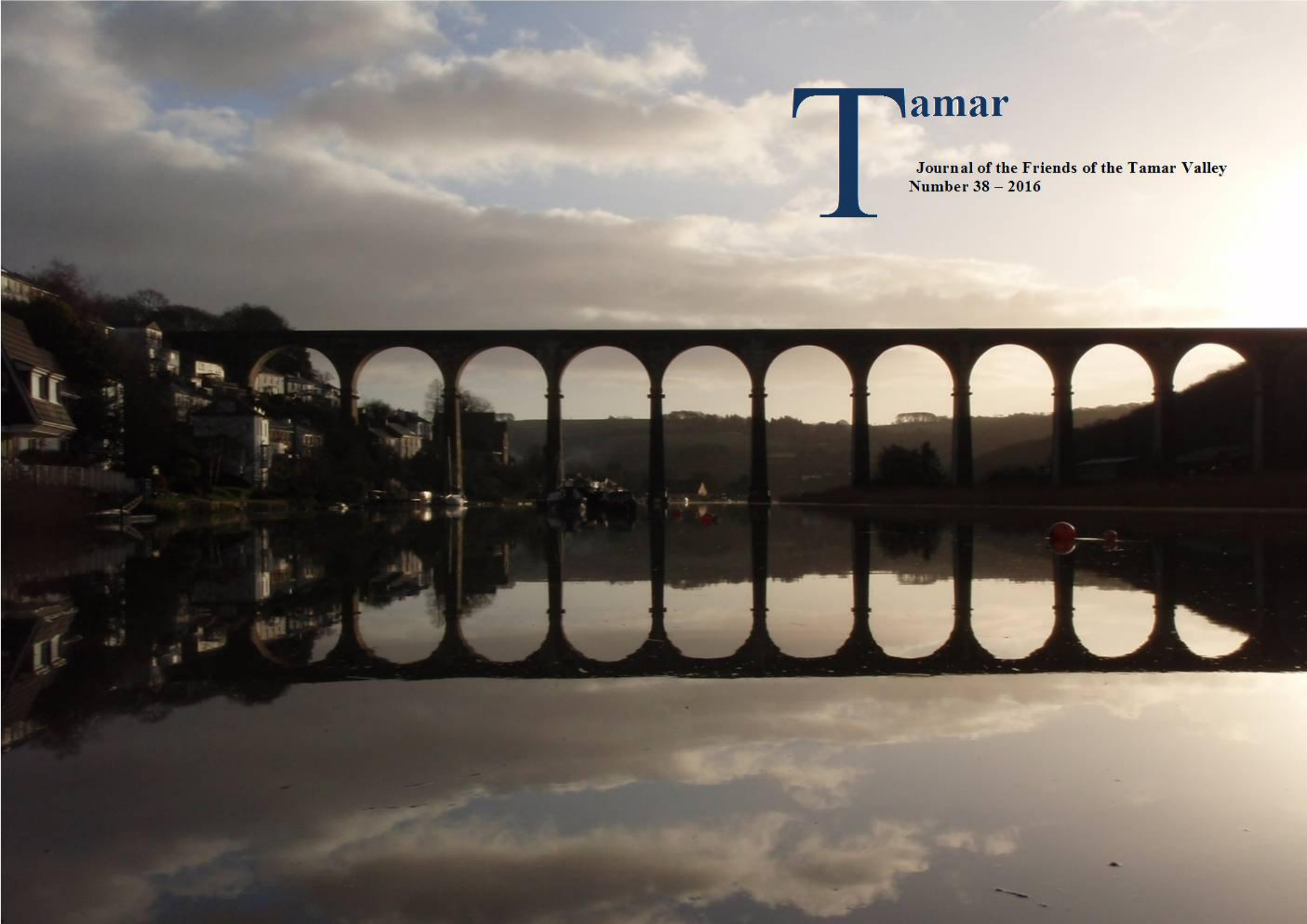


Tamar

Journal of the Friends of the Tamar Valley
Number 38 – 2016

Tamar

Journal of the Friends of the Tamar Valley
Number 38 – 2016

© The Friends of the Tamar Valley

The Friends of the Tamar Valley are grateful for the support of the Tamar Valley Area of Outstanding Natural Beauty

All articles, photographs and drawings are the copyright of the authors, photographers or artists and may not be reproduced without the permission of the editorial board and the author.

Cover photo by Rupert Kirkwood:
https://kayakfishinguk.wordpress.com/

ISBN No.978-0-9556261-9-7

Printed by The Printing Press, Plymouth 01752 250580

CONTENTS

Editorial…….....3

The Tamar Fertiliser Industry
Bob Ashford……..……..…..…4-21

Okeltor Boathouse
David and Jill Lane
……..……..…22-26

Saltash Blue Plaque Trail 1: Ann Glanville
Bruce Hunt……..……27-35

What could have been: the proposal for a low level road crossing at Saltash
Bruce Hunt……...……36-38

The Schooner *Ensign* of Calstock
Gary Hicks……..……39-48

The Cornish Man Engine
Jane Kiely……49-52

Shamrock – a brief history
Joe Lawrence……..…….……53-56

Meetings of Friends of the Tamar Valley – 2015
Helen Wilson……57-64

Friends of the Tamar Valley
details…….……..…….……..64

EDITORIAL

For this 38th edition of 'Tamar' grateful thanks are due, as ever, to all the contributors for their entertaining words and photographs. In the opening article, Bob Ashford's detailed research and professional expertise provides an authoritative paper on fertiliser manufacture alongside the Tamar, in its wider context. Less widely known than such industries as mining and quarrying, the supply of additional nutrients has been fundamental in sustaining local agriculture – and thereby, the Tamar Valley landscape.

David and Jill Lane write about their 'local patch' at Okel Tor Quay, upstream from Calstock. Their story of the evolution of this former riverside industrial hamlet shows how both continuity and change have been so important in the Tamar Valley.

Saltash now has a blue plaque trail that celebrates various local personalities, although we only have space in this edition to feature one of them (more next year?). Bruce Hunt has supplied a colourful account, originally written in 1908 by P.E.B. Porter, of that extraordinary waterwoman and champion rower, Ann Glanville. Bruce has also contributed an intriguing short piece on a 1950s plan for a low-level road crossing of the Tamar at Saltash.

Gary Hicks presents a detailed account of another of the sea-going sailing vessels for which the Tamar was 'home' for part of their careers. Gary draws on his remarkable knowledge of local maritime history and painstaking research to tell of the adventures and misfortunes of the schooner *Ensign*, which was owned for a time by the Willcocks family of Calstock.

Many readers will recall the appearance earlier in 2016 of the 'Man Engine', built to celebrate the 10th anniversary of the Cornwall and West Devon Mining World Heritage Site. Jane Kiely conveys the enthusiasm and excitement that the Man Engine generated on its journey from its debut at Tavistock through Cornwall right down to Geevor in the far west.

It is now over 40 years since the sailing barge *Shamrock* first arrived at her permanent home port at Cotehele. To celebrate her current fine condition and voyage down the Tamar in 2016, the National Trust's Joe Lawrence offers an overview of her history.

Finally, thanks to Helen Wilson for detailing the Friends' meetings in 2015.

Clive Charlton, Editor, *Tamar* ccharlton@plymouth.ac.uk

The Tamar Fertiliser Industry

Bob Ashford

Until the 19th century there was little understanding of how or why plants grew. Living things were still considered to be special, not just complex chemical reactors. It was known that plants responded to improved methods of cultivation and to various fertilisers (called 'manures' in those days), but these were applied to the land using rules of thumb and experience rather than principles of plant growth or soil fertility. Scientific curiosity was emerging, however. Field trials were being organised and laboratory experiments carried out. The essential nutrients that plants get from the soil were identified. These were nitrogen, phosphorus and potassium, referred to as NPK on modern fertiliser bags.

This paper looks at the supply and demand for these fertilisers in the lower Tamar Valley during the 1800s. The land was intensively cultivated and the soil in constant need of attention. Fertiliser usage was recognised as an aspect of good husbandry. Lime kilns and phosphate plants were built on the river banks primarily to supply the needs of the local farmers and growers.

Background

Many people contributed to our early knowledge of soil science, both in Britain and in continental Europe. In Britain, Humphry Davy was encouraged by the Board of Agriculture to give a series of annual lectures on agriculture at the Royal Institution. These took place between 1802 and 1812. The idea was to heighten public awareness of good farming practice and so increase the output of domestic food during a time of political uncertainty caused by European wars, blockades and the high price of imported corn. In 1813, he published his findings in a book entitled *Elements of Agricultural Chemistry*, which became the standard English-language text on the subject for the next few decades.

Meanwhile, in continental Europe, research and understanding of the subject were progressing steadily. The Swiss chemist, Saussure, disproved the dominant 'humus theory' and proposed the idea of photosynthesis in its place. This explained the relationship between

plants, carbon dioxide and oxygen. Karl Sprengel in Germany developed methods of soil analysis and uncovered the importance of minerals in plant growth, including his 'law of the minima' - plant growth is arrested when any one of the essential minerals is not present. These scientists and others were followed by Justus von Liebig, a chemistry professor at the University of Giessen in Germany, who was probably the most important contributor to the subject. He developed many of the analytical procedures needed for investigating the science and then used these techniques to study the flow of the various chemicals from the soil, into the plant and back again. He publicised this work widely, through teaching, public lectures, papers and in a seminal book, *Agricultural Chemistry*, published in 1840 (Liebig, 1840).

During this time a young aristocrat, Sir John Bennet Lawes of Rothamsted, in Hertfordshire, had been carrying out field trials on his estate. He obtained a patent for the manufacture of superphosphate in 1842 (Lawes, 1842) and began production of the fertiliser at Deptford a year later. This led to a dispute with James Murray, an Irish doctor, who had registered a similar patent for 'vitriolised bones' on the same day as Lawes. Both patents were granted and the dispute resolved by Lawes buying the rights to Murray's patent. Lawes initially used bones for his superphosphate, but then switched to phosphate ore imported from Spain and finally, in 1847, to coprolites[1] from a large deposit on the Cambridge-Suffolk border.

In the market gardening and fruit growing area of the Tamar Valley, the normal practice at that time was the regular addition of lime, manure and ground bones to the soil. It was an approach that had been found to work over the years, and was also in line with Humphry Davy's recommendations.

However, around Gunnislake and further up the valley the river cuts through an area that was originally moorland or low-grade pasture on

[1] Coprolites are nodules comprising fossilised dinosaur dung found in beds in eastern England. The material started being used in 1845, initially by being ground and spread directly on the soil.

acid soil. On the Devon side, much of the land was owned by the Bedford Estate, while on the Cornish side the Pentillie Estate owned several thousand acres between the Tamar and Liskeard. There were also some smaller estates: Manaton (South Hill), Whiteford (Stoke Climsland, sold to the Duchy of Cornwall in 1880) and Lewtrenchard, for instance. The individual landowners would have had their own views on what was or was not appropriate for the land they controlled, but most would have been aware of the idea of 'improvement', which was fashionable at the time. The aristocracy took an interest in the landscape and architecture of their country houses, and often the up-grading ('improvement') of their farmland. Francis Russell, the 7th Duke of Bedford was a keen agricultural improver and over a number of years invested in the modernisation of the farms on his estate. He would have regarded the heathland areas, such as Morwellham Down, Heathfield Down or Liddaton Down, as a wasted resource and therefore ripe for 'improvement'. It could be farmed. The main techniques used to improve such low-grade land were 'beating' (removing the sod and separating the earth from the roots), burning and liming, followed by ploughing and sowing better qualities of grass to give a higher-yielding pasture on which livestock could graze. The land in question is now under permanent pasture.

Lime

The main benefit of lime is that it neutralises the natural acidity of the soil and so allows the growth of crop varieties that would not normally tolerate acid conditions. Another benefit is that it encourages the release of the nitrogen compounds in the organic matter of the soil and so gives a boost to fertility. This would last for a few years, until the natural organic matter of the soil is used up. Then, compost, dung and other plant and animal waste are needed to restore the balance. Dung and lime were the standard fertilisers of the late 1700s and widely used. When William Marshall made a trip in 1790 from Buckland, across 'Dinham Bridge', through 'Beer Alston' to Calstock and then back via New Bridge and Morwell Down to Dinham Bridge, he commented on the number of limekilns and the technique being used to incorporate the lime evenly into the soil. He wrote: 'The cultivated country is, now, everywhere studded with lime heaps.' (Marshall, 1796).

Lime had to be produced close to where it was used. It reacts with water producing a great deal of heat, so is a hazardous material to transport, especially by boat. While slaked lime, made by the reaction of fresh, 'quick' lime with water, is less hazardous, it is not ideal for agriculture because it is sticky and difficult to incorporate evenly into the soil.

A common application rate for lime was 50 double Winchester bushels per acre[2]. A normally-sized limekiln produced 800 double bushels of lime per week Vancouver (1808), which would have been sufficient for 16 acres at this application rate, equivalent to one square mile for 40 weeks of production - though less if the peaks and troughs in demand were taken into consideration. The regular spacing of limekilns in the lower part of the Tamar Valley up to Cotehele Quay can be understood in terms of the lime requirement of the surrounding fields. For example, one kiln at Cargreen and another at East Kingsmill would have been sufficient to serve the whole of the Landulph area.

