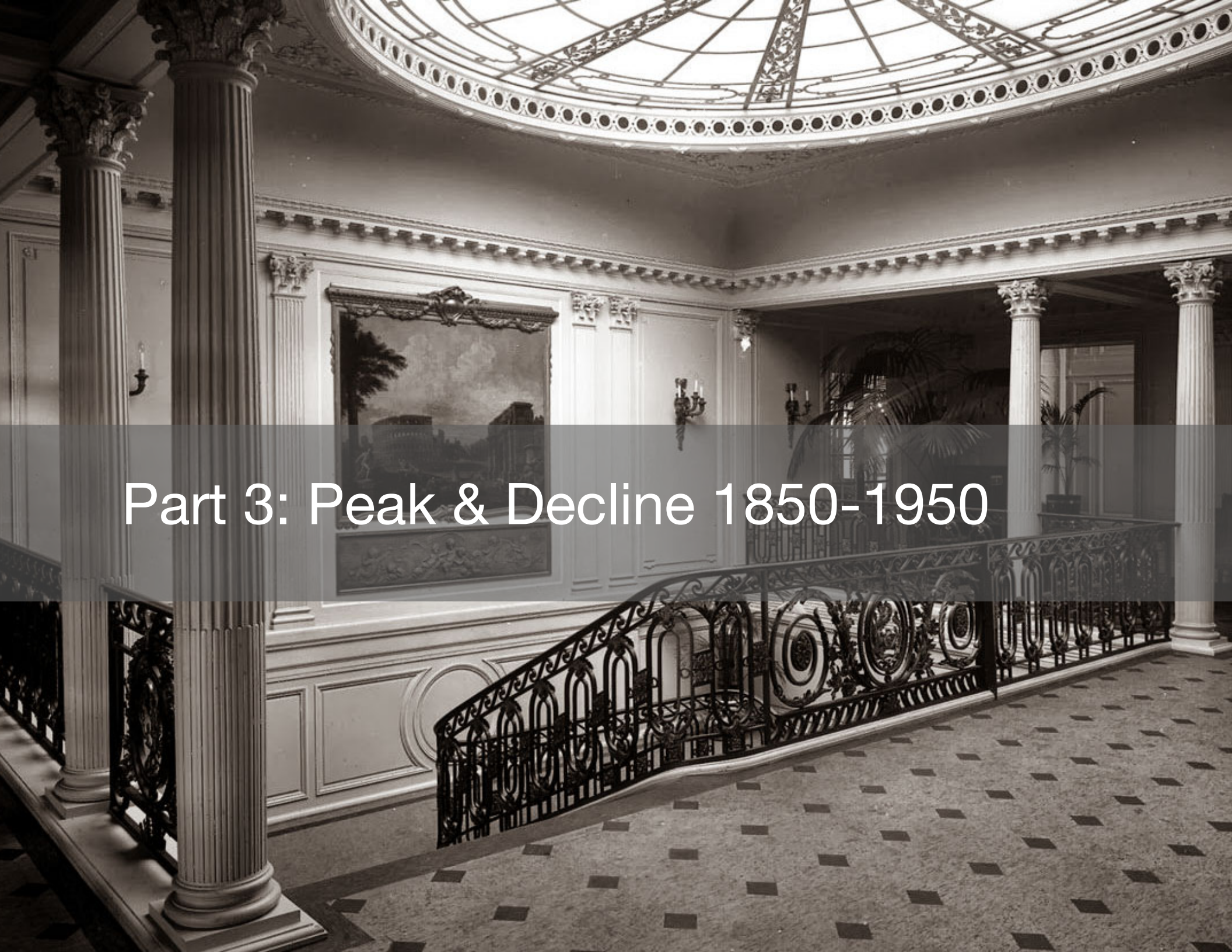


Part 3: Peak & Decline 1850-1950

Contents

Part 3 Highlights

Part 3 relates the British Empire at the top of its game and stories of some extraordinary ancestors who lived it:

- *Meet a relative who produced the evidence for Darwin's theory*
- *Spend time with the great chocolate families of the world*
- *Learn how Yorkshire farmers built a corporate Goliath*
- *Walk with a man whose inventions saved the lives of thousands*
- *Hitch a ride on the world's first public steam railway*
- *Explore the shipyard which once built 15% of the world's ships*
- *Get shipwrecked in Antarctica, then rescued by a courageous act*
- *Share the last few days of this man's life before his horrific end*
- *Join a young man in his WWI biplane and hang on*

Inside Part 3


The Times

At the Peak

By the close of WWI (1914-1918), the British Empire had reached its Zenith. It was the largest, richest and most powerful empire in the history of the world. Under its control were 412 million people in 57 colonies, dominions, territories or protectorates. Its possessions ranged from immense — Canada, Australia and India — to tiny —The Falkland iIslands, Fiji and Tonga. London ruled about 20 percent of the world's population and governed nearly 25 percent of the world's land mass. It was, indeed,"the empire upon which the sun never set."

How did they achieve such a feat? They did what empires have always done — built a powerful military, used it to acquire vast territory, utilized the resources and peoples of its acquired colonies and harnessed the labours of millions of slaves. To a great extent, the British tore a page right out of their own history — the Roman occupation of Britain for over 400 years.

To that empire-building formula, however, the British added something entirely new — industrialization. The Industrial Revolution, which they invented, handed the British an almost infinite capacity to produce goods and generate wealth.

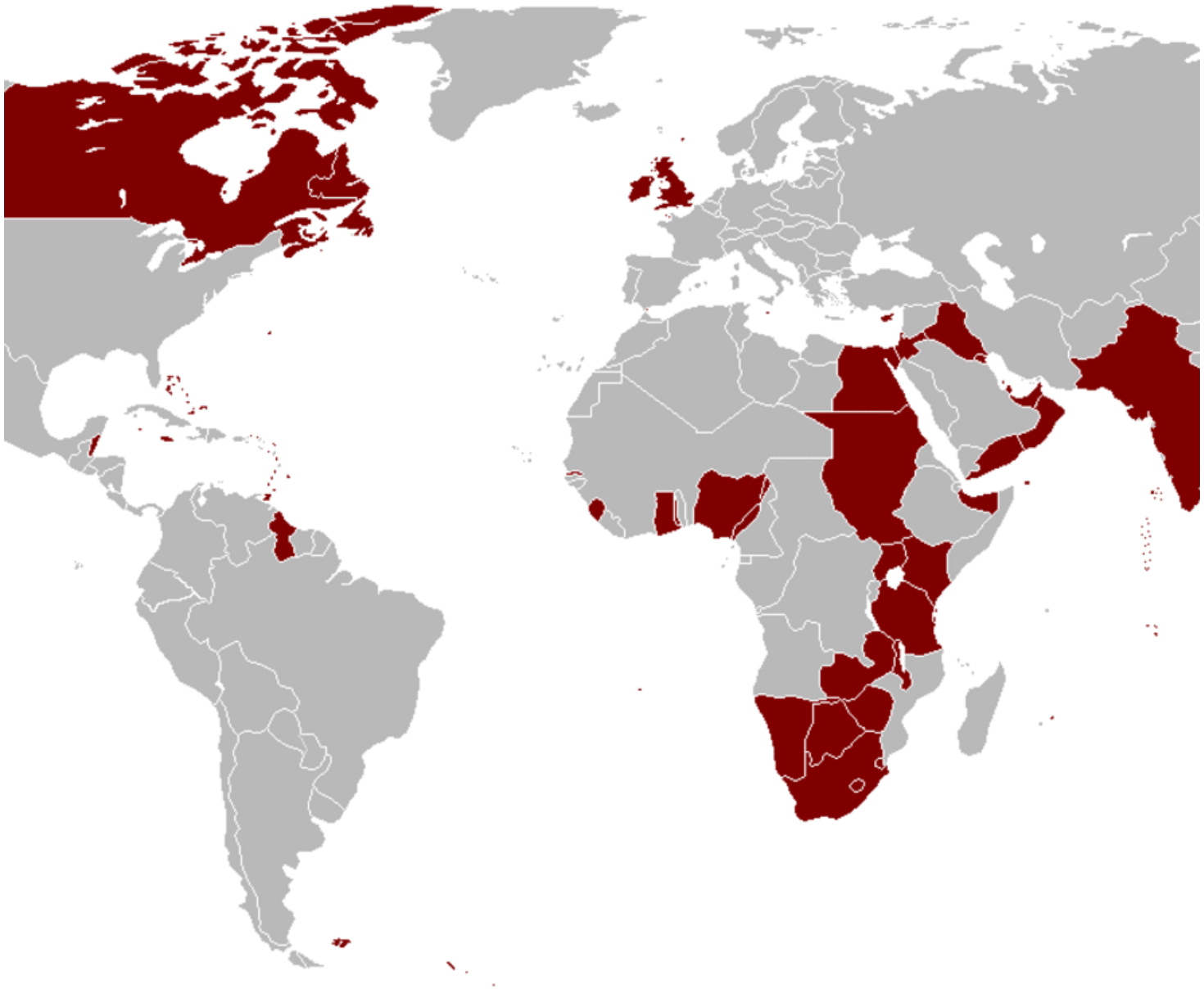
To those three factors, military supremacy, colonial resource extraction and manufacturing capacity, the British added a magic ingredient. They consciously and effectively integrated all three strategies into a single system in which each

benefited the others and was benefited by the others. The military added and controlled colonies; the colonies provided the commodities which fed the British factories; the factories turned out goods which they sold to the colonies; from every transaction the British government brought in tax revenues which supported its vast military and efficient justice and civil administrations.

It was a self-serving system, designed to grow the coffers of the rich and powerful at the expense of the rest. Yet Britain did do ‘good’ in the world. It gave birth to the world’s largest democracy, India, and albeit unintentionally, it spread concepts of freedom, democracy and common law across the globe. I say ‘unintentionally’ because the behaviour of the British towards those they colonized reflected anything but these lofty notions which they espoused for themselves. They were elitist, high-handed, dictatorial, demeaning and at times, even brutal.

The Great Unravelling

Britain’s success at industrialization became its Achiles heel. Industrialization spread quickly to other European countries. Germany’s navy and industrial complex soon threatened Britain’s supremacy. World War I broke out and millions perished. Britain and her allies won but the message was clear. Other challengers would be forthcoming.



The British Empire, 1921

A display of power

Allied contributions to the First World War effort led to greater independence from Britain. By the end of World War II, Britain was bankrupt and over-extended. The empire could no longer be supported. Some of its dominions evolved into an association of independent nations called the Commonwealth of Nations. Others, such as India in 1947, the 'jewel' of the British Empire.' declared their independence, and America replaced Britain as the next world power.

Coming Up

Part 3 visits a number of family members who visualized another kind of society, one in which their endeavours operated from a set of well-defined ethics. They gave to their communities and in the case of businesses, they assumed responsibility for the well-being of their workers. Ironically, perhaps, the very largesse of those business leaders built their reputation as fair dealers and brought them patronage and prosperity. Here are their stories.

Quakers: Making a Living

A History of Ostracism

From its beginnings in 1650 into the early 1700s Quakerism was provocatively evangelical. Quaker evangelists harassed the non-Quaker public, bringing chaos to public squares, to churches, to anywhere people gathered. They had little tolerance for other beliefs and ways of worship.

As well, they refused to swear allegiance to the crown or recognize any civil or military authority, arguing that they were accountable to God alone. Predictably, they were fined and gaoled, their possessions were confiscated, they were barred from gathering and and they were prohibited from occupations which required them to swear an oath to the crown.

What they could do, however, is go into business. Many did, as craftsmen, drapers, merchants of all kinds and manufacturers. Others, armed with an exceptional Quaker education, became scientists, engineers, inventors and educators. As constraints on Quakers eased over time, other important avenues opened to them, notably politics and the legal profession.

