How and why did the design and production of Preston bottles change during the period 1830 – 1930?

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Abstract:

Everyone in the world today will, at one time, have drunk or poured a liquid from a bottle of some description whether it is made from pottery, glass or gourd. Most will think very little of the container in their hand and once it has served its purpose they will either discard, or, more popularly now, recycle it. A second thought will probably never be given to the bottle that contained their favourite cold beverage or necessary medicine. However, some find the packaging of these liquids of more importance than the liquid itself. These bottles have been continually discarded into rivers, hedgerows and dumps for centuries and some people have made a hobby from collecting this 'rubbish'. The first glass bottles were used by the Egyptians and Syrians and stoneware was common by the seventeenth century. Despite the fragile nature of this material, many examples survive to provide evidence of the manufacture of both the container and its contents; alongside the social history of those that used them. The intention of this thesis is to examine the evolution of bottles in Preston, Lancashire from 1830 - 1930 in terms of their design and production; whilst assessing the reasons for the developments noted.

Contents

List of Illustrations:

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- Phil Riley, alias 'Bottle Bill' runs the 'Bottle Dump' website
- David and Julie Sanderson, fellow Preston bottle collectors
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Chapter 1 - Introduction:

This dissertation focuses on the question 'How and Why did the Design and Production of Preston Bottles Change Between 1830 and 1930?' In order to answer this question the thesis will consider the evolution of the bottle throughout its history but with an emphasis on its most critical developmental phase; the industrial period of the 19th and early 20th centuries. The context of Preston has been chosen as it represents a competitive collecting area in addition to being a typical northern, industrial town in Britain. Preston can therefore be seen as a microcosm of the bottle collector's world and this dissertation sets out to consider whether Preston followed national trends in bottle design and production or whether it has anything unique and significant to offer the collecting market. Thus this thesis will examine the stoneware bottle from its earliest form with applied and inscribed decoration through to the use of print and paper labels. As stoneware largely gave way to glass in the chronological framework considered, the evolution of the glass bottle will also be relevant. To ascertain why such changes occurred in Preston bottle design and production the following influences will be examined:

- Types of materials and their availability
- Productivity and profitability
- Market and economy
- Social factors
- Influence of individuals

The evolution of the bottle is by no means a new area of study but to consider it from a Preston point of view is. Studies have been made of the effects of the Temperance cause on bottle manufacture in Lincoln by Paul Hickman (Paul Hickman, Personal communication, 20 March, 2011). Malcolm Starkie's studies of Rossendale's bottles can be found in the research library at Blackburn and include examples of Slab Seal Stoneware similar to those found in Preston (Paul Best, Personal communication, 8 May, 2011). Paul Best is also currently compiling a work on the bottles of Cirencester; which had a population in 1901 of just 8000 (Paul Best, Personal communication, 8 May, 2011). Until now, Preston, due to its sizeable proportions as a Victorian industrial town – (population in 1901 120,000) (Paul Best, Personal communication, 8 May, 2011) has been an area considered too vast to research thoroughly and therefore has been previously neglected as an area of study by any other than those with a passing local

interest. Some collectors have attempted to compile lists of companies connected to Preston bottle production. Some have photographed bottles that have passed through their collections, in order to try to record examples for the area, but those are all in private hands and not for public consumption. Therefore, the reader of this dissertation should find an invaluable potted history of bottle evolution alongside information on what is available to collect on a national or local level. For the local Preston bottle enthusiast this thesis should go even further by attempting to ascertain the range of companies connected to bottle production in Preston plus what influenced their design and production techniques; whilst also placing Preston in a national collecting context.

Chapter 2 - Bottle Evolution: Design and Manufacture -1830 – 1930

Section 2.1 - The Slab Seal Bottle – approx.1840 - 1880

Perhaps the earliest bottles that can be attributed to Preston are hand blown black glass examples. They are often personalised with seals whereby a blob of molten glass is applied to a finished bottle and then impressed with initials or a crest so that a bottle can be attributed to a person, family or institution. Preston examples known, dating to around 1780, show a seal marked with the initials WA for William Atherton (Fig.1a &1b) and another shows the familiar Preston crest of the lamb and flag[1]. (The BottleDump, 2011).

Figure 1a: Early William Atherton black glass bottle – Source: Phil Riley

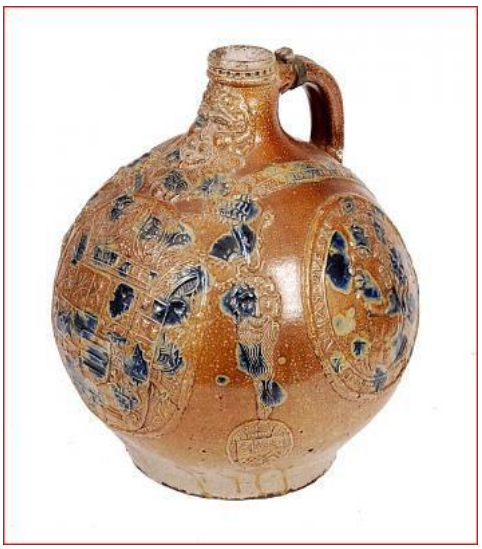
Figure 1b: Close-up of William Atherton seal. Source: As 1a

For the purposes of this thesis a date range was set to incorporate 1830 to 1930 so, as beautiful and as interesting as these 18th Century bottles are, they are outside of the time period set. They have been included however to illustrate the possible influence

that such bottles may have had on the manufacturers of early soft drinks such as ginger beer[2]. The production of these early soft drinks like ginger beer could be limited to a cottage industry and quantities could be brewed in the simplest of homes and sold on the street housed in either a glass or bottle (Emmins, n.d., p.11). One such outlet in Preston presents us with perhaps one of the rarest and most sought after Preston bottles, that of the 'Mary Battle' slab seal stoneware bottle. At the moment this bottle is recorded to exist in very small numbers, as low as two or three, in private collections[3]. It is likely that Mary Battle chose to sell her product in stoneware bottles, as ginger beer was known to 'burst cork' due to fermentation taking place after the bottle was sealed (Emmins, n.d., p.17). Ginger beer was also a particularly cloudy brew with heavy sediment in the early days, before it became possible to produce a clear extract of ginger, whose murky appearance was perhaps best disguised in stoneware as opposed to glass bottles (Roy Paget, Personal communication, 24 August, 2012). Why Mary Battle chose to house her product in a stoneware bottle with a 'slab seal' is less certain as plain stoneware bottles with simple incised or impressed designs (Fig.2) were available for use. Perhaps here it is possible to speculate a link to the black glass bottles dating to the late 18th and early 19th centuries or even early stone Bellarmine bottles that had 'medallions' which often identified taverns or individuals (Askey, 1981, 1998, p.71) (Fig.3). Seals on these early glass and stone bottles were used to signify ownership and perhaps Mary Battle used the same principle for her stoneware bottles to designate ownership of the bottle, as it was the practice of early drinks manufacturers to simply wash out and refill their bottles ready for the next customer. Mary Battle isn't alone in the use of these slab seal type bottles and examples are known for ginger beer manufacturers Henry Aspden [4] and Peter Kellett, as well as soda water manufacturer William Hodgson [5]. Kellett appears to be the most prolific of the four traders in slab sealed stoneware bottled drinks and examples of his bottle are more common but even with this said all examples of slab seal bottles from Preston are rare and can change hands for large sums of money. The earliest known Henry Aspden slab seal sold recently on an online auction site for over six hundred pounds.(Ebay, 1995) (Fig.4)

Figure 2: Preston Porter bottle dated to 1854. Source: Collection of Rachael Bryson

Figure 3: 1607 Bellarmine bottle Source: Dreweatts Auction, Donnington Priory



Aspden and Kellett (Fig. 5) appear to be more established ginger beer manufacturers than Mary Battle as their companies are referred to in the trade directories of Preston and this could be a reason for examples of these slab seals appearing more frequently than the Mary Battle examples (Fig.5). The same can be said for Hodgson's soda bottles. (Fig. 7)

Figure 4: Henry Aspden Slab Seal Bottle dated 1859. Source: Paul Best

Figure 5: Mary Battle slab seal (left). Peter Kellett slab seal (right) Source: Paul Best

So the Preston slab seals, which according to keen bottle collector Paul Best are perhaps the 'most notable bottles on a national basis', (Paul Best, Personal communication, 28 October, 2011) appear to range in date from at least the 1850s if not 1840s at the earliest through to the 1880s / 1890s at the latest. Kellett's death in 1891 (Ancestry, 2002) possibly brings an end to their production in Preston. Other than the business connection between Aspden and Kellett the only thing that appears to connect the users of the slab sealed bottles appears to be the date of production; all except Kellett are soft drink producers in the 1850s /1860s, the contents of their bottles; soft drinks of one form or another and place; all have premises in the centre of Preston. One other tangible connection appears a desire to return to the traditional sealed glass bottles of the late 18th Century, early 19th Century and use the seal as both a trademark and indication of ownership. However, it has been suggested that these slab seal bottles have one further connection that of their place of production. However, Preston is not the only town that can lay claim to the sought after slab seal bottle and this moniker is often given to any bottle or flagon which has a raised clay 'slab' applied to the main body of the bottle or flagon containing lettering and decoration (Askey,1981,1998, p. 72).