The density of the limekilns along the river increased markedly above Cotehele Quay and was one of the highest in the Westcountry. The limestone needed as feedstock was shipped up the Tamar from the quarries at Cattedown, Oreston and the West Hoe. Coal was also brought in from the wharves in Plymouth, having been shipped there from South Wales. The Cotehele-Morwellham area was the furthest that these cargos could be brought without trans-shipment. The abandonment of the Tamar Manure Navigation Canal project after the first few miles meant that the production of lime further up the river was effectively blocked and restricted in its availability. There were smaller local pockets of limestone at Lifton, Sourton and Meldon that were quarried and converted to lime, but these were small operations in comparison with the size of the Tamar industry. The top end of the Tamar Valley, down almost as far as Launceston, made do with a seashell sand from the beach at Bude, supplied with by way of the Bude Canal.

The other markets for lime were less important. There was some use in construction, for mortar, plaster and lime-wash, but the total number of limekilns in the Cotehele-Morwellham area was significantly greater than around the whole of Plymouth, Stonehouse and Dock, where

[2] A Winchester bushel is equivalent to 35.24 litres.

demand in construction would have been far greater. It was agriculture that was the main market for the lime in the Tamar Valley.

Nitrogen and Potassium

In addition to local farmyard manure and 'Dock dung' brought up the Tamar from Devonport[3], natural materials such as dried blood, hoof and horn meal, fish meal and seaweed were used to supply the nitrogen requirement of the soil. Guano and bones also contained some nitrogen but were considered to be primarily phosphorus fertilisers.

Two inorganic nitrogen fertilisers became available in the 1800s. These were ammonium sulphate from the Plymouth, Devonport and other gas works of the region, and sodium nitrate, mined at Tarapacá in Peru and shipped from the port of Iquique[4]. This latter trade grew from exports of 860 tons in 1830 to over one million tons in 1890, a large percentage of which would have come to Britain. Specially-built, fireproof warehouses were built for the mineral at Cattedown, owned by the fertiliser company, Burnard, Lack and Alger, which had diversified into warehousing. These buildings still exist.

The main source of potassium in the first half of the 1800s was wood ash or the 'pearl ash' or 'potash' salts extracted from it. Wood ash contains 1-2% of potassium carbonate, which can be removed by dissolving it in water. The clearing of trees from land in North America was a significant source of these materials. It was not until 1861 that an alternative, mineral source of potassium became available in industrial quantities, from the Stassfurt mines, near Magdeburg in Germany.

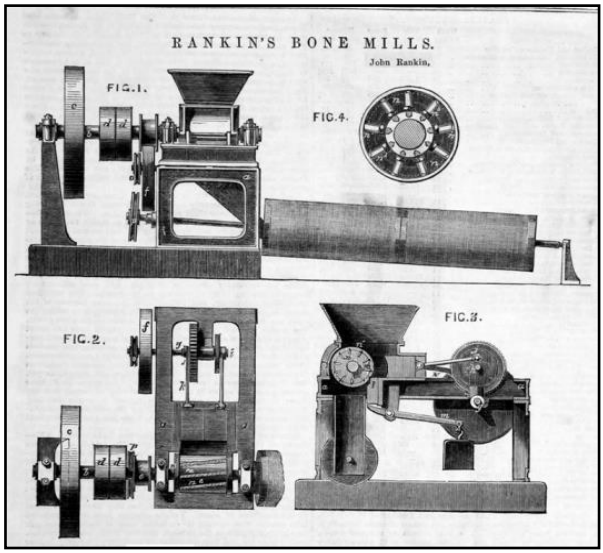
[3] Street sweepings, sewage, night soil, offal and waste from the town of Dock. See: www.brucehunt.co.uk/Dock%20Dung.html

[4] Both Tarapacá and Iquique are now in Chile following the War of the Pacific in 1879-1883.

Phosphorus

While sources of nitrogen and potassium were to hand, phosphorus presented more of a problem. The growth of root crops such as potatoes, swedes and mangels is limited by the availability of phosphorus in the soil, as are cereals and grass. However, the only source of phosphorus at the start of the 1800s was animal bones. This was not ideal. Bone was recognised as being of some value in improving fertility, but only on certain types of soil and even then it took many years of treatment for the effect to be noticed. The phosphate in bone is almost insoluble in water so not readily available for the plants to absorb. But in the absence of anything better, bones were used. They were simply ground to a powder and added to the soil. The more expensive grades were milled for a long time, so had a finer grain size and acted more quickly than courser grades. Bone manure was best when the bones were finely ground and used in acid soils.

Bone mills were fairly common in Southwest England. The farmers and market gardeners of the Tamar Valley would have been supplied by mills in Tavistock, Plymouth and elsewhere. Raw bones were rendered first to remove fat as tallow, which had value in the production of soap and candles. This was carried out by renderers, who obtained their supplies of bones from farms, knacker's yards, tanneries, butchers and rag-and-bone men. There were also imports from continental Europe, India and South America. The renderers boiled



the raw bones or, later in the century, steamed or solvent-extracted them to release the fat as tallow. What was left were ‘degreased’ bones, which were then sold to the bone mills. Here they were broken into pieces and ground to a suitable particle size. This is about as far as the processing went before 1840. Figure 1 (above, p.9) shows a drawing of a bone mill. It was Liebig who first suggested reacting bones with acid. This makes the phosphate soluble and accessible to the plant. Nowadays we call the reaction product of sulphuric acid with tricalcium phosphate a ‘superphosphate’. It is a mixture of different calcium hydrogen phosphates with gypsum (calcium sulphate dihydrate). In Victorian times the terms ‘dissolved bones’ or ‘vitriolised bones’ were used.

A problem with dissolved bones is that they cannot be ground to a dry powder that can be easily spread on the ground. This is due to the ~30% cartilage content in the bone, which makes the product rubbery and waxy. To overcome this ‘driers’ of various types were blended in with the superphosphate. These ranged from bran or sawdust to gypsum, bone char, bone meal or mineral phosphate. Different recipes were chosen for different crops. After blending and grinding a dry meal was formed that could be successfully applied to the soil.

Guano was a better but more expensive alternative to ground bone. The material consists of dried, weathered and solidified bird droppings that came initially from Chincha Island, Peru, where it was quarried. Imports started in 1841, a few years before the first superphosphate fertilisers became commercially available. Guano contained both nitrogen and phosphorus and was often spread directly on the land. However, like bones, it had to be treated with acid to solubilise its phosphate content if it was to be immediately effective.

Some years later, mineral phosphate ores and coprolites were introduced to make superphosphate fertilisers. Neither of these were used in the Tamar plants, but Burnard, Lack and Alger at Cattedown, Plymouth, used phosphate ore from Spain as the feedstock in their plant, which started in 1853. A further source of phosphate, which appeared much later in the century, was basic slag, a by-product of the Bessemer process for steel production.

South Down Patent Manure Company

The South Down Patent Manure Company was the first of the Tamar phosphate fertiliser companies to start production. In 1835, the King's Brewhouse at Southdown, near Millbrook was moved to Dock, on the opposite side of the Tamar, and incorporated into the complex at the Royal William Victualling Yard. The original King's Brewhouse had been an extensive, well-appointed brewery that had been in operation for over 100 years. Thomas Gill, the owner of the Millbay Soap Works, had taken over the lease and by 1841 was manufacturing soap there. This activity lasted for around 10 years. The 1841 census mentions the soap works and the people it employed. Ten years later the soap works had disappeared. The site had become a 'chemical works', run by the South Down Patent Manure Company. The 1851 and 1861 censuses show Thomas Gill's son, John Edgcumbe Gill, living at Southdown and working as the manager at the chemical works. The soap-making activity was still in operation, but had been moved back to new premises at Millbay.

We know something of the process used at the chemical works because a patent was granted to Thomas Gill and John Edgcumbe Gill (Gill, T and Gill, J.E., 1848), in which they describe their method of manufacturing superphosphate fertiliser from bones. It used large, lead-lined pots to dissolve whole bones in hot sulphuric acid. Each pot was heated by being directly positioned over a horizontal flue leading from a hearth. The flue also acted as a drying tunnel for finishing the fertiliser. As the bones were digested by the acid they formed a precipitate that was scooped out of the lead pot and transferred to the tunnel through small trap doors. The product still contained nitrogen in the form of the cartilage protein of the original bones, so was not a dry powder. It was therefore blended with calcined bones to make it suitable for spreading on land. An advertisement claimed the product was an 'ammoniacal manure substitute for guano'.

The pots and the heating tunnels were possibly modified brewing equipment that had since done duty in soap production. Muriatic acid (hydrochloric acid), nitric acid and hydrogen chloride gas were also mentioned in the patent as suitable reagents for digesting the bones. The latter was a valuable co-product of salt cake (sodium sulphate)

manufacture, which, in turn, was used for making soda ash (anhydrous sodium carbonate). This second step was carried out at Millbay, where the soda ash was used.

An important part of the Southdown plant would have been the manufacture of sulphuric acid. In those days this was made using the lead-chamber process[5] and sulphur imported from Sicily. Later sulphur prices rose such that by the 1860s most acid producers in Britain had switched over to using sulphide ores as their raw material. It is likely that

[5] The lead chamber process was the cornerstone of the chemical industry in the first half of the 1800s. It was one of the first continuous industrial chemical processes. The process involved reaction between four gases, sulphur dioxide, nitric oxide, air and steam, forming sulphuric acid as a 65-70% solution. This was sufficiently strong for fertiliser use. At this strength, the acid is highly corrosive and difficult to handle, making its transport a hazardous occupation. Most large fertiliser plants therefore made their own sulphuric acid. Smaller quantities were occasionally transported in glass carboys.

The reaction was carried out in huge lead boxes, with several often being coupled together. There were also absorption towers (known as the Guy-Lussac and Glover towers) at the start and end of the chain to extract the nitrogen oxides from the exhaust gases and to recycle them back for mixing with the sulphur dioxide as it entered the plant. Water was sprayed in at the top of the lead boxes. The sulphuric acid condensed on the walls, ran down and was collected in a tray at the bottom, from where it was tapped off. The whole plant was made of sheet lead, supported on the outside by wooden scaffolding. Joints between the lead sheets were formed by flame welding. Acid was transferred where necessary by means of large cast iron ‘eggs’ and compressed air. External furnaces produced sulphur dioxide and the nitrogen oxides. They used sulphur or a sulphide-rich ore to produce the sulphur dioxide, and sodium nitrate for the nitrogen oxides. The latter was needed to replace losses in the exhaust gases.

the South Down Patent Manure Company would have followed suit, if it had not closed down.

The company does not appear to have been very successful as a fertiliser manufacturer. By 1861, the chemist Charles Burnard had left and set up in competition as a partner in Burnard, Lack and Alger, making super-phosphate at Cattedown from imported phosphate ore. John Edgcumbe Gill remained in Southdown making fish fertiliser, but by 1871 he had also left and was working for a publisher in Plymouth.

Western Counties and General Manure Company

The Western Counties and General Manure Company was established in 1853 under the name of Eastcott, Shepheard & Co. It made superphosphate fertiliser at a plant in Torpoint. How these two individuals got to know each other and became involved in the fertiliser business is a mystery. In 1841, both Thomas Eastcott and Joseph Shepheard were living in Plymouth, although in different parts of the town. Thomas Eastcott was 30 years old and a land surveyor; Joseph Shepheard was 17 years old and still living with his elder brother. His father had died around the time that he was born, so he had been brought up by his mother. She had died two years earlier. By 1851 Thomas Eastcott had moved to Antony as the land agent for William Henry Pole-Carew who owned the Antony Estate. The census shows that Eastcott was also a farmer, living at Antony Farm with 300 acres and a staff of 16 people. Ten years later his occupation as a land agent was unchanged, but by now he was blind. He was also unmarried and living with his elderly father and unmarried sister. Possibly he treated Joseph Shepheard as the son he never had. Joseph Shepheard moved to Torpoint, became the manager of the company from the start and continued in that job for the whole of his life.

The Western Counties and General Manure Company was a public company with limited liability. It was clearly set up with adequate capital, with sufficient engineering and processing know-how to manufacture a suitable product, and a good knowledge of the market. An advertisement in the Cambrian News in 1876 stated:

'The proprietary is to a great extent composed of Tenant Farmers, who have a greater interest in being supplied with good Manure than in getting a large percentage for their money invested in the Company.'

It is not known who supplied the manufacturing expertise, but it is likely that Thomas Eastcott's contacts and experience would have been important. One suggestion is that the company was related in some way to the Western Counties Agricultural Cooperative Association, which had headquarters at Bristol and Plymouth. No firm link has been found, however.

Western Counties had a large number of distributors, including one at Leith, near Edinburgh, one in Dublin and several supplying Wales, Gloucestershire, Herefordshire and the West Country. A copy of an advertisement is shown in Figure 2. Note how it stresses the benefit of the manure to root and cereal crops.

In 1857 the company took the Lawes Chemical Manure Co to court because the Lawes Company had publically claimed that the product being sold by Western Counties was significantly inferior to the Lawes

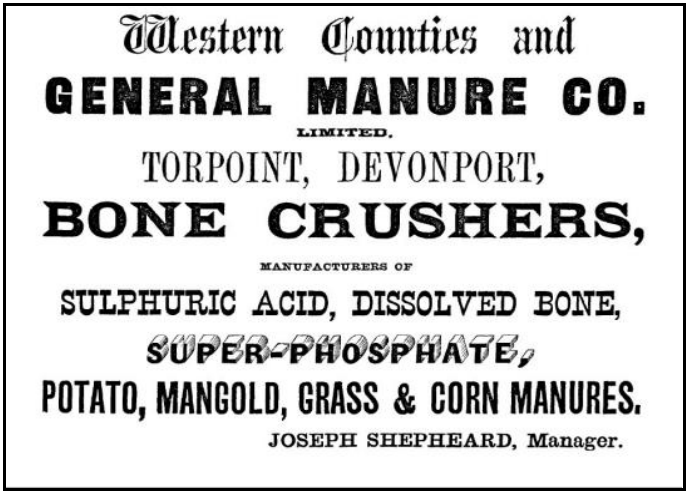


Fig.2 *Western Counties Manure Company advertisement. Source: Kelly's Directory of Devonshire, 1889.*

product and to that of two other producers. Western Counties won the case and were awarded damages. Their product was just as good as that from the other manufacturers.