Quakers in Business

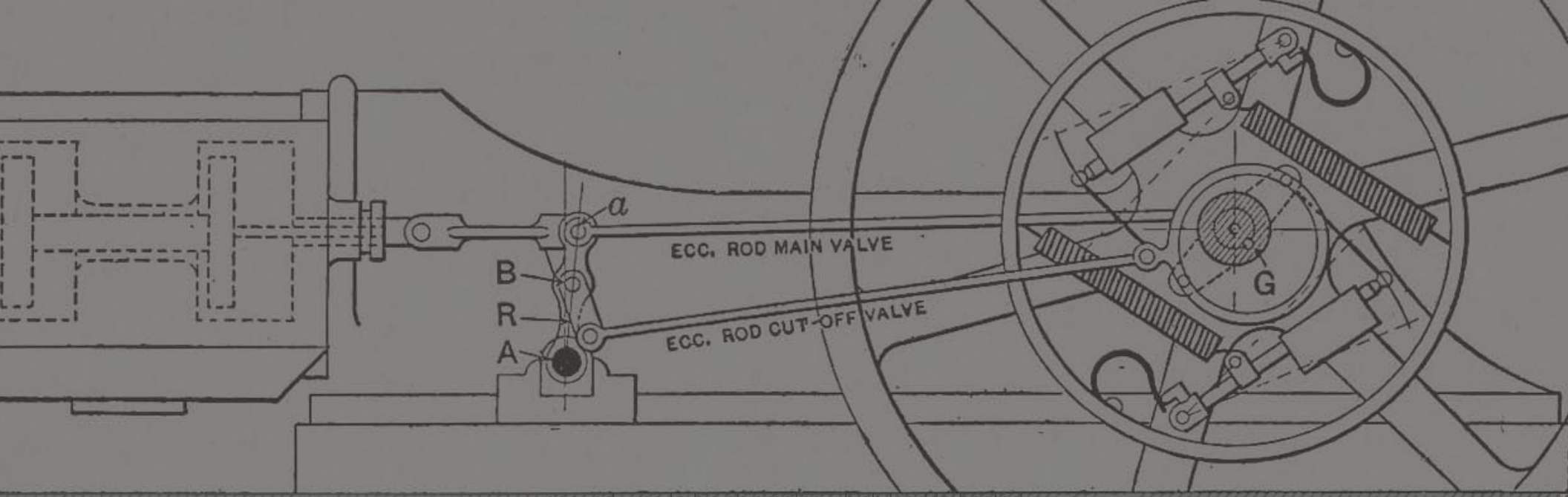
Quakers, were quick to recognize the profit potential of mass production. And they had access

to capital. When a good business idea materialized, Quakers could count on the financial backing of a Quaker bank, family or friends to turn ideas into reality. Quakers were a tight-knit community who were quick to give assistance to one another.

Once up and running, Quaker businesses held a significant advantage over their non-Quaker competition — they operated unfailingly from their ethical principles. Customers and suppliers had complete confidence that doing business with a Quaker guaranteed one honesty, fairness and quality. Persons working for a Quaker could expect fairness in wages, respect, gender equality and good working conditions. In short, Quaker businesses of the 18th and 19th centuries were lightyears ahead of the times.

Thus, Quakers, some of my family included, thrived in industrialized Britain. Many became wealthy and in return (and contrary to many wealthy non-Quakers), to a person, they gave back to their communities — to their Quaker community as well as to the greater community. They provided relief to the poor and lobbied decades on end for abolition, women's rights, prison reform, worker reform, and the cessation of trade in opium.

Here are some of their stories.



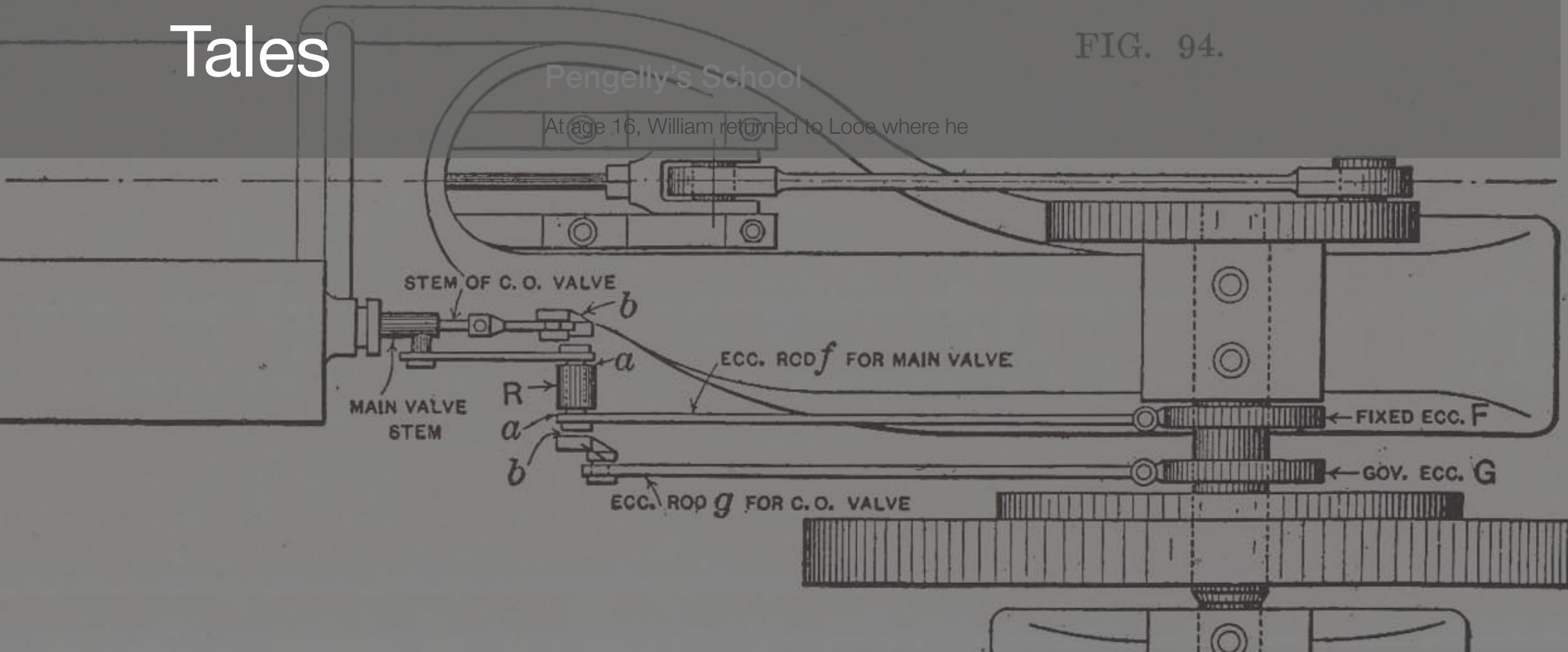
ELEVATION

FIG. 94.

Tales

Pengelly's School

At age 16, William returned to Looe where he conundrums to his shipmates which lead to heated debates and much good fun.



William Pengelly

William Pengelly FRS FGS (1812-1894) was a geologist and amateur palaeontologist. He was one of the first to contribute proof that the Biblical version of the creation of the earth calculated by Archbishop James Ussher was incorrect. Phrased differently, Pengelly's findings irrefutably supported Charles Darwin's theory of evolution which until then, was still being hotly debated.

Early Life

William was born in the picturesque seaside village of East Looe, Cornwall. His father was a sea captain who operated a local coastal freighting service. From a very early age it was apparent to William's mother that the boy was extraordinarily bright. When William was still a toddler, she appealed to the local headmistress to allow him to enter school. The headmistress promptly denied the request, arguing that William was far too young. A few days later the headmistress was walking past the Pengelly residence and noticed little William sitting on the stoop entirely engrossed in a book. She stopped and watched. William was reading the bible out loud page after page, perfectly. He was forthwith enrolled. At age 12, however, William left school to join his father's crew. He never returned to school.

At Sea

The next 4 years he spent at sea with his father. William had a small, well-thumbed collection of books which he brought on board, the contents of which he could likely recite by heart. But he made the best of the situation, becoming a crew favourite with his off-watch readings and posing mathematical conundrums to his shipmates which lead to heated debates and much good fun.

Pengelly's School

At age 16, William returned to Looe where he began his life-long devotion to self-education. He read widely and taught himself advanced mathematics, then in 1836, aged 24, William started a day school in Torquay. He operated the school for 10 years, during which time it developed a reputation for exceptional content and instruction.

Educator and Tudor

William found, however, that he needed more personal time to pursue his academic interests and from then on, made his living as a private tutor and public lecturer on various scientific subjects. His reputation as an inspiring teacher spanned not only Britain but all of Europe. Legend has it that prestigious people including members of royal families would literally come knocking on his Torquay cottage door, imploring William to take their son or daughter under his wing.

Devotion to Learning

Over the course of his career, William published some 120 scientific papers on geology, palaeontology and human prehistory. In 1862 he was elected a Fellow of the Royal Society. Williams passion to teach and make education available to others did not stop there. He founded the Torquay Mechanic's Institute, the Torquay Natural History Society and the Devonshire Association for the Advancement of Literature, Science and Art.

Family

William had three children by Mary Ann Mudge before she died in 1851. Two years later he married Lydia Spriggs, a Quaker, with whom he had two daughters. The younger daughter Hester became his biographer and secretary. She married Forbes Julian, a mining engineer who founded the Royal Automobile Club.

The Hunt For Evidence

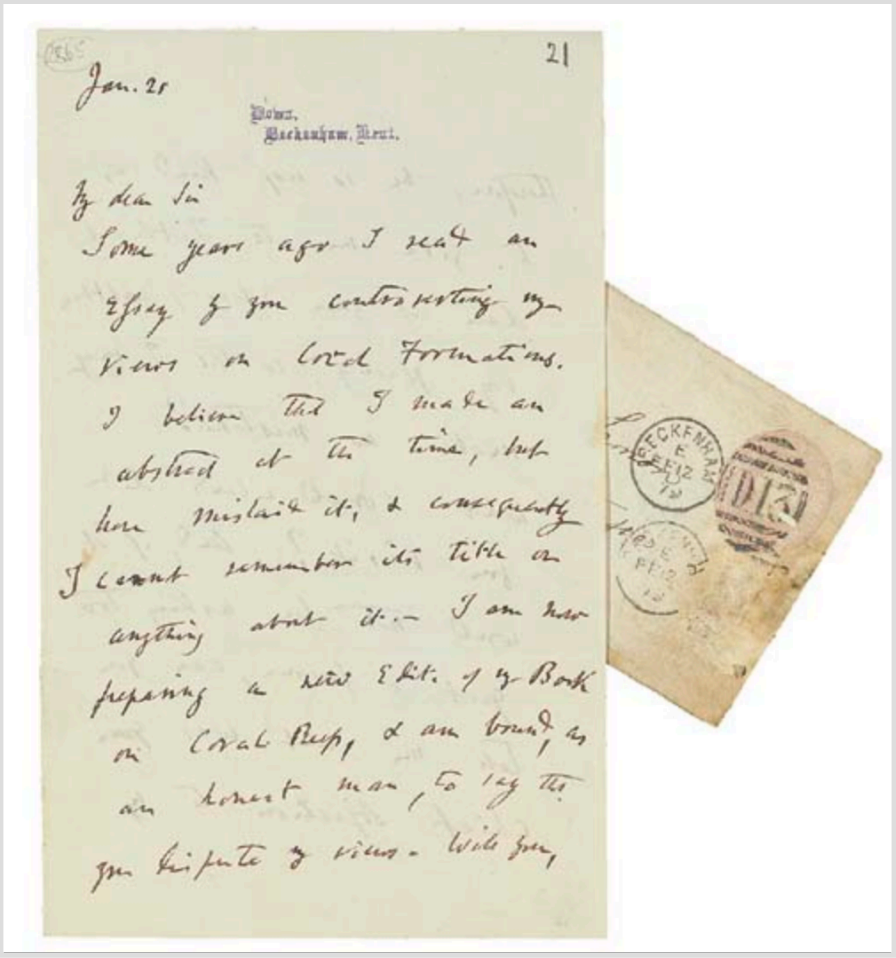
The southern edge of England is old seafloor, layer upon layer of limestone. Seepage into the porous limestone has over millenia, created numerous caves. William extensively excavated one of those caves, Kent's Cavern, adding to previous work done by Father John MacEnery. Both found evidence of human beings (Palaeolithic flint tools) and the bones of extinct mammals in the same strata. MacEnery's work was carried out years earlier when any challenges to the Bibles 'truth' would have generated outrage and outright

rejection of his findings. William, however, was able to publish both his and MacEnery's findings and convey them to the scientific community. Sceptics, however, handily dismissed the findings because the frequent excavations of Kent's Cavern raised the possibility that evidence in one layer had been disturbed and had migrated to another.