Commonly the early stoneware slab seal bottles and flagons used outside of Lancashire are very different to the slab seals attributed to Preston, rather they have seals with 'pie crust' edging and lettering without any form of pictorial embellishment (Fig.6). However, those used within Lancashire are of a similar form to the ones seen in Preston. Slab seals like the ones produced by Battle, Aspden, Hodgson and Kellett can also be found in Lancashire towns such as Oldham and Blackburn in the east of the county and as far west as the coastal town of Blackpool. The Blackpool example is a single example and other single examples appear in Walton Le Dale, very close to Preston, Accrington, Whalley, Rawtenstall, Ramsbottom, and Staleybridge (Askey, 1981, 1998, p. 72). (Fig.7)

Figure 6: Pie Crust slab seal flagon. Source: Paul Best

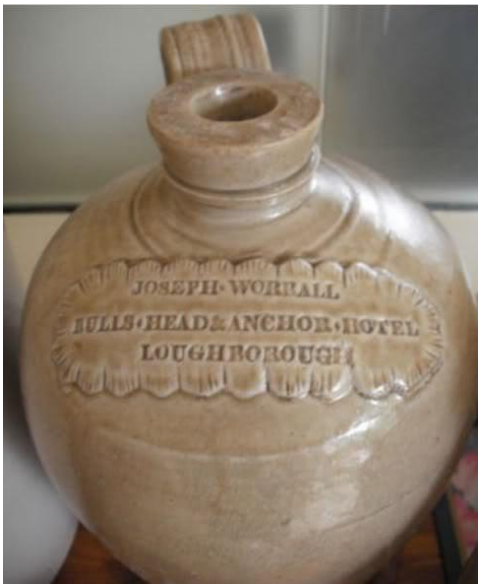


Figure 7: Slab seals: Hodgson , Preston (left) plus Oldham and Blackburn examples. Source: Paul Best

It is suggested by Dereck Askey in his book Stoneware Bottles from 'Bellermines to Ginger Beers 1500 – 1949' (1981, 1998, p. 72) that the reason why the slab seals found in Preston can also be found in similar towns within a 20 mile radius is that they were all using a single pottery to produce these primitive bottles. Askey bases this assumption on the research of Malcolm Starkie. Starkie (1978, cited in Askey, 1981, 1998) has suggested that the pottery based at Eccleshill in Darwen (Fig. 8), near Blackburn is the main source for all the Lancashire slab seals. Starkie's evidence for this is what he believes to be potter's marks such as dots or petal shapes impressed onto

these Lancashire bottles (1978, cited in Askey, 1998, p.72). The bottles are also characterised by a greenish grey slip glaze (Starkie, 1978, cited in Askey, 1981, 1998, p. 72). The pottery was established by William Bateson before 1861, as in the 1861 census three people were recorded as working at the pottery (Starkie, 1978, cited in Askey, 1981, 1998, p. 72). Another piece of evidence to support Starkie's claims comes in an 1865 Trade directory (Slater, 1865) which has Bateson listed as a 'Stone Botttle Manufacturer at Eccleshill, Darwen'. The site can today be located near the railway line between Darwen and Blackburn which is perhaps further evidence of how the pottery was able to serve the soft drink manufacturers of these various Lancashire towns (Starkie, 1978, cited in Askey, 1981, 1998, p. 107). Bateson appears to be connected to a well-established pottery industry in Burton-in-Lonsdale dating back to the 1700s in Yorkshire and he becomes the owner of the Greta Bank Pottery in Burton in 1867 (Fig. 9). This pottery specialized in making stoneware vessels for the wine and spirit industry in Yorkshire, North Lancashire and Cumbria and again a common factor between the Eccleshill products and Greta Bank are the potter's marks of dots or petal shapes impressed on the clay. Perhaps it is this expansion of Bateson's interests in the 1860s that encourages the spread of usage of the slab seal from towns local to Darwen, such as Blackburn and Preston, to across Lancashire. As the pottery industry in Burton-in- Lonsdale had been established for centuries and produced all items by hand - the seals being applied in the same way as Josiah Wedgewood and other early stoneware producers added their 'sprig' decoration to items like hunting jugs – this could account for the primitive and unique look of these early slab seal bottles, looking back to more ancient designs and production techniques. (Oxley, 1916)

Figure 8: Map showing relative distance between Eccleshill, Darwen and Preston. Source: Google Maps

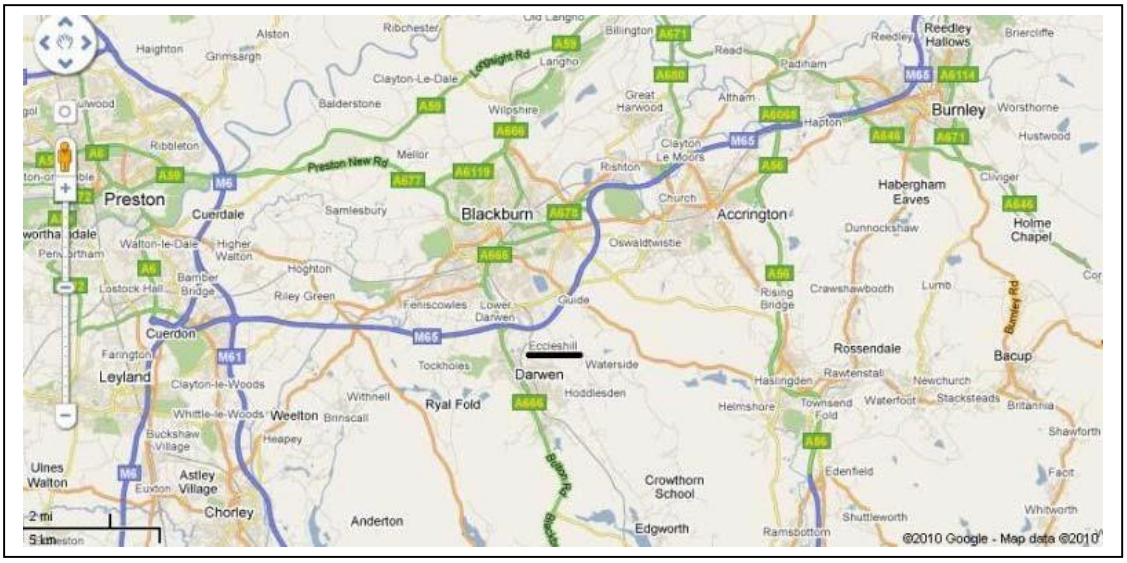
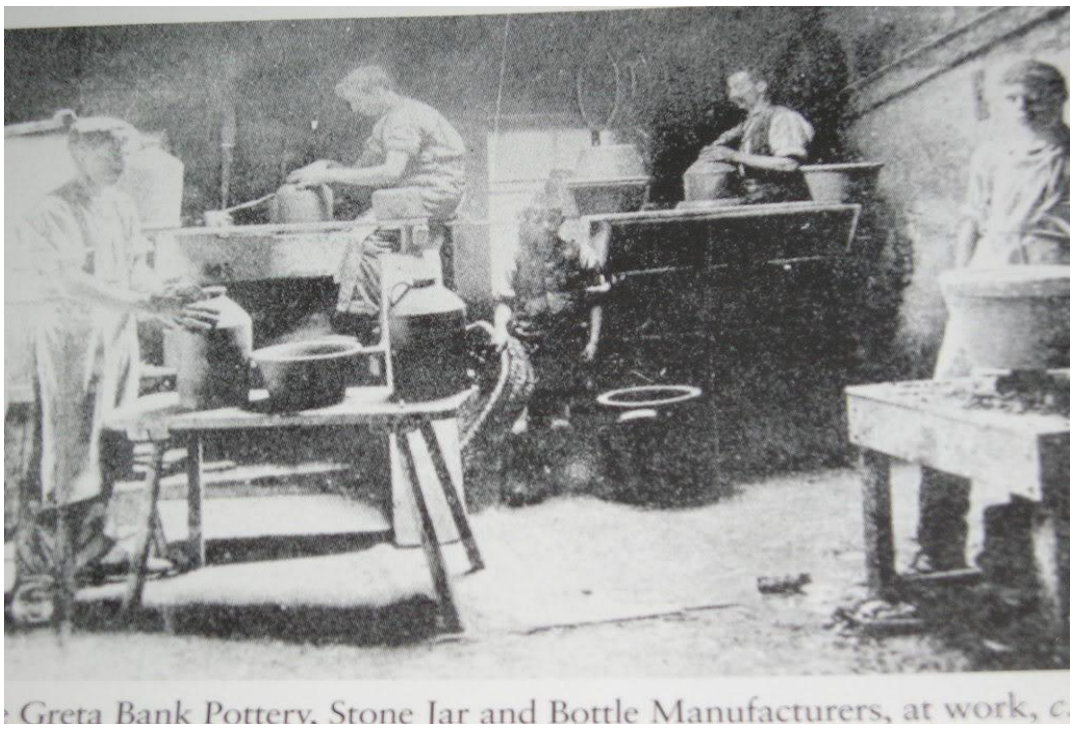


Figure 9: Greta Bank Pottery. Source: The British Antique Bottle Forum


Greta Bank Pottery, Stone Jar and Bottle Manufacturers, at work, c.

Incised or Impressed Stoneware Bottles – approx. 1850 – 1900s

Stoneware has been used in the production of bottles for centuries. The earliest salt glazed stoneware vessels were imported to England from Germany in the 16th century (Askey, 1981, 1998, p. 22). As noted in the previous chapter the Bellarmine stoneware bottles may even have been the inspiration for the Preston and Lancashire Slab Seals. English stoneware was first produced in London in the 17th Century and mirrored those produced in Europe (Askey, 1981, 1998, p. 22). Up until the late 18th Century the stoneware bottle still reflected the spherical shape of the early flagons (Askey, 1981, 1998, p. 60). The stoneware bottle of the 19th Century is of the shape we are more familiar with; straight sided and short necked. The 19th Century bottles are difficult to date but very often the bottles dating from the early part of the 19th Century are recognisable by an 'Ex' mark, which related to the excise duty that was due in the period before 1834 (Askey,1981,1998, p. 62) (Fig.10). Bottles like the Preston porter bottle (Fig.3) were first marketed in 1827 and continued to be produced in this form until the end of the 19th Century.

Figure 10: Stoneware bottle marked 'Ex'.
Source: Collection of Rachael Bryson

It is often only by tracing the history of the markings on bottles such as this that accurate dates can be established. The Preston porter bottle can be dated to approximately 1855 when James Taylor, the man whose name is impressed on the bottle, is noted as the landlord of the Plough Inn (also marked on the bottle), Friargate, in a Trade Directory for that year (Slater, 1855) (Ancestry, 2002). This bottle would have held the strong, dark ale called Porter which is similar to stout.

