

Carbon, Climate and Renewal by Ruth Robson

Created for Durham Book Festival 2021

1. Seaham Marina

Carbon, Climate and Renewal has been created by Ruth Robson for the 2021 Durham Book Festival, a Durham County Festival produced by New Writing North, with support from Durham University and Arts Council England. Durham Book Festival was established in the 1980s and is one of the country's first literary festivals.

Welcome to Seaham, and this literary walk which will explore issues of climate change through the written word set against the landscape, seascape and history of Seaham.

The harbour town of Seaham on the County Durham coast represents regeneration and renewal: behaviours world leaders, nations and communities need to adopt as we face the climate change emergency. Extremes such as heavy rainfall, heatwaves, droughts, more intense tropical storms, are increasing in frequency as sea ice, snow cover and permafrost retract.

Seaham boasts an ancient church dating from the 7th century, it is famed for an ill-fated marriage between one of its own and perhaps England's most notorious romantic poet Lord Byron, and it epitomises all that was great, and not so great, about the industrial revolution. It is positioned with Sunderland to the north, Teesside to the south, and behind is North East England with its rich industrial heritage and stunning countryside. Perched on the Durham coast, the town looks out across the unforgiving North Sea.

The town saw rapid growth during the 18th and 19th centuries, and subsequent decline as industries such as coal mining waned. These days, as the Northumberland based, former lawyer turned best-selling author L J Ross writes in 'The Shrine', one of her DCI Ryan mystery series, Seaham is "an upmarket seaside town" with "coffee shops, and boutiques" and has seen "major investment in recent times."

Coast, a magazine that celebrates the British seaside, recently published an article called 8 reasons to move to Seaham, observing that Seaham "was an environmental disaster zone, but has since undergone a remarkable transformation... Over £10 million was spent on cleaning up the black, polluted beaches, creating footpaths, cycle tracks and nature reserves. The area was given heritage status in 2001."

World leaders meet regularly to agree how to combat the climate emergency through a series of United Nations climate summits known as COP. The first such summit took place in Berlin in 1995. The UK is hosting the international community in Glasgow in November 2021 for COP26. Each COP conference uses data and conclusions pulled together by the Intergovernmental Panel on Climate Change known as the IPCC. It is a cohort of some of the world's most respected scientists and climate change experts.

The IPCC's most recent report was published in August 2021 with one of the panel's Co-Chairs' Valérie Masson-Delmotte stating, "This report is a reality check. We now have a much clearer picture of the past, present and future climate, which is essential for understanding where we are headed, what can be done, and how we can prepare."

Seaham and the Durham Heritage Coast represent what can be done when positive action is taken.

We now going to leave the Marina and head up into the town to a statue of the Sixth Marquess of Londonderry. On the way stop to look at the 'pit wheel' erected as a lasting memorial of the three local coal mines: Seaham, Dawdon and Vane Tempest.

2. Statue – 6th Marquess of Londonderry

This statue of the 6th Marquess of Londonderry was created by John Tweed and dedicated in 1915. He is dressed in the Order of the Garter and carrying plans for an extension to the harbour. The statue sits in front of a building that was the Londonderry Offices, which is now residential. In 1821, Charles William Stewart, who was to become the 3rd Marquess of Londonderry, a controversial figure who had a huge impact on the development of Seaham, bought Seaham Hall on the north side of the town from Sir Ralph Milbanke. We will hear more of the Milbankes further on.

A notice of sale of Seaham Hall was published in Durham County Advertiser, 11th August 1821 that declared, "The limestone on the estate is so abundant, and coal in contiguous, as to give the readiest means of establishing a vastly extensive and profitable trade."

Norman Emery explains in his book, *The Coaminers' of Durham*, "The Vane-Tempest family had coal workings in the Rainton area, west of Durham City. Following the marriage, in 1819, of Anne Vane-Tempest, Countess of Antrim, to the third Marquess of Londonderry, a soldier and

plenipotentiary [diplomat] to the courts of Berlin and Vienna, the exploitation of coal increased.”

Together the Marquess and Marchioness developed coal mines, a railroad and the harbour at Seaham. They invested in the town, creating public buildings and amenities. The Londonderrys owned the homes the miners lived in, controlling many aspects of their lives. In 1844 striking miners asking for better conditions and pay were forcibly removed from their homes as replacement labour was brought in from other parts of the country. This was replicated in mining communities across the Northumberland and Durham coalfields with Lord Londonderry considered particularly harsh. He famously wrote to the shopkeepers of Seaham in July 1844 warning that if they “give credit to pitmen who hold off work ... they will never have any custom or dealings from Lord Londonderry or his agents’ large concerns.”

Norman Emery’s book, *The Coalminers’ of Durham* includes a quote from a poem called ‘On Londonderry’ written by John Doyle, a 20th century miner at Horden Colliery.

His Lordship reached three score and ten
A very fine performance when
One thinks how many did him scorn
And wished him dead ‘ere he was born.

The paradox around Lord Londonderry in the 19th century, equally applies to 21st century attitudes to climate change. There is contradiction around what world leaders say and actions taken, or not taken, to address the climate emergency.

Teenage climate change activist Greta Thunberg speaking at the 2021 Youth4Climate change conference in Milan, Italy, criticized politicians saying, “Build back better. Blah, blah, blah. Green economy. Blah blah blah. Net zero by 2050. Blah, blah, blah. This is all we hear from our so-called leaders. Words that sound great but so far have not led to action. Our hopes and ambitions drown in their empty promises.”