The bones used by the company were both of foreign and domestic origin. The plant at Torpoint had its own kilns to calcine the bones, mill, steam engine, sulphuric acid plant, mixers and 'dens'[6] (Surveyor's Report, 1917). The fact that there were 25 kilns suggests that the bones were first converted to bone char before being made into fertiliser. Calcination would burn off the cartilage in the bone, removing any stickiness in the end product. The sulphuric acid was made using the lead-chamber process. The plant had three lead boxes, with a combined size of 100′ long x 17′ wide x 15′ high, plus the two towers to recycle the nitrogen oxides. Before 1860, superphosphate was generally made without the help of mechanical equipment (Parrish, P. and Ogilvie, A., 1946). The acid and ground bones were mixed by hand using shovels and rakes, then moved into the 'dens'. In the mid-1800s these were solidly-built chambers made from brick or timber, coated inside with tar to protect the walls from the corrosive fumes. The mixture of bones and acid was left in the dens for a few hours to complete the reaction. As this happened, the mixture became hot, expanded and was blown by steam formed by the heat of the reaction. The result was a rigid sponge that that had to be cut or chopped out when it had cooled. There were two dens at Torpoint. The next step in the process was storage of the fertiliser for several weeks while it stabilised. Finally, it was mixed with other ingredients and milled/graded again before being sold. Prolonged storage was often desirable, not just to stabilise the fertiliser, but also because of the annual variation in demand, which was high in late winter and early spring and lower at other times of the year. The census data shows that the company employed 21 people in 1871, declining to 15 by 1891.

[6] 'Den' refers to a chamber or vessel in which the reaction mixture is put while the reaction goes to completion. The term is still used in modern fertiliser plants. It is unique to the industry.

The plant was on a point set out from the bank of the Tamar just south of the Torpoint ferry ramp. A map is shown below in Figure 3.

Fig.3 *Western Counties and General Manure Company site, Torpoint.* (*25-inch Ordnance Survey map, Devon CXXIII.6 (1892-93. Source: National Library of Scotland)*

A recent photograph of the site appears in Figure 4 (below). The company also used a warehouse in the Great Western Dock, at Millbay, Plymouth. This may have been owned by the Western Counties Agricultural Cooperative Association, which also had offices there. The barge *Shamrock* was built to carry product from one place to the other. It is still in existence, restored and now berthed at Cotehele Quay.

Western Counties was clearly operating in 1899, when *Shamrock* was commissioned, but was closed by 1917. There followed a landmark court case, *Pole Carew v. Western Counties and General Manure Co.*, which is still mentioned in law books. It centred on whether the sulphuric acid plant was defined as a ‘fixture’ or a ‘chattel’.

Fig. 4 *The building currently on the site of the Western Counties Manure Company, Torpoint*

Cargreen Manure Company

This plant was by the Tamar at the bottom of Fore Street in Cargreen. It was started sometime in the 1850s. A modern photograph of the site is shown in Figure 5.

The chimney stack would have been for the steam engine. A copy of the Cargreen section of the 1882 OS map is shown in Figure 6. The building has clearly been extended since the map was drawn.

The business was run by William Langman. The 1861 census shows him as a 'manure manufacturer', living in lodgings at Cargreen and 30 years old. Three other employees are easily identified: William March, the foreman, Richard Greenwood, the engine stoker and Robert Barrett, a labourer in the manure store. By 1871, William Langman had moved to Plymouth, but William March was still at Cargreen as foreman, working with three new labourers. These numbers diminished over the next twenty years, such that by 1891 William March was the only employee and still the 'foreman of the manure works'.

Fig. 5 *Modern building on the site of the Cargreen Manure Company*

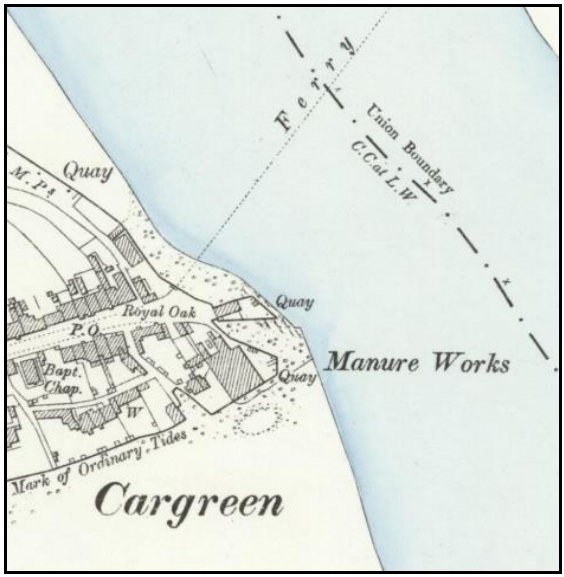


Fig. 6 *25-inch Ordinance Survey map, Cornwall XXXIII.9 (1892), detail. Source: National Library of Scotland.*

Probably the most significant information about the Cargreen Manure Company appeared in the London Gazette of 16 October 1874, which announces the departure of Joseph Norrington from a partnership he had with Charles Norrington and Samuel Lang. Apparently, this partnership owned the Cargreen company. Both of the remaining partners had other interests in the fertiliser industry: Lang was a coal, timber, manure & corn merchant at Cotehele Quay; Norrington owned a large super-phosphate manufacturing company at Cattedown, in Plymouth. The Chemical Manufacturers Directory of 1882 lists the Cargreen Manure Company as producing chemical manures, with W. H. Langman as the manager. One interpretation of this data is that the Cargreen Manure Company was taken over by Norrington & Lang sometime in the 1860s and that as part of the deal, William Langman moved to Plymouth to manage the commercial side of the business.

The manufacturing carried out by the Cargreen Manure Company was not sophisticated. The works had an engine and probably milled bones, but the premises do not seem to have been big enough to have included a sulphuric acid plant on site. Possibly the only manufacturing carried out was the milling of bones. For most of its life the factory building was probably just used as a warehouse for superphosphate supplied by the Norrington plant at Cattedown. The 'manure store' was probably the only enduring part of the enterprise.

Tamar Bone Mill and Manure Works

The Tamar Bone Mill and Manure Works in Gunnislake was situated close to the lock on the Tamar Manure Navigation Canal, which was completed in 1808. Although a building on the site of the Tamar works was shown in an early sketch of the entrance to the canal at Weir Head[7] , it had disappeared by 1839, when the tithe map was drawn. This showed two much smaller buildings, labelled on the apportionment as a cellar and waste, occupied by a fisherman who lived nearby.

[7] Sketch by J.M.W.Turner, *Weir Head, Gunnislake*, Tate Gallery, (1814), see: www.tate.org.uk/art/artworks/turner-weir-head-gunnislake-d09606

The Tamar Bone Mill and Manure Works that appears on the 1882 OS map, was therefore built after 1839. It was probably a steam-powered bone mill as at Cargreen. In an 1883 trade directory, E. Trood & Company are listed as bone and manure merchants in Gunnislake. They may have been the mill owners, in which case it is likely that the buildings were used as much for warehousing bought-in fertiliser as for milling bones. Trood also had a branch of his business at Saltash. A search of the census records for the Gunnislake/Calstock area only shows one person with any reference to 'bone' or 'manure' in their occupation. This was a Frederick Foster, a bone grinder, living in Calstock Town in 1861. By 1871 he had moved to Torpoint, where he was employed in a similar capacity at the Western Counties works.

Although the traffic along the canal was stated as being brick, stone and vitriol (sulphuric acid) in 1904 (Wood, 2014), this should not be taken as an indication that the vitriol was used at the manure works. The Gunnislake Gas Works, further along the canal, would have also used the acid, in that case to remove ammonia from the gas before it was piped around the town. The ammonium sulphate formed by doing this would have been a valuable manure in itself.

References

Chemical Manufacturers' Directory of England (1882), W. Kent & Co, London.

Gill, Thomas and Gill, John Edgcumbe (1848) *Improvements in the Manufacture of Manure*, British Patent No. 12,113.

Lawes, John Bennet (1842) *Chemically Decomposing for Purposes of Manure by Means of Sulphuric Acid of Bones, or Bone Ash or Apatite or Phosphorite or any other Substances Containing Phosphoric Acid*, British Patent No. 9,353.

Liebig, Justus (1840) *Die organische Chemie in ihrer Anwendung auf Agricultur und Physiologie*, Braunschweig, translated by Playfair, Lyon, London (1840) and generally called in English, *Agricultural Chemistry*. The book was also translated into many other languages

Marshall, William (1796) *The Rural Economy of the West of England*. G & W Nicol, London, facsimile reprint by David & Charles, Newton Abbot (1970).

Parrish, P. and Ogilvie, A. (1946) *Calcium Superphosphate and Compound Fertilisers: Their Chemistry and Manufacture*, Hutchinson, London.

Surveyor's Report for Sir R. Pole-Carew. Western Counties Manure Co. Claim for Dilapidation, (31 December 1917), Plymouth and West Devon Records Office, Reference: 1023/234, Book No 3.

Vancouver, Charles (1808) *General View of the Agriculture of the County of Devon*, p. 63, Board of Agriculture, London.

Wood, Andy (2014) *Abandoned and Vanished Canals of England*, Amberley Publishing Ltd, Stroud.

Okeltor Boathouse

David and Jill Lane

Most people walking along the river bank from Calstock stop at the Okeltor Boathouse gate (Fig.1) to watch the river flowing by and to admire the view of wooded banks, engine houses, chimneys and the green fields beyond. In this peaceful setting they also see the distinctive architecture of the Boathouse with its striking red gantry, glazed ridge and balcony overlooking the Tamar. Few probably realise that where they are standing was once the centre of a busy riverside community with the limekilns behind them, a large dock on their right (now filled in) and a busy quay in front. They would have seen barges shipping out agricultural products from the Harewood peninsula and bringing in limestone, coal and supplies for the Okel Tor mine. Up to their left, by 1876, were 21 cottages housing miners, bargemen, limeburners and labourers with their wives and numerous children.

Fig.1 *Okel Tor Boathouse from gateway*

Looking at the Boathouse now it is not obvious that it is all that remains of a much larger building. The raised footprint of this original three storey structure can be seen in front of the Boathouse, which only occupies a third of the site. The earliest reference we have found is in an advertisement in the "Sherborne Mercury" on 19th December 1796:

"GRANARY, QUAY, and LIMEKILNS

To be LET for a term of 7 or 14 years, from Lady-day next. All that Capital GRANARY and complete set of LIME KILNS, with an excellent Quay, Wet Dock, Salt-house, Compting-house, and Stable for ten wagon-horses thereto belonging, with the Appurtenaces, most advantageously situated at Oakle Tor, on or near the banks of the navigable river Thamar, on the Barton of Harewood, in the parish of Calstock in Cornwall.

The Granary is a regular, convenient building, has store-rooms capable of holding 2000 quarters of Oats or other grain, with proper tackles for lifting up and lowering the same. In front of it is a very good quay for landing goods at and shipping off corn, where, vessels of very large burthen may always lay afloat in safety; and adjoining the quay is a complete dock, where ships may also load and unload on either side of it."

The quay then was "L"-shaped; the slipway was excavated in the early 1980's. The post off the slipway is original and marked by a withy, as it is a dangerous obstruction at half tide. Original vertical and horizontal timbers to support vessels alongside are still in place. It is clear that the claim in the advertisement that vessels may always lay afloat could never have been true. The magnificent limekilns are described as "almost new" perhaps indicating that the Granary was well established by 1796. The premises are described as "in complete repair" and with "easy communication by water with the parishes between Calstock and Launceston by means of the new Tamar Canal"-which was of course never completed.

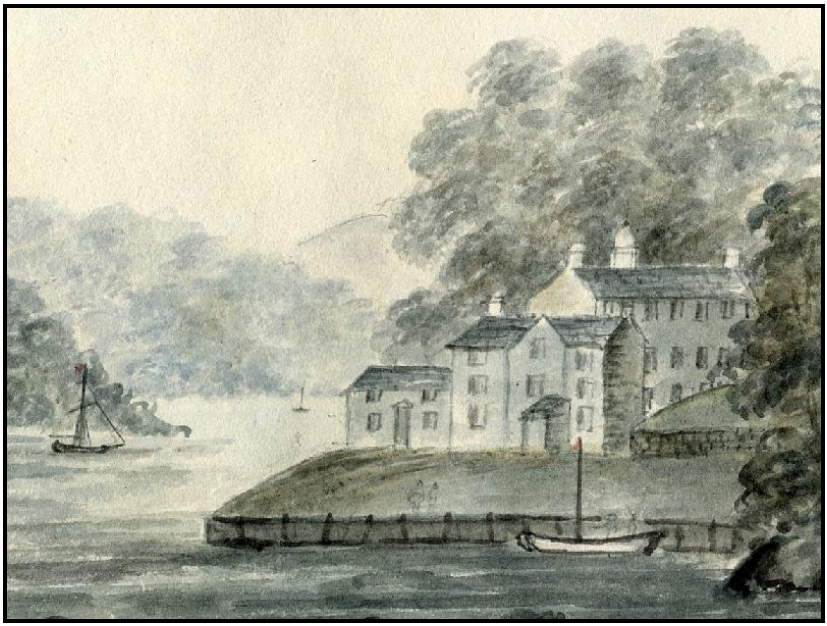


Fig.2 (above) shows a lovely sketch of the Granary and cottage viewed from the river, drawn by amateur artist Savery in 1812. All that now remains of the cottage between the Granary and the gate is the chimney, which now vents a very efficient BBQ in its fireplace! From the John Snell collection we also have an undated rather grainy photo showing the Granary as a ruin but the cottage intact (Fig.3, below). Recently the Calstock Archive has found a photo, also undated, of the Granary in good condition (Fig 4). This shows a group of children sitting on the grass in front of the building. The Granary exactly matches the other two images and fits the footprint and location with cottages behind, but curiously the attached cottage is different?