There are many examples of impressed bottles for Preston most of which, the rarer porter bottles aside, would be overlooked by any one but the most ardent of local collectors due to their uninspiring colours and largely poor quality. One collector of Preston bottles consulted for this thesis doesn't even display his impressed examples; rather they are relegated to storage in the shed and attic (David Sanderson, Personal communication, 22 May, 2011). These stoneware bottles, as with the slab seal varieties, were hand produced being thrown on a potter's wheel[6]; a single man could produce several dozen bottles per hour (Blakeman, 1998, p.11). Bottles of the first half of the 19th Century are often brown salt glazed, where salt was literally added to the kiln during firing, later a dip glaze requiring a single firing and producing a variation of colours superseded the salt glaze type (Askey, 1981, 1998, p. 73). Usually the only decoration on these types of bottles is lettering impressed into the wet clay before firing. Sometimes these bottles are described as 'incised' rather than 'impressed'. Dereck Askey (1981, 1998, p. 70) has claimed that this is incorrect as to incise a bottle a sharp tool is needed rather than a printer's block. Despite their more naïve design it should not be thought that all of these impressed bottles represent early manufacturing in Preston, as this cheaper method of decoration and advertisement was used well into the 20th Century. The number of impressed bottles available may reflect the growth in the soft drinks industry in the 19th Century as they represent a range of companies, some who appear, like Mary Battle, to run small business enterprises from home to those with much larger concerns who go onto invest in more decorative wares as their businesses expand (Figs. 11a & 11b). The primary need for the impression on the bottle remains, as with the slab seals, the need for drinks manufacturers to show ownership of the bottle as these bottles were expected to be returned, rinsed and reused.

Figure 11a: Joseph Simpson, Preston impressed bottle. Source: Collection of Rachael Bryson

Figure 11b: Ellis Wilkinson, Preston impressed bottle. Source: Collection of Rachael Bryson

Printed Stoneware Bottles – approx. 1870s – 1920s

The latter part of the 19th Century sees the rise of the most familiar type of stoneware bottle referred to as a ginger beer bottle or ginger; this is the two tone 'Bristol glaze', ginger with a printed design[7]. The print, a technique developed as early as 1878 in Glasgow, was added to the bottles once they had dried out naturally and was created by mixing ground base metal powder with water to create an oxide. When fired manganese created a black print, cobalt a blue colour, copper a green colour and iron was brown. Manganese was the cheapest base metal and cobalt the most expensive hence the rarity of blue printed bottles (Blakeman, 1998, p. 11). It would appear that the majority of Preston drinks manufactures preferred the cost effective use of black printing, as yet no examples of printed bottles in colours, other than black, have come to light. The use of printing was also cost effective in giving a manufacturer a permanent advertisement on his bottle whilst also protecting them against bottle piracy, the reuse of bottles by rival companies .As with the slab seal and impressed bottles printing also gave the companies ownership of the bottles when it came to return and reuse. Paper labels were of course an even cheaper way of advertising but were less effective against bottle piracy, as they could be soaked off by a rival who could refill an enemy company's bottle with their own brew (Blakeman, 1998, p. 11) . Some manufacturers tried to combat such thefts by using impressed lettering as well as paper labels. The prints were applied with rubber stamps or transfers and with the competitive nature of the soft drinks trade many prints grew more and more elaborate to attract customers' attentions (Blakeman, 1998, p. 11). As a result this attractive type of bottle is probably the most common in the bottle collector's collections and Preston collectors are no different in this. What is disappointing to the Preston collector is the lack of availability of the elaborate pictorial prints seen in other parts of the country (Fig.15). However, those more elaborate prints that are favoured by a small number of Preston soft drink manufacturers have made their bottles rare and sought after (Figs. 12 & 13).

Figure 12: Winder 'sail boat' printed bottles, Preston. Source: Sanderson Collection

Figure 13: Haysworth, Preston masonic transfers. Source: Paul Best

Preston's unfortunate lack of interesting transfers could be down to the drink manufacturer's choice of bottle producer. As a northern town Preston would likely use northern bottle producers like those in Derbyshire, Yorkshire and Scotland. However, there are some examples of Preston bottles with marks representing Prices of Bristol and other southern based companies. There are as many Preston bottles whose makers are unknown – for example it is not known which bottle producer produced either the Winder sail boat bottles or the Fiddler blue tops both represented in this section (Figs. 12 & 13). There are a number of Preston examples impressed for the company Pearsons of Chesterfield who were perhaps the second largest producer of bottles in England. However, these bottles are described by Alan Blakeman (1998, p. 14) as being rubber stamped bottles that are 'without exception mostly very poor quality and generally quite mundane in design' (Fig.14). It would appear that the drinks manufacturers of Preston simply wanted a cheap and practical vessel from which to sell their wares and not to leave behind what essentially became the 'pretty rubbish' that today's collectors are thankful for. Perhaps catering for the needs of a growing industrial town simply needed cheap, practical containers that served their purpose. The workers choking on cotton

dust in Preston's many mills would probably not give a second thought to the bottle from which they drank the soothing liquid.

Figure 14: Pearson made bottle for Thomas Farrer, Preston. Source: Collection of Rachael Bryson

Figure 15: North East printed bottle. Source: Phil Riley

Despite this it cannot be said that some Preston soft drink producers did not attempt to make their produce stand out from the more mundane printed wares available. A commonly used practice to achieve this would be to use a glaze on your bottles that was out of the ordinary from the usual buff, off white, honey or brown. Available colours were cobalt blue, turquoise, green and even pink. Some of the rarest and most desirable bottles to Preston collectors are the three known 'blue top gingers' produced by the companies of Thomas Henry Fiddler, Richardson & Smith and Richard Nickson (Fig. 16). The Richardson and Smith is latest bottle in terms of date but the rarest. (Paul Best, Personal communication, 28 October, 2011)

Figure 16: Preston blue top 'gingers'. Source: Sanderson Collection

Figure 17: Haysworth Meadowcroft lip in glass. Source: Sanderson Collection

The simple reason for using a blue glaze in a world of brown and buff is to make your product stand out but again it is a great way to make your bottles instantly identifiable in the fight against bottle piracy. Even rarer than blue tops are bottles using a green glaze and there is one Preston company known to have produced a green topped bottle and that is Haysworth; the producer already cited as a user of the masonic transfer. Not only does Haysworth produce his bottle with a scarcely used glaze colour but he combines this with a very rare patent stopper known as the Meadowcroft Patent Lip (Fig. 17) making this bottle one of the key finds for a Preston collector (Paul Best, Personal communication, 28 October, 2011).

Aside from glaze variations something else that can set a stoneware bottle apart is the type of closure. It is usually agreed that there are six types of closure used on stoneware bottles; the most common being the cork closure. This type of closure appears to be the standard amongst Preston manufacturers of soft drink, however there are some variations used including the Meadowcroft Patent mentioned above. The Meadowcroft Patent Lip was devised by William Meadowcroft of Blackburn, a town not more than twenty miles away from Preston[8]. The patent for the Meadowcroft Patent Lip was taken out on the 26th February 1896 by J Meadowcroft, W Meadowcroft and Son of

Regent St. Blackburn. In part the patent reads ‘the neck of a screw stoppered bottle is formed with an external flange on a collar at some distance below which collar forms a joint with the rubber mouthpiece of the bottling machine’. The Meadowcroft Patent Lip can be applied to either stoneware or glass bottles and there are variations within the design itself. Examples of the Meadowcroft Patent Lip can be found throughout Lancashire and are known on stoneware bottles in Blackburn, St Helens and Atherton but can be found as far away as Kirkcaldy in Scotland and Norfolk where they are said to be a rare variation (Bottledump,2011) (Askey, 1981, 1998, p.88). It can be surmised that this type of closure is rarer than others as it would have involved buying new machinery as well as having to invest in new bottles, compatible with the new machinery. Perhaps this outlay was considered extravagant in order simply ‘to assist in securely locating the bottle in the filling machine’ to avoid loss of product (BrightonBottles, 2007). Once again this could point to the ambition of certain companies to keep up with new technology or to consider the most cost effective form of production. Haysworth of Preston, it would appear is keen to promote his company as up to date, ambitious and profitable when he uses the masonic transfers, patent closures and rare glazes that make his bottles stand out from the crowd.

Other more common closures found regularly amongst Preston examples are the internal screw stopper crown cork these are usually accompanied by a ‘blob’ top astride the neck of the bottle[10].

A closure that can alter the shape of the bottle and remove the need for a ‘blob’ top is the ‘swing’, ‘swivel’ or ‘bale’ stopper which is still in use today. Most people are familiar with this form of closure from Grolsch beer bottles but Seeds of Preston (Fig. 18), amongst others, used this form of closure on their bottles at least a hundred years ago, when it was first introduced to Britain from America. However, bottles of this nature are more commonly produced in Scotland and therefore limited to companies whose bottles were produced by manufacturers like Buchan. The mechanism on this type of closure would ensure that the stopper stayed in place, preventing the gas, keeping the product fizzy, or the liquid product itself, from escaping. On some examples the glazed cork itself has the company name printed on it - this includes those bottles known in Preston (Askey, 1981, 1998, p. 86). The bottles that used this type of closure tended to be a more slender shape than the standard ginger beer bottle. A similar shape found amongst ginger beer bottles is known as the ‘champagne’ (Fig. 19) and again this is a shape favoured by Scottish producers and therefore this shape is popular in Scotland

and the North East of England; usually combined with good quality pictorial prints (Blakeman, 1998, p.12) (Fig.15). Some Preston companies are known to have used this shape of bottle (Fig. 19).

Figure 18: Seeds, Preston swing tops in glass and stoneware – left & right. Also stoneware crown cap and Riley's stopper - centre. Source: Sanderson Collection

Figure 19: Centre – Rothwell, Preston champagne ginger. Source: Sanderson Collection

Other shapes known alongside the 'champagne 'and 'standard', are 'dumpy', 'shouldered' and 'skittle'. These shapes have their reflections amongst glass bottles and the 'dumpy' is commonly used within the manufacture of seltzer bottles in glass (Blakeman, 1998, p. 16). These shapes are not unknown in Preston but are rare[11].