To fully grasp issues around climate change we need to understand exactly what is meant by climate. The World Meteorological Organization, a specialized agency of the United Nations describes itself as being “...dedicated to international cooperation and coordination on the state and behaviour of the Earth’s atmosphere, its interaction with the land and oceans, the weather and climate it produces, and the resulting distribution of water resources.”

Climate refers to average weather conditions over a period of time, ranging from months to thousands or millions of years. The World Meteorological Organization defines the minimum period of measurement as being 30 years. Therefore, a cold day followed by a few warm days and then another cold spell isn't climate change, but merely fluctuations in weather patterns, but an average temperature change over a period of 30 years is climate change, with multiples of 30 years indicating the direction the climate is heading.

We are now going to walk north along the seafront to a sculpture called 'The 3 Pits'. Take time to admire 'Eleven o' One', known locally as 'Tommy', Ray Lonsdale's steel sculpture of a World War One soldier – a Tommy.

3. The 3 Pits - mining sculpture

The 3 Pits sculpture, a trilogy of winding gear, a boiler house and a chimney, represents the three coal mines of Seaham - Seaham, Dawdon and Vane Tempest Collieries, sunk in 1849, 1907 and 1923 and closed in 1986, 1991 and 1993 respectively.

What does sunk mean? Norman Emery in 'The Coal Miners of Durham' explains, "Coal was either won by shaft or drift. The drift was more common in the west of Durham, where the seams were nearer the surface. Elsewhere, seams were worked by shaft, sunk to a depth where it was possible to move into the different levels of coal. "

Seaham was the oldest, fondly known as the 'Nicky-Nack' Pit, the wording underneath the sculpture explaining the name came from the 'Nicky-Nack' sound the pulley wheel made when bringing tubs of coal to the surface. The pulley wheel 'Nicky-Nack' sound is possibly named after the sound of a steam driven corn mill operated by Thomas Chilton in Seaham which by the 1850s was known as the Nicky Nack Mill. Thomas later ran the pub next door, the Mill Inn. An explanation was published in the Sunderland Daily Echo and Shipping Gazette in 1940, "There are three theories current to account for the name. One is that there was a mill whose arms said "tick-tack", another that there was a pump which went "click-clack" and the third declared that the pulley was so called after Mr Chilton's Inn which was full of "knick-knacks".

Dan Jackson in his book *The Northumbrians – North-East England and Its People – A New History*, describes how the people of the region "transformed themselves into a great crucible of the Industrial Revolution."

Poet Anne Stevenson was born in 1933 in Cambridge to American parents, who then moved back to the United States. Anne returned to the UK as an adult, firstly to study and then settled, spending the last decades of her life in Durham. She died in 2020. Much of her work draws from the culture and traditions of the North East. A verse from her poem *Forgotten of the Foot* reads:

So the hills must be pillaged and cored.
Such history as they hide must be hacked out
Urgent as money, the buried black seams uncovered.

Anglo-Saxon scholar, poet and writer Bill Griffiths moved to Seaham in the 1990s becoming central to contemporary literary life in the North East. He wrote a number of books about Seaham recording its past and present. His book *Seaham Town and Harbour* documents the life of the town from the time of the Londonderrys. In it he quotes from *A History of Seaham*, compiled by Seaham Community Association in the 1970s which describes how “Coal was a convenient fuel source for nearby ancillary industries, which began to develop along the coast. In the 1840s there was anchor manufacture, brass founders, iron founders, engineers, bottle-works, pottery, 3 ship-building yards, sail makers etc.” Griffiths also references a post office directory that lists chemical works, gas works and water works. 19th century Seaham was a microcosm of the industrial revolution.

19th century author Charles Dickens evokes a powerful vision of what a 19th century, coal fueled, carbon emitting, landscape looks like in his novel *Hard Times*, set in the fictional northern industrial town of Coketown. “It was a town of machinery and tall chimneys, out of which interminable serpents of smoke trailed themselves for ever and ever, and never got uncoiled.”

Data shows that before the industrial revolution climate change was minimal. In their book *Small Gases, Big Effect – This is Climate Change* David Nelles and Christian Serrer state that “over the last 11,500 years the Earth’s climate has been relatively stable, a factor that has allowed for the development of modern civilization.”

The 2021 IPCC report shows that emissions of greenhouse gases from human activities are responsible for approximately 1.1°C of warming since 1850-1900, the peak of the Industrial Revolution. David Nelles and Christian Serrer go on to say in *Small Gases, Big Effect*, “that since the first ever COP summit in 1995, global greenhouse gas emissions have increased by 50% and remain locked at record levels today.”

In 2015 in Paris world leaders agreed to keep future global warming 2 °C below pre-industrial levels, ideally below 1.5°C. The world is not on a trajectory to achieve this.

The walk continues north along the coast to the cliff top above Glass Beach.

4. Glass Beach

Seaham's beaches have unusual names. Over time they have become known by the industry or activity that took place above or on them. The beach below is affectionately named 'Glass Beach'. It is one of the best places in the UK to collect sea glass, giving up pieces that are decades or even centuries old.

To the north is the port city of Sunderland and home to the National Glass Centre. The Venerable Bede, 7th century Sunderland born monk and scholar writes in his 'Historia Abbatum Auctore Baeda', a two-volume history of the abbots of Wearmouth and Jarrow, an account of Benedict Biscop, the founding Abbot sending, "messengers to Gaul to fetch glaziers, craftsmen who were at this time unknown in Britain, that they might glaze the windows of his church, choir and refectory. This was done and they came, and they not only finished the work required, but from this caused the English to know and learn their handicraft." Bede is describing the beginning of stained of glass production in Britain. 7th century fragments remain in a window at St Paul's Church, Jarrow with an inclusion in the project a History of the North East in 100 Objects.