Proof

Then in 1858, a new cave dubbed Windmill Hill Cavern was discovered, the floor of which was sealed by an unbroken stalagmite sheet. This was the defining moment for those arguing that human beings had been around far longer than the Bible asserted. If evidence of human beings were discovered among the remains of extinct animals, then Darwin's theory of evolution would be unassailable.

For the evidence which came out of this cave to be unassailable, strict procedures and oversight were put in place. Under the auspices and supervision of the Royal Society and the Geological Society, William and John Evans methodically removed the stalagmite sheet and below it, found the evidence they were looking for — cave lion and wooly rhinoceros bones together with human-crafted flints. In this way, in 1859, William along with John Evans and other's, were able to forcefully demonstrate a case for the existence of Stone Age man .



Jan. 21

Down,
Beckenham, Kent.

My dear Sir
Some years ago I read an
Essay by you controverting my
views on Coral Formations.
I believe that I made an
abstract at the time, but
have mislaid it, & consequently
I cannot remember its title or
anything about it.— I am now
preparing a new Edit. of my Book
on Coral Reefs, & am bound, as
an honest man, to say that
your disputed views will [illegible]

On various occasions, William exchanged letters with Charles Darwin pondering one thing and another.

William Pengelly FRS FGS(1812-1894)

Educator, Paleontologist, Geologist

Relation: Husband of 2nd great-aunt

George

When William Pengelly reached twelve years of age, despite his obvious native genius, he left school to crew on his father's small coastal freighter. During the four years he spent 'before the mast' working the Cornwall coast, he developed a deep affection for the rough-hewn characters he crewed with and they for him. Leisure moments were often passed telling stories which William later recalled, here in his own words.

"Here's one about his shipmate George. George loved to drink but after an argument with the local Innkeeper, he swore never to drink in his establishment again. When a celebratory dinner at the Inn arises with grog galore, he finds himself severely conflicted.

"I once witnessed an amusing conflict between[George's] respect for his 'promise' and his love of drink. One of our crew [Pengelly himself] had been rescued from drowning by an innkeeper, at whose house our skipper, by way of showing his gratitude, gave a supper to the crew, the landlord and a few friends.

George, on being invited, stated that he would gladly be of the party but that on account of a quarrel with the innkeeper, he had made a

Storytelling is built into our DNA

‘promise’ never to drink again in his house. This was met by the remark that the promise did not extend to eating, and that he should be left at perfect liberty to drink or not as he pleased. On this understanding he came.

As may be supposed, he was a good deal chaffed, but this he managed to bear with good firmness and good temper. At length, however, it was unluckily suggested by someone, that there was nothing in his ‘promise’ to prevent taking a glass of beer outside the house and drinking it there. At this compromise he caught eagerly, and marched gravely to the door every few minutes, drank his beer and then resumed his seat.

At length the captain had argued that if he had put his head out of the window of the room and took his draught, his ‘promise’ would be by no means broken, as he certainly would not be ‘drinking in the house.’

George, aided by the libations he had already consumed, was convinced by this logic and at once acted on the suggestion. At length, the innkeeper, anxious to reconcile, addressed him: ‘George, my boy, I am very sorry that there was ever any misunderstanding between us. There’s my hand and here’s my heart and I love you like a brother. Don’t take the trouble to put your head out of the window any longer. If you must do something of the kind, here’s a large corner cupboard with nothing in it. Put your head into that and drink….’ George seized the proffered hand…

and then proceeded to go through the farce of keeping his ‘promise’ in the manner just described.”

William Pengelly had a keen sense of humour, a lively spirit and a great love of fun. For this he earned the enduring affection of his shipmates and later, of his students and scientific colleagues.

Chocolate

George Cadbury (1801-1889)

Three families of Quakers, for reasons not known to me, began manufacturing chocolate — the Rowntrees of Yorkshire (1862), the Cadbury's of Birmingham (1824) and the Fry's of Bristol (1759). All did exceedingly well and all three families were heavily engaged in philanthropy and social action. As well, members of all three families intermarried with members of my family, the Spriggs and Haywards, who also lived in and operated businesses in Birmingham. I have chosen to tell the Cadbury's story here in order to relate an extraordinary act of philanthropy.

It was there in Birmingham, in 1824, that John Cadbury began selling tea, coffee and drinking chocolate. Early customers were limited to the wealthy because production costs were high.
In 1861 John's sons Richard and George assumed control of the business and by 1866 it had become evident to them that chocolate was the key to success. When they dropped tea and coffee to focus exclusively on chocolate, and upped the quality of the cocoa bean, the business took off.
The rest of the Cadbury story, at least the business side of it, is largely about the ups and downs of the many products they brought to market and about the marketing efforts by which they did so.

However, there is another story here, the story of Bournville. Over time, the Cadbury business grew,

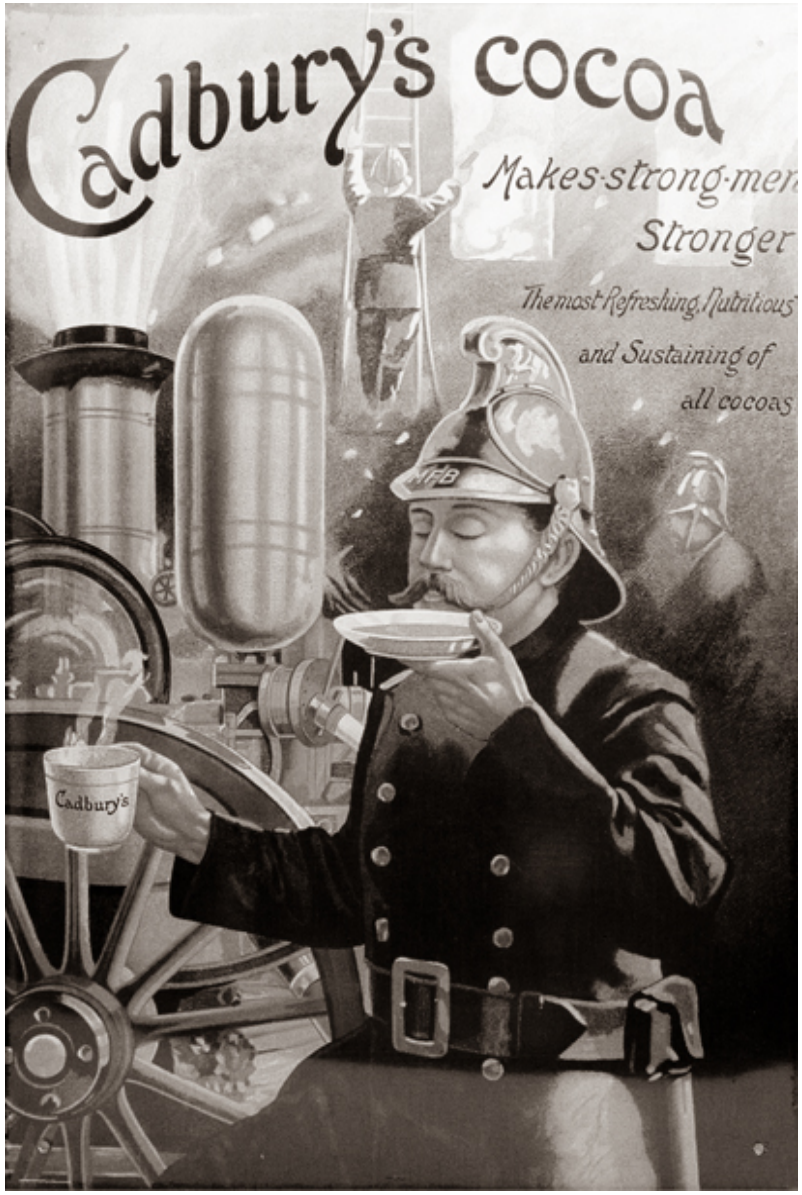
requiring two moves to larger premises. By 1878, when a third move was required, George posed a question to brother Richard, which might have gone like this:

"Would you not agree Richard, that the success of Cadbury's, apart from our own brilliance…" George grins, "is due almost wholly to the loyalty and dedication of our workers? Now you and I know too well the conditions under which our workers live. We have volunteered in their neighbourhoods, talked with their families, witnessed the rampant ill health and frankly, squalid conditions which they have no option but to tolerate. You and I leave the factory each night, retiring to our large, comfortable homes on the edge of the city where we enjoy every possible luxury. We owe them more Richard. A great deal more.

"I've been thinking about this for a while and I've come up with with a rather grand idea — something which I don't believe has ever been done. Still with me Richard? Excellent.

We must move to larger quarters and we must do it soon. However, we are not obliged to remain within Birmingham. Agreed? What if we were to take this once in a lifetime opportunity to do something outstanding for our workers. What if we were to build, not just a new factory, but an entire village in the country to house our workers, provide them with health care, nice shops, good schools, fresh air, clean streets and places to walk about and socialize. Would that not be the perfect way to do the right thing and say "thank you" Richard?

Bournville near Birmingham, built for Cadbury's workers



Cadbury's advertising, late 1800s

John Cadbury (1801-1889)

Founder, Cadbury's Chocolate

Relation: paternal grandfather of wife of brother-in-law of great-aunt

Change Maker

Leather

William Richardson (1660-1740)

Our tour bus wound down and down off the heights of the North York Moors as we edged our way towards Whitby on Yorkshire's east coast. There are no shoulders on these roads and no second chances. If you want to be home for dinner, you had best pay attention. As we neared Whitby, we passed through the little village of Great Ayton. It was here in the early 1700s that Captain James Cook (1728-1779) spent the latter years of his childhood.

History of Tanning

The word 'tanning' today conjures up images of lying on a tropical white sand beach or less appealing to me, in a proprietor's well-lit coffin-like box in the midst of a Canadian winter.

However, in the 1800s and for a few years before that, tanning meant something entirely different. Tanning was and still is the process by which animal hides are protected from decay and rendered supple for various uses. We call the result of tanning, leather.

Between two million and 100,000 years ago hominids became systematic and successful hunters. As well as hunting tools, they developed

tools for fleshing hides. During Ice Ages, they utilized hides for shelters, likely building fires within. Experts surmise that smoke from the fires, over time, tanned the hides, making them re-usable over a lengthy period and resulting in the intentional use of smoke-tanning to provide a crude form of leather.

One hundred thousand years ago during the last Great Ice Age, Neanderthal man inhabited Europe. They used advanced hunting and hide processing methods which allowed them to survive and thrive, even in northern tundra. That suggests that they had perfected the making of warm clothing and footwear, that is, that they had knowledge of tanning and possessed skills in making leather products.

The weakened small toe bones of 40,000 year old human fossils found in a Missouri cave suggest that sandals were being worn then. Coloured leather, sandals, bags, cushions and leather clothing, dated between 5000 BCE and 2000 BCE have been found in Nubian tombs. I could go on but here it is in a nutshell: tanning and leather have been around for a very long time. And most of us will agree that despite the advent of synthetics, there is still nothing like a finely made leather purse or shoe.

Up until the late 1800s, leather was widely used for footwear, clothing, harnesses, carriage suspensions, book binding, vellum, fastenings and in large quantities for fitting out sailing ships and factories. There was simply nothing to replace the superior qualities of leather. It is strong, flexible,

hard-wearing and waterproof.