Another rare type of closure also attempted to make sure the cork fit snuggly in the bottle. Traditionally corks were held in place with wire or even twine, in 1897 a patent known as the Galtee More (Fig.20) was taken out to ensure that the cork held firmly in place until the point of sale. The patent was simple; drill a single hole in the side of the 'blob' top of the bottle and insert a pin through to secure the cork. Despite the simplicity of this solution this patent was not widely used and examples of this patent are rarely found in vast numbers – perhaps as few as 38 companies used this type of closure (Askey, 1981, 1998, p. 87). Again, this could be down to cost effectiveness as the bottle would have to undergo another process, the drilling of the hole, in order to secure the cork. There are examples of Galtee More patent Preston bottles; the reason

behind this is most likely that the main producer of this type of product was Price and Co of Bristol, the company whose mark can be found on some examples of Preston gingers[12]. (Blakeman, 1998, p. 14)

Figure 20: Galtee More patent closure. Source: Paul Best

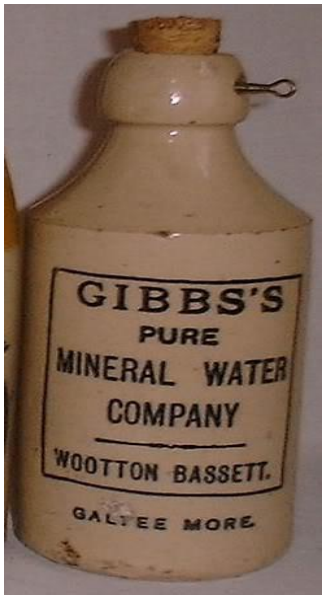


Figure 21: Blue lipped Codd. Source: amberglobe

If the Galtee More patent found itself rarely used due to the cost of or time constraints of putting a bottle through another process, then it is likely that other patents were also largely ignored for such reasons. One such time consuming patent was for a glass window to be placed in the side or bottom of the bottle to reduce complaints regarding foreign objects in stoneware bottles (Askey, 1981, 1998, p. 91). The suggested demise of the stoneware bottle relates to this very problem as companies feared legislation being taken against them if customers found foreign bodies such as snails in their 'pop'[13]. (Blakeman, 1998, p. 8)

Hamiltons, Cucumbers and Cylinders – approx. 1820s – 1880s

Some of the rarest and earliest stoneware bottles are known as ‘hamiltons’. There is some deliberation as to how these egg shaped bottles got their name – it is unclear whether a patent was taken out for the bottle itself or whether it is just the receptacle mentioned in William Francis Hamilton’s ‘new mode of preparing soda and other mineral waters’ in 1809. It is even suggested that bottles of this shape were in use in 18th Century Geneva by Jacob Schweppe and Nicholas Paul before him, when manufacturing mineral water. Whoever was the inventor of this type of bottle no longer matters as it is William Francis Hamilton’s name that has stuck (Askey, 1981, 1998, p. 114). Being one of the earliest mineral water bottles in existence it was not manufactured in huge numbers, being produced by hand on the potter’s wheel, and it survives in even fewer numbers. Unfortunately, Preston cannot lay claim to such a rare bottle[14].

Preston is however able to lay claim to some interesting and rare ‘hamiltons’ and variations. Every collector has their ‘Holy Grail’ and most Preston collectors would be keen to own the slab seals, blue top gingers or green top Meadowcroft patent Haysworth bottles already mentioned – but one bottle known to exist is almost a thing of legend. The tale relates to some bottles found when building work was taking place in the town and land was being cleared to make way for a retail park. When digging the foundations builders unearthed the fabled ‘cobalt blue hamilitons’ marked ‘Beaumont Preston’[15]. These bottles were soon spirited away or changed hands for good money – it all happened so quickly that sources cannot even remember who was lucky enough to leave with one that day (Roy Padget, Personal communication, 24 August 2011). Bottles were used as receptacles for many liquids, powders and pastes. Chemists and druggists, such as Beaumont, were also known for manufacturing herbal drinks, but these blue hamiltons could have held numerous different products. In the same way that coloured glazes were used to highlight one company over another, using similar stoneware vessels, coloured glass could be used in the same way[16]. However, as Beaumont’s is a chemist (Ancestry, 2002) and cobalt blue glass is usually associated with poison containers, then it is possible that contained within these rare Preston bottles was a poisonous liquid rather than the soda water he also made – the vivid colour was

probably, in this case, used to warn users of the hazardous contents within. Although as a soda water maker he could also use these bottles to house his soda water – making his everyday product stand out from the crowd in vivid blue bottles.

Hamiltons were created in their ovoid shape to prevent the cork from drying out and becoming loose. Hamiltons were perfect for this job as their permanent horizontal state meant that the cork would always be immersed in liquid and therefore would remain tight in the neck of the bottle (Emmins, n.d., p. 17). If the cork was not kept moist then it could shrink causing gas – vital in carbonated drinks such as soda water – to escape and leaving the beverage totally devoid of 'fizz'. The need for a hamilton shape in a chemist shop may not be to maintain effervescence but simply to avoid leakage of dangerous chemicals. There are, of course, other more common examples of Preston hamiltons (Fig.22) and despite their common aqua colour they all have variations of size, shape and embossing. Some Preston manufacturers embraced the move to glass for example, Peter Kellett's horse trade mark, found on the crude early stoneware slab seals, can also be seen on clear glass hamilton bottles. Many hamilton bottles are simply embossed with lettering just like the impressed stoneware bottles simply giving a manufacturer's name and address – again showing ownership of the bottle which could be rinsed and reused as well as advertising the company and product[17].

Early glass bottles, like their stoneware counterparts, were often hand-made and pontils left by the breaking off of a bottle blower's rod are clues as to how a bottle was manufactured and when. However, the glass bottle industry moved to semi-automated production much quicker than the producers of stoneware bottles and molded bottles became the product of convenience in the mid-19th Century (SHA, 2012). However, there were still elements of hand production with bottle lips remaining hand applied. Many manufacturers of soft drinks moved with the times and begin using glass bottles for many of their beverages, the exception being those with heavy sediments like ginger beer. The mass produced glass bottle was convenient and cost effective in the 19th Century and it becomes the bottle of choice in the Victorian age as bottle factories could produce 1500 bottles per hour – Preston is no exception to this rule (Britglass,). It is testament to the numbers produced just how many discarded bottles actually survive having been buried for decades. That is not to say that the hamilton bottle is not without its problems and variations of the bottle were produced in order to try to resolve the design flaws of the hamilton.

Storage is the greatest problem where a hamilton is concerned, their egg shape meant that they had a tendency to roll if placed on a flat surface. Mineral water producers and chemists alike would find that they could not use shelves for the storage of the hamilton as they would simply roll off onto the floor below, losing product and profit[18] (Hickman, 2007).

The first problem was solved with some alterations to the shape of the hamilton whilst preserving the need to keep a bottle horizontal and its cork moist. In this case there were a number of different solutions namely the 'cucumber' or the 'cylinder' form. The cucumber dates back as early as the 1840s and was widely used until the 1880s in counties such as Lincolnshire, Yorkshire, East Midlands and Lancashire, although it can be found elsewhere in the country in fewer numbers (Hickman, 2007). Cucumbers are generally noted to be round ended cylinders with 6, 8 or 10 flat sides or alternatively can be ribbed; they are usually characterized by bold embossing (Hickman, 2007). So why did this shape become popular other than the reason of being easier to store than the traditional hamilton? Perhaps the companies who chose this bottle as their favoured receptacle were more safety conscious than others, as another point of favour the cucumber has over the hamilton is that it has less of a tendency to explode than the hamilton. These bottles usually held carbonated water – simply water infused with carbon dioxide gas to make it fizzy – the idea to do this came to a man called Joseph Priestley in 1767 (Emmins, p. 8). By the 1830s an American invention to mechanise the process revolutionized the market and soon pretty much every beverage had bubbles – lemonade, ginger beer and herbal drinks (Emmins, p. 12). By 1886 familiar fizzy drinks such as Dr. Pepper and Coca-Cola were in production (ChaCha, 2006). This gassy drink was popular but in its early days it could also be lethal as the gas could build up and cause the bottle to explode. With its thicker glass particularly at its rounded end the cucumber was less likely to shatter (Hickman, 2007). Perhaps Preston and other areas of cucumber manufacturers and users had heard tell of the wasteful and sometimes fatal flaws of the hamilton and decided to go for this safer option for their product instead. Another reason that the cucumber shape may have been favoured is once again product recognition, a theme recurring throughout bottle production and development[19]. Just like the blue, green or brown ribbed and dimpled bottles were familiar for housing poisonous chemicals, then the cucumber could be easily recognized as being filled with carbonated water. As a general rule of thumb a true cucumber is 10 and a half inches in length and 2 inches wide but there are variations in shape, design and colour; with the more

colourful examples being much rarer and more sought after (Hickman 2007). Unfortunately, only aqua examples are known relating to Preston. (Fig. 23)

Cucumbers and cylinders were known to have varying closures just like other bottles but the buying public were slow to respond to change and often railed against new forms of internal closure; claiming that the stopper contaminated the product's taste. This is why this bottle with its traditional cork closure remained popular for a forty year period (Hickman 2007).

Figure 22: Preston aqua Hamilton for Kellet on right and aqua cylinder on left for Haysworth's. Source: Collection of Rachael Bryson

Figure 23: Preston Cucumber. Source: Sanderson Collection

Codds and Related Patent Bottles – approx. 1870s – 1950s

The hamilton bottle proved popular to makers and consumers of carbonated drinks throughout the first half of the 19th Century, so much so that it actually became difficult to market new containers despite innovations in design and production. (Hickman, 2007)

Perhaps the greatest innovation in bottle design in the 19th Century belonged to a man called Hiram Codd. It is Codd's patent bottles that form a large part of bottle collections today and they can be found for prices as low as 50 pence on car boot sales and flea markets. However, there are so many variations on Codd's patent that the rarest versions can change hands for thousands of pounds. One of the rarest variations is the 'Hybrid Codd' this bottle is based on the hamilton egg shape bottle with the addition of Codd's patent stopper. The purpose behind Codd's patent stopper was to remove the need for bottles having to be kept on their side as it replaced a cork with a marble in a chamber in the neck of the bottle so that the bottle was internally stoppered and sealed with gas pressure (Dunn and Dunn, 1987, p.38). If the Codd Patent resolved the need for a bottle needing to be constantly horizontal then the question could be asked why was there ever a need for a codd / hamilton hybrid? The simple answer to this is down to public opinion and consumer taste. The hamilton bottle had been in use for decades and was familiar to the soft drink buying public, when the Codd bottle was introduced the public preference remained with the hamilton. This could be down to the suspicion over internal stoppers altering the taste of a beverage. To allay the public fears the Codd was combined with the hamilton until the idea of an internally stoppered bottle was adopted. Even rarer than the Codd / Hamilton hybrid is the Codd / Cucumber hybrid. Perhaps the reason these early Codds are rare is that youngsters would smash the bottles when empty to retrieve the glass marble stoppers from within so that they could play marbles. A hybrid example is not yet known for Preston.