By the 17th century Sunderland and Newcastle dominated glass making in England. In 1853 John Candlish established glass bottle works at Seaham with a distinctive brick tower dominating the skyline. A few decades later what would become Hartley Wood glass makers in Sunderland was established. Seaham glass bottles were a variety of colours and exported worldwide, and Hartley Wood stained glass has been used in buildings such as Durham Cathedral, St Paul's Cathedral, Westminster Abbey and the Houses of Parliament. Neither factory exist today with the industry and its legacy celebrated at the National Glass Centre. At the end of the day, it was common practice to dispose of broken pieces and waste glass in the sea, hence the phenomenon of sea glass.

Poets Phoebe Power and Katrina Porteous spent time in Seaham and the Durham Heritage Coast in 2019 as part of a residency commissioned for the Durham Book Festival by New Writing North and the National Trust. A sequence by Phoebe Power 'Once More the Sea' reflects conversations she had with local groups and residents. This extract illustrates how

addictive collecting sea glass can be, and also celebrates another recycled treasure of the sea, driftwood.

“Leslie shows me her driftwood sculptures. Cupboards of them, under the bed and piled up in the garage. Village scenes and abstract arrangements; model boats with sails; a little bird. She uses the sea shaped contours as she finds them, emphasising with a rusty lock nailed in, for example, or a stretch of net or wire. On the workbench is a jar of sea glass like blue opals, ready to fill in skies or windows, dot a creature’s eye. I’m not allowed to collect anymore! she says, not till I’ve got through this – heaps of scavenged pieces stowed in sacks, ready to be worked. Haven’t got space for it all. But I can’t stop!”

Recycling and repurposing can contribute to reducing carbon emissions. Creating a circular economy for plastic ensuring it never becomes waste or pollution is paramount.

Will McCallum, is Head of Oceans for Greenpeace UK. Greenpeace describes itself as a movement of people who are passionate about defending the natural world from destruction. Will McCallum has written a book called How to Give Up Plastic. In it he states, “It is not that this material – cheap, flexible and in many instances life-saving when it comes to medical uses – is inherently bad. Rather, that we have developed a throwaway culture around single use that is not healthy, for society or for the oceans – and if the plastic crisis in our seas has any silver lining at all, it may be that it provides the catalyst to snap us out of this destructive pattern.”

How to give up plastic includes some sobering facts. 90 percent of seabirds have plastic in their stomach, 80 percent of the plastic in the ocean originates on land, 1 rubbish truck of plastic enters the ocean every minute. The book was published in 2018 and it’s most likely these statistics have worsened since then.

The walk turns inland passing St Mary’s Church along Church Lane, arriving at Seaham Hall. Take time to look at the Church on your way. It is Anglo-Saxon in origin.

5. Seaham Hall.

The Milbanke family moved to Seaham, into their newly built Seaham Hall in 1790, as Sir Ralph Milbanke, became member of parliament for County Durham. The family is perhaps, best known for the hapless marriage of their daughter Annabella to George Gordon Byron, better known as Lord Bryon. Annabella was highly educated, particularly exceling at mathematics, a passion passed on in turn, to her and Lord Bryon’s daughter, Ada. Lord Byron left for Italy a month after Ada was born in 1816, with the marriage lasting less than a year. He later recorded

the parting with his daughter in Childe Harold's Pilgrimage, Canto No. 3 entitled Personal, Lyric, and Elegiac, Last Leaving England:

Is thy face like thy mother's, my fair child!
ADA! sole daughter of my house and heart?
When last I saw thy young blue eyes they smiled,
And then we parted, - not as now we part,
But with a hope, -

Lord Byron died in Greece when Ada was eight years' old. Ada Lovelace, as she became on her own marriage, is regarded as the world's first computer programmer and is famous for working alongside Charles Babbage, the Victoria mathematician, philosopher, inventor, and mechanical engineer.

Much has been published and written about Ada Lovelace's accomplishments, but an account I enjoy is a google doodle and blog written by Google employee Lynette Webb, published on 10th December 2012, to celebrate Ada's birthday. A google doodle is one of the animated sequences that sometimes appear above the google search engine field. If you google 'Ada Lovelace google doodle' you will find it and can admire it first-hand!

Ada Lovelace became fascinated by Charles Babbage's ambition to build an 'Analytical Engine' and in 1843 she published a description of Babbage's machine. It was part translation of some Italian writing about Babbage's work and part her own words. Ada wrote instructions explaining how to use the machine to calculate a sequence of numbers. In her google blog Lynette Webb states, "In effect, this was the world's first published algorithm." To quote Ada herself, "The Analytical Engine weaves algebraic patterns just as the Jacquard loom weaves flowers and leaves." Lynette Webb's google blog continues, "This was an astounding conceptual leap from calculation to computing. Ada envisaged a day when a single machine would be capable of a myriad of tasks, limited only by the creativity of its programmer. At the time—nearly a century before the first computers were built—it was a flash of brilliance."