The Okeltor Mine leased the site in the 1850s presumably to use the quay to offload materials for the mine and for additional warehousing. No doubt there were many other uses before it fell into disrepair. Some internal walls were plastered. There was an additional chimney, not tied into the back wall, which served a large hearth on the ground floor which may have been for a forge. A cloam oven and granite paving slabs are between the building and the bridleway together with a large coal hole,

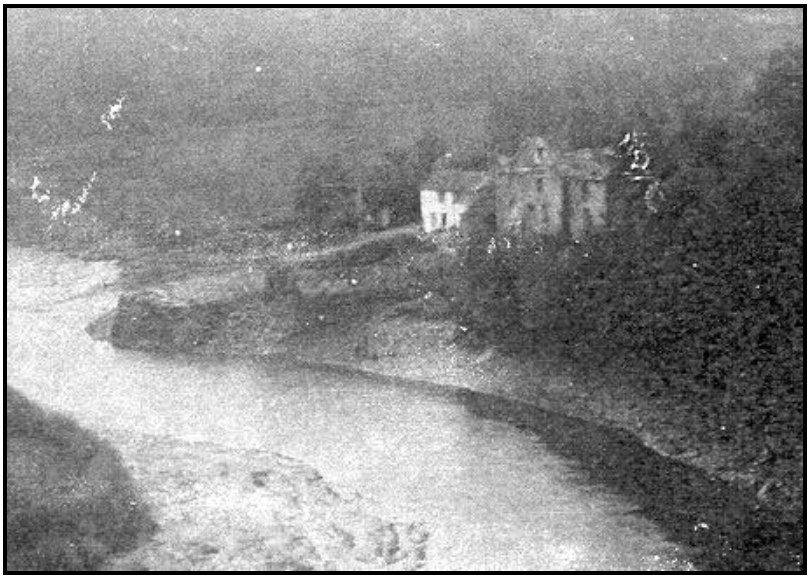


Fig.3 *Okeltor Quay (from collection of John Snell)*

from which bags of low grade coal have been recovered. To keep the Granary dry the space between it and the rock face had a roof supported by granite staddle stones, some of which now form boundary markers to the upper garden.

Nancy and the late Anthony Hollow acquired the site in the 1980's and Anthony, a talented local architect, created the building you now see. Building within the thick stone walls of what was an ivy-covered ruin, he made a ground floor boat store with a workshop upstairs. Reflecting the industrial and mining heritage and local pannier markets, elegant steel struts support the fully glazed roof ridge to provide brilliant lighting in the large (6 x 5.5m) upstairs room. The substantial red gantry makes a striking architectural feature and can be used to lift heavy items to the 1st floor. The balcony with its wonderful views over the river was designed to reflect those found on Cornish engine houses.

Fig.4 *Okel Tor, including Granary (from Calstock Archive)*

More recently the building has been upgraded with a new access to upstairs in the space between the Granary and the rock face and two bedrooms have been added at the back. The ground floor is still a boat store for a collection of seven small classic wooden boats. The oldest is a 17ft cedar strip Canadian canoe built in Ontario in 1912. In the summer you may see "Louisa" on her trolley on the slipway. She is a gaff-rigged day boat with tan sails and a little Stuart Turner engine built in Looe in 1935. All are seaworthy and still in use. The upstairs accommodation is now let as a holiday cottage (www.okeltorboathouse.com).

Ref: Okeltor Quay, Jill Lane, Tamar History, Issue 14, Summer 2003.

The Saltash Blue Plaque Trail 1: Ann Glanville

Bruce Hunt

September 9th 2016 saw the official opening of the Saltash Blue Plaque Trail by HRH Duchess of Gloucester, who unveiled the first plaque. The Duchess attended a reception put on by Saltash Heritage in the Guild Hall where she met and talked to many Heritage members. The opening of the first Blue Plaque Trail in Cornwall marked the completion of a project that had taken nearly two years.

Although there were many worthy recipients, funding restricted the number of plaques to seven, but it is intended to add more in the future. The trail is designed to take about 1½ hours at a leisurely pace with guide leaflets available from Saltash Heritage, Saltash Guild Hall and many other places. A book has also been produced to accompany the Trail Guide, this also includes other places of interest and things to look out for. The present article features just one of the Saltash characters celebrated on the trail – Ann Glanville.

The popular image of Ann Glanville was written by P.E.B. Porter[8] in 1908 (and much repeated). It may not be historically accurate, but it does make a good story, as follows.

"Ann Glanville was undoubtedly a remarkable woman for many reasons. Only such a place as Saltash could have produced a character like her. Only such a country as England could have presented such a woman. She was a genuine representative of Saltash in its great nautical days when it was alive with the business of a naval port, in a great maritime country, whose sailors were its care and its pride. The British tar was to her the ideal of a man, and the very highest type of a hero. Into whatever trouble Jack got when ashore, however he may have been forsaken by all else in his reckless frivolity, he never wanted for a "backer" if Ann Glanville was near. And there was not a ship in the Navy in those days that had not some story to tell of Ann's life and energy, and in which her name was not cherished as only a British sailor can cherish the memory

[8] P.E.B. Porter *Around and About Saltash.*

Fig.1 *Blue plaque commemorating Ann Glanville near the site of her house at the bottom of Albert Road, Saltash*

of a friend. In a true sense, Ann Glanville was a mother to the British tar indiscriminately; she was known as "mother," and called "mother," by them all.

Other phases of Ann's life are equally interesting. She was born at Saltash in 1796, when Saltash was a very different place to what it is now. During her girlhood and young married life, Saltash was an important place. It had a voice - and a loud one, too - in Parliament, and the free burgesses were important men. Saltash was the headquarters of the waterman and waterwoman fraternity. There were no steamers and no railways then, and the waterman class was a numerous and well to-do one. Saltash was like a half-way house between the towns[9] and the many places by the riverside up the Tamar, and it was accordingly a central place of business in the matter of water carriage. Then, there were master watermen and mistress waterwomen, who owned boats and engaged men to row in them, just as employers in other forms of occupation hire workmen. It was in this kind of life that Ann spent her early days, and in

[9] i.e. The 'Three Towns': Plymouth, Stonehouse and Devonport.

which she acquired the personal strength and efficiency as a rower that won for her such a wide reputation in later years. She married comparatively early in life to a man several years her junior. He was a waterman, a lucrative occupation in those days, and so Ann continued the work with her husband. She had fourteen children during her lifetime. By degrees, Ann and her husband made progress in a worldly sense and in a short time the wife had a boat of her own.

Fig.2 *Ann Glanville in later life*

About this time her struggles in life were hard indeed, and she gave the world a striking example of how perseverance and determination may overcome the severest difficulties. Her husband was stricken with serious illness; for more than a year he lay in his bed helpless. All income from the recognised bread-winner was stopped, and yet there were seven or eight mouths to feed, and backs to clothe. Ann stuck to her boat. Making arrangements that her sick husband and young family should be properly attended to while she was away, she worked as a

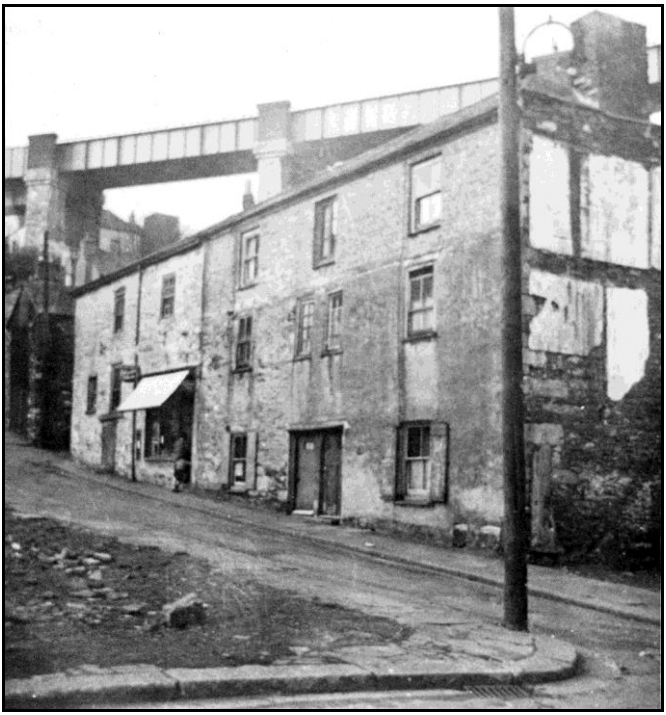


Fig.3 The tenement at the bottom of Albert Road where Ann Glanville lived. The blue plaque is at the nearest practical point from the location of the building.

carrier by water. The most remarkable instances are told of her physical strength and endurance in this work. A gentleman at Saltash himself remembered her bringing round as many as seventy or eighty bags of corn in her boat from Sutton. Pool, pulling the great cargo alone, and conveying it from Sutton Pool to Budshead Mill, a point two miles above Saltash.

The most stirring phase of Ann Glanville's life, doubtless, was as a rower at public regattas. In this respect her name was known all over England. For many years she enjoyed the reputation of being the champion female rower of the world. Sixty years ago the crew of Saltash women was one of the most important features, not only of local regattas, but of similar aquatic events in other parts of the country. Ann Glanville was the leader

of the crew. The Saltash women, in their well-known rowing-dress - "short night-dresses" and caps - created much interest and excitement.

Her crew were very rarely beaten in a match, even by the opposite sex. They were never beaten by their own sex. The strength, courage, and daring displayed by these women in their contests at length drew universal attention: gentlemen backed them against rowers of the Rowing Clubs, and for the purposes of contest took them to many parts of England. The crew contested, among other places, at Manchester, Birmingham, Hull, Liverpool, Portsmouth, and Goole (Yorkshire). Mrs. Harriett Screech, a daughter of Ann Glanville, rowed with her mother on some of those occasions, pulling the bow oar, the least arduous post, because she was then young. When engaged in a match at Fleetwood, on one occasion, Ann was especially complimented by the Queen. The Saltash women rowed so well, and gave the gentlemen such a beating, that Her Majesty enjoyed the scene no less than the other spectators. The old lady was always very proud of this incident, and referred to it many times, with much pleasure, during the latter part of her life.

Another time, Ann and her crew were taken over to France and at a regatta there gave the Frenchmen a thoroughly sound thrashing. This was one of the most prominent events of her career as a rower. About the year 1833, Captain Russell, of *H.M.S. Brunswick* vowed that "Ann should take the shine off the Frenchmen." He suggested that she should go with her crew across to Le Havre, and enter the annual regatta there. Ann consulted her crew, and in less than an hour they had determined to go to France - and beat the Frenchmen "for the honour of old England." They were escorted by Captain Russell.

When the Frenchmen and their authorities heard of the challenge from "les Anglaises de Saltashe," as they called it, they shrugged their shoulders, and winked their eyes merrily. The Englishmen were good sailors, no doubt, they said, but to bring over women to beat the picked men of a great French port was a little too absurd! But the challenge created a stir, not only in Le Havre, but for miles around the French coast and for many leagues inland, too. In England, great interest was felt in the forthcoming match, and it assumed a kind of international character. Thus, when the regatta day came there was a vast concourse of people to witness the contest. Every quay, hill top, and house roof,

whence a view of the course could he obtained, was crowded. All were on the tip-toe of expectation for *les Anglaises*.

At last the hour came. Oh! horrible was the violation of French taste when the Saltash women appeared in their well-known uniform of white! It was only with an effort that the fashionable French ladies could take a second look at the remarkably dressed crew. Upwards of ten boats took part in the match, which was for four-oared gigs.

Ann and her crew had not the fairest start possible; six boats were ahead of them five minutes after the start. But they soon tested their opponents. Ann, who had the stroke oar, gave the word: "Bend your backs to it, maidens, and hoorah for old England!" One by one the French boats were passed. At length the Saltash boat, with the British colours flying gaily at the fore, took leading position. It was a long course, and a hard pull; but the Frenchmen were soundly thrashed. Ann and her "maidens" beat them by one hundred yards, at least! Amid the frantic cheering of a large number of British spectators, who had assembled on the occasion, and not a few cheers from sympathetic Frenchwomen, the Englishwomen's boat was the first to pass the final mark. "Didn't us feel proud at that moment, and often afterwards," said Ann "for it was for the glory of old England!" The names of the crew on that occasion deserve to be recorded. They were Ann Glanville, Harriett Hosking, Jane House, and Amelia Lee, with a man acting as coxswain.

Some years later, Ann had a son on board *HMS Galatea*, to which Lord Charles Beresford was attached. He knew something of Ann's history, and through the son enquired after her. Subsequently, when he came to the Port[10], his lordship sent for the old lady, and treated her with the kindness which a frank-hearted, generous man like Lord Charles Beresford can display. Seldom on any occasion afterwards when he visited did he fail to see Ann Glanville. When the Duke of Edinburgh gave a dinner to his crew at the Devonport Mechanics Institute on his return from the cruise in the "Galatea," Ann walked at the head of the procession through the town, between the Duke and Lord Beresford.