Hiram Codd the man whose name is synonymous with bottle production was born in Bury St. Edmunds in 1838 (Dunn and Dunn, 1987, p.5). Codd set up the Malvern Mineral Water Company so he could experiment with his idea of an internal marble stopper (Dunn and Dunn, 1987, p. 6) As the marble ball needed to be larger than the orifice of the bottle in order to work, he found few bottle makers to support his early trials and efforts (Dunn and Dunn, 1987, p.7). Eventually it was a partnership with the talented glass blower Ben Rylands that lead to Codd's breakthrough with his invention.

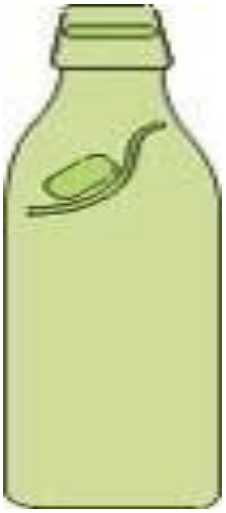
The two formed the Hope Glass Works in Barnsley, backed by a Mr Barrett, a man of means (Dunn and Dunn, 1987, p7). Early experimentation showed the vulnerability of glass as the marble ball could shatter the bottle if shook and another problem was that the marble would impede the pouring of the liquid from the bottle (Dunn and Dunn, 1987, p.7). The answer to this problem came in the form of grooves applied to the neck of the bottle when the glass was still molten. Many Codd or Ryland related bottles have the phrase 'patent groove' embossed on them which goes to show how important this simple progression was (Dunn and Dunn, 1987, p. 7). This was the breakthrough Codd required and his product was now ready to be marketed around the world but was vulnerable to imitators. Codd made the most of this situation by allowing his bottle to be copied under license as long as the manufacturers bought his groove tool, rubber seals and marbles – the rubber seals being the key to making the bottle airtight (Dunn and Dunn, 1987, p. 7). Ben Rylands died in 1881 and his son Dan took over the business eventually buying up Codd's share in 1884. As Codd could no longer renew his earlier patents this allowed free use of his idea and a number of variations of Codd's theme arise (Dunn and Dunn, 1987). It is estimated that 250 related patents were taken out over the period 1868 to 1907 applying to all aspects from bottle closure to opening devices. There are also around 60 variations on Codd's bottles known in America and variations specific to Australia and South Africa, a country that has numerous Codd / Hamilton hybrids available to its collectors. (Codds Stuff, 2001)

Around a hundred of these patents apply to stopper variations and / or bottle shape (Codds Stuff, 2001). The Codd bottle can come in various shapes, sizes and colours. It is commonly found in 6oz and 10oz variations and can be standard, dumpy or skittle shaped in the same ways we have seen given to stoneware bottles. This again may relate to the need for familiarity with an existing product to ensure customer satisfaction. The most common form of Codd is the one with Codd's original patent applied. However, early Codds especially with the words 'Codd's patent' embossed upon them are rare and sought after. After that comes Ryland's variations on Codd's theme and these are usually embossed Ryland's patent and are often accompanied by a number. However, there are some weird and wonderful variations on Codd's theme; most bottle collectors will be familiar with the Dobson's patent, Snowdrop and the Niagra. Fewer will have seen, never mind possess, an Edward's or Deek's patent codd. Some patents are extremely rare and obscure, for example, Connor's patent[20] (Fig.24) and Schon's Twin patent. (Codds Stuff, 2001) There are examples of Bulb neck and

Codd's Premier patent bottles for Preston but they are much less common that the standard Codd usually found in the city. Again this limitation on Preston design may be down to cost saving or seeing these often seemingly unnecessary changes to the original design, as change for change sake. It could also be that with a healthy population of thirsty factory workers in the town throughout the 19th and into the 20th centuries that there was room for all comers to the soft drink trade and competitive brinksmanship was unnecessary, therefore one didn't need to have the latest bottle design or cutting edge patent to better the competition. Or it could also be that the discerning people of Preston had the sense to see through the Codd variations for what they largely were; subtle, often unnecessary changes to a successful patent design with the aim of tapping in to what was now a lucrative market. Once again it is Haysworth and Seed that have the rarer patents found in the city; Haysworth uses the early and unusual Premier patent and Seeds utilise the bulb neck codd. The St Helens glass firm of Cannington Shaw made both the Premier and Bulb Neck patent Codds and it is likely that this firm would have produced these bottles for the Preston firms rather than equivalent producers in Yorkshire, the North East, London or Glasgow (Codds Stuff, 2001).

Figure 24: Rare Connor's patent Codd with non-round marble. Source: Paul Best

Figure 25: Hayne's Patent Codd with pear shaped marble. Source: Bottle Bill

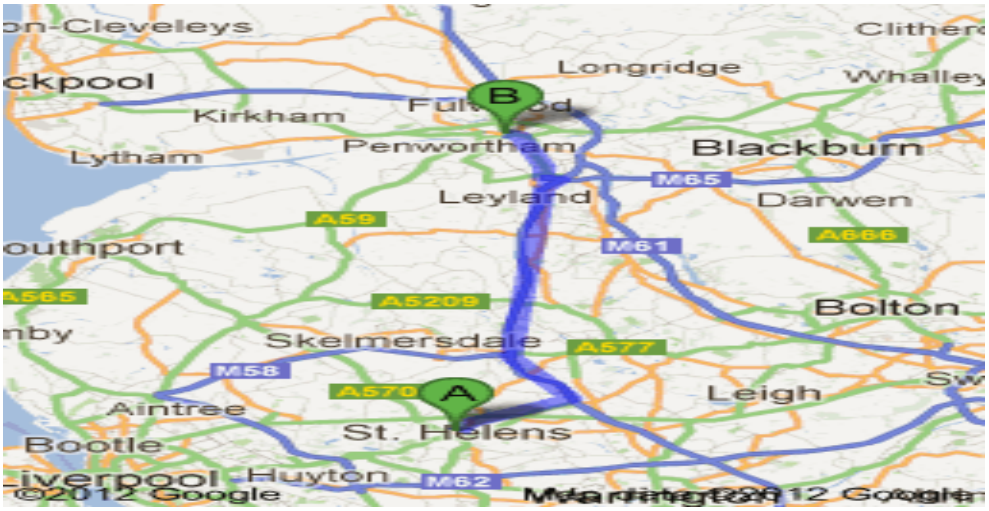


A fear that did seem to play on the mind of manufacturers of soft drink in the town was bottle piracy and some of the rarest Preston Codds have blue lips or amber marbles. Again just as we have seen before with the coloured glazes of the stoneware bottles this meant your bottle was easily identifiable and thefts could be traced. There are no known fully coloured Codds for the city and again this may be down to cost of production. To produce coloured glass, as with the coloured stoneware glazes, chemicals would need to be added to achieve the highly sought after blue, green or amber colours and this extra process would add to the cost Those companies who couldn't afford this process or simply saw it as an unnecessary extravagance either left their bottles the standard aqua colour or applied a coloured lip or marble – this would identify your product but at a much restricted cost. Even so, adding a coloured lip to Codd bottles cost an extra two shillings per gross to production costs. It was Dan Rylands who sought to solve bottle piracy and took out the patent for coloured lips (Dunn and Dunn, 1987, p. 41); these can be found in red, brown and green in addition to the blue found on Preston examples. The coloured marble example originating in the town was produced by Ellis Wilkinson. (Fig. 21)

Codd bottles were expensive to produce, as the retention methods above show, and the margin of profit was small. Codds had to be made in three parts and then sundry items like the groove, marble and rubber had to be added, this meant a Codd bottle cost between 4 and 5 pence to purchase before adding the product. As the contents on their own would only be one and a half to two and a half pence then the margin of profit is around one pence only (Dunn and Dunn, 1987, p.59). To be profitable a bottle would have to be reused numerous times but there was little incentive to return a bottle and children used the bottles as target practice and a source of marbles. It is said by Russell and Jane Dunn (1987, p. 59) that the 'Codd bottle was the cause of more factory owners going broke than all factors together'. Therefore Codds are usually associated with the more successful, early 20th Century producers in Preston like Seeds and Wilkinson, although some are known for smaller firms like Heginbotham. It is often the St Helen's glass manufacturers like Nutalls and Cannington Shaw that are the manufacturers of Preston Codd bottles, probably down to locality. However, 60% of all Codd production appears to be in Yorkshire (Codds Stuff, 2001). Some of the bottles can be dated precisely as they have the production year embossed upon them – this means a collection may be full of seemingly the same bottle just with one subtle difference – the date. Codds just as with other types of bottles can be embossed with trademarks as well

as writing and a common trade mark used in Preston appears to be the horse. It is used by Peter Kellett, Henry Maud and Heginbotham on his Codd bottle. It appears that Maud took over Kellett's business when he died, just as Kellett had taken on a partnership with Aspden previously, and continued with the horse motif. As Heginbotham is known for Codd production he will be working around the turn of the 19th century and into the 20th Century when Codds were at their height, it is likely then that he took on the reigns from Maud and once again used the horse motif on his bottles.