To this day Ada Lovelace continues as a role model for those studying computer science and technology, in particular women, who are still underrepresented in the field. In the context of the climate emergency algorithms are vital. They are used to model complex data drawn from multiple sources and present scenarios of how the planet will respond to human behaviour. The Londonderry Estates gave Seaham Hall to Durham County Council in 1927 when it became a sanatorium. Today it is an awarding winning hotel and spa. We continue our walk, through Seaham Dene moving inland for a while, passing Seaham Hall. The walk then turns south, skirting round what is known as East Shore Village, modern housing with the sea to the east and

the woods to the north, peppered with footpaths and a sculpture trail. It is built on the site of the former Vane Tempest Colliery.

We will make our way to Seaham Train station, along what is known as the Long Drive, created by Lady Londonderry after the death of the 3rd Marquess, as a carriage way from Seaham Hall to the Harbour and the Londonderry Offices. To the east is New Seaham, built to house miners and their families when Seaham pit opened in the 1840s.

A verse from Lord Byron's *Childe Harold's Pilgrimage* Canto No. 4 sends us on our way.

Here is a pleasure in the pathless woods,
There is a rapture on the lonely shore,
There is society, where none intrudes,
By the deep Sea, and music in its roar:
I love not Man the less, but Nature more,

6. Train Station

Seaham Train station opened in the 1850s initially as a way of transporting coal and was originally called Seaham Colliery Station. It linked the earlier Londonderry rail line of South Hetton to the south dock at Seaham which had opened in 1828. In 1855 the new railway line opened to passengers enabling train travel between Sunderland and Seaham.

Bill Griffiths in his book *Seaham Town and Harbour* describes how it “carried residents to shopping and entertainment opportunities...”.

The North Eastern Railway Company purchased the line in 1900. The line was extended south along the coast eventually reaching Middlesbrough with sweeping viaducts built across the stunning dunes that open onto the Durham coast.

Another transport route that journeys through the east side of County Durham, linking Doncaster in South Yorkshire to southern end of Northumberland, is the A19 road. Poet William Martin was born in New Silksworth, near Sunderland, north of Seaham, close to the route of the A19. He served as a radio technician in India for the Royal Air Force during the Second World War, where he encountered a variety of eastern religious and philosophical traditions. William Martin returned to the North East after the war becoming a gas fitter, and then working in the Audiology Department of Sunderland's Royal Infirmary Hospital, retiring as

its Head of Department. His poetry often mixes eastern philosophies with the iconographies of the saints of the Northeast, in particular St Cuthbert in whose honour Durham Cathedral is built. Other recurring themes are mining and the celebration of 'marras', a colloquialism used by miners to describe their friends who invariably were their mining colleagues.

Much of William Martin's work represent journeys, often spiritual rather than physical, though they draw on the landscape, geography and the stories of the communities they pass through. One such poem is A19 Hymn, written in 1983, a year or so ahead of the miners' strike of the mid 1980s and the final closure of the pits within the Durham coalfield a decade later. As the road travels through County Durham it runs parallel to the coast which is yet to transform as we see it today. A19 Hymn starts:

Gannet splash
A drowning
Ship marks
Squabbling gulls
Furrow-eyed ploughman
Tumbleweed words...
Leaping ditches
Who goes there after them?
Past sentinel winding heads
Along mourning beaches
Over black shingle...

The A19 in County Durham connects Teesside to Sunderland. As North East shipbuilding and coal mining came to an end, Sunderland has become a base for car production, home to a UK manufacturing plant of the Japanese car manufacturer Nissan. Nissan is at the forefront of electric car development and production, producing the Nissan Leaf at Sunderland. In July 2021 Nissan announced the creation of a new Giga factory in Sunderland – that is a factory producing batteries for electric cars.

Nissan features in the 2011 film by Chris Paine called the Revenge of the Electric Car, which was a sequel to an earlier film released in 2006 also by Chris Paine, called Who Killed the Electric Car? The first film examines the story of USA giant General Motors producing a small fleet of electric cars available for lease that were then withdrawn. The second film looks at how the mainstream car industry is now embracing electric car production with scenes in the boardrooms of Nissan and General Motors, and behind the scenes with Tesla Motors as they develop an electric vehicle.

A Guardian newspaper review of *Revenge of the Electric Car* says of Chris Paine, director of both films, “Now he's back with a sequel – of sorts – bearing the goodish news that the electric car is back in production, due to grassroots demand and also to free-thinking, hi-tech entrepreneurs from Silicon Valley who want to challenge the auto monoliths.” The film predicts that by 2015 consumers will be able to buy electric vehicles they plug in at home to charge.

Electric cars are still on their way to becoming mainstream but de carbonising transport, both public and private is key as countries strive to reach net zero emissions.

The walk moves back towards the shore, stopping at the Londonderry Literary Institute building on way.

7. Londonderry Literary Institute

By 1846 Seaham had a modest public news and reading room on North Terrace, named the Mechanics' Institute. Residents of the town aspired for a building on a grander scale with increased facilities. Fred Cooper is a resident of Seaham and local historian. His book *A History of the Londonderry Literary Institute, Seaham Harbour* explains how it came about, putting its creation in the context of the Mechanics Institute movement.

“Dr Birkbeck was responsible in 1823 for the founding of the Mechanics Institute in London later to become Birkbeck College and the movement spread until, in 1850, there were over 600 Mechanics Institutes in England with a membership of up to half-a-million individuals. These Institutions reflected a growing perception among British middle class social reformers and aspiring working class individuals that engineering, technology and sciences were becoming increasingly important in manufacturing processes and practices. This was the underlying movement in the early 19th century which led to the building of the Londonderry Literary Institute at Seaham Harbour.” It was made possible with the patronage of the Londonderry's and opened in 1854, incorporating a main hall, reading room and a library. Fred Cooper states “The number of readers subscribed to the library by the end of the first year was 797.”