When Cook's family arrived in Great Ayton, the Richardsons had been farming the area for one hundred years. They were well landed and well off. Young James Cook left Great Ayton for the history books, but the Richardsons remained. In the late 1600s, William Richardson (1660-1740) made a fateful decision. He decided to supplement his farming income by tanning leather.

The new endeavour went so well that it was not long before tanning replaced farming altogether and all three of William's sons had become tanners.

The Richardson Tanneries

For the next 300 years, the Richardson name became synonymous with tanning. Generations of sons grew the tanning business at several Yorkshire locations, the largest and most successful of which was at Newcastle-On-Tyne, the famous Edward & James Richardson (est. 1863). By 1913 their factory was enormous (image overleaf). Over the ensuing decades, E&J Richardson produced not only a wide range of tanned leather but almost every conceivable leather product as well.

How It's Done

For the curious, here's how tanning was traditionally done (trap yourself a rat in the backyard and follow along).

There were nine stages which could take up to a year to complete:

1. Plug your nose with wads of cotton soaked in Vicks Vapo-Rub (my idea)

2. Preserve the skin with salt
3. Wash the skin to remove the salt
4. Treat the hide with urine or lime
5. Scrape off the flesh, fat and hairs with the hide over a beam
6. Treat the hide with dog or pigeon faeces or animal brains
7. Soak the hide in progressively stronger solutions of tannic acid to prevent decomposition
8. Dry, then treat with wax or oil
9. Find another way to make a living

In its day, Great Ayton was the perfect place to build tanneries because it had an over-abundance of dog faeces, pigeon droppings, urine and lime — all the essentials for tanning. Tourism, for some reason, never thrived in Great Ayton.

All Good Things…

In the 1970s, Edward and James Richardson could no longer compete profitably in the global marketplace and closed their doors. The Richardsons moved on to other things. Today, Hugh and Tom Richardson of Northumberland, have a thriving ice cream business. From the hides of dead cows to the cream of live cows, life goes on.

E&J Richardson Factory, Newcastle-On-Tyne

Edward Richardson (1835-1890)

Tanner & Leather Manufacturer

Relation: 1st cousin 1x removed of husband of great-aunt

Change Maker

Light

John Richardson Wigham (1829-1906)

By the mid-1800s the Richardsons had been in the tanning business for 200 years. One could say they had ‘made it.’ It would have been easy for family members to just continue doing what they knew best — tanning. Yet periodically, that spirit of innovation and entrepreneurism which seemed a part of their very DNA manifested in some remarkable and world-changing way.

Take the case of John Richardson Wigham (1829-1906), a Richardson on his mother’s side. John was born a Quaker in Edinburgh. His father manufactured shawls. His mother died when he was one. At 15, his father sent him to Dublin, Ireland to apprentice under his brother-in-law, Joshua Edmundson (1806-1848). Joshua’s company , Edmundson and Company, worked iron, founded brass and manufactured gas generation plants.

Then, in 1848, Joshua died unexpectedly, aged 42. He contracted Typhus while working the Quaker soup kitchens during the Irish potato famine. His death left his wife, Mary Wigham (1818-1906), John’s sister, with 5 children under 8. Desperate, Mary asked John, then 19, to take over the family

business.

Despite his young age and limited education, John proved to be an astute businessman. He narrowed the focus of the business to building improved gas plants (a plant was the mechanism which converted liquid fossil fuel to gas) of his own design and the enterprise flourished.

Marine Applications

John's Richardson relatives built ships on the Clyde. No doubt he conversed with them at family gatherings about maritime matters. That got John thinking about expanding the business into navigational aids, in particular, developing lighted buoys for river navigation which would remain lit in severe weather. John patented the first successful lighted buoy in 1861.

In 1863, the Dublin Ballast Board gave John a grant to develop gas lights for lighthouses. In 1865, John's new gas light was installed in the Bailey Lighthouse on the east coast of Ireland. Experiments were carried out which identified the best fuel source for the light. The resulting design was 4 times more powerful than comparable oil lamps of the day. In 1868, Edmundson and Company installed an improved version of the light at Baily Lighthouse which was 13 times more powerful than the most brilliant light then known, an astonishing accomplishment. Then, just two years later, Wigham made another monumental innovation, an intermittent flashing mechanism, which timed the gas supply by means of clockwork. When this mechanism was combined with a

revolving lens in Rockabill Lighthouse, the world's first lighthouse with a group flashing characteristic was produced. That innovation was of tremendous importance to navigation because it gave each lighthouse a unique identification, ruling out errors of position. It most certainly saved thousands of lives across the world.

Other inventions followed - better oil lamps, gas-lights, electric lights, gas-powered fog signals, buoys and acetylene lighting. John died in 1906, hard at work on a new innovation.

For his life-saving accomplishments, John was twice offered a knighthood. In keeping with the Quaker abhorrence of titles, he twice declined.

Type to enter text

John Richardson Wigham (1829-1906)

Lighthouse Engineer

Relation: Uncle of wife of 3rd cousin 3x removed

Change Maker

Steam

Sir Edward Pease (1767-1858)

Tom, our tour guide, had given us an hour to poke around Whitby, a lovely little fishing port where the Richardsons, for generations, once flourished in both tanning and shipbuilding. Tom gave us a choice to either hop back on the bus or take the Whitby to Pickering steam train to Pickering where he'd pick us up. What choice was that?

Tickets in hand, we waited on the station platform until The Northlander, with its seven carriages rolled into the station, let out an enormous hiss and stopped. There is something magical about trains, especially steam trains. Perhaps it's a guy thing, although I noted that everyone on the platform, men, women and children, seemed tickled to be there. I was. Fifty minutes in a time machine. How good is that?

The Northlander ambled along through the valleys of South Yorkshire, skimming the edges of occasional small villages, crossing pretty creeks, garnering little attention from the locals. Anxious to take pictures, I left my seat and walked forward to the debarking platform where I could reach through the window in the door and shoot the loco and cars as they arced around curves.

My mind wandered first to my childhood. In 1952, when I was five, my grandparents gave us tickets to take the CPR to Baie d'Urfé near Montreal to spend the summer with them and our eastern cousins. For a little boy, it was a magical trip. It took six days for the crossing. Black porters (and they were all black, an early version of reverse discrimination, I suppose), dressed sharply in all white uniforms, helped us to embark and debark at stations along the way. They were the kindest, most courteous of souls with deep south accents. We had our own stateroom and each late afternoon at precisely the same time, our dedicated porter came by to turn down the berths. The dining car had white linen table cloths, flourished white napkins and silver place settings embossed with the CPR logo. When we neared the Rockies something unforgettable happened. Our diesel engine was switched out for a steam locomotive. Steam locos have a smell about them that once experienced is never forgotten. At the rear of the steam train was an open car — a regular lounge car with no windows, where one, in theory, could spend an afternoon reading, looking out and breathing in the fresh mountain air. No. That did not happen. I couldn't read but more to the point, the car was beset with smoke and soot from the loco. It filleds my hair and lungs and covered my face in soot. About seven minutes was all a human being could take. Still, a nice idea.

I then imagined September 27, 1825. It was opening day for the Stockton and Darlington

Railway (S&DR), a day for the history books, for it was the world's first public railway to use steam locomotives. It was a business venture. The objective was to make money by moving coal from the collieries of County Durham (North Yorkshire) to ports on the east coast. There, colliers, coal carrying sailing ships, transported the coal to market, notably to London.

The public had been invited to go for a ride. Seating for 300 had been installed in a dozen coal waggons. Six hundred turned up, stuffing the seated wagons, additional empty wagons and the wagons filled with coal. They were off. A man on horseback waving a flag led the way. Smoke and steam belched from Locomotive No.1 and on the gentle downslope, the remarkable speed of 12 miles per hour was reached.

Men on horseback galloping alongside could not keep up and fell away. Then something else fell away — a wheel on the wagon carrying the surveyors and engineers. The wagon was promptly removed and off they went again. Then repairs on the locomotive were required, a 35 minute stop. In two hours, travelling at an average speed of 8 mph, the train reached the Darlington Junction where ten thousand people were waiting to greet them. That evening, 102 people gathered at the Town Hall to celebrate the extraordinary achievement.

Quaker Edward Pease (1767-1858) was the major promoter of the railway. He issued shares promising a five percent return on investment. Two-thirds of

the shares were sold locally and the remaining shares were purchased by Quakers across England.

Getting to opening day had been a challenge, to say the least. Building the railway required the consent of Parliament. A private bill was presented but failed, as the proposed route passed through the Earl of Eldon's estate and one of the Earl of Darlington's fox coverts. A new route was proposed which satisfied the earls, but not Viscount Barrington whose estate the alternate route transgressed.

The challenges continued but one by one were surmounted by Pease who drove the project forward. The S&DR received Royal Assent on 19 April 1821. The terms: anyone could use the railway with their own suitably built vehicles on payment of a toll; the line must be closed at night and land owners within five miles of the line could build branches and make junctions. The S&DR became known as "the Quaker line" and Edward Pease, in some circles, was referred to as the 'father of railways.'

This really was the beginning of the Age of Railways in Britain. More railways built by others followed; new industries were born in iron and steel and locomotive manufacturing, and railway mapping and industries which depended on the efficient transportation of their goods, flourished.

The day before our steam train ride to Pickering,

we had visited the incomparable National Railway Museum in York. I had a field day, spending hours shooting British locomotives representing a century and a half of improvements. Among them was ‘The Rocket,’ designed by George Stephenson in 1829. Stephenson was Pease’s engineer partner and the technical genius behind the S&DR project. The Rocket brought together several innovations which made it the most advanced locomotive of its time and served as the template for locomotive manufacturing for the next 150 years.

Tom was there to greet us at Pickering Station. We re-boarded the tour bus and drove on to York, our last day in Yorkshire complete.

Opening day the Stockton & Darlington Railway, Yorkshire

Top L: Volunteers carry out all operations of the Whitby to Pickering Steam Train

Above: Waiting for a ride back in time. Whitby to Pickering Steam Train

Left: Stephenson's 'Rocket', an improved version of Locomotive 1

Sir Edward Pease (1767-1858)

Woolens manufacturer, entrepreneur. raised the capital and acquired the licence to operate the S&DR

Relation: 2nd cousin 2x removed of husband of my great-aunt

Change Maker

Ships

John Wigham Richardson (1837-1908)

John Wigham Richardson (1837-1908) was born in Newcastle-On-Tyne to Quakers Edward Richardson and Jane Wigham. He attended Bootham School in York, famous for its high quality education based on Quaker values. John's nephew, Charles Merz, pioneered electricity distribution, inventing the concept of synchronized grids now used world-wide.

The family business was leather tanning, however John's interest was shipbuilding. He apprenticed first as a draftsman, then in steam tug construction. In 1860, at age 23, John started his own shipyard, Neptune Works (known widely as Wigham Richardson), with a loan from his father. His was one of the first shipyards to build steel ships. As a pacifist Quaker, John did not build vessels for the British Navy.

In true Quaker fashion, the shipyard's steam engine also powered the neighbourhood's electric lights. As well, John's concern for his worker's well-being led him to found the Worker's Benevolent Trust, a precursor to trade unions. In his latter years, John left the Quaker faith and became an Anglican, probably because of

Fabricating shops on an immense scale were required

pressure from his business partner, Swan Hunter, to bid on lucrative Admiralty contracts.

The first ship built was the 65 foot paddle steamer Victoria, used as a ferry carrying passengers, carts and livestock. As years past, Wigham Richardson's ship-building experience grew with the size and complexity of the ships they built. At the same time, they built

marine engines which they used in the ships they constructed and which they sold to other yards on the Tyne and across Europe.

Wigham Richardson went on to build all manner of ships. In 1888, after 28 years in business, they built a four-masted, twin-funnelled ship, 408 feet long, with accommodations for 1040 passengers. From 1895 to 1901 the yard was expanded to 18 acres, allowing the construction of 12 freighters.