Figure 26: Map to show relative distance between St. Helens and Preston. Source: Google Maps



The Codd saw its demise in the 1930s when health and safety issues regarding cleaning and reusing the bottles emerged. However they haven't quite been erased from history and are still produced in India and Japan today. (SHA, 2012) (Fig. 28)

Figure 27: Haysworth's Premier Patent Codd. Source: John Wallis

Figure 28: Modern Codd bottles. Source: Paul Best

Other patent bottles

The Codd bottle had such an impact on bottle production and the soft drinks' trade that it appears a watershed moment in bottle history and the periods pre and post 1872 are often referred to in bottle collecting circles as 'Pre Codd' and 'Post Codd'. A rare and desirable patent bottle from Preston in the pre Codd period is the Barret and Eler's patent and a number of Preston companies used these 'stick stoppered' bottles[21]. The stick stopper was the first internal stoppered bottle and to open it the stick, often made of lignum vitae, was simply pushed down into the bottle. It is possible to suggest as to why there are few examples of the Barrett and Eler's stick stoppered bottles available to collectors and why they are quite sought after, particularly in Preston, and that is the fact that they hadn't been in production very long before being usurped by Codd and his unstoppable patent.[22] (Fig. 29)

Figure 29: Barrett Eler's patent for Preston Aerated Waters. Source: Rachael Bryson

Figure 30: Lamont's patent bottle for Preston Aerated Waters. Source: Rachael Bryson

Despite Codd's domination of the bottle market it did not stop others attempting to join the market place with their own patents – some, as stated previously, were simply variations on Codd's theme but some introduced new and potentially alternative methods of bottle closure. Most of these patents are commonly known as bullet stoppers

but were patented by various companies like the Lamont, Sutcliffe or Vallett. [23, 24] Bottle maker John Lamont patented a closure for bottles using an ebonite bullet and rubber seal in 1874. (AussieBottleDigger, 2008) (23) (24) Many Preston bottles used these bullet shaped closures but are not always marked with a patent (Fig. 30) – so unless the patent stopper remains inside the bottle or the shape is particularly distinctive it can be difficult to attribute the bottle to a particular patent accurately[25]. One of the reasons why the bullet stopper type of bottle may be fairly prevalent in Preston is it was relatively cheap to produce as compared to the Codd product; hence the bullet stoppers use alongside the Codd patents into the 1920s.

Another type of closure again prevalent in Preston is the internal screw stopper, patented by Barrett, in 1879 (Codds Stuff, 2001) (Fig. 31). This is one of the most common forms of bottle closure seen in Preston and indeed a very successful patent in its time. At first this stopper was intended for use with beer bottles and can be found on examples of such from the city of Preston but it also proved useful for closing mineral water bottles too, even the carbonated variety[26]. The internal screw thread became a popular alternative to Codd's patent. Some, however, remained opposed to the use of the internal screw thread stopper usually on the basis that foreign bodies could be forced into the beverage contaminating it (sodasandbeers, 2012). Some also believed that Barrett's ebonite tube made tight by a rubber washer when making contact with the contents would tarnish the taste and so continued to favour Codd's glass marble[27]. (Ricksbottleroom, 2007) Of course the internal screw stopper naturally leads to the development of the external screw cap which is found on most bottles and does away with fears of internal contamination[28]. Of course there is the crown cap that also solved the problem of internal contamination and is still used on bottles today – this was introduced on bottles in America in 1892 and can be found on similarly dated bottles in the UK including on stoneware ginger beers as well as glass bottles.(bullworks, 2004) (Fig. 18)

Another well represented area in Preston is the mass produced molded bottle usually dating from the early to mid- 20th Century; successful mineral water companies like Seeds and Wilkinson have numerous bottles relating to this category as do breweries like Howard Bros, Cardwells and the famous Matthew Brown. Bottles started to be mass produced in 1886 when an invention from the other side of the Pennines revolutionized glass bottle production. This was the first mechanical glass making device. A year later it was installed in the Sykes & McVay – a company responsible for

their own patent Codd variation - factory in Castleford and was able to produce 180 dozen bottles per day with only two men needed to supervise the machine (Knottingley,2000). With the reduction in both production and labour costs the bottle became a much more affordable and disposable receptacle. Production rose to 57,000 bottles per day when in 1907 the first fully automated machine was developed in America by Michael Owens from major glass manufacturers Owens of Illinois, and used at its factory in Manchester, Illinois. Bottles from the late 19th Century and early 20th Century machine age can be easily identified by molded seams; some bottles from this time have hand applied lips but on some the seams are molded right up to the lip. Bottles produced by Owen's machine also have a suction scar on the base meaning that these bottles are easy to identify and age (Brit Glass, 2011). Despite being a fixture in Preston brewing traditions from the 1830s the company of Matthew Brown is rather unrepresented on Preston bottles until this era of mass production[29]. It is probable that Matthew Brown only began to use bottles with his trade name on when they became agents for other producers such as Guinness. Guinness would be sold in Matthew Brown embossed bottle with a label for Guinness and stating Matthew Brown as an agent for that company in Preston. In 1875 Brown's business became Matthew Brown PLC and by 1927 the company had bought up Nuttall's brewery in Blackburn and moved to premises there (Made in Preston, 2011). This allows the collector to date Matthew Brown Preston beer bottles to pre 1927 and with their molded seams from the 1880s up to that date[30]. (Fig. 31)

Mass production can bring problems for the bottle collector as bottles are no longer limited to the small numbers that lead to rarity and therefore increase value and desirability – some bottle diggers refuse to dig post 1920 tips due to the dearth of mass produced glass. However, this isn't the only problem that mass production brings for the collector; mass production reduced costs in the production of glass bottles and manufacturers continued to look for further cost cutting areas and this came in the form of the paper label. As previously described most 19th Century glass bottles were decorated by the embossing technique. The design could be added to the bottle mold and was used to both identify and advertise a bottle's manufacturer as well as the product inside and its producer. Paper labels largely usurped embossing, although they were both used on early 20th Century bottles, when better printing techniques, glues and labeling machines became available and proved a more cost effective and flexible way of identifying a brand. As many bottles are found buried in rubbish tips paper labels are

usually missing but can be found on cellar finds or in apothecary cabinets. Therefore, paper labels, when they survive, are sought after by collectors but they can also be a way of fooling a collector used by the unscrupulous dealer. Paper labels can be easily soaked off, therefore making such bottles subject to bottle piracy, and therefore can be easily replaced making a plain, worthless molded bottle turn into something more sought after. Original labels do still exist in defunct printing premises and old chemist shops and find their way onto unassociated bottles. The methods for producing old printed labels also still exist and in theory can still be produced today. So, unless the bottle has an associated embossed name as well as a paper label then collectors must be wary when adding a 'genuine' paper labeled bottle to their collection. In the 1930s applied coloured labels, actually baked on to the surface of the bottle, made paper labeling and embossing almost defunct. These were common on soda bottles in the USA but are more frequently seen on milk bottles in Britain, including ones from Preston (SHA, 2012). (Fig.32)

A bottle that can often still be found with paper labels; that reflects another collecting area where Preston is decently represented is the chemist bottle. These bottles often had paper labels explaining the contents and dosage needed for the product; when dealing with potentially fatal ingredients then an informative label was a must. George Beaumont the Preston chemist and soda water manufacturer has already been mentioned as linked to the incredibly rare blue Hamiltons but there were other bottle producing chemists related to Preston, including Haysworth, Hayhurst, and wholsesale druggists Marsden and Kay who worked out of the EMKA works in North Road[31]. Marsden's name can be found on rare bottles from the end of the 19th Century, early 20th Century and his Marsden and Kay Company are represented on paper labeled bottles from the first half of the 20th Century. These bottles are easy to date as an article in the London Gazette (London Gazette, n. d.) shows that Marsden and Kay were wound up in 1948 and ceased trading.

Figure 31: Matthew Brown, Preston molded, screw stopper bottle. Source: Rachael Bryson Collection

Figure 32: Colour printed Preston milk / cream bottle. Source: Rachael Bryson Collection

Public Houses are another great source of bottles for the collector and Preston had more than its fair share of them in the 19th Century. Public houses in Preston are represented by flasks and flagons. The flasks are usually glass and contained whisky and other spirits; they were also often embossed with the name of the establishment or a paper label advertising the product. (Fig. 33) Flagons are also associated with public houses as products could be transported in bulk in and out of public houses, beerhouses and other retail outlets in these stoneware flagons. Public houses were not the only industry that used the flagon and they are known for whisky producers, vinegar merchants and botanical brewers in the town. The flagons are large, single or double handed stoneware vessels; often with a printed or incised name on them. However some flagons are known, from other counties, to have slab seals closely resembling the early slab seal stoneware ginger beer bottles of Preston and surrounding areas – they are possibly connected by the Eccleshill and Burton in Lonsdale potteries. (Fig. 34) Syphons were also known in public houses and would sit on the bar to be used to dispense soda water to customers who wished to water down their spirits or to those in hotels or temperance bars who simply wanted an aerated soda pop[32]. They can be a stunning addition to a collection coming in a variety of colours including green uranium

glass. They are often acid etched with bold lettering and designs. They were hugely popular in the 1920s and 1930s until sidelined in the market by bottled carbonated soft drinks. (SHA, 2012) (Fig.33)

Figure 33: Preston syphons plus 'pub' flasks for Preston. Source: Sanderson Collection

Figure 34: Various Preston flagons. Source: Sanderson Collection

A very limited but still incredibly collectable area in Preston, associated with bottle collecting is the area of cream pots and pot lids. Pot lids are a collecting area in their own right but are worth a mention here. The pot lids are ceramic lids that usually accompanied plain white bases filled with edible pastes, cold creams, tooth pastes and ointments. As the lid is usually the only part of the pot embellished with advertising and design then this is the part that the collector desires. There are some, if few, pot lids available to Preston collectors and these are incredibly desirable even if they are in a distressed, dug state. Again cream pots, usually associated with dairies, are few for Preston and thus a competitive collecting area. A cream pot for the Tokio Café once of Fishergate, beneath what is now the train station, is so rare that fakes have been created making the search for a genuine item a difficult one. One was sold recently on Ebay for a restrained price just below £60, bidders probably held back worrying about authenticity despite the seller's claim of having 'dug' the item himself (Ebay, 1995). (Fig. 35)

Chapter 3 Other influences on bottle design and production in Preston

So far this thesis has concentrated on the changes within the bottle industry itself that may have affected bottle design and production in Preston. We have seen the companies who rely on the bottle as a way of packaging and advertising their products, whether that be ginger beer, mineral water or alcohol, in Preston keep up with changes in patent designs of both bottles and their closures – embracing the Codd and the rash of patents that followed. It has also been noted that Preston changed its bottle design and production in order to stay up to date with methods of production and automation of the bottling process. Preston also changed its bottle production and design according to local availability; at first keeping local to Lancashire with the pottery at Eccleshill then looking to Bristol and Scotland for its stoneware producers, before returning to relying on Lancashire glass producers at St Helens. Preston also considered bottle piracy when altering methods of design and production of its bottles with some companies opting for coloured glazes and coloured glass; this also suggests that frugality was also an issue Preston bottlers needed to consider when looking at cost effective measures alongside keeping their company on trend and a market leader.