When the Prince of Wales and the Duke of Edinburgh came in

[10] i.e. Devonport.

connection with the building of the new Eddystone Lighthouse, and were lying with their yacht in Barnpool, Ann was specially sent for to come on board. On a Sunday morning a steam launch was sent to Saltash to bring her down. She came, was introduced to their Royal Highnesses, and dined on board! And Ann wasn't scared by the honour either. She cracked a joke with the Princes, and, in her own words, had "a hearty good laugh with them." Afterwards, Lord Beresford was ever a kind friend to her, and his friendship was often practically shown for her in a substantial, though delicate manner. The likeness of Lord Charles was one of the most valued and cherished articles in her clean and neatly furnished room. During her last illness she had the likeness placed on one side of her bed, and that of her deceased husband on the other.

Courage, honesty, and a great heart combined to make Ann Glanville the "Heroine of the Tamar," and the most remarkable and renowned daughter Saltash has ever produced. By such spirit and character animating the men on deck in our ships, the Naval supremacy of England has been built up in the days of yore, and we today sit and boast of our inheritance in this great Empire. We live on the traditions of the past, we thrive on the genius of a Stephenson, an Adams, and a Brunel, and the gallantry of a Drake, a Blake and a Nelson; nor do we stop to ask ourselves if our dream now is but a fool's paradise. Sure it is that a latter day sentiment is creeping up that affects a pious horror of Ann Glanville and all her associations, and especially her regatta, which it has stifled.

People, too ill-informed to know or discriminate between horse races and regatta, call our [Saltash] regatta "a drunken frolic," and so save their pockets from subscriptions. However that may be, the memory of Ann Glanville, with the courage and perseverance of her nature, will survive, and be preserved for ages yet to come, everywhere in the West of England, and at Saltash in particular.

If any old Saltasher had walked into the cabin of Admiral Lord Charles Beresford on board *HMS Caesar* (Flagship of the Atlantic Fleet), he would have seen hanging there a portrait of—Ann Glanville!

Sir James Penn Boucaut[11], late Premier of South Australia, in replying to the toast of his health, at Adelaide, in 1893, referred to Saltash as follows:

" . . . I won't even dilate on the pluck and endurance of the Saltash women rowers. It was a pretty sight to see half-a-dozen boats start in a Regatta, with all the women in snow-white frilled caps and frilled jackets. One crew, of which Ann Glanville was stroke, and which I have seen row, would beat any crew of men of the same number, and would not, I believe, have thought it anything very wonderful to beat a crew of men with a couple of men extra. I read in the Times that Ann Glanville, then an old woman upwards of eighty, was introduced to the Duke of Cornwall, when he was down West and I have often heard that she used to row round the man-of-war gigs in the Hamoaze, and chaff the blue-jackets".

At the ripe old age of 84, she died peacefully at Saltash. On the fact being made known to Lord Charles Beresford, who had been a very kind friend to the old lady, he at once asked a local gentleman to see that she was buried in a thoroughly respectable manner, at Lord Charles's cost. On the day before the funeral took place, his lordship sent a beautiful immortelle, arranged with the choicest flowers and ferns, to be placed on the coffin as an evidence of his respect.

The funeral took place on Thursday, June 10th, 1880. There was ample evidence of the esteem which was entertained for the deceased, without the least ostentation. In addition to the wreath sent by Lord Charles Beresford, another was sent by Mrs. Bennett (nee Cook), of Portland Square, Plymouth, whose father was for many years Mayor of Saltash, and who, therefore, had had ample opportunity of making herself acquainted with the character and antecedents of Mrs. Glanville. Upon Ann Glanville's death, the band of the Royal Marines was sent by the commandant, at Stonehouse, to play a funeral march.".

[11] Sir James Penn Boucaut was born at Mylor in Cornwall and educated at the Reverend Hayley's school in Saltash before emigrating with his family to South Australia in 1846. He remained a Cornish patriot throughout his life. He had been acting Chief Justice of South Australia immediately prior to this speech.

The announcement of her death arrested the attention of thousands of people in all parts of England, and in many places beyond. In every seaport in the country the news was received with regret. Wherever there was a British man-of-war, the fact aroused a feeling of interest and sympathy. Old and young alike shared that feeling—those who were her contemporaries and were witnesses of many of her aquatic feats, and those who for many years had listened with eager attentions to the story of her long and stirring life. There are few women, in the West of England at least, who were better known than Ann Glanville, and whose memory, when it comes their turn to pass away, will be more respected than hers.

In St. Stephen's old Churchyard, near the Wearde vault, and within fifty paces of the chancel, on the south side, is a plain stone headstone, with the following inscription:
IN MEMORY OF ANN GLANVILLE
BORN 2ND APRIL 1796 DIED 6TH JUNE 1880
AGED 84 YEARS

‘She shall rejoice in time to come, her children shall rise up and call her blessed.
This stone was erected by friends who had great regard for her, and who esteemed her for her high moral character and her honest, industrious and upright life.”.

There are more accurate accounts of the life of Ann Glanville, but Ann herself was always ready to embellish her exploits (she told a good story). Who are we to argue?

The name Ann Glanville lives on in Saltash, with a gig named after her and a statue which sits part way up Fore Street watching the world go by and no doubt occasionally offering a few words of wisdom.

What could have been: the proposal for a low level road crossing at Saltash

Bruce Hunt

In May 1952, it became apparent to Plymouth City Council that there was no prospect of the high level bridge (estimated, with road works, to cost £6,000,000) being erected for at least 20 years. A committee studied a proposal and consulted experts in bridge building and those having first-hand knowledge of the traffic between Plymouth and Cornwall and the river traffic.

As a result of those deliberations the Chamber prepared what was considered to be a practical scheme for bridging the Tamar at a reasonable cost and at an early date.

In approaching the problem it quickly became apparent to the Committees that, while there was a general agreement as to the inadequacy of the present crossing by means of the Torpoint and. Saltash Ferries, the alternative proposals to a high level bridge put forward so far were not generally acceptable. In practice, visitors to Cornwall were "solving" the problem by using the A30 Exeter - Okehampton - Launceston road to avoid the ferries and at busy seasons were even travelling the extra 16 miles via Tavistock – Gunnislake - Liskeard to avoid the appalling delays at Torpoint and Saltash.

Commercial users had in some cases moved their transport depots north of Plymouth because of the waiting time and cost in getting their vehicles across the Tamar. A survey showed that commercial vehicles alone crossing into Cornwall suffered a financial loss of at least £56,250 per annum. Instances had occurred of cattle in waiting vehicles dying from exhaustion, and of perishable goods wasting when train connections had been missed through ferry delays.

It was obvious that these delays were causing a considerable loss to the city, as people were avoiding crossing by ferry unless absolutely necessary.

For the sake of economy, construction of a low level bridge was

recommended, with the necessary minimum opening width acceptable to the Admiralty to allow the passage of ships.

A number of different types of bridge were considered and after taking professional advice, it was decided that the Callender-Hamilton type of bridge[12] would be the most suitable. The bridge had to be designed to comply with Ministry of Transport regulations.

Estimates were obtained for the cost of erecting a bridge of the chosen type, as depicted in Figs. 1 and 2. A figure of £441,000 was given for driving the piles and supplying and erecting the steel-work. In order to cover contingencies a figure of £485,000 was identified as the overall cost of the bridge, including limited work on approach roads. This sum, they noted, compared with the estimated figure of £300,000 for the provision of a third ferry, although it was considered doubtful that this would materially improve the situation. It was hoped however, that the Ministry of Transport would pay up to 75% of the cost, since the bridge would constitute a trunk road connection. It was not known at the time whether the Cornwall County Council or other authorities would join with the Plymouth City Council in helping to meet the cost of the bridge.

A start could have been made in the same year, and the estimated constructing time was 18 months. Steel was rationed at the time, but was expected to be shortly de-rationed, and no difficulty was anticipated over supplies. But as we all know, the bridge was never built.

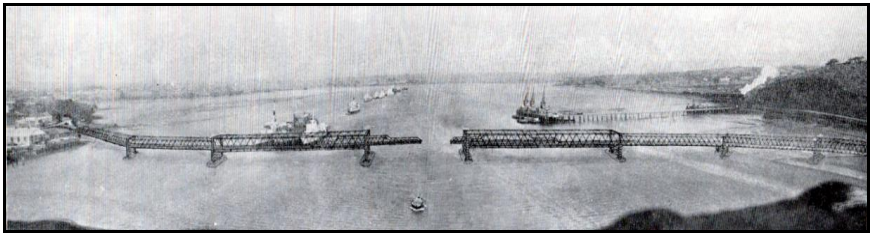


Fig.1 *Artist's impression of proposed low level bridge over Tamar*

[12] The 'Callender-Hamilton' bridge was designed by the New Zealand engineer Archibald Milne Hamilton. Such bridges were pre-fabricated, 'multi-truss' bridges that were relatively economical and quick to construct. The design paved the way for the wartime Bailey bridges.

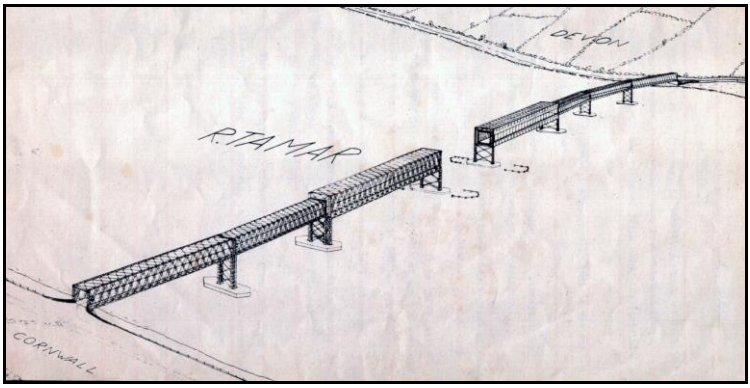


Fig. 3 *Sketch of proposed Callender-Hamilton low level Tamar bridge*

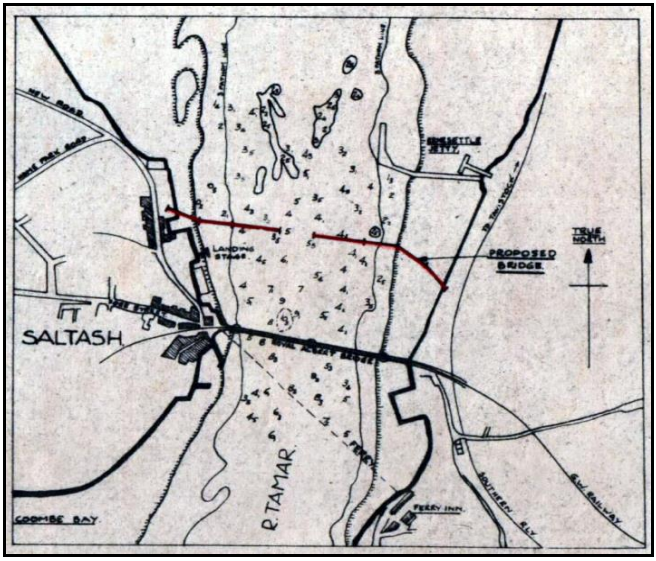


Fig. 2 *Admiralty chart showing location of proposed low level bridge*

The Schooner *Ensign* of Calstock

Gary Hicks

For the first-time visitor on the Tamar Valley Line, a glorious surprise awaits at the bottom of the steep descent from Bere Alston: suddenly the view opens out as the train rumbles onto the embankment of the viaduct. The train has performed a magician's trick and in a moment, Calstock appears tumbling down the far bank. The impression is of a Cornish seaport, another Looe or Fowey perhaps. The visitor is not mistaken, for here is an ancient port that had quays, its own ships, shipowners and master mariners - all part of a vibrant mix during the 19th and into the early 20th centuries.

In my article *'Elizabeth Drew and the Sims and Willcocks families of Gunnislake and Calstock'* in 'Tamar' No. 37, 2015, reference was made to the gradual acquisition of shares in the schooner *Elizabeth Drew* by the Willcocks family of Calstock and the part this played in identifying a portrait of the vessel and its painter. A little was said more generally of other vessels owned by the Sims family, but I did not extend this to the Willcocks family.

In addition to the *Elizabeth Drew*, in which the Willcocks family held a controlling interest by August 1899, John Willcocks (senior) acquired all 64 shares in the schooner *Ensign* in 1901. The *Ensign* was built by William Anderson at Kingston-on-Spey in Scotland and launched in August 1883. A two-masted schooner, 87 feet in length, she had a register tonnage of 99.93 tons and was registered at the Port of Banff until purchased by John Willcocks. The *Ensign* was then registered at Plymouth on 15 June 1901 and within two days, John sold 24/64ths to Edmund (assumed to be his son) and 5/64 to William John Gard Murrin of Plymouth, grocer. In July 1902 he sold 10/64ths to John Henry Cradick of Calstock, miner and in the following October, Murrin sold his five shares back to John. Two years later John Willcocks (senior) 'sold' all 30/64ths he then owned to his wife Mary Priscilla and thus the ownership remained until her first Plymouth register was closed in 1907. These two vessels, captained by Edmund and John and managed and largely owned within the family were the extent of their Plymouth

registered 'fleet' and in the case of the *Elizabeth Drew* took Calstock ownership past the heyday of mining and the demise of the port.

As with most vessels of the period, our knowledge of their daily lives is sparse, but in December of 1903, bound from Cardiff to Plymouth with coal, the *Ensign* sprang a leak and although the crew were able to keep the leak in check at the pumps, she put into Newlyn before proceeding after some caulking. No news was presumably good news through 1904, but then, with a cargo of coal from South Wales for Plymouth, she was found in a dangerous position off Clovelly.