Modern libraries increasingly hold collections of what has become known as Cli-Fi, which is short for climate fiction. It has become a recognised genre addressing issues of climate change and global warming within narratives. American journalist and green activist Dan Bloom is widely credited with having invented the term. He explains in an interview with Claude Forthomme – a Senior Editor for *Impakter*, how he used the term in a press release he had put

together in 2012 about a climate-themed book by American author Jim Laughter called *Polar City Red*, which is set in Alaska in 2075. The term was picked up by a climate scientist called Judith Curry who wrote a blog declaring it a “fledgling new genre in literature” and put together a list of twenty titles to suit. This led to a discussion of the term on America’s National Public Radio station, and it became a thing, a new genre, invariably dystopian.

The first Cli-Fi novel, Jim Laughter’s *Polar City Red*, set in 2075, tells the story of a family seeking refuge in the frozen north, in a time of chaos as climate refugees flee from the impact of rising sea levels, facing scarcity of food, fuel and shelter. Its prologue sets the scene, describing the impact of the continued use of fossil fuels and disregard for nature. Jim Laughter describes how, “In time, only the craggy high mountaintops of Scotland, Germany, Turkey and Switzerland testified to the fact that Europe had ever existed. Whole populations were forced to seek shelter by evacuating their homes, surging by the millions northward into Russia and Scandinavia, overcrowding the continents of the world, seeking shelter where they could find it – or take it.”

Many works that predate the creation of the term Cli-Fi have been declared as being written in the genre. Titles by Ian McEwan, Jeanette Winterson, Margaret Atwood are included. For example, Jeanette Winterson’s novel, *The Stone Gods* published in 2007 is set on the planet Orbus, a world much like planet Earth. It is running out of resources, suffering from the impact of climate change. Its inhabitants hope to take advantage of a newly discovered planet which appears perfect for human life.

We have heard how Annabella Milbanke of Seaham Hall, married poet Lord Byron, separating in 1816. 1816 was also ‘the year without summer’ as the impact of series of Pacific Ocean volcanic eruptions culminating in an eruption of Mount Tambora, Indonesia, was felt across the northern hemisphere.

By summer 1816 Lord Byron had left England for Europe, holidaying with friends in a villa overlooking Lake Geneva. They were forced to spend much time indoors due to relentless rain. Whilst there he wrote his apocalyptic poem *Darkness*, as response to the ‘year without summer’.

It concludes:

The waves were dead; the tides were in their grave,
The moon, their mistress, had expir'd before;
The winds were wither'd in the stagnant air,

And the clouds perish'd; Darkness had no need
Of aid from them—She was the Universe.

The walk continues back onto the sea front, heading south towards the Durham Heritage Coast. The next stop is Seaham Harbour, and as the walk heads south it moves away from the town and its public amenities such as coffee shops and cafes.

8. Seaham Harbour

In the County Durham edition of *The Buildings of England* first published in 1953, Nikolaus Pevsner states that “Seaham Harbour was founded by the third Marquess of Londonderry in 1828 for his collieries which stretched from Sunderland to East of Durham. The new port was not unique: Middlesbrough followed in 1830, Hartlepool was improved in 1835, both to accommodate the great increase in the coal trade.”

Lord Londonderry may have known of a scheme conceived by Sir Ralph Milbanke to build a harbour, which never materialised. Pevsner states of the Milbanke scheme that “In the end Milbanke preferred to use Stephenson’s locomotives to carry coal from Hetton to Sunderland”. The Hetton to Sunderland line was the first line completed by railway engineer George Stephenson specifically to transport coal.

In 1823, 19th century architect John Dobson drew up plans for the harbour and the town. Dobson is best known for designing Newcastle Central Station and working with Richard Grainger on developing the centre of Newcastle in a neoclassical style. John Dobson’s scheme never materialized. The foundation stone of the harbour was not laid until 1828 and by then his plan had been abandoned. The plan for the harbour that was used, was devised by William Chapman, who had drawn up the original plan for Sir Ralph Milbanke, though it was on a larger scale.

There is a description of the creation of the harbour in two volume publication of 1834 written by Eneas Mackenzie and Marvin Ross.

“The coves being the first part sheltered, their enlargement was commenced in September, 1928. The limestone rock dug out from them was converted into lime, and used for the filling of the piers, and the formation of a foreshore on the north, which is defended by a sloping pavement and parapet. The south quay and jetties were also formed, leaving a passage into this

Inner Harbour of 32 feet, closed by a falling gate, retaining the water within a few feet of the level neap tides; and secured from the rage of the easterly seas by a line of booms.

On Friday, November 28 1828, the day appointed for the laying of the foundation stone of the north pier, destined to form the Outer Harbour, an immense concourse of people, many of them from a great distance, assembled to witness the ceremony ...”.

The account continues.

“On the 25th July, 1831, the Inner Harbour having been completed, the railway line made passable, and gears constructed for two loading berths, the Marquess of Londonderry, with a select party, attended to see the first vessel (the Lord Seaham, a new ship carrying fourteen keels of coal) receive her loading and proceed to sea. The ship was towed out in a grand style by two steamers, amidst the cheers of an immense concourse of spectators, the waving of banners, and the music of a band provided for the occasions...”.