The company's timing was exquisite. They got in on the ground floor of steam-driven steel ship building at a time when there was a high demand for efficient marine travel for both cargo and passengers on coastal and trans-oceanic routes. As well, it was a time of mass migration and a desire by the wealthy to travel in style. Large ocean-going vessels with unimaginable amenities became both essential and avant garde. By the early 1900s, however, Wigham Richardson found itself unable to advance to the high-in-demand, lucrative liner contracts. It had the expertise, yet It simply could not raise the required capital alone.

The Mauretania

The issue was resolved in 1903 when Wigham Richardson merged with Britain's other large ship-builder, Swan and Hunter. The merger was specifically designed to allow the companies to jointly bid on the contract to build the super liner Mauretania for the Cunard Line. Their bid was successful and the new company Swan Hunter Wigham Richardson went on to build many more ships. Between 1906 and 1912 Swan Hunter Wigham Richardson was in its prime, producing the largest tonnage of ships in the world. In 1907, the company's output in tonnage accounted for **15% of the world's shipping.**

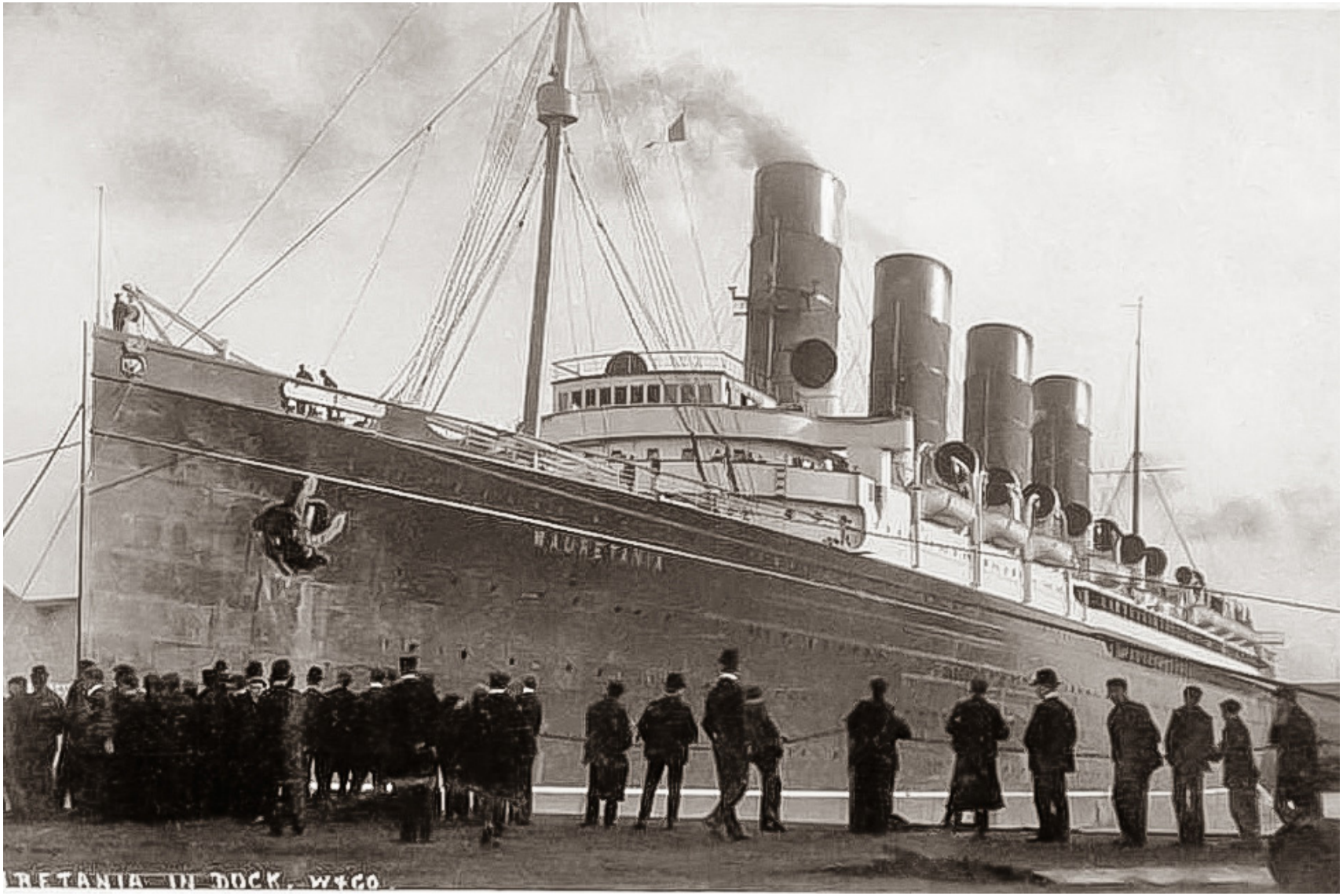
The Mauretania made its maiden voyage in 1907. It held the Atlantic Blue Riband speed record until 1929. During World War I Mauretania was used as a transport and hospital ship. Over her lifetime, she made 269 double crossings of the Atlantic in addition to her work in the war. She was much loved by her loyal patrons. Even today, she is the largest ship ever built on the Tyne.

On July 4, 1935, at 6:30am, she arrived in a half-gale at Rosyth, Scotland to be scrapped. A lone piper stood on the quayside playing a funeral lament. When her great engines were shut down, Mauretania gave a final deep shudder and fell silent. Twenty-eight years of hard service came to a close. The following Sunday, Mauretania was opened to the public for one last time. Twenty thousand people showed up.

Interior of the Aquitania, illustrating the sophistication of luxury liners in the day

Interiors of the Mauretania

Interior of the Aquitania

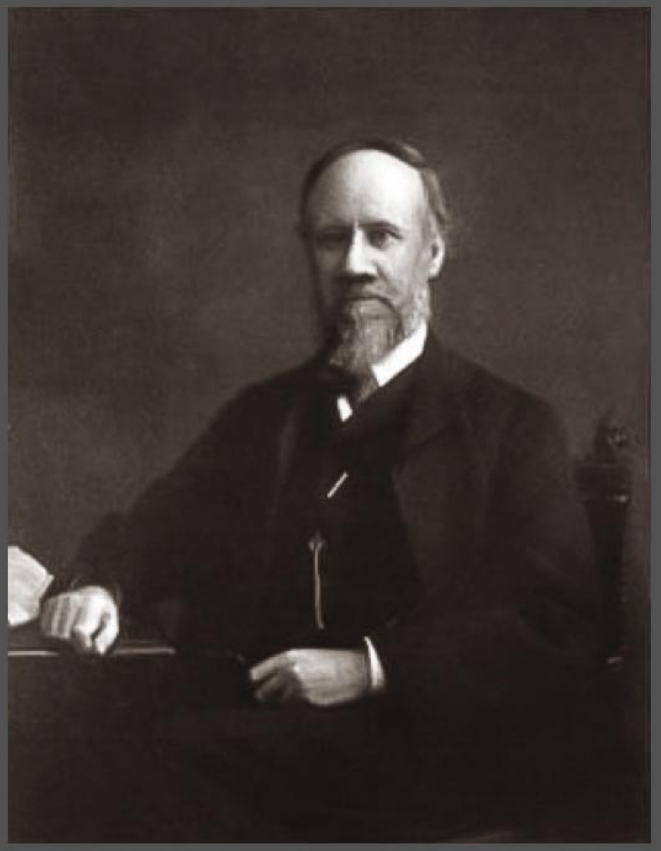


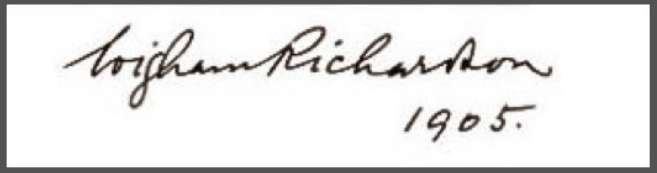
Mauretania, holder of the transatlantic speed record for over 20 years

John Wigham Richardson (1837-1908)

Ship-Builder

Relation: 1st cousin 1x removed of husband of great-aunt





Last Voyage of the Endurance

Sir Ernest Shackleton (1874-1922)

It seems fitting that while in Greenwich, the home of all things nautical in the British Empire, that I should tell the tale of Sir Ernest Shackleton's ill-fated voyage to the Antarctic.

Sir Ernest Henry Shackleton, CVO, OBE, FRGS (1874-1922) was born into an Anglo-Irish Quaker family. Ernest was a polar explorer at the beginning of the 20th century, an era known as the Heroic Age of Antarctic Exploration. For his first polar experience, he joined Robert Scott's Discovery Expedition (1901-1904) as third officer. Much to his dismay, Ernest was sent home early with heart problems.

Not to be thwarted by this perceived assault on his character, Ernest returned to the Antarctic in 1907 as leader of the Nimrod Expedition. In 1909, expedition members marched south to within 190 km of the pole, a new record. On his return home, Shackleton was knighted by King Edward VII for his achievement.

The race to the pole ended in 1912 when Roald Amundsen reached the South Pole using dogs, sleds and skis.

Shackleton's pressing need for glory led him to propose the penultimate Antarctic journey — crossing Antarctica from sea to sea via the pole. The Imperial Trans-Antarctic Expedition of 1914-1917 began.

Preparations

The expedition's ship, the Endurance, powered by sail and steam, was extensively refitted to withstand the rigours of Antarctica. Shackleton had chosen a deep narrow hull for Endurance which would break through the ice rather than a rounded hull which would rise up onto the ice when squeezed. Once in the Antarctic, Shackleton likely wished that he had chosen the latter, for the Endurance became trapped in insurmountable pack ice and was slowly crushed and sunk.

The crew salvaged whatever they could take with them, then began an arduous trek in search of land, dragging the ship's 20 foot lifeboats over endless high ridges of uplifted ice. As the ice floe disintegrated that spring, the crew were forced to sail for five horrendous days to reach a tiny pinnacle of rock called Elephant Island, their first solid ground in 497 days.

Elephant Island was an exposed, inhospitable place, well off the shipping lanes. There was no hope of rescue from there. Shackleton decided to risk a dangerous open-boat journey to South Georgia Island where a whaling station could effect rescue. Preparations were made for the trip.

To South Georgia

The chosen lifeboat, the James Caird, was refitted with raised sides, a strengthened keel and a wood and canvas deck. Then on 24 April, 1916, the James Caird was launched with six men aboard — Shackleton, Endurance's captain Frank Worsley, Tom Crean, two strong sailors John Vincent and Timothy McCarthy, and the ship's carpenter Harry McNish.

Navigating across 1200 km of horrendous Southern Ocean seas, Worsley brought the Caird abeam of the south side of South Georgia Island. Hurricane force winds kept them offshore through the night but the next day they landed safely and set up a base camp where they rested for several days.

Then Shackleton, Worsley and Crean, with 16 metres of rope and an ice adze scaled the mountains, covering 51 km over 36 hours to reach Stromness, a whaling station on the north coast of South Georgia Island. Forty years later, in October,1955, the British explorer Duncan Carse traveled much the same route as Shackleton's party. He wrote "I do not know how they did it, except that they had to…."

Rescue

At the whaling station, Shackleton forthwith arranged for his three crew on the south side the island to be picked up, then organized a rescue of the remaining men on Elephant Island. Three attempts to reach them were foiled by pack ice. Shackleton appealed to the Chilean Navy who sent the navy tug Yelcho with Shackleton aboard,

to rescue his crew who had been on Elephant Island for four and a half months.

Shackleton and his entire crew returned safely to England. It was a feat of leadership and collaboration which placed Ernest Shackleton firmly among the ranks of great British heroes, the place he had always dreamed of being — for entirely different reasons.