The *Hartland and West Country Chronicle*, 7 February 1905 recorded: "The lifeboat at Clovelly rendered good service during the gale on Sunday, Jan. 14th. Signals of distress were observed from two vessels – *Jane and Elizabeth*, from Newport for Bideford, and *Thomas Elwyn*, of Bideford, bound from Cardiff to St. Ives with coal. The respective crews were safely brought to shore and taken care of by Captain Jewell, on behalf of the Shipwrecked Mariners' Society. On the following day, the lifeboat rescued the crew of the schooner *Ensign*, bound from Cardiff to Plymouth with coal, which was also lying at anchor in the bay and had signalled for help. The lifeboat was under the charge of coxswain T. Pengelly." Ian Merry's *'The Westcotts & Their Times'* (1977) names the Clovelly lifeboat as *Elinor Rogers* and confirms that this report relates to the Plymouth vessel. Presumably the crew returned aboard when the weather moderated and continued their voyage, but before the summer was over, she was involved in the following more serious accident.

Then in 28 July 1905, the *Western Gazette* reported: "Collision in the Channel. A collision occurred off Anvil Point on Monday afternoon between the yacht *Mirage*, belonging to the Marquis of Ormond[13], which was going down Channel to Portland, and the schooner *Ensign* (Captain Wilcox [sic]), bound to Plymouth with coal. The yacht altered her course to keep clear of the schooner, which almost immediately put about, and ran across the schooner's [sic] bows.

[13] The *Mirage* was a 190 ton schooner-rigged steam yacht which the Marquis, who was elected Commodore of the Royal Yacht Squadron in 1901, had purchased in 1883.

Although the yacht's engines were reversed, the vessels were too close to avoid a collision, and the yacht taking the schooner broadside, cut through several planks, making a large hole. In consequence of the serious condition of the schooner she was at once taken in tow by the yacht, and taken into Poole, where her damages are being repaired." This seems to have marked a change of luck for the *Ensign*, beginning a series of incidents which marred the last years of her life.

The *Ensign* sailed into Plymouth on Sunday 11th November 1906 with a cargo of Welsh coal destined for buyers in Saltash and Calstock. Leaving his mate in charge, John Willcocks, her master, must have had himself rowed ashore and then set off for home. He might have used a market steamer, but more probably he walked to Devonport Station, or used one of the new electric trams and then caught the train to Bere Alston. Turning downhill from the station as the train departed for Tavistock, he would have walked to the ferry and looked with interest to see what progress James Goss had made with the *Garlandstone*.

In sight of his home, however, perhaps he worried – for the railway viaduct was slowly creeping towards completion, so it would not be long before the railway could bring coal from Wales in a couple of days, whatever the weather. How many more cargoes, such as that he had just brought in, would the *Ensign* bring to Calstock? What would this mean for his livelihood and where would he find other cargoes? However, he could not have known that malign fate would soon again be at work and there would be no more cargoes of coal for the *Ensign* under his command.

The *Western Morning News* of Tuesday, 13 November 1906 reported: "Collision in Plymouth Sound. Calstock Schooner Sunk. Crew's narrow escape. Just before half-past ten last night a collision in Plymouth Sound between two vessels resulted in the sinking of one, but fortunately there was no loss of life. The schooner *Ensign*, 95 tons register, built at Kingston-on-Spey in 1883, and owned by Mrs. Mary P. Willcocks of Calstock, was anchored in Jennycliffe Bay, towards Batten Breakwater. She arrived from Newport on Sunday with coals, bound for Saltash and Calstock. Her crew consisted of William Young (mate), Wm, J. M. Crook (cook), Chas. Back and George Ralph (ordinary seamen), the

captain and manager, Mr. John Willcocks, of Bickham Cottage, Calstock, having gone to that place on Sunday. The coasting steamer *Progress* (Capt. Smith), 204 tons gross register, and owned by the Progress Steamship Co., of Liverpool, arrived at Plymouth yesterday from London, bound for Dublin with oil. A call was made at Plymouth for orders and coal, and it was whilst the *Progress* was leaving Plymouth for Dublin last night that the collision occurred.

The night was fine and clear, with a little wind from the east. The lookout on the *Ensign* was Charles Back, and at 10.20 [he] was on deck, the other members of the crew being in their bunks asleep. Back saw a steamer approaching, but the night being a fine one, and his vessel riding at her anchorage with her light showing, he did not anticipate danger. Within a short time, however, he perceived that the *Progress* was bearing down on the *Ensign*. He shouted at his loudest towards the *Progress* to keep clear, but evidently his cries were not heard. Seeing that a collision was inevitable he ran and warned the crew. Before he could get back to the look-out the *Progress* was quite close to the *Ensign*, and struck her with such force that Back was thrown violently to the deck. The impact was so great that the *Progress* drove into the port bow of the *Ensign* and almost cut her in two. The anchor of the steamer also caught in a portion of the schooner, and ripped a large hole in her. For a few brief minutes the vessels were locked together. Back continued shouting to his comrades to come on deck as the schooner was sinking. In a state of great excitement they rushed up the ladder from their bunks. They were not a second too soon. All three were in their nightshirts having left all their clothes below. The night was bitterly cold, but to have attempted to return for any wearing apparel would have been exceedingly risky. Almost at the instant that the crew of the *Ensign* got on deck it was seen that the vessels were parting, and the three ill-clad men and Back made a jump for the *Progress*, safely reaching her deck. It is estimated that from the time the vessels struck until they separated only five minutes elapsed. The engines of the *Progress* had been reversed, and when she backed from the schooner, the latter immediately went to the bottom, carrying away the anchor of the steamer.

The crew of the *Ensign* consider they had a marvellous escape, and to the fact that the vessels were for a short time locked they consider they owe their safety. As it was, they only had bare time to jump from their bunks, run upon deck, and jump aboard the *Progress* when their ship immediately sank. The crew of the *Ensign* had with them on the voyage a large, favourite dog, and when the schooner went down the animal jumped into the sea, making frantic efforts to get on board the steamer. It did not remain in the water long before it was picked up by some of the crew of the *Progress*.

Captain Smith, immediately the crew of the *Ensign* was on his ship, made every preparation for their comfort, having them removed to the cabin, and supplied with hot refreshments and a portion of clothing, readily supplied by members of his own crew. It was decided by Captain Smith to return to Plymouth, but before doing so the precaution was taken to inspect the spot where the schooner had sunk. An examination proved that the *Ensign* was completely submerged, only the top of the main mast showing above the water. To this was fixed a light to indicate the position of the sunken vessel. The *Progress* came into the Cattewater and berthed at the Victoria Wharves, where Captain Smith reported the collision, and at once made arrangements for the proper and careful treatment of the men of the *Ensign*. He personally conducted the crew to the institution of the Shipwrecked Mariners' Society in Vauxhall Street, where they were warmly welcomed, provided with substantial refreshment, and put to bed. Here they will be cared for. It is expected that the captain of the *Ensign* will be at Plymouth from Calstock this morning to make arrangements as to the future of his crew. The men of the schooner consider that they had a miraculous escape. Their loss has been a serious one, three of them having left everything they possessed in their bunks. The cause of the collision will be a matter for official enquiry later on. On the one hand it is alleged by Back (the look-out) and the mate on the schooner that the lights of the *Ensign* were correct and well displayed; while Captain Smith, who was on the bridge of his vessel at the time of the collision, alleges that the anchor light of the schooner was invisible to him. He did not think that the look-out was being sufficiently kept, but these are matters which will have to be investigated by the proper authorities. The position of the vessel does not interfere with the ordinary navigation of the Sound. …"

The position of the wreck was given in more detail in a 'Notice to Mariners', which appeared in the *Western Morning News* of 16 November: "…Plymouth Sound. The Wreck of the Schooner *Ensign*, sunk during the night of 12th November 1906, lies in 31 feet of water, with Batten Breakwater Light bearing N. 28deg E. 700 yards, and Drake's Island Flagstaff bearing N. 83deg W. Her masts (two) show above the water. A Wreck-marking Vessel has been Moored N.W. 100 yards from the Wreck."
The *Ensign's* Register was closed: "Registry closed 12th January 1907. Vessel run down in Plymouth Sound 26.11.1906 and abandoned to the Admiralty as a total wreck as per Advice received from the Registered Manager. Certificate of Registry lost with vessel. S. Scott Registrar."

The ship's papers of the *Ensign*, for the period of her registration at Plymouth are held by the Plymouth and West Devon Record Office (Ref. 2381/35). These comprise Board of Trade Surveyor's reports and some correspondence, but unfortunately, not the letter from her manager, shown by her register as John Willcocks of Bickham Cottage, Calstock, who was also her master.

Immediately after the wreck, the King's Harbour Master would normally have written formally to the *Ensign's* owners instructing them to arrange for her to be raised. As they abandoned her, it may be that only her cargo was insured and they were perhaps unsure of the outcome of the Court of Enquiry and any case they may have had against the owners of the *Progress*. Again, following normal practice, the Admiralty would then have assumed responsibility for removing the wreck with costs being passed to the owners. In the event the Western Marine Salvage Company of Penzance were contracted to raise the *Ensign*.

As noted in the *Western Morning News*, 10 December 1906: "The salvage steamer *Lady of the Isles* arrived at Plymouth on Saturday in connection with the raising of the schooner *Ensign*, which was run down by the steamer *Progress* about six weeks ago. Operations began on Saturday, the sea being calm. The divers report that there should be very little difficulty in removing the obstruction." Somewhat surprisingly, given the public interest which there surely must have been, the *Western*

Morning News does not appear to have reported the actual raising of the schooner.

Albert Westcott purchased the wreck and a receipt for his payment is with the ship's papers: "January 7th 1907 received from Mr. Albert Westcott in full payment for schooner *Ensign* spars sails & gear clear of all debts to this date for the Sum of Two hundred & forty-five Pounds signed Weeks Phillips & Co." A second receipt shows that Albert disposed of a 'half share' to his father, John: "January 8th 1907 Received from Mr. J. Westcott the sum of Forty Two Pounds Ten Shillings and Nine Pence for 31/64 shares of schooner Ensign clear of all debts & demands to date, Albert Westcott".

From his office in Commercial Yard, Coxside, Albert Westcott wrote, on 5 January, to the Customs Officer responsible for the registration of ships:
"To Collector H. M. Customs Plymouth
"Dear Sir
The *Ensign* of Plymouth was run down some weeks ago in Plymouth Sound & the owner threw her up on the Government who contracted with Capt. Anderson Western Marine Salvage to raise her; the ship & cargo to be taken as part payment. I having now bought her from them, wish to get a title to her & also to request you if possible to keep the existing Register open as should same be closed it will I fear give me considerable trouble to re-register her. Kindly advise me as soon as possible re this & greatly oblige. Albert Westcott."

For whatever reason Albert's plea was to no avail and the Registrar closed the register on the 12 January (see above) and wrote to the King's Harbour Master, who replied:
"Hughes C Lockyer Commander RN
Long Room Stonehouse, 14 January 1907
Sir
With reference to your letter dated 12th Jany 1907 I beg to inform you that the schooner Ensign (& cargo) was abandoned by the owner and underwriters on 26th November 1906. On the same date she was delivered over to the Western Salvage Company as

part payment of the contract price for raising that vessel and clearing the Channel.
This having been satisfactorily carried out the vessel is now the property of the Salvage Company.
Yours Obediently Hughes C Lockyer Cdr RN, King's Harbour Master (Sound) Long Room Stonehouse 14 Jan 1907."

After more than a month under water the *Ensign* doubtless needed some time to dry out. Her cargo, ruined gear and damaged timbers were removed and repairs were undertaken to Albert and John's requirements. The records do not show which yard carried out the repairs, but the work was inspected by the Board of Trade Surveyor and his certificate is with the ship's papers:
"Board of Trade Surveyors Office Plymouth 14 March 1907
To The Principal Officer Plymouth
"Sir Re Ensign No. 79987
I respectfully beg to report that the above named vessel was run into and sunk in Plymouth Sound in November last was abandoned by the owner as a total wreck and her Registry closed. She has since been raised and purchased by the present owner Mr. John Westcott [sic] of Plymouth who has repaired her and paid a fee of £4/-/- for survey for Registry at Plymouth her last port of Registry. I visited her while repairing on the 5th Feb 07 and finally yesterday and found she had been officially repaired as follows:-
[detailed list of frames planking etc repaired all bracketed together], all on the port bow. The vessel has been caulked all over and is now in my opinion in a thoroughly seaworthy condition both in hull & Equipment and I respectfully submit fit for Re-Registry
I am Sir …"

In the absence of a Bill of Sale by her previous registered owners the Registrar accepted the letter of the King's Harbour Master and the receipt for payment made by Albert Westcott as evidence of title and re-registered the *Ensign* on 6 April 1907.