However, it can be suggested that there are other areas to consider when examining why the bottle in Preston can be found in so many guises and in such abundance that collectors are ever vigilant for that missing item from their collection. One area that might be of interest to the bottle collector is the trade mark. Sometimes the trade mark can be collectable without the bottle being the prime reason for interest and that can certainly be said for the company of Haysworth whose trademark is made up of masonic symbols (Fig. 13). Masonry is a collecting area of its own but when coupled with another collecting area, Haysworth's bottles are quite sought after[33]. Haysworth's are known for their distinctive and possibly unique (for Preston) Premier patent Codd and green topped Meadowcroft gingers, some of the most exciting items known to local Preston collectors, but how was he able to establish such an innovative and successful business in only ten years of trading? Perhaps by harnessing the power of the masons and using a masonic symbol on his mineral water bottles. The symbol shows a pair of compass in a square, a universal message of masonry meaning morality and boundaries. The symbol is also specifically used by the Master of the Lodge, so

Haysworth was making a bold statement by using this image to identify his brand (Phoenixmasonry, 1999). Despite research Haysworth is yet unidentified as a mason (P. Littlehales, Personal communication, 6 November, 2012) but considering masonic symbols were protected from use in America for commercial purposes in 1872 , if not why would he take a risk in using such an image. If he was a mason he would be telling the world about his status as a business man in Preston and by allowing others to drink from his bottles maybe they too could share in his success and status. If not a mason he obviously respects and perhaps even aspires to a position as such and wishes for others to see his company as ambitious and respectable. Of course, Haysworth isn't the only filler of bottles to use such imagery and bottles in Manchester and Blackpool amongst others also have masonic connections[34] (Phoenixmasonry, 1999). Animals also seem a popular image in Preston with the lamb and flag being on the famous slab seals, along with a horse and Seeds use a rampant lion – perhaps to show the strength of their brand. (Fig. 36)

Figure 35:Tokio Café, Preston cream pot. Source: Sanderson Collection

Figure 36: Seed's , Preston trade mark. Source: Paul Best

Of course the trade- marks and images on bottles are to influence the buyer and today we would call that advertisement. The most prolific of the bottle companies in Preston managed to reach their audiences by other advertising methods also.

Advertisement could be found in trades' lists, magazines, newspapers, post cards, business cards, fly posters in fact just about any paper printed item you can think of. As with paper labels for bottles which superseded embossing then the price of printed advertisements was also reduced due to more cost effective printing techniques. In 1843 the rotary printing press allowed for thousands of copies of one sheet to be made and the development of jobbing printing presses, capable of producing small items like business cards and labels, very quickly; up to about a thousand images per hour, revolutionized printing for the purpose of commerce (Newworldencyclopedia, 2008). Preston companies certainly took to advertising which would allow them to reach a greater audience with their bottled produce. This in turn would lead to greater production, greater profits and more money to sink back in the business; which is potentially why we see companies like Seed's and Haysworth's able to experiment and invest in more unusual bottle types like the Premier and the Bulb Codds. You can almost imagine the sales representative from Cannington Shaw turning up with his sales catalogue and samples to show Haysworth or Seed the latest bottle design – both the producer and the filler using the printed word to advertise their wares. (Fig.37)

As the advert for Haysworth's mineral water (Fig.38) alludes the fear of 'bad water' was prevalent in the 19th Century and indeed a stimulus for the mineral water and brewed beverage industry. Phil Chapple (Chapple, 2000) states that Preston was 'consistently topping the league table of unhealthiest towns in 1850-1900'. So much so that Reverend John Clay wrote a report exposing the poor sanitary conditions in the town[35].

With such destitution and an infant mortality rate of 45% of under- fives in 1844, the year Clay wrote his report, it is little wonder why the people of Preston may be concerned by the state of their health. Cholera, a water-borne disease, came to Britain from Asia in 1831 and caused a two year epidemic, which took hold in Preston in 1832 and again in 1848. Add to the threat of cholera other 'bad water' related diseases such as typhoid, dysentery and diarrhea then it is little wonder that the urban dwellers of Preston would be cautious to drink untreated and potentially tainted water. Therefore bottle fillers would have an enthusiastic market to offer their processed, by heat treatment, brewed beverages or healthy mineral and spa water. Having a growing population of nearly 60,000 who might be swayed by the offer of a safe drink would definitely increase the market for sellers of mineral water, beer and ginger beer (Robinson, 2011). In fact it is suggested that beer was handed out freely to thirsty factory

workers in the town at the end of their shifts – this again would lure people into the partaking of beer over water. Thus, the potential fatality that accompanied drinking 'bad water' might be enough to bring new producers and their bottles to the market like Mary Battle for example who seems contemporary, as a ginger beer producer and seller, to the second cholera outbreak. Ginger beer went through a brewing process and therefore bacteria causing cholera and other water borne diseases would be heated and destroyed. The greater number of brewers drawn to the market in such times would increase competition and potential bottle piracy in equal measure, therefore increasing the variety of bottles used and the need for gimmicks like coloured glazes and glass. The Haysworth advert was used in 1909 showing that despite greater knowledge about germs from Louis Pasteur's discoveries, greater understanding of cholera thanks to John Snow's work in Broad Street, London and money spent on public health and sanitation in places like Preston, the fear of 'bad water' lingered and may have remained a factor in altering bottle production and design in Preston throughout the period concerned in this thesis.

Figure 37: Seed's advertisement. Source: Paul Best

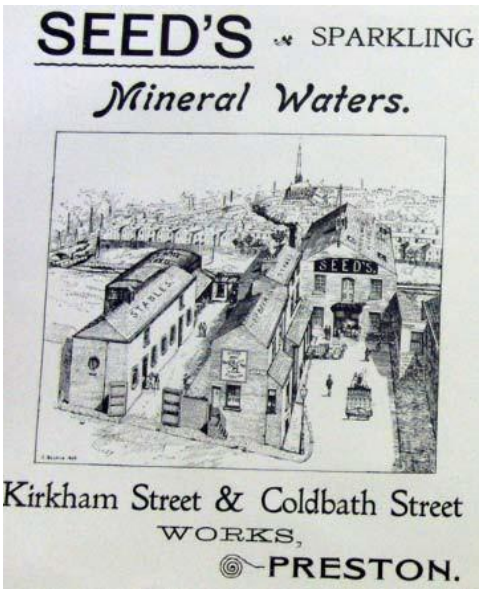


Figure 38: Haysworth's ***advertisement. Source: Paul Best***

The growth in the beer trade may have been stimulated by thirsty workers being provided safe brewed beer by their employers at the end of shifts but it was a political move that secured beer and the public house as a fixture in peoples' lives in the mid- 19th Century. The Beer Act of 1830 aimed to increase competition amongst breweries and allowed anyone to brew and sell beer as long as they bought a 2 Guinea license. This lead to a glut of beer houses, public houses and breweries being built across the country, especially in the north and Preston was no exception (Nicholls and McCallister, 2012). Blob top beer bottles and spirit flasks and flagons with public house names on can be found in most Preston collections and are a testament to the popularity of brewing and beer in the town. Parliament stated the act was 'expedient for the better supplying the public with Beer in England, to give greater facilities for the sale thereof, than was then afforded by licences to keepers of Inns, Alehouses, and Victualing Houses' but largely the purpose of the act was to break the stranglehold of strong liqueur like gin that was raising public concerns. The artist Hogarth had shown the potential harm to be done by gin and spirits in his parody Gin Lane which shows a gin soaked woman unaware that her baby is about to be spilled from her arms and down some steps. However, the act was denounced for promoting drunkenness – substituting one form of alcohol dependency for another – and leaving the industry unregulated by local magistrates. The public house and beer seller became an institution amongst the poor urbanites of places like Preston and the town had the dubious honour at one stage of having more public houses per square mile than anywhere else in the country. Public houses were more than just drinking venues for the poor they were meeting places, a place to socialize, somewhere to escape the pressure of industry and poverty and simply just a place to get warm. Therefore they became an important part of the communities they served. They were also a place of commerce as we have seen from the success of Matthew Brown whose Preston brewing business grew to be one of national concern. Potentially the Beer Act of 1830 has the biggest social impact on the growth of the brewing industry and therefore in turn on the bottling industry and bottle collectors have it to thank for providing the quantity that these hobbyists can select from. If you are concerned with trivia you may wonder why this is so, as a frequent beer trivia fact is that beer was first sold in bottles by Francis Manning – Needham in England in1869, nearly 40 years after the Beer Act of 1830. Of course, that is not strictly true as beer has been sold in bottles for over 400 years and even Pepys talks about enjoying 'Hull beer' from bottles. Agreed, the fermentation process in beer did mean corking it was as tricky as

any fizzy mineral we have reviewed previously but porter and other forms of flat ale or stout were sold in stoneware bottles as discussed earlier (Cornell, 2012). The invention of Barrett's screw top meant that beer was easier to store in glass bottles and therefore more commonly sold in this format, it also saw the advent of companies like Whitbread and Bass producing their bottled beers. The Beer Act would certainly instill in those people who frequented public houses a taste for beer and the demand for bottled beer when it became popular in the later- half of the 19th Century would be easily catered for. However, the Beer Act does not just leave bottle hunters thankful for the increase in the brewing trade and therefore the bottles and associated items that go with it. In fact, the impact of the Beer Act can be said to go even wider than this. It is suggested by academics like James Nicholls and Anne Marie McCallister that the Beer Act may also have influenced the development of the Temperance Movement (Nicholls and McCallister, 2012) and teetotalism is a key factor in Preston's history and in the history of the soft drinks trade and the bottle.