This wonderful contemporary account of the creation and opening of Seaham Harbour references a neap tide and the rage of easterly seas.

The Met Office’s definition of a neap tide reads, “When there is a low tide, the Moon faces the Earth at a right angle to the Sun so the gravitational force of the Moon and Sun work against each other. These tides are referred to as neap tides; a low tide or one that is lower than average. A neap tide happens between two spring tides and occurs twice a month when the first and last quarter Moon appears.”

David Wallace-Wells is an American journalist who writes on climate change and author of *The Uninhabitable Earth – A Story of the Future* which was published in 2019. The book presents the consequences of unfettered climate change whilst remaining optimistic that we, humankind, still have an opportunity to alter its course for the good.

In a section called Drowning David Wallace-Wells examines the impact of rising sea levels. At 2°C, the upper limit of climate change defined in the Paris Accord, sea levels could be two metres higher by 2100 and would continue to rise beyond the turn of the century.

Wallace-Wells states, "...even alarmist popular writing about global warming has been a victim of its own success, so focused on sea-level rise that it has blinded readers to all the climate scourges beyond the oceans that threaten to terrorize the coming generations – direct heat, extreme weather, pandemic disease, and more. But as "familiar" as sea-level rise may seem, it surely deserves its place at the centre of the picture of what damage climate change will bring. That so many feel already acclimatised to the prospect of a near-future world with dramatically higher oceans should be as dispiriting and disconcerting as if we'd already come to accept the inevitability of extended nuclear war – because that is the scale of devastation the rising oceans will unleash."

The walk continues south to the headland known as Nose's Point, once the site of Dawdon Colliery. Today it forms part of a nature reserve that is a Site of Special Scientific Interest along the Durham Heritage Coast.

9. Nose's Points

The 1990 County Durham edition of the Discovery Guides Best of Britain – a series of tourist guide books, encourages readers to visit the Durham coast in a very measured way.

"Environmentally speaking, particular damage was done to the Durham coastline during the coal-mining heyday. Indeed, it was precisely because the coal reached all the way to the sea (and even out underneath it) and because there were three good, navigable rivers – the Tyne, the Wear and the Tees – reaching inland, that it became worth extracting the coal, since it could easily be transported south. But the dumping along the coast of the waste material from the mines was, one realises with hindsight, a disaster. Strenuous efforts are now being made to reclaim the Durham beaches, but this will be a long process before completion. But the Durham coast is still worth visiting."

This description in 1990 was published a few years after one of the Seaham pits had closed in 1986 and a year or so before the others stopped operations in 1991 and 1993. The ambition to clean up the Durham coastline was starting to emerge, with it not only transforming the coast but the fortunes of the town with inward investment.

Turning the Tide is a project that ran from 1997 to 2002. It was a Heritage Lottery Fund Millennium project that declared itself as “an ambitious and innovative programme through which, by the end of the twentieth century, the derelict wastelands will have been replaced with an area rich in wildlife which will attract local people and visitors from far afield. The programme will build on the current proposal to have the entire coastline declared a National Nature Reserve, which will be a fitting recognition of the beauty and grandeur of this previously uncelebrated part of Britain.” This has been achieved.

Perceptions beyond the Durham were changing. In 2011 The Independent ran a headline The Tide is Turning on the Coast of Coal. Journalist Mark Rowe tells how, “Grabbing an ice cream from Lickety Split, I headed south out of Seaham towards the giant windsocks at Nose's Point, where the legacy of all this environmental abuse is still apparent. Below was the burnished brown spectacle of Blast Beach, named for local pig iron blast furnaces, and once totally blackened by spoil from the mines.

The pit, which broke all European and national production records, closed in 1991 but oil and slag still discolour the rocks, although thanks to the efforts of local conservation groups and the inexorable rise and fall of the tide, things are clearly improving.”

By 2020 the Northern Echo is reporting that, “...waves of positivity have transformed this beautiful and historic part of County Durham.

These days Seaham is a vibrant seaside town with a harbour returned to former glories, an appealing café culture and a growing retail offering. It is a place reborn: a growing tourist destination and a thriving business location.”

Seaham continues to be at fore in energy production but this time it is renewable and is cleverly drawing on the legacy of coal and its mining heritage. Seaham Garden Village is a scheme that will provide 1,400 new homes to be situated about 2 miles inland from the Seaham coast and Nose's Point. It is hailed as a green development making use of naturally heated water that flood the abandoned mine beneath to provide thermal heating. The garden village will also incorporate solar energy and is a partnership project between the Coal Authority, Tolent Construction and Durham County Council.

There is a website dedicated to the scheme with downloadable information where the Coal Authority proudly states it, “is advancing plans to convert the UK's abandoned coal mines from a liability to an asset of strategic importance to the UK, tackling climate change, providing

cheap sustainable energy and building stronger communities.” It observes that, “25% of homes and businesses in the United Kingdom are in the coalfields and 9 of the 10 largest UK urban areas are over or adjacent to abandoned coal mines. This means that the Seaham Garden Village scheme has the potential to pave the way for the large-scale proliferation of mine energy district heating schemes across the coalfield communities.” There is a hashtag #cleanenergyfromthecoalfields.

The walk continues south to Hawthorn Hive, and then loops back north via Chourdon Point and Blast Beach. You can choose to stay on public footpaths along the cliff top to enjoy this section of the walk, or you can descend, down to Hawthorn Hive via Hawthorn Dene, and later descend onto Blast Beach, both accessed via steps and steep slopes. Just remember that both require an ascent. To paraphrase Sir Isaac Newton “What goes down must come up”.