The Westcotts returned the *Ensign* to the coasting trade, in which she worked quietly for another eight years until her final loss. This event was

reported in the *South Devon Gazette-Kingsbridge Times* of Friday February 5, 1915[14]:

"Plymouth Ship Wrecked on the Blackstone Rock, Salcombe
The Plymouth schooner *Ensign*, laden with a cargo of 180 tons of coal, went ashore on the Blackstone Rock, on Saturday evening last [30th], and has since become a total wreck. On December 26th she left Glasgow for Kingsbridge, her skipper being Ernest Gordon, of St. Blazey. Throughout the voyage from the North Channel through the Irish Sea and a part of the English Channel the vessel encountered very bad weather. She reached her port of destination[15] in company with the three-masted schooner *Michael Kelly*, owned by the same firm, Messrs. Westcott, of Plymouth. There was a strong wind from the south west and a nasty sea. The tide was about one-and-a-half hours' ebb. Flares were shown for a pilot[16] and the *Ensign* crept nearer and nearer to the harbour. The skipper realised that to save his tide in, he must act promptly and the *Ensign* successfully crossed the bar, but her position being too far east, she struck the Blackstone ledge, and remained fast on the top. Mr. Peter Foale[17] went alongside the vessel to leeward and stood by the whole time the crew were on board. Mr. Foale also advised the skipper to back his fore topsail and hoist some headsail, with a view

[14] I am indebted to the Kingsbridge Cookworthy Museum Local Heritage Resources Centre and their indexing for the report of the Gazette.
[15] Actually, the mouth of Salcombe harbour.
[16] But there was no response.
[17] It is almost certain that he was either Peter Foale senior or Peter Foale junior, who were two of the crew of the Salcombe lifeboat, *William and Emma*, launched to the aid of the schooner *Western Lass* on 27 October 1916. The crew of the *Western Lass* were rescued by the East Prawle Lifesaving Apparatus Company, using rocket fired rescue lines, but the lifeboat crew did not discover this until they reached the scene. The *William and Emma* returned to Salcombe, but in attempting to cross the bar to the safety of their harbour, the lifeboat was pitch-poled stern over bow by a huge wave and capsized. Thirteen of the lifeboat's crew were drowned, only two surviving, but neither of the Foales were among the survivors. The full story of the Salcombe Lifeboat tragedy of 1916 can be found in 'The Salcombe Lifeboat Disaster' by Roger Barrett; I am grateful to Roger for allowing me to base my brief mention on his work.

to sailing the vessel through a gulley in the rock. The skipper tried this, but the vessel would not move. As there was considerable danger of her falling off the rocks and turning over, it was deemed prudent to abandon her. With what belongings that could be hastily got together the captain and three of the crew left the ship on the weather side in their own boat which was slightly damaged, and in company with Mr. Peter Foale, the captain and crew landed at the Customs House Quay, [at Salcombe] where they were cared for by the agent of the Shipwrecked Mariners' Society. In the early hours of Sunday morning the *Ensign* pounded her way over a gulley in the ledge of the rock and sank in deep water. Now the ship has broken up, and a portion of her is lying between the Wolf Rock and the Tea Gardens."

Following her stranding an enquiry was made to Salcombe by the Registrar at Plymouth:

"Memo Customs House Plymouth 9 Feb 1915 to P.O. Salcombe. Ensign 79957 of Plymouth. This vessel was stranded at entrance to Salcombe on 30th Ult. Is she a total wreck or is she likely to be refloated? T.M. Lewis"

"Sir, the vessel is a total wreck C.F. … P o/c 10.2.1915"

Following this briefest of exchanges, the register of the *Ensign* was finally closed on 17th February 1915: "Vessel totally wrecked at entrance to Salcombe on 30th January 1915. "

The fact that the *Ensign* was involved in two collisions is not unusual, for collisions were commonplace. Fortunately, no lives were lost. I regret that I have not been able to trace any portrait or photograph of the *Ensign* in any public collection. Nor have I been fully able to trace the relationships within the Willcocks family, if any reader can help with this or otherwise add to the above, I would be pleased to hear from them via gary.hicks@blueyonder.co.uk.

The Cornish Man Engine

Jane Kiely

At the beginning of 2016 I heard talk of "something big steaming through Cornwall" in August. I became intrigued, found out the timetable, booked accommodation down in West Penwith and waited to see what happened next. In fact what happened next was that a choir was formed to sing in Tavistock to encourage the start of the transformation of the Man Engine. We had become hooked and I freely admit to being a Man Engine groupie!

We got into the square in Tavistock early to find out just what it was all about – to say it had been the best kept secret is an understatement! But the publicity had obviously worked, as there were crowds waiting with expectation. All we could see was a huge "something" wrapped in a Cornish flag. The anticipation was palpable, with more and more people arriving all the time to swell the crowd, men and ladies in orange miner's overalls rushing around doing last minute jobs. Finally the waiting was over! Will Coleman appeared on the top of a Land Rover and spoke to the crowds to explain what it was all about: a celebration of the 10th anniversary of the designation by UNESCO of the Cornwall and West Devon Mining World Heritage Site – on a par with the Taj Mahal!

The crowds cheered, the singing started, the Cornish flag was pulled off, the steam erupted and the Man Engine started transforming from a flat form, up and up to its full height of anything between 10 and 12 meters high depending on who you listened to! It was a sight to behold! The biggest puppet to walk in the UK! The crowds roared, and then were almost silent with amazement as the puppet grew and grew, just like Topsy! The atmosphere was electric, we were all aware of being part of something very special. It was the start of two weeks of people talking about the Cornish Man Engine almost non-stop, both locally and nationally, on radio, television and full page spreads in the national papers. I spoke to Deborah Boden from the World Heritage Site, who had commissioned the project and supported it financially along with many other organisations. They had hoped to reach 7,000 people over the two weeks – that was reached on the first day.

Fig.1 *The Man Engine rises in Tavistock (Jane Kiely)*

The Man Engine then travelled to the Tamar Valley AONB Centre at Drakewalls where Gunnislake Town Crier Hilary welcomed it and everyone again 'oohed and aahed' over the size and scale of this puppet, even though it couldn't transform because there wasn't enough headroom. It then made its way up to Kit Hill, where again it couldn't transform because apparently the road up to the top wasn't strong enough to take the 40 ton lorry with all the machinery to operate it. Despite that it was welcomed by a huge crowd with a carnival atmosphere and you could get up close and personal!

We drove over to Minions to see it the following day and it looked as if Bodmin Moor had become one big car park! It was a miserable day - wet, cold but atmospheric on the moor and, despite the Man Engine running somewhat late, the crowd stayed, the weather more or less cleared up and it was a wonderful place to see 'him' in all his transformed, steaming glory, almost marching around the area.

Momentum gathered and there was more and more publicity as it went to Liskeard, Wheal Edward Mine, St Agnes (where the weather was so bad that it couldn't get very far), and Heartlands. We caught up with it again at Godolphin. It came into the road at the bottom of the National Trust property, all roads and lanes around firmly closed for the duration. In each venue the local people had 'gone to town' with a carnival atmosphere everywhere. At Godolphin there was a small but loud male voice choir. Never has the 'Hard Rock Miners' song been sung so often and so loud!

We then went to Penzance where the theme of the day was Steam Punk (look up on Google if you don't know what that is, as it is hard to explain!) and many people were dressed for the part. There were also living statues around, bubbles being blown, which the children loved, bands in every venue and once more the atmosphere was incredible. However, with apparently 27,000 people in Penzance, we could only see the head of the Man Engine there!

At St Just the following day it was a lot easier, more relaxed but another amazing experience with the whole town turning out to watch what was going on, with a few steam engines to set the scene. We travelled everywhere on the open top bus which just added to the excitement – car parking was at a premium!

The last stop was Geevor Mine where another crowd of 7,000 people waited for the arrival, but lots to do there, with a dog show, car show, and food tents. Finally the Man Engine arrived to cheers and yet more singing, this time with a choir made up of many local choirs, and transformed against the backdrop of the sea, which was our final view and memory of a really special August event.

We were so glad that we had followed it around, met so many great people and had a really good holiday. No-one is sure what is going to happen to it now; it seems to have disappeared and become a secret once more, but there was talk of it going abroad to all the countries where the miners went, and I hope it does just that – it deserves to be seen again.

Fig.2 *The Man Engine at Geevor*

Fig.3 *The Man Engine on its truck at Drakewalls, Gunnislake*

Shamrock - a brief history

Joe Lawrence

In 1899, Tom Williams of Torpoint took delivery of a new Tamar sailing barge called '*Shamrock'* from the yard of Frederick Hawke of Stonehouse, Plymouth. The barge had certain unusual features which made her the most advanced vessel of her type ever built – 'the product of a conscious effort to design a vessel which should carry the maximum cargo for her size with the minimum draft and the lowest operating and maintenance costs'. In particular, she was almost unique among British merchant vessels in having a pair of drop keels to supply the lateral resistance that was missing due to her nearly flat-bottomed hull shape. Apart from sailing effectively in open water, she could also work up shallow creeks on a rising tide, ahead of her deeper rivals. She could also run easily onto beaches, especially at Torpoint where the Williams family had connections with the Western Counties & General Manure Company.

Tom's brother Fred, who was crew, became half-owner in 1907 and *Shamrock* was used to carry fertiliser from Torpoint to Plymouth and also bulkier cargoes such as bricks, limestone and coal further up the Tamar. Prior to 1914, *Shamrock* would certainly have visited the busy little quay below Cotehele House which has now become her permanent home.

Local lime burning had all but ceased by then and ore production from local mines had declined sharply. However, corn and market-garden produce, especially cherries and strawberries, still went down in 'market boats' from the old stone quays to Plymouth, by barge or by paddle-steamer. Coal was brought up river, generally by large schooners sailing direct from South Wales, as well as all the general cargoes which after World War 1 were to be carried by motor lorry. During that war, *Shamrock* was used to unload Canadian shells from transatlantic steamers. Then in 1919, the Williams decided to put her up for sale and Tom, now aged 61, took up the position of Quay Master at Ocean Quay.

In the 1920s competition from steam on rail and river killed off the sailing barge trade. *Shamrock* was reduced to carrying road stone, using

an auxiliary engine and a gradually modified sail plan. Her new owners ran quarries on the Lynher River but she was later sold in the same trade to a company in the Truro area. In the 1940s and 1950s she carried stone from the Porthoustock quarries on Lizard to a county tarmac plant at Tresillian, sometimes loaded with as much as 60 tons as she crossed Falmouth Bay. In all, she completed 42 years in the stone trade. Finally from 1962 to 1970, she worked prospecting for tin in St. Ives Bay and as a salvage vessel and diving tender, before being left as a hulk at Hooe Lake, Plymouth.

Restoration 1974 -79

By 1970 *Shamrock* lay beached and semi-derelict in Hooe Lake, Plymouth – the usual fate of wooden vessels no longer worth the cost of repairing or breaking-up. However, her story was far from over for in 1973 she was bought by a Plymouth man, Mr John Fildew, with the idea of restoring her. The project proved too complex for an individual to tackle but she was recognised by the National Maritime Museum and the National Trust as a unique survivor and Mr Fildew generously offered to sell her to the Trust for a nominal sum. The plan was to bring *Shamrock* to Cotehele, where the Trust was restoring the quay to its 19th century appearance, and rebuild her to full sailing order with the Museum providing technical advice. After some temporary repairs, *Shamrock* was towed up river and arrived at Cotehele on 25 March 1974.

With Tom Perkins as master shipwright, the Maritime Museum and the Trust organised work on the restoration, with *Shamrock* hauled out on a purpose-built slipway. Research into her history was carried out, with 1921 the earliest date for which reliable information was available. The work by the team of Tom Perkins, the Trust's own craftsmen and labour from the Manpower Services Commission, proved long and costly. Hand-stitched flax canvas sails were manufactured and all standing and running rigging made in traditional materials. There were extensive searches in old boatyards and on derelict vessels to provide some fittings!

The restoration was completed in 1979 and in 1980 the National Maritime Museum purchased 30/64th shares in *Shamrock* from the National Trust to become the joint owners. In 1981 *Shamrock* was taken

down river and sailed again in Plymouth Sound. *Shamrock* is now permanently berthed and maintained at Cotehele Quay but makes occasional voyages in the Tamar and Plymouth Sound.

The National Maritime Museum gave the National Trust an annual grant for ten years but then handed over their shares to the National Trust who became the full owner of Shamrock.

It is the intention of the National Trust to fit her with an engine which will allow more freedom of movement and an exciting future.

You can keep up to date on *Shamrock* by visiting:
http://Shamrock-cotehele.blogspot.co.uk/

Built: Frederick Hawke, Stonehouse, Plymouth, Official no. 111344
First Registry: 7 September 1899
Gross tonnage: 31.71
Registered dimensions: Length 57' 6" Beam 18' 1" Depth in hold 5' 4"

Fig.1 *Shamrock on the Tamar, 2016 (Joe Lawrence)*

Fig.2 *Shamrock at Mayflower Marina, Devonport, 2016*

Fig.3 *Restoration under way: Shamrock at Cotehele Quay in 1976 (Clive Charlton)*

Meetings of Friends of the Tamar Valley - 2015

Helen Wilson

In January, with a good crowd of Friends forgoing the waning festive revelry to attend the first Meeting of 2015, the lights were lowered in expectation of another photographic tour de force of the Tamar Valley and its environs from David Price. His theme was the flora and fauna of the Valley through the year. Members were not disappointed and left for home with colourful memories of the beauty of the Valley.

At the February meeting we heard from Sam Barnes. Since discovering that the famous architect Edwin Lutyens (1869-1944) had designed a group of houses in Milton Abbot, Sam has been trying to find out more about the connection between him and the Bedford family who commissioned them. In Devon, he is best known for Castle Drogo (1910-32), with its medieval allusions. At the same time (1912), he was appointed architect for New Delhi, India, where he designed many buildings, including the Viceroy's House, which incorporated both British and Indian architectural elements. In Milton Abbot, the idea was for a planned village, with the original one swept away, which could be seen on maps from before and after 1909. The houses designed by Lutyens are 3 to 8 Venn Hill and 14 to 22 The Parade, although there are a few other buildings that may also be his work.