The crew huddles around the ship's stove

The crew wave goodbye to the James Caird

Captain Frank Wild surveys the remains of the Endurance

Shackleton and 5 others sail 1200 km to South Georgia

Tea With Sir Ernest

If you were granted an hour with the ancestor of your choice, who would you choose? For me, it would be a tough call, but Ernest would be right up there in the top three. I'm speaking of Sir Ernest Shackleton, Antarctic explorer of the early 1900s. He was a legendary figure, famous for his courage and leadership in rescuing his crew from shipwreck and certain death.

Yes, I'm proud to say that Ernie and I are close relatives. He is my grand nephew of the husband of my 2nd cousin four times removed. He often speaks of me (I'm certain). I'm expecting a letter from him any day. Still lost in the post, I suppose.

No matter. I arranged to meet him in the flesh in the reading room of the Royal Geographic Society, London at twelve noon sharp, August 4, 2013. Sir Ernest is a stickler for punctuality. I get there early. The reading room's grandfather clock chimes out the hour. I've got goose bumps....ah, here he is now....

"Sir Ernest. Peter Bruce, your grand uncle and so on. What a great honour this is. Thank you for seeing me."

"Well, quite honestly, I had nothing better to do. This 'being dead' business gets frightfully boring,

I'm afraid."

"I see. Remind me, then, not to rush into it."

"Shall I arrange for tea, Mr. Bruce?"

"Please, call me Peter. And yes, thank you. Just black."

"Right. Back in a mo."

Fifty-five minutes pass before Sir Ernest returns empty-handed.

"I'm awfully sorry for the wait, old chap. I've had a dreadful time. When I reached what used to be the dining hall, it was gone. Sealed up as though it had never existed.

I enquired with the maitre d' as to its new location and was informed there was no dining hall, that it had been leased to the Salvation Army as a meal station for the homeless. Cost-cutting measure, he said. Tea could be obtained at the...what did he call them?...dispensing machines in the basement. Dispensing machines? What the devil are those?"

"Its a different world, Sir Ernest."

"At any rate, in the manner of explorers I persevered and started to make my way to the basement. On the way I inquired with a young lady as to the location of these machines and she offered to take me to them.

"Very kind."

"Yes, but I wish she hadn't. Because it was then that I noticed a most extraordinary thing. Her legs were completely exposed from her ...well, you know...right here. I

was, to put it mildly, non-plussed. There she was, in full view of anybody who cared to look her way,

half naked! Just a bit of cloth about her middle, the rest, well, exposed flesh as it were."

"Sir Ernest. That's how women dress these days." I don't think he heard me.
"The curious thing was she seemed to have no inkling of her predicament, poor soul. Of course I promptly removed my jacket and attempted to wrap it about her mid-section, believing I was doing the gentlemanly thing and that she had somehow lost her bottom half without knowing it. She pushed me away, called me a "bloody pervert" and ran off yelling SECURITY, SECURITY. A minute later two large men looking for all the world like bobbies, grab me, yell "AGAINST THE WALL NOW", then run their hands all over my body. I briefly considered yelling 'pervert' myself, then thought the better of it.

Naturally I remonstrated, and told them my name and member number, thinking they would quickly come to their senses, feel stupid and apologize. Not so, I'm afraid. One of them replied that he was King Ferdinand of Spain and that henceforth, I was to address him as 'Your Highness.' The impudence." "Furthermore," said he, "our members have 5 digit numbers, not 3." "What happened to your other 5 digits, said I. Stuck up your bottom, I suppose." He was not amused.

"Oh gosh. What happened next?" I didn't really want to know, but I felt compelled to ask. Sir Ernest needed to vent.

"Well, they strong-armed me to a back room. The maitre d' joined us and there, they proceeded to grill me as to my identity and purpose here. I

repeatedly told them who I was but they simply did not believe me. I told them my cousin of sorts was waiting in the reading room and that he would vouch for me. So here we are."

Standing before me were the maitre d', the two security men and a rather confused, distraught Sir Ernest in the firm grasp of his captors. Being marooned on Elephant Island must have looked rather appealing to Sir Ernest about then.

I, of course, provided the required vouchsafe. When I picked myself up off the sidewalk and turned to check on Sir Ernest, he was gone. I looked at my watch. One minute past one. The hour was up.

Bon voyage, Sir Ernest. The tea was a trifle weak but your company was grand.

Sir Ernest Henry Shackleton (1874-1922)

CVO, OBE, FRGS Anatarctic Explorer

Relation: Grand nephew of the husband of the 2nd cousin 4x removed

ChangeMaker

Sir Ernest Shackleton about 28 years

Honeymoon

The Lake District

The Lake District is a region of the County of Cumbria. It is also a national park. Tourism has a long history here, beginning in the late 1700s. As early as 1724, Daniel Defoe described it as “the wildest, most barren and frightful of any that I have passed over in England.”

In 1774 Father Thomas West published “A Guide to the Lakes” which led to visits by Wordsworth, Southey and Coleridge. Wordsworth was so taken he moved there. Indeed, you can visit his house and as you gaze at his writing desk, ponder why he got all that talent and you didn’t. Once the poets had done their thing, the tourists did theirs. The wealthy arrived first.

My Spriggs family took holidays here in the mid 1800s, capturing the landscapes with pen and ink. Later came his children and their children, including my mother. Her parents honeymooned there, bringing with them an entourage of friends and family (see the images). Today, the tourists arrive, not in horse-drawn conveyances, six to a carriage; they come in buses, sixty at a time.

This was our second bus tour, possibly our last. Don’t get me wrong; they did a good job, taking us places we would not otherwise have seen and

telling us much along the way. Yet it's rushed and canned and according to their schedule, not ours. Taking pictures was almost a lost cause. The tour included a sedate boat ride on Derwentwater in a vintage 1920s varnished wood cruiser. The boat was beautiful; the ride was boring; the landscapes were stunning. It is a moody, magical, entirely unique land. And the light! We must return.

My great grandfather William Spriggs, a successful clothier from Worcester, was also an accomplished sketcher. He took sketching holidays to places much like the Lake District — the hills of Scotland, South Wales, Switzerland and the Rhine — for good reason. The beauty and the mood take the breath away.

Honister Pass, Lake District

The Lake District, Cumbria

Derwentwater, Lake District,

Lake District, Cumbria,

The Spriggs honeymoon entourage in the Lake District,

The Bride, Alice Hayward Spriggs, 1898

Wedding of William Spriggs (1868-1960) and Alice Hayward (1867-1958), 1896

Sketches from a tour of Switzerland & the Rhine by William Spriggs (1821-1899)

Lost

Henry Forbes Julian (1861-1912) was a man's man. You could just tell by the way he carried himself that he was used to operating in the man's world of the Victorian Age— the world of board rooms and big cities, and the world where men get dirty and rent their brawn by the shift.

He was a metallurgist and mining engineer who consulted on mining projects all over the world, in particular gold and silver mines for which he had invented and patented a highly successful cyanide extraction method still used today.

Forbes' work required him to travel extensively. He had consulted throughout Eastern and Western Europe and crossed the Atlantic 13 times to projects in Mexico, the USA, Canada and the West Indies.

To Devon

The unmarried Forbes made good money. Perhaps it was the constant travel that prompted him to seek a quieter lifestyle in 1895. He rented Ness House in the little coastal village of Sheldon near Torquay. He also had a residence in London. A natural student, Forbes had followed the discoveries of geologist William Pengelly and decided to settle in Torquay so he could take in

Pengelly's public speeches and join his Torquay Natural

History Society and Devonshire Association. This he did and there he met and married Pengelly's daughter, Hester.

Business Beckons

Forbes continued his work from Torquay. When an important meeting came up in San Francisco, he booked passage on the Olympic, departing Southampton 3 April, 1912. However, disruptions caused by the national coal strike obliged him to change his booking to first class passage on the Titanic, departing 10 April.

Forbes sister-in-law, Lydia Maxwell asked him how he felt about sailing on the Titanic. He replied "

'I do not care at all for palm-court and gymnasium and such extra attractions, and never visited them on Mauretania. I shall keep to the smoking-room and library, and only just look over the vessel before starting.'

On 9 April he caught the 1:35pm train from Torquay and arrived in Southampton at 8:25pm, then made his way to the South Western Hotel. Before bed, he wrote a letter to his wife, relating the train journey, cold, windy weather and his conviction that it was best that she stayed home. Hester had a bout of the flu.

Boarding

The next morning Forbes walked the 10 minutes to the docks, boarded the Titanic and found his first class stateroom, E90, near the stern of the ship.

During the crossing to Cherbourg, Forbes wrote again to Hester, conveying his delight at the comfortable accommodation, the on-board Parisian Cafe and the gymnasium which he said was “full of the most wonderful machines.” More than half the officers and stewards, Forbes wrote, were familiar to him from previous passages.

Ice

April 14

5:50pm Captain Edward Smith receives iceberg warnings throughout the day, changes course slightly south and maintains speed

9:40pm Ship Messaba reports a nearby ice field with “heavy pack ice and [a] great number [of] large icebergs.” Wireless operator Jack Phillips—who works for the Marconi Company—is handling passengers' messages and never passes the warning on to the Titanic's bridge.

10:55pm

The nearby Californian radios the Titanic: “Say, old man, we are stopped and surrounded by ice.” An annoyed Phillips responds: “Shut up! Shut up! I am busy.”

11:35pm

The wireless operator on the Californian turns off his radio. The Titanic’s lookout sees an iceberg in the ship’s path, rings the warning bell three times, then calls the bridge. The officer-of-the-watch orders “hard-a-starboard” (to the left), “full speed astern” and closes the doors to the ‘watertight’

compartments.

Collision

11:40pm

The starboard side of the Titanic scrapes along the iceberg. Captain Smith arrives on deck and is told ”we’ve struck an iceberg sir.” One after another, reports advise the bridge of rooms filling with water across at least five of the ship’s compartments. The Titanic’s designer Thomas Andrews surveys the damage. The Titanic was built to remain afloat with up to four compartments flooded. Andrews predicts that the ship will sink in one to two hours.

To The Lifeboats

Over the next two hours, lifeboats are loaded amid a frenzy of panic and inefficiency with the strict order “women and children first”. Almost all the lifeboats are only partially filled. Of the 2200 passengers aboard, there are but 20 lifeboats with room for 1178 people.

Every stripe of humanity came forth in those last hours — heroes, cowards, the terrified and the resigned. Their station in life gave no inkling of which one of those each was. The ship’s musicians famously played on to the very end, calming passengers as they boarded the lifeboats. The Titanic’s designer, Thomas Andrews, urged passengers to get into heavy clothing and prepare to leave the ship. Many, although skeptical that the ‘unsinkable’ ship had been seriously damaged, were nevertheless convinced by Thomas to do so. A final telegram from the Titanic confirmed Thomas’s heroism: “When last seen, officers say was throwing deck chairs, other objects to people

in the water. His chief concern safety of everyone but himself.”

Thomas had argued for enough lifeboats for all passengers and for other safety measures. The President of White Star Line Bruce Ismay denied the request, protesting that “they already had more than the legally required number of lifeboats (16) and

the extra boats simply would clutter up the beautiful open expanse of the upper deck, where first-class passengers would want to stroll." Neither the musicians nor Thomas survived the sinking.

Gone

2:18am

The lights on the Titanic went out. The bow sunk, raising the stern and its massive propellors clear of the water. The hull broke cleanly into two pieces whereby the forward half of the ship plunged vertically into the depths at an estimated 50 kilometres per hour. It took six minutes for it to reach the ocean floor. The stern section lingered, but as water drew the broken

end beneath the surface, the remainder lifted briefly and the entirety disappeared.