The two loops are marked up on the route of the walk.

10. Hawthorne Dene and Hawthorne Hive

The Durham coast is formed from magnesium limestone. A unique feature are the woodland ravines that lead to the sea, known as denes. They were formed thousands of years ago by glacial meltwater, cutting through the magnesium limestone, with deposits of differing clays, mud and sands, creating a rich variety of soil. There are rare ferns, mosses, and lichens, as well as lime loving trees such as elm and ash, and native yews.

Booker Prize winning author Barry Unsworth grew up in a village close to the Durham Coast. He died in 2012 with *The Quality of Mercy* as his final novel. It was a sequence to his Booker Prize winning novel *Sacred Hunger*. The narrative is partly set in late 18th century County Durham, close to a dene.

Chapter Two starts “Late in the afternoon of the day of that fortunate wayside encounter, a Durham coalminer named James Bordon, who was married to Billy Blair’s sister Nan, was standing near the head of a steep-sided and thickly wooded ravine known locally as the Dene. He was looking in the direction of the sea, which at that distance was no more than a change in the quality of light, a pale suffusion low in the sky. At his back, little more than half a mile away, was the colliery village of Thorpe, where he lived, though nothing of it could be seen from where he was standing; cottages and surrounding fields belonged to the upper world; here

below, vagrant streams, over great spans of time, had gouged through the bolder clay and limestone to make a deep and narrow chasm.”

Poets Phoebe Power and Katrina Porteous spent time in Seaham and the Durham Heritage Coast in 2019 as part of a residency commissioned for the Durham Book Festival by New Writing North and the National Trust.

Katrina Porteous wrote a blog about the residency called Coast of Contradictions which concludes, “Now, as a result of digital technology, a younger generation is connecting globally in revolt against the results of fossil fuel dependence: our impact upon climate change, ubiquitous plastic pollution, population pressure, loss of biodiversity, and the threats to our own species. In this global movement, local commitment matters. The passionate love of place and sense of community among the young people I met on this coast is inspiring and gives me hope.”

Katrina Porteous’s poem Speckled Wood is set in Hawthorn Dene.

Holly has found a butterfly
In Hawthorn Dene. The Brownies
Have been given cameras.

Framed in the viewfinder,
Its drab brown colours
Spring to life: snap

Into focus, coffee and toast,
Caramel, splotches of cream,
Smoke rings. Scalloped like bunting,

Its edges bristle with hairs.
What Holly, aged nine,
Can’t know, is that it has come back

From wherever it has been,
In the new millennium, to say
It is warmer here now.

Don’t move, thinks Holly,

Though whether to herself
Or the butterfly, she isn't sure.

The camera is showing her
What her eyes can't –
How to look. How, when you're still

And quiet, the world
Rises anew
To meet you, shining.

The butterfly featured in the poem is the Durham Argus Butterfly, a subspecies of the Brown Argus Butterfly and is unique to the Durham coast.

The dunes didn't remain untouched by industry. Majestic red brick viaducts sweep across carrying the railway line, first to carry coal and then people. On the south side of the beach close to the mouth of the dene there are three disused 19th century lime kilns, with limestone readily available from nearby Hawthorne Quarry, to be processed for use as fertilizer and mortar. In the dene there is evidence of a coast guard station and on the beach is a concrete pill box, part of Britain's Second World War coastal defenses. The magnesium limestone that forms the cliffs is prone to water erosion and does not weather evenly. The sea shapes it into mysterious caves, cliffs and arches.

The walk returns north to Chourdon Point.

11. Chourdon Point

The skyline to the south is the ever-changing profile of Teesside. Steelworks at Redcar on the south side of the river mouth are slowly disappearing and in their place a wind turbine blade manufacturing plant will rise. It will be producing enormous blades to be installed on wind turbines destined for the Dogger Bank Wind Farm, the largest offshore wind farm in the world, located in the North Sea.

The term Dogger is very familiar to seafarers and listeners of BBC Radio Four, as it features in the daily shipping forecast, which in turn makes regular forays into poetry and popular culture.

Irish poet Seamus Heaney wrote a sonnet that begins ‘Dogger, Rockall, Malin, Irish Sea/Green swift upsurges, North Atlantic flux/Conjured by that strong gale-warming voice/Collapse into sibilant penumbra’,

Actor, TV presenter and wordsmith Stephen Fry’s version starts ‘Malin, Hebrides, Shetland, Jersey, Fair Isle, Turtle-Neck, Tank Top, Courtelle: Blowy, quite misty, sea sickness. Not many fish around, come home’

Former poet laureate, Carol Ann Duffy wrote:
Darkness outside. Inside, the radio’s prayer—
Rockall. Malin. Dogger. Finistere.

Current figures on the Office for National Statistics website state that in 2020 “Wind energy generation accounted for 24% of total electricity generation (including renewables and non-renewables); with offshore wind accounting for 13% and onshore wind accounting for 11%. The UK government has set a net zero emissions target by 2050.

It is anticipated that jobs across the UK linked directly and indirectly to the offshore wind industry would grow from current levels of around 26,000 to 70,000 in the next five years. It is expected that a significant number will be in the North East. As the Dogger Bank Wind Farm develops, one of its two points for electricity being fed into the national grid will be Teesside. Manufacture of components including cabling for on and off shore wind is a growth industry across the region.

