The additional cost involved in sinking the mines resulted in larger areas being mined from a single shaft with more men working underground. Higher levels of flammable gas associated with the deeper deposits increased the risk of explosion.

Mine safety was largely driven by the actions of local organisations following disasters. The Sunderland Society, formed after the Felling Colliery explosion in 1812, led to the Safety Lamp being developed.

The South Shields Committee, formed after the St. Hilda Colliery explosion in 1839, recommended: registration of mine plans, a government inspection system, prohibiting employment of women and children below ground, and better scientific education of mining engineers.

In 1838 the University of Durham offered a three year course for civil engineering and mining students. Following legislation in 1850 The Inspectorate of Mining came into being and leading mine owners recognised that improvements were necessary.

After a further explosion, at Seaham Colliery in 1852, it was decided to form a society which would become known as the [North of England Institute of Mining Engineers](#). With aims of improving safety in mines and establishing a literary institute, the topics for investigation and research included: lighting, ventilation,

shaft sinking and methods of working, along with advancing the science of mining through the study of geology, minerology, chemistry, mechanical philosophy, pneumatics and mechanics.

The Institute opened its doors, at Neville Hall in Newcastle in 1872 with a new name that included Mechanical Engineers and in 1876 it gained its Royal Charter.

A College of Physical Science, for the education of mining engineers, was established by the University of Durham in 1871. Neville Hall, along with nearby buildings, provided accommodation for the College until 1888 when a new building was opened. The College has now been absorbed into the Newcastle University Faculty of Science, Agriculture and Engineering.

Mining engineering was not a discrete subject in the early college. A good general and scientific education with extensive experience of the mines was required. The transactions of the Institute became an invaluable source of information about the unique challenges of the industry.

The decline of the coal industry took its toll and in the mid-1970s part of Neville Hall was sold to the Masons. In 2010 the Hall was put on the market again and with the help of Newcastle City Council, in provision of a mortgage, the Institute reunited the building. In 2016 the Heritage Lottery Fund (HLF) provided a grant which allowed a detailed technical study to be undertaken. In 2018 The National Lottery Heritage Fund provided a further grant of £4.1 million to allow a full renovation programme to be undertaken. The assets and staff of the Institute transferred to a charity "[The Common Room of the Great North](#)" early in 2019. When complete, in August 2020, the [largest coal mining library in the world](#) will again become available to the public. Commercial ventures are included in the project to ensure that finances are secure; it is envisaged that 80,000 people a year will visit.

(Thanks to Jennifer Hillyard for her support in preparing this article).

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The Fourth dimension: mapping the mines

At the meeting on 24th September at the Lodge in Consett we were lucky to be visited by Jennifer Hillyard and Ian Robertson from the North of England Institute of Mining and Mechanical Engineers. The Institute was founded in 1852 and holds globally important collections of mining and industrial heritage. Many of you will know its mahogany panelled, tiered lecture theatre, modelled on the famous room at the Royal Institution in London where Michael Faraday gave his first Christmas lectures: one of the jewels in Newcastle's architectural crown.

Jennifer is Library and Archives Manager for The Common Room (a new charity which has taken responsibility for the building and collections of The Institute). She has been helping us with book scanning and suggested we may be interested in the maps of underground workings. After a brief explanation of the charity and refurbishment activity she handed the floor to Ian Robertson.

Ian is one of the last great mine surveyors. He told us something of his eventful life: sinking tunnels, salvaging mines after collapses and designing schemes to clean up the polluting legacy of much of the north-east's industrial history. He talked about the difficulties of mapping underground and of the many modern schemes on which he has been consulted. Best of all, he brought in a small but fascinating collection of starched translucent linen maps, from the Mining Institute's collection, drawn at a scale of 6 inches to the mile. These maps overlay onto Ordnance Survey sheets and, in successive layers, they show the underground workings: where shafts were sunk, roads laid, when pillar-and-board seams were worked and exhausted. Each map is a history of human endeavour, and each one reveals a hidden world beneath our feet (one or two of the group had a quick look to see what workings lay beneath their own houses...).

Ian also showed us how to relate these maps to the shaft sections that can be seen on the Durham Mining Museum's website, <http://www.dmm.org.uk/lom/index.htm>, which contains all sorts of information about the region's collieries, from sinkings to disasters. So, for example, if you were interested in the East Tanfield Colliery, which was sunk in 1844 and which closed in

1965, you would click on the **Coll. Maps** tab on the left column, then find the colliery in the alphabetical list and explore the page. For East Tanfield, if you click one of the **Go to** 'shaft details' boxes on the colliery page and you'll get the shaft details in a cross section. Scroll down the list further and there are details of ownership, seams worked, employment levels, and fatalities recorded. Each seam encountered in a shaft, if worked, has its own linen map layer with all sorts of interesting details about geological faults, abandoned workings and any older, unrecorded workings encountered. To think of miners digging by hand in seams only 2ft 6ins thick, a thousand feet underground and along ill lit passages, makes one shudder.

The question for the mapping group is, how can we plot any of this on our Land of Oak & Iron maps? What exactly would we attempt to map; how would we do it; and how would we represent such complexities in only two dimensions. Needless to say, group members were fired up with ideas. It looks as though we will be able to get access to these maps through Jennifer's kind offices; and she may even be able to scan some of them. The concept of mapping collieries and pit shafts across the area, then using the underground detail for a single colliery to represent the extent and complexity of the mining heritage of the area, gained support on the evening. Those who have interest in mining and wish to form a topic team to develop ideas further would be most welcome to discuss proposals with us at forthcoming meetings where we would be delighted to give our support. This would tie in neatly with the ongoing work on waggonways and with prospective mapping of the collieries. Any thoughts on how to integrate these with the main map will be welcome. These maps and the knowledge that comes with them are precious resources – too good to waste. (MA)

Coming up in October:

Tuesday 8th October 2019 , [The Winlaton Centre](#), North Street NE21 6BY (in Winlaton village)

Tuesday 22nd October 2019 [The Lodge](#), Laburnum Avenue, Blackhill, Consett, DH8 5TA