Three agonizing hours after the first distress signal was sent, a rescue ship arrived. It was the

Scenes of the Titanic

Scenes of the Titanic

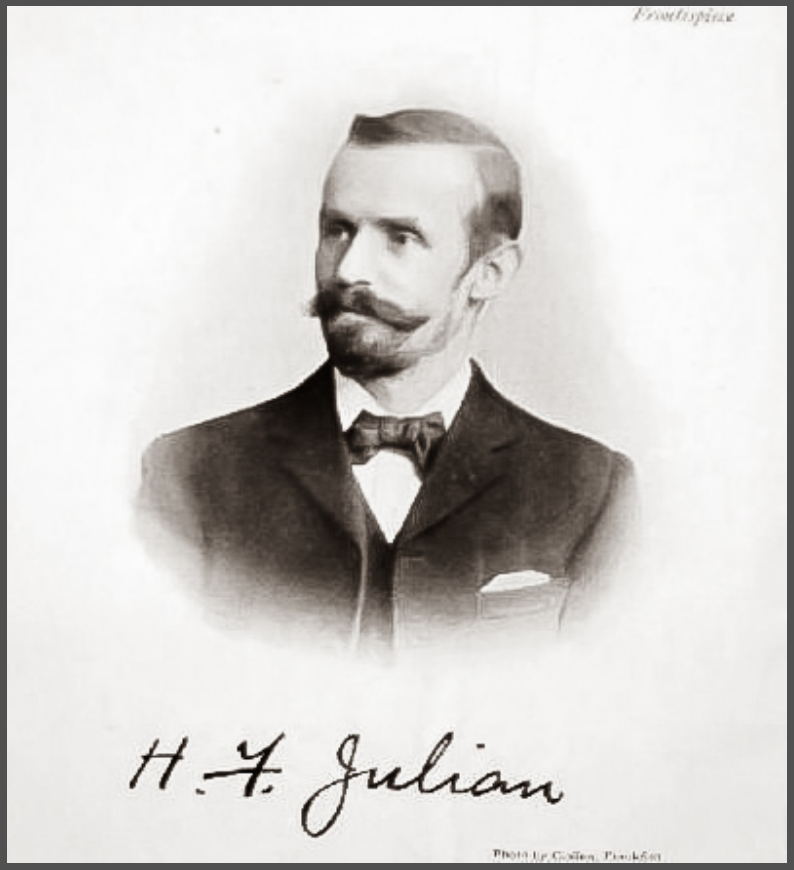
Scenes of the Titanic

Last moments of the Titanic

Henry Forbes Julian (1861-1912)

Metallurgist

Relation: husband of 1st cousin 2x removed



War in The Air

William Spriggs (1898-1986)

My thanks to the Spriggs family — Hilary Hellum, John Spriggs, David Spriggs and Tim Hellum for their generous contributions to and edits of this article. A special thank you to you William Spriggs for your gallantry to advance a noble cause at any cost. We shall not forget -- not William, not millions of people on both sides who died in this, yet another senseless war.

William (Will) Spriggs (1898-1986) is my uncle. He was the eldest of two girls and two boys born in Birmingham, England to Quakers William Spriggs and Alice Hayward. Like many of our extended Quaker family, they were well-to-do. His father, William Sr. co-owned a mattress and furniture manufacturing company and ultimately, both he and his future wife Alice inherited considerable wealth from their parents and relatives.

Early Life

Will, my mother Hester and siblings Bob and Alison had a privileged childhood. They lived in a large house in the pleasant village of Acock's Green on the outskirts of industrial Birmingham. They had servants — a cook, a nanny and a maid. A motorcar was kept in the carriage house. The children attended schools for the privileged and in the back yard was a miniature ride-on steam train designed and built, probably, by Will's father and his factory workers. During the summers, the family retired to Torquay on the South England coast, where days passed with fun outings to the

beach, Quaker meetings and socials with Quaker friends and family. As well, there were trips to the Lake District in Northwest England with visits to their cousins, the Richardsons. It was a good life. Will's grandfather, also William (1821-1899), was a successful clothier in Birmingham and Worcester. He manufactured and retailed wool clothing. He must have been a consummate businessman, for the family lived at Battenhall Mount, a sprawling Victorian mansion with extensive grounds, enormous rooms extravagantly furnished and maids to do everything.

Denied

When William (Will's father) was a young man he had what he thought was a 'watershed idea.' He approached his parents. It might have gone like this: Will found his mother, as was her custom at 10am on a Saturday morning, sewing in the parlour. "Mother, how is father's mood this morning? Does he strike you as approachable on an important matter?" "Well, yes, I suppose so dear. You have nothing to lose by trying. He's in the library." More like everything to lose, thought William. His father was a man who held very clear ideas about how life ought to unfold, for himself and for those in his realm. William knocked on the library door, the required protocol, then waited for the familiar "Enter." "Father, may I speak with you for a moment?" "Yes, of course, William. What's on your mind?" "I've been thinking a lot about a choice of career lately and keep coming back to the idea of engineering. You know how I love to plan and build things. I think it's a good fit for me and I'm asking for your permission to pursue that."

There. It was out. William's life hung in the balance. His father was silent, his brows knitted.

William's heart sank. He'd seen that look on many occasions. None of them turned out well. An eternity passed before his father spoke.

"William. I have done well in my business, as you know. We lead privileged lives here. We are respected members of both our Quaker community and of the community at large. Would you not agree?"
"Yes father."
"We have earned a social standing, William. With that standing come opportunities. Doors open, not for me so much anymore, but for you and your siblings. What schools you and your future children attend, what you will make of yourself, whom you will marry, where and how you will live, depend in great measure on your social standing. Do you understand that?"
"Yes father."
"Well, I must say you leave me to wonder on that point. You see, William, engineering is not becoming of a gentleman with our social standing and a gentleman you must be. You are my eldest son, William. As the eldest son, like it or not, you have responsibilities. I expect you to join the family business. I expect you to live as a gentleman."
"But fa…"
"That's all William."

Business

William did as directed, almost. He had no inclination to be under his father's thumb in the clothing business, so convinced his father to

Note: Details of this event were drawn from deductive reasoning, historical records and first person and official accounts and may contain

Reconnaissance photos were pieced together to create a mosaic of the enemy's position

A reconnaissance camera which was secured to the fuselage adjacent the pilot's open cockpit. Source: International War Museum

A message streamer dropped from the cockpit

Will with RAF wings, back home at Edgemere, the family farm, 1919 after discharge

Headquarters, Fourth Army.

To Second Lieutenant A. Spriggs.
Royal Air Force.

I congratulate you on the gallantry and devotion to duty for which you have been awarded

the Distinguished Flying Cross.

Commanding Fourth Army.

Top: Cert. of Congratulations, Gen Rawlinson

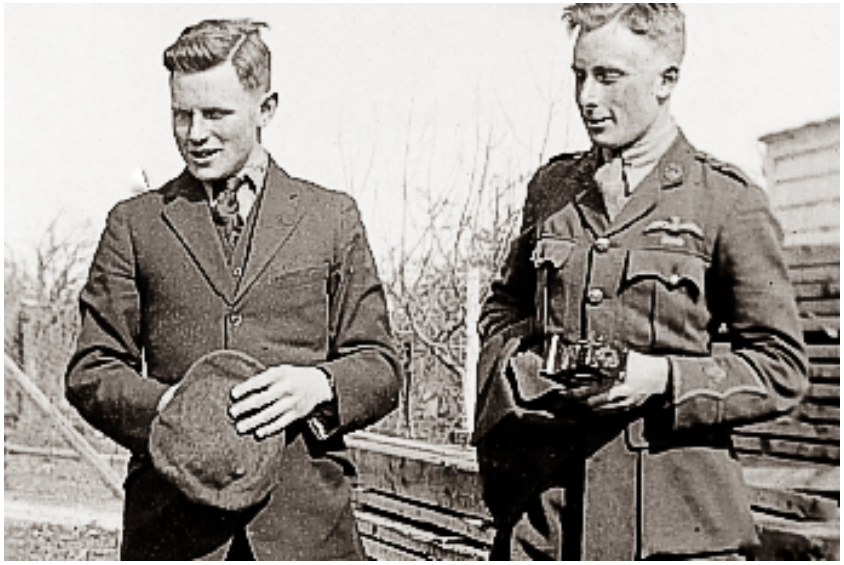
Bot: Distinguished Flying Cross

This page: Will's Marconi station at the farm, 1919

Overleaf: Top R and L Family portraits, 1919

Overleaf Bottom: Brother Bob (L) andWill (R) 1919

Overleaf R: Will in RCAF uniform with flyer's cap, 1919



secure him his own business which had engineering elements to it — the Birmingham Woven Wire Mattress Company. Woven wire mattresses in the late 1800s had been around a long time and for no particularly good reason. They were the wire mesh equivalent of a hammock. By 1915, spring coil mattresses had been transforming the mattress industry for 40 years. Mattress technology was evolving rapidly and to make matters worse, a recession had set in. Birmingham Woven Wire Mattress Company had become an anachronism, the horse and buggy of mattress makers. Unless the company made some dramatic changes, it was doomed to fail.

Come the war, both of William's parents had died, leaving he (46) and Alice (47) free to make their own decisions, It was time for a change. For the 20 years William had been with Birmingham Woven Wire Mattress Company, he could not recall one day he had truly enjoyed. Business was not his cup of tea. He was a quiet, retiring man, not comfortable networking, deal-making and managing people and paperwork. And there was another matter. Son Bob had lost an eye in a school accident. He and Alice were concerned that Bob, with his disability, would have trouble finding a career niche in England. Perhaps farming was the answer, in a new land. William consulted with Alice, as is the Quaker way, then sold his share of the business.

To Canada

It was decided. The family would immigrate to Canada. Canada It was not an impromptu affair. Spriggs' decisions are carefully made, well-considered. Land was cheap in Canada. They

would buy a farm, work hard and live a peaceful life in the country with fresh air, home-grown food and independence — free of expectations and stress. First, an exploratory trip was made to confirm the plan was viable and locate a farm. An apple farm was found and purchased near Wolfville, Nova Scotia. They called it Edgemere, for it rested on the shore of the Bay of Fundy. It was removed from the nearest town. The farm had been unoccupied for some time. It was badly rundown, the house, outbuildings and equipment in disrepair. But the price was right and excellent schools were found for the offspring. The new chapter began.

Edgemere

The Spriggs departed Liverpool on the Corsican and on the 17th of April, 1915 they arrived in St John's, Newfoundland, Canada. Once on the farm and with the diligence of Quakers on a mission, William, Alice and two paid locals, a man and a woman, set to work. William and his help brought the farm back to life while Alice, with her help, renovated the house and planted a huge flower and vegetable garden. Gone was their life of privilege. Gone was their treasured extended family. Gone was their Quaker community. Before them was a foreign land, a foreign people and a foreign occupation. They had much to learn.

The lessons came quickly. As William made purchases for the farm, he had a rude awakening. Not all Canadians did business in the manner of Quakers. Dishonest people took advantage of the newcomers trust and sold William a lame horse and faulty farm equipment. By the next spring, Edgemere had come to life again. A reasonable

apple crop was had. Selling them, though, was another matter. It was 1916; the war was in full swing and the apple market had collapsed. Yet the Spriggs laboured on at Edgemere for the duration of the war.

In 1919, after years of back-breaking work with little to show for it, the Spriggs gave up, sold the farm, undoubtedly for a loss, and at ages 51 and 52, retired to the quiet, pretty village of Baie d'Urfé near Montreal. The farming chapter had not left them destitute, for they bought a big house on the edge of the St Lawrence River and the youngsters continued to board at the same schools.

Joining Up

By 1915, both Bob and Will had chosen their career paths. Ironically, it was engineering. Will had enrolled in pre-engineering at Acadia University. By the spring of 1916, the war had entered its third year. Will (17) had not yet been in Canada a year when recruiters for the newly formed 219th Battalion Nova Scotia Highlander Regiment appeared at his school. His classmates were joining. Will could not refuse, nor did he wish to. His father was at his side at the recruiting office. "You realize he's underage," he said firmly to the recruiting officer. The latter nodded. Honesty was central to Quaker faith. And in this case, clarity was important. Should Will, as an underage recruit, survive the war (and there was a reasonable chance he would not), he was entitled to a free university education. That he later got.