The March meeting of the Friends suffered from not one, but two, speaker cancellations and at the very last minute Irene and Gerald Williamson stepped in to provide a talk in their series on horse-drawn carriages. We heard the local story in 2013 and now it was the turn of London. The golden age of coaching was in the mid Victorian era, until competition from railways brought it to an end. About 600 coaches operated in London, necessitating the use of thousands of horses, which all had to be fed and housed. Probably the last and grandest array of coaches to be seen in London was at the Great Exhibition in 1851, when 5,000 horse-drawn vehicles entered Hyde Park on the first day. In addition to private coaches, this event also witnessed the increased use of the horse-drawn omnibus. In the early twentieth century, with the demise of horse-drawn vehicles, some stabling facilities became cow keeper's shops and the mews built for horses and coachmen behind the grand

houses were converted and eventually became the desirable residences they are today.

The AGM of the Friends of the Tamar Valley was held at the April meeting and followed by a talk on the historic daffodils of the Tamar Valley by Frances Howard. Market gardening, including the growing of daffodils, was once an important industry in the Valley. With its mild climate, flowers could be produced up to three weeks ahead at Covent Garden. A vast array of cultivars were grown, many developed from the native daffodil *Narcissus pseudonarcissus*, or Lent Lily, which was growing wild before 1570, but may have been introduced. Very early cultivars include *Maximus Superbus* (before 1576) and *Van Sion* (1620). In the C19th many more were introduced, including *Emperor* (1865), *Tamar Double White* (1880s) and *King Alfred* (1899), while the early C20th saw the growing of varieties such as *Bath's Flame* (1906) and *Actea* (pre 1927). Tamar daffodils were sent to Covent Garden from 1865 by river and rail. When the railway came to Bere Alston in 1890, the trade expanded rapidly. In WWII, daffodils were lifted to be replaced by vegetables, and discarded in the hedgerows where we see them today.

Dave Readman co-ordinates volunteers for the Tamar Community Trust and the Tamar Valley AONB's Helping Helping Hands for Heritage (HH4H) project. He gave a fascinating talk in May about an area of the AONB that is not only full of wildlife and historic interest, but is also the site of a very successful community project. Wacker Quay is one of the very few places where the public have access to the River Lynher, with its wealth of estuarine birds, mudflats teeming with plants and invertebrates, and many species of fish. Along the creeks, there are lots of willows, which were grown for basket weaving (Wacker is derived from wicker, i.e. willow). The Wacker Quay Military Railway was a branch of a planned route from Plymouth to carry supplies to Scraesdon and Tregantle Forts. Equipment was ferried in barges to Wacker Quay (a channel having been dredged) and in 1885 track was laid to build the line alongside the river for about half a mile, with an incline railway connecting the forts. The line was dismantled in 1905, although two circular concrete pits at the bottom of the incline, thought to be turntables, can still be seen. In 2010, the small community at Antony set to work creating a walkway from the village to the Quay, which was

opened in June 2012. Under the direction of the Tamar Community Trust, the community continues to maintain the path by cutting back brambles, installing benches, strimming, and litter picking.

The summer of 2015 brought a record number of outings for the Friends, beginning with a visit to Lewtrenchard Manor. Eighteen turned up for a tour of the house on a sunny June afternoon. The house is run as a country hotel in lovely surroundings on the edge of Dartmoor. It was once the home of Sabine Baring Gould, who inherited the Manor in 1872 on the death of his father, and became both parson and squire until his death in 1924. He remodelled his home and restored nearby St Peter's church, where he is buried. Baring Gould felt his principal achievement was his collection of folk songs of Devon and Cornwall, recorded by meeting the singers in their homes and in their pubs. He is now best known for writing hymns, in particular Onward Christian Soldiers. During 1893 he organised the first archaeological excavations of hut circles on Dartmoor at Grimspound, using scientific methods.

On a delightfully sunny and balmy evening later in June, the Friends went on a voyage to the Plymouth Breakwater, on a joint visit with Calstock Local History Group. We met at Royal William Yard in Stonehouse and boarded the *Silver Crest*. Once on the Breakwater, we were left to wander at will and appreciate the sheer scale of the Breakwater and the tremendous engineering feat of its construction. Most of the 3½ million tons of stone lies below the waves, but the great limestone blocks on the surface form a broad mile-long promenade. Most visitors enjoyed a bracing two mile walk during the evening as, of course, one has to see it all. The views are glorious – Mount Edgcumbe, Kingsand and Cawsand and Penlee Point to the west and Staddon Heights and Bovisand to the east, as well as the sea. Not far from the landing place, one of the sea-worn limestone blocks still bears an inscription commemorating the visit of the Duchess of Kent and the young Princess Victoria on 5 August 1833. There are several weather-beaten shelters on the Breakwater, and a lighthouse guarding the western entrance to the Sound. At the far eastern tip is a curious tapering granite tower, which is topped by a round iron cage, built as a ‘shelter of last resort’ for seafarers stranded on the Breakwater. As the light began to

fade, we headed back to the jetty, where our ferry took us back past Drake's Island and the 'narrows' to the Royal William Yard.

In July we finished the walk we started in August 2013 - without any rain, thunder or lightning. The walk went without a hitch and the views over the Tamar were magnificent on the most beautiful summer evening we could hope for. Even the walk through the cropped fields was at least dry, if rather uncomfortable. Afterwards, we went to The Cardinals Hatt and had a lovely meal.

Only a matter of days later the Friends were privileged to be given a private tour of the exhibition 'Fallen Emperor: Napoleon in Plymouth Sound in 1815' at Plymouth City Museum, by one of the curators, Clive Charlton. The exhibition centres on the painting by Jules Girardet, owned by the Museum, of the scene in Plymouth Sound in 1815. Napoleon had been defeated at Waterloo, surrendered and was held aboard HMS *Bellerophon* while the British decided what to do with him. The ship was anchored in the Sound for 10 days and people flocked in all sorts of boats to catch a glimpse of the fallen emperor. The exhibition covered Napoleon's rise from humble beginnings in Corsica, through his military career, to becoming Emperor in 1804 and the scourge of Europe for over a decade. When he was finally defeated and brought to England, he attracted great attention. After lunch at the Museum, Clive took a few of us on a guided walk, visiting first St Andrews Church with its amazing John Piper stained glass windows. We then found the Synagogue, which is being looked after by a small group who are intent on keeping it going. We eventually ended up at the Barbican and walked slowly towards the Hoe, looking at the Breakwater that we had visited in June, and enjoying the weather and magnificent view.

After her talk in February about the houses in Milton Abbot designed by Edwin Lutyens, Sam Barnes gave the Friends a guided visit to the village in August. We gathered inside the church for a short description of its history. Sam then recapped the life of Edwin Lutyens and his intriguing appointment as architect to the development of a planned village at Milton Abbot by the Duke of Bedford. Sam then showed us first of all 3 to 8 Venn Hill, to the east of the church. This group of houses is rather irregular, with two wings of different sizes and windows of varying styles, probably designed to look as if they have been added to and

grown over several centuries. Continuing round to the west side of the church, we paused to view the old vicarage, built in 1837 and designed by the architect Edward Blore in Tudor style. The terraced houses of 14 to 22 The Parade are more symmetrical than the other group, although they all have the characteristic curve to the lower edge of the roof. This feature, together with the rounded ridge tiles, appears on several other buildings in the village, which may be an attempt to mimic Lutyens' style or could denote the genuine article. Plenty of opportunity was given to discuss such matters by the cream tea afterwards.

Following on from her talk to Friends in September 2013 on Violet Pinwill the woodcarver, Helen organised a day later in August that began with coffee on the terrace at Plantation House Hotel in Ermington, which was once the vicarage. Here the Pinwills lived from 1880 and Helen showed us a photograph of how the house looked in the early C20th. From there we walked up to the church, where Helen presented a précis of the early days when the Pinwill sisters learned to carve. The tour began with the earliest piece in the church, the pulpit of 1889, and moved on to what is perhaps one of Violet Pinwill's greatest achievements, the elaborate reredos of 1911. After viewing the other fine Pinwill work at Ermington, we travelled west to Yealmpton for lunch, arriving by 3:00 in Saltash to visit the church of St Nicholas and St Faith. Since the talk to Friends, Helen had discovered a hidden gem in the Pinwill-carved chapel screens installed in 1932 that was even unknown to the church. Her research at the Cornwall Record Office revealed that the screens incorporated sections of tracery dating from the C14th. These were part of an ancient screen that may or may not have come from the original church, but are now very much appreciated as a treasure of the building.

The first talk of the autumn season came from County Councillor Joe Ellison on the Celtic cross at Saltash. The cross is seen by thousands of people when they come over the Tamar Bridge, as it stands magnificently at the 'Gateway to Cornwall'. The Celtic Cross Project started as a community venture by the Saltash Waterfront Residents Association but drew on funding from the Lottery Community Spaces programme, as well as from Saltash, Caradon and Cornwall Councils. It was part of a larger community project to regenerate Elwell Woods. This

two acre site was once an orchard, but had been used by contractors building the road bridge in 1961 and then abandoned to become a neglected self-sown sycamore wood. It was at the instigation of none other than Tim Smit from the Eden Project that in the final design the cross was positioned to be the beacon for Cornwall that it has become. The cross, which is 66 feet high, was designed by Simon Thomas and made in a composite material by Gateguards (UK) Ltd of Newquay. Copper powder was added to produce the green and brown colour that is a reminder of Cornwall's mining heritage. It had to be transported by road on the A30 to Exeter and then back on the A38 to Saltash because of its length. It was winched into position at night in a nail-biting precision operation. When the Cross was finally in place, it was an emotional moment for all involved.

In October, Ted Coryton came to talk about the history of Pentillie. The house has a commanding position overlooking the River Tamar and there may have been a fortified castle on the site in earlier times. Pentillie itself was built in 1698 by James Tillie (later Sir James) of Callington. He had been the land agent to Sir John Coryton who owned a large estate bordering Pentillie land. Tillie started life as a labourer in St Keverne and lived from 1645 to 1713. Sir John Coryton died young, aged 42, in mysterious and rather suspicious circumstances. James Tillie married his widow, Lady Elizabeth, and became a very wealthy man. He 'secured' a knighthood from James II in 1686. James Tillie had no children, but wanted to be remembered after his death. So he commissioned a lead statue of himself that stands prominently in front of the castle. Sir James (as he had become) believed in bodily resurrection and built a folly on the estate, ordering that his body be placed there, ready for the event. After his death, this soon became too distasteful and his servants replaced his body with a statue made of Beer Stone. Sir James and Lady Elizabeth left the estate to a nephew and it has passed down through the family ever since. In 1809/10 Humphry Repton presented designs for the castle with terracing and a sweeping/landscaped drive. The job of remodelling was given to William Wilkins and the resulting imposing building is recorded in a number of pictures. However in 1967/68 the North tower was demolished and the building reduced in size by around 50% to make it more manageable. In 2007, Ted and Sarah and their family took on the

commitment of Pentillie as a business venture. They appeared in the television series Country House Rescue and in 2008 restoration began with the interior gutted and repairs made to the structure and roof. They finally opened the doors of their B&B business in 2009 and run a number of other ventures to maintain the house as a commercial enterprise.

At the November meeting we welcomed Stephen Fryer to talk to us about RAF Harrowbeer. In the late 1930s, the expanding RAF wanted a base near Plymouth and the site at Yelverton was chosen, but to save possible confusion with RAF Yeovilton, it was named after the nearby hamlet of Harrowbeer. By January 1941 the tarmac was down and a very swift expansion ensued. Contrary to rumour, the church tower was not lowered, but the adjacent row of three storey houses had their upper floors removed, without any compensation. Several other houses were demolished, new roads made and old ones covered over. There were three runways, more or less forming a triangle, as well as numerous buildings, including hangers, stores, training facilities and a watch tower. At its height the airfield employed about 2000 people and 16 types of aircraft were flown. Now, all that remains are the dispersal bays for the fighter aircraft and the footprints of some of the buildings. One of the blister hangers was used in Plymouth after the war as the Hoe Cafe. We were also told about the decoy airfield at nearby Clearbrook, probably the only extant example in the country.

In December we welcomed Val Budgen Cawsey to present a seasonal talk on The Origins of Christmas. As well as facts and stories about Christmas traditions, we were treated to humorous anecdotes, jokes and parodies in song. The traditional Christmas pudding, we learnt, was originally a savoury dish called frumity and it was not until the early C18th that meat was replaced by fruit. Eating a mince pie on each of the 12 days of Christmas will bring good luck for the following year. Mistletoe has been revered since pre-Christian times, its parasitic habit giving rise to the idea that it had magical powers to ward off evil spirits. In 1647, during the Civil War, Christmas was banned by law - and that law has never been rescinded. Before that, people were fined if they did not go to church on Christmas Day. Val interspersed all the facts with

humour, including a song about the turkey lasting forever and the story about a man who bought his wife a cement mixer for Christmas.

The Friends are indebted to all those who have contributed to our programme. We try to present a wide range of talks, which we could not do without those who provide these presentations. The summer programme of visits is only possible through the assistance of volunteers who give their time to run our walks and tours.

The Friends of the Tamar Valley

Meetings are held usually on the first Friday of every month at 7.30 pm at the Tamar Valley A.O.N.B. Centre, Drakewalls, Gunnislake, Cornwall.

Visits and walks are arranged for the summer months. The full programme of meetings is published in the Friends' Newsletter.

Committee 2016 / 2017

Chair and Programme Secretary:
Jane Kiely, Tel: 01822 834964 janekielyintamarvalley@uwclub.net

Hon. Treasurer, Membership Secretary and Editor of Newsletter:
Dr Anthony Lewis calewis@plymouth.ac.uk

Hon. Secretary:
Sharyn Hedge

Hon. Editor:
Clive Charlton, Tel: 01822 840497 ccharlton@plymouth.ac.uk

Committee Members:
John Chilvers, Peter Hunkin, Cliff Lambert