Immediately to the south of Chourdon Point is an ariel view of Hawthorn Beach or Hawthorn Hive, which is its official name. Hive, is derived from Hythe, with a ‘y’, and is an old English word for landing. There is a story that the Community of St Cuthbert, having left the island of Lindisfarne because of Viking raids, had a short stay in Seaham, arriving by boat at Hawthorn Hive, ahead of the community moving westward towards what was to become Durham City.

Anglo-Saxon St Cuthbert is often regarded as an early environmentalist. Many of his miracles involved animals and he is said to have introduced bird protection laws to Lindisfarne during his lifetime. The Eider Duck, resident on the Northumberland Coast around Lindisfarne is affectionately known as the Cuddy Duck, named after the much-loved saint.

Bird that live on the Durham Coast includes the skylark, the extremely rare little tern, and lapwings. Flowers and fauna include the delightful common rockrose, which likes chalky soil, limestone grasslands and a variety of rare orchids. One is the bee orchid, a tiny flower that

mimics the female bee in looks in order to trick male bees into mating attempts that result in pollination. It has petals that resemble wings and two fuzzy upper petals that look like antennae.

Bees too are the subject of popular culture and writing.

20th century American poet Ogden Nash declared:

I eat my peas with honey
I've done it all my life
It makes the peas taste funny
But it keeps them on the knife!

Shakespeare's plays frequently reference bees from the "bee, tolling from every flower" in Henry IV, Part 2 to Troilus and Cressida where "Full merrily the humble-bee doth sing, Till he hath lost his honey and his sting."

A few decades early Renaissance philosopher and scholar Erasmus said:

No bees, no honey

One third of what we eat is dependent on bees and the essential role they play as a pollinator. Without them, many crops would not produce. Bee populations are declining because of pesticide use, disease, and habitat loss.

Poet Linda France is Climate Writer in Residence for New Writing North and Newcastle University. In 2020 she created a collective poem called Murmuration – that is the word for the huge flocks of starling birds that come together each year as they prepare to fly to their communal roosting sites, forming a collective dance as they swarm, swoop and twist in the sky. The public were asked to contribute phrases celebrating the natural world, starting with Because I love, or What If. Linda France brought all the comments together. The poem both celebrates the natural world and serves as a lament. A stanza reads:

At the midnight of the year
utter darkness
a million compasses fail
and the starlings don't come
empty sky

no swallows, no swifts
no summer nests in the eaves
threads looped in the blue
a blackbird that isn't there
opens his throat
into silence, thin air
no golden note

The walk continues to Blast Beach.

12. Blast Beach

Blast Beach takes its name from the 19th century iron foundry that used to be perched above. As it became apparent how profitable the rich coal seams of the Durham coast would be, and a site was required for the pit head of Dawdon Colliery, the iron works were simply demolished and pushed over the cliff, off Nose's Point. The small beach immediately north of Nose's Point also takes its name from the industrial activity that happened above it. It is called Chemical Beach.

The removal of coal spoil from Blast Beach in recent decades has revealed evidence of the iron works. Pieces peep through the soil on the steep bank at its north end.

Hollywood film Director Ridley Scott comes from South Shields, further up the coast, and studied design at West Hartlepool College of Art, now the Northern School of Art, south of Seaham. He often draws on the North East in his work. Blast Beach was used to film the opening scenes of *Alien III* which was released in 1992. A miniature of the beach appears, as a spaceship crashes onto it. The scene has a strange green hue, suggesting the area was polluted from decades of industrial waste.

We return to the residency by poets Phoebe Power and Katrina Porteous in Seaham and the Durham Heritage Coast in 2019.

Once More the Sea by Phoebe Power starts, "The beach is bipartite, in process, divided. Half is brown-grey sludge, a packed-in powder. We walk on its springy surface, which feels like earth. Several inches high, this caked-up layer slumps on the limestone rocks beneath. Its dust, over a century's industry, clogs the cracks and hiding-places, pores, spaces between stones, till breathing is constricted.

The other half of the beach is loose. Our feet jangle pebbles in a clattering and jumble of many colours: red-speckled, praline, blue merle, yellow, a piece of inky coal. I pocket it. Water tumbles around all of them and the stones rattle freely, shifting from place to place a wrack of seaweed, fragments of shell, part of a crab, a fingerbone of wood.

Dissolving the soft clump stuck on this shore, the sea calmly erases what has gone on here. The job is only halfway done, half-started. Year on year and inch by inch, as the ocean inexorably shakes the dust free, the whiter stone finds itself again, ghostly and exposed.”

In *The Uninhabitable Earth: A Story of the Future* David Wallace-Wells observes “That we know global warming is our doing should be a comfort, not a cause for despair, however incomprehensively large and complicated we find the processes that have brought it into being; that we know we are, ourselves, responsible for all of its punishing effects should be empowering, and not just perversely. Global warming is, after all, a human invention. And the flip side of our real-time guilt is that we remain in command. No matter how out-of-control the climate system seems – with its roiling typhoons, unprecedented famines and heat waves, refugee crisis and climate conflicts – we are its authors. And still writing.”

Seaham is proof that damage to the environment can be reversed. Decisions made by world leaders need to have an impact. In the words of Greta Thunberg from her speech at the World Economic Forum in Davos in 2019 “...our house is on fire. According to the IPCC, we are less than twelve years away from not being able to undo our mistakes.”

There is no planet B.

I hope you have enjoyed this walk around Seaham and the Durham Heritage Coast. To return to Seaham, make your way back to Nose’s Point and head north.