Training

On the 22nd of February, 1916 Will signed up. He entered officer's Flight School and trained through that summer where, fatefully, he learned signalling and Morse code. In September, he sailed for England where he underwent lengthy additional training, first with the Imperial Army, then on April 1, 1918, with the newly formed Royal Air Force (RAF). Flight training continued. He took courses in photography, gunnery, ground signals, cross country navigation, formation flying and bombing and strafing. Finally, as a certified pilot, on the 10th of August, 1918, Will was transferred to France where he was assigned to Squadron 8 of the Fourth Army under General Henry Rawlinson. After two years of training, 2nd Lieutenant William Spriggs, untested in war, found himself on the front line of the most ferocious and deadly war the world had ever witnessed.

Reconnaissance

By 1917, the role of reconnaissance crews was to take photographs of enemy positions which would give allied command strategic intelligence about exactly where the enemy was, their strength and their hardware and importantly, tactical intelligence in the form of feedback to artillery and tanks on the accuracy of their fire. Observer aircraft were fitted with specialized cameras attached to the side of the fuselage which were operated by the pilots. The cameras were capable of taking multiple images shot on a grid, which, back at command, were pieced together to form a mosaic of the enemy position and nature.

The Armstrong Whitworth F.K.8 Aw160 flown by William Spriggs

Google search term: AW observer plane 1918

Observer aircraft were two-seater open cockpit biplanes designed to be slow and steady to accommodate the photography. Those characteristics made them them highly vulnerable to enemy fire. Reconnaissance was a risky business. By definition, it meant that one was always operating on and behind the enemy's front line. Attrition rates were high. New pilots used to call themselves the 20 Minute Club because their life expectancy in combat in 1916-1917 was 20 minutes.

Acquiring intelligence was one thing; getting it into the hands of command was another. There were no airstrips on the front line. In the early years of the war, the solution was simple. Air crews called it 'message in a bottle.' Weighted bags or multi-coloured message streamers were dropped near the command post. As radio technology improved, radios were installed in reconnaissance aircraft allowing intelligence to be conveyed instantaneously to ground forces by oneway Morse code.

The Aircraft

At the outbreak of war in 1914, only 11 years had passed since the Wright Brothers first lifted off the ground. Aircraft were little more than a contraption of wood, wire and canvas. They were not capable of mounted weaponry; pilots encountering the enemy would resort to throwing stones and insults in passing. However, in the four years to 1918, aircraft had developed considerably — by the Germans, renowned for their mastery of things mechanical, and by the Allies. Both fighters and

reconnaissance aircraft were bi or triplanes with two open cockpits.

For almost the entirety of the his war service, Will flew an FK8 Armstrong Whitworth 160, an observer plane and light bomber. The AW160 had two cockpits for pilot and observer. It was purpose built for acquiring photographic intelligence. Thus, it was capable of high stability at very slow speeds. Strafing was carried out with a Vickers rigid mounted machine gun. The Vickers was a recent innovation. Its firing action was synchronized to the engine, allowing it to fire between the rotating propellor blades. Fire was directed by manoeuvring the aircraft. Bombs were loaded under the wings of the FK8 AW160. The observer operated Lewis machine guns mounted on each side of his cockpit.

Parachutes were only sporadically used in the RAF before 1920. The pragmatic argument against them was that the chute's bulk restricted the crew's movements and accordingly, their abilities in the already cramped cockpit. The other, a most tragic argument, was that Allied Command viewed chutes as the coward's way out, that it was the crew's duty to find the moral fibre to press home the attack to the very end. Thus, for the duration of the war, the fate of the aircraft was necessarily the fate of its crew.

Duties

The observer's job was to shoot down or scare off enemy aircraft using his two mounted machine guns. The pilot's job was to fly the plane, carry out the photography, convey the intelligence to the

ground forces and, if necessary, strafe and bomb enemy positions. Taking photos of enemy trenches was risky business. It required the aircraft to fly in a straight, uninterrupted line while a string of photos were taken, photos which would later be pieced together to provide a mosaic of the enemy's position.

This straight line fly path requirement was well-known to the Germans who could then accurately aim their anti-aircraft fire at the 'sitting duck.' If the pilot broke away to avoid the 'ack ack' he was obliged to go back and start over. Pilot and observer could also be assigned offensive missions, sweeping low over enemy positions while strafing and bombing. On the bottom of the pilot's cockpit was a heavy glass floor embossed with cross hairs for sighting. More often than not, however, bad weather and dirt in the cockpit rendered the glass unusable, requiring the pilot to stick his head out the side and view the target directly. When on target, the pilot pulled a lever beside his seat to release the bombs.

Crews were expected to carry out two sorties per day, one in the morning and one in the afternoon. Each sortie was about two hours in length. Between sorties, the men hung out in the mess. The air was thick with unspoken tension which the young men managed with an ample dose of humour, tom-foolery and goodnatured banter. Yet privately, each was harbouring the question which had no answer: who among us will not be here by sunset?

Sorties

Will and his observer Oscar flew an unknown number of sorties at the front line. During some of those, he was pursued by German fighters. Will's slow AW160 could not hope to outrun the fighters, but he could do something they could not. He could fly slowly. Although the AW160's cruising speed was 80mph, it could slow to 35mph without stalling, well below the stall speed of German fighters, who would regularly overshoot the airborne turtle or be obliged to pull up at the last minute and bear off to avoid a collision. When they pulled up they lost speed, exposing themselves to Oscar's deadly accurate aim. This slow-fly strategy proved to be crucial to their survival and unexpectedly treacherous to German flyers.

The Mission

Through the summer of 1918 the tide of the war began to turn in favour of the Allied Forces. On 8 August the Allies began the Hundred Days Offensive, a series of 10 back-to-back battles designed to overwhelm and crush German opposition, and bring an end to the war. The battles would occur sequentially along the length of the Hindenburg Line, Germany's defensive position across central France. Will's General Rawlinson led the 8th of the 10 battles, the Battle of the Selle. The Selle England: Tales of a Time Traveler 3.30 was a river, not particularly wide or difficult to cross, were it not for the German's entrenched defensive position on the high bank opposite.

“By 11 October, the Fourth Army had closed up on the retreating Germans near Le Cateau, with the Germans taking up a new position, immediately to the east of the Selle River. General Henry Rawlinson was faced with three problems: crossing the river, the railway embankment on the far side and the ridge above the embankment. The decision was made to commence the assault at night and as the river was not very wide at this point, planks would be used for the soldiers to cross in single file. Later, pontoons would be required for the artillery to cross the river.”

“After a six-day halt for preparations and artillery bombardments Fourth Army troops attacked at 5.20 a.m. on Thursday 17 October. Infantry and tanks, preceded by a creeping barrage, moved forward on a 10 miles (16 km) front south of Le Cateau. The centre and left of the Fourth Army forced crossings of the river, despite unexpectedly strong German resistance and much uncut barbed wire. Fighting was particularly fierce along the line of the Le Cateau–Wassigny railway.” Source: https://en.wikipedia.org/wiki/Battle_of_the_Selle

The success of the entire Hundred Days operation depended on each Allied sector meeting its target, as an unequal advance along the Hindenburg Line would open the Allies to attacks from the rear. Rawlinson needed a quick solution to knock out the enemy’s resistance which had allowed only limited progress on the morning of October 17. In the early afternoon, an England: Tales of a Time Traveler 3.31 order was dispatched to Squadron 8 to attack the enemy from the air. It seems only Will and Oscar were available to carry out the order. The mission: cripple enemy resistance adjacent the

centre and left flank of the 4th army's position by strafing infantry and bombing artillery and tanks.

The weather that morning was horrendous and continued so into the afternoon, when Will and Oscar received their orders. Cold driving rain and wind thrashed them as they scrambled across the field and climbed into the cockpits of their AW160.

The engine roared to life and almost immediately, the little aircraft was lifting off the grass field in a downpour. Low cloud and heavy rain persisted for the 45 minute run to the target. The cloud cover allowed only occasional glimpses of the ground, leaving Will to depend entirely on dead reckoning (estimation) to find the target. On this day, the very best of what Will was capable of was being called upon.

Then, in a brief opening in the the clouds Will spotted the target and took a bearing. Just before the target was reached, they dropped low below the clouds and swept along the line, strafing and bombing as they went. It was apparently the straw that broke the camel's back, for the Fourth Army was then able to advance, albeit in the face of continuing resistance all the way to the village of Le Cateau. By the close of day, the Fourth Army had taken Le Cateau. In the following weeks, the Allies added to their advance, retaking French villages one by one and driving the Germans back to the Northeast. On the 11th of November, Armistice was declared.

Getting Home

Confident and relieved that the mission had been accomplished, Will and Oscar headed for home. But the day's work was not over. Out of the clouds at perilously close range appeared a German observer aircraft, the crew of which was likely as surprised as Will and Oscar. Oscar Berridge:

"While on Contact patrol on the 17-10-18 almost out of gas flying in between very low clouds when a Hun two seater was seen to come out of the clouds about 50 yards distance flying away from us at right and slightly below us. The observer immediately engaged with his rear guns, getting a successful burst of fire, the enemy machine replied, the observer continued firing. E.A [Enemy aircraft] was observed to burst into flames and spin to the ground. O. Berridge SubLt Observer"

In the fray, the propellor driven fuel pump mounted directly over Will's head had exploded from gunfire. There was a hand pump back up, but Will opted to break off and head for home. Just then, a grinning, sharp-shooting Oscar Berrige tapped Will on the back and pointed down to starboard. Smoke and flames were swirling from the enemy aircraft as it dropped from sight. Will and Oscar returned safely to Malincourt Field. It had been a very long day and two young German pilots would not appear for muster in the morning.

Distinguished Flying Cross

For their efforts on breaking enemy resistance, Will and Oscar received the Distinguished Flying Cross for "gallantry and devotion to duty." Will returned

to civilian life, completed his engineering degree, then worked for Shawinigan Water and Power Company of Quebec for his entire career. That and his family were all the excitement he needed. He died at 89 in 1986.

Freddy West

Heroes in Will's Squadron 8 were not in short supply. Below is the story of Freddy West, adapted with thanks from Wikipedia: He was 22 years old. It was World War I and Freddy was already the captain of No. 8 Squadron, Royal Air Force, a grim reminder of the casualty rate among flyers. No. 8 was an observer squadron, dedicated to providing intelligence on enemy positions and fighting force to infantry and tank divisions on the front line of the Allied 4th Army.

After four years of war, battle commanders had learned the indispensable value of aerial observation. On 12 August 1918, the Allies were 4 days into the start of the largest offensive of the war, the Hundred Days Offensive. Squadron 8 was ordered to locate enemy positions. Setting off at dawn, West and his observer, Lt. William Haslam, flying an Armstrong Whitworth FK 8, spotted an enemy emplacement through a hole in the mist. At the same time, the enemy spotted them and commenced concentrated ground fire. Almost immediately, they came under attack from seven German fighters. West was hit in the leg, his radio transmitter was smashed.

Despite his injuries, West continued with his reconnaissance duties while under attack, then

manoeuvred his machine so skilfully that observer Haslam was able to register several hits on the German fighters, sufficient to drive them off. Only when he was sure of the enemy's ground position did West break off and head for home. To slow the profuse bleeding from his mangled leg, he twisted his trouser leg into a tourniquet to stem the flow of blood.

West realized he would not reach the airfield in his injured state and landed the Armstrong Whitworth in a field behind Allied lines. His left leg had five wounds, one of which had shattered his femur and cut the femoral artery. He was in an agony of pain, yet he insisted on reporting his findings forthwith. His leg was amputated.

West was returned to Britain for medical treatment and recovery and on 9 November, two days before Armistice, he received word that he had been awarded the Victoria Cross. Freddy West carried on with his military career after the war, becoming Air Commodore Ferdinand Maurice Felix West, VC, the equivalent of Brigadier-General in the Canadian Armed Forces.

William Spriggs (1898-1986)

Water & Power Engineer
Recipient of the Distinguished Flying Cross

Relation: Uncle