Preston, or to be more accurate Walton-Le-Dale, is the birth place of Joseph Livsey the father of teetoltalism and the home to the origins of the popular Temperance Movement. Notice that Preston is not stated to be the birth place of Temperance as there had long since been moves to encourage people to give up the demon drink in the form of the particular poisons of spirits, most notably gin, and wine. In fact that was the intension of the Beer Act of 1830 and the gin tax of 1751 to wean the public off spirits which were seen as damaging to both health and moral fibre. Livsey and the Preston teetotalers, including Dicky Turner who coined the phrase teetotal in the 1830s set out to wage war against beer – the very thing it had been the intention of the Beer Act to promote over spirits (Nicholls and McCallister, 2012). As teetotalism[36], gripped Preston and later the nation and America amongst other places, a market grew that offered an alternative to the menace of alcohol. Of course, the alternative would need to be safe to drink and perhaps have gone through a brewing process similar to beer in order to kill bacteria through heat – it is at this point we see a rise in the production of brews such as ginger beer, barm beer, horehound beer and other botanical beverages (Fig.39) (Fig.44). Essentially these brews are non- alcoholic and herbal, and can be classed in the same groupings as Dandelion and Burdock and Root Beer – Coca Cola, Dr. Pepper, Vimto and other such big name soft drinks all had their roots in herbal alternatives of the 19th Century (Harrison, 1971, p. 300). Very often these drinks were not just seen as an alternative to alcohol but as a health drink or tonic which is why they are often

associated with chemists such as Haysworth. Soon temperance establishments would vie for attention on the streets alongside the pubs offering beer; one such establishment ‘A Hughes’ Vaults of Sobriety’ (Fig. 40) was to be found on the streets of Preston. (35) The one remaining temperance establishment in the country is in neighbouring Rossendale and is called Fitzpatrick’s Temperance Bar and remains just as it was over a hundred years ago, still serving cordials to customers wishing to experience nostalgia whilst avoiding the ‘demon drink (Nicholls and McCallister, 2012). Although Preston is famed as the home of temperance and bottle collectors can be particularly thankful to Livsey and his movement for influencing the growth of the soft drinks trade in this town and others like it and therefore adding to the range of bottles available to the collector. The question can be raised as to how successful was the Temperance Movement in Preston was on influencing the town and the nation in moving away from hard to soft drink. The answer is it was and it wasn’t. The notorious fact mentioned before regarding the number of pubs in Preston per square mile is not an exaggerated one – the website Preston’s Inns, Taverns and Beerhouses (Preston’s Inns, Taverns and Beerhouses, 2012) can attest to that – and shows that retailers and customers alike still affirmed a demand for beer despite Livsey’s influence in the town. This might be linked to the poverty as highlighted by Clay and the lack of opportunity for the poor, unlike the rich in their clubs and large houses, to socialize anywhere else but the public house. To help them mentally, if not physically, escape their squalid living environments. Beer and other forms of alcohol numbed the pain of poverty. (41) Although the beer and alcoholic retailing trade in the town remained steadfast there is no doubt that the Temperance Movement was successful in spreading its message in Preston. The first appearances of mineral water manufacturers and ginger beer makers in the town are in Trade Directories for the1830s in line with the growth of the temperance faithful. However, the trade directories are filled with page upon page of beer, wine and spirit retailers and Public Houses, Inns and Taverns as compared to small clusters of chemists, mineral water and ginger beer manufacturers and temperance establishments. Livsey’s success came in the form of the message of abstinence over moderation. (42)Livsey took his temperance message on tours around the country and encouraged the set- up of similar groups throughout Britain and further afield. Livsey’s crusade was such a strong one that he intended in 1836 to put a halt to public house licences. This message may have been where the temperance movement came unstuck as the Beer Act of 1830 had already shown that the government was keen to extend licences as long as the 2 Guineas were

paid. Liberals and radicals also believed that moderation was preferable to abstinence; John Stuart Mill suggested that the consumption of alcohol should be the person's own responsibility and power over someone else's choices should only come if their choice was likely to harm others (Nicholls and McCallister, 2012).Despite the mixed opinions given to his message the people of Preston took Joseph Livsey, Dicky Turner and teetotalism to their hearts and when Livsey died age 90 in1884, 10,000 people lined the streets, flags were flown at half -mast and blinds were drawn along the route of the funeral parade (Walton le Dale, 2000). The temperance cause in Britain, despite opposition, remained strong and in 1861 the Church of England Temperance society was formed which had 200,000 members by 1899. Unfortunately the 59th Annual Meeting of the Preston Temperance Society in 1891 suggested that the thirst for temperance may have dried up in Preston as the turn-out was described as 'dismal'. In this meeting the success of Preston temperance was outlined: in 1877 there had been a public house for every 180 residents in the town, this had been reduced to one per every 205 – although this was still considered in excess of requirements. Also the pursuing of convictions for being drunk and disorderly and for those in violation of drinks licences was considered a success at the meeting – although 585 convictions for being drunk and disorderly would seem that the message of abstinence had passed a large number of Prestonians by. The meeting, which had 72 speakers, was saddened by the decline in temperance as suggested by the poor attendance and decried that Preston had sunk from the 'place of teetotalism' to become a 'beerseller's paradise' driven by making money (Preston Guardian, Temperance Meeting, Page 5, 25/4/1891). (44) So in Preston, the home of temperance and birth place of its leader Joseph Livesey, beer and alcohol won the day but this battle of the bottle gives the bottle hunter a wealth of potential. In fact the bottle collector just may have temperance to thank for the existence of one of the rarest and most sought after bottles – a bottle desirable not just to local collectors but to stoneware collectors worldwide; the slab seal. Henry Aspden has been mentioned before as a producer and filler of the slab seal type ginger beer bottle whose early, rare bottles are a rich commodity. However, the same Henry Aspden could have been much closer to the temperance movement than it first appears. It would seem a great coincidence if the Henry Aspden of the slab seal bottle fame was not indeed the same Henry Aspden who became leasee 'of the Cockpit in 1855 for the remaining years of the Earl of Derby's lease and who gutted the interior which had been used as a public house'. It is believed that the lease was taken over from Joseph Livsey himself, for the

building to become the Temperance Hall (Preston's Inns, Taverns and Beerhouses, n.d.). Aspden the ginger beer manufacturer has addresses in the census returns for his business and dwelling of both St John's Place and Stoneygate – the very place today where a blue plaque regarding the Cockpit and temperance can be found – so the addresses are tantalizingly close for this not to be the same man. Although it cannot be ascertained that Henry Aspden, ginger beer manufacturer and slab seal bottle filler and Henry Aspden , leasee of the Temperance Hall and former Cockpit are indeed the same man. It is for certain that the temperance movement did alter the drinks market in Preston and could indeed be responsible for the rarest and most unique stoneware bottle Preston, some might say Britain, has to offer the bottle collector.

Figure 39: Barm beer bottle Ellis Wilkinson Preston. Source: Paul Best

Figure 40: Hughes's Vaults of Sobriety Bottle, North Road, Preston. Source: Rachael Bryson

Chapter 4 Collecting and collections

Figure 41: A small selection of the Sanderson 'Preston bottle' collection in situ

Switch the television on today and you will inevitably find a programme explaining to the uninitiated what items hiding in their attics may be worth. The depth of knowledge available appears to have placed a high premium on some areas of collecting, meaning many items are out of the reach of ordinary collectors today. Finite numbers of Georgian silver items or Serves porcelain items were produced to satisfy the needs of the wealthy in the Eighteenth and Nineteenth Centuries (Hedges, p.3). This means that there is great competition amongst private collectors to add such items to their collections and it is becoming increasingly unlikely that such items may turn up in local auction rooms or Heaven forefend a car boot sale. Not so with the field of bottle collecting. This area of collecting really does reflect the old adage 'one person's trash is another person's treasure'. Bottle collectors can satisfy their collecting needs at local

auctions, on internet sites and at car boot sales – as many people still turn up boxes of unwanted bottles in garages and sheds around the country. More serious bottle collectors who literally don't mind getting their hands dirty, 'dig' to add to their collections, often at disused tips and ancient dumps. This can be a clandestine hobby, shrouded in secrecy, as once a productive spot is found, few wish to share the information and lose out on the treasures the soil has to offer. However, as bottles are quite literally 'rubbish', then there are often plenty to go around which makes for a rich collecting vein. That is not to say that the hobby does not throw up rarities or that collectors are not prepared to part with a great deal of money to secure them. Indeed bottle diggers themselves even risk the dangers of night digging, shards of broken glass, prosecution - having not attained permission to dig a site from a landowner - or being accused of criminal damage to property . Aside from this there are obvious hygiene hazards (for example digging out an old privy) that accompany trawling through hundreds of years of other people's rubbish to find their 'Holy Grail'. Such an object may be a 6oz. cobalt blue Hamilton, a Codd Hamilton hybrid or perhaps a slab seal ginger. These items will either take pride of place in a collection or could be sold for a high price to fund further collecting.

Figure 42a: Richard Nickson, Preston bottles. Source: Sanderson Collection

Figure 42b: More ***Richard Nickson, Preston bottles. Source: Sanderson Collection***

Due to the vast number of bottles available most collectors in the end have to refine their collection and some resort to collecting bottles by type. Some may collect only glass bottles, some only stoneware. Those glass collectors may decide to specialize in only collecting Patent Codd bottles or just Hamiltons, some may decide to collect rare colourways such as amber glass, cobalt blue or simply green, aqua or brown. The stoneware collectors may specialize in ginger beer bottles or seek out the highly prized, early slab seals. Other collectors may decide to specialize in collecting according to what the bottle once contained – medicine, ink, beer, mineral water, poison – the list goes on.

Some collect items connected to a certain area perhaps their home town or where they live. Local specialists aim to collect named items relating to the companies that sold out of that particular town, city or county. The hope is often to collect maybe one of each shape relating to a particular local company, or at least have one named item to represent each of the companies connected to that locality. Some collectors who have the room and the financial capability, hope to acquire all the variations in shape, size, colour and decoration of all the companies relating to their area of local interest. (Fig. 41) This type of collecting requires a great deal of space and patience to obtain all known variations. To illustrate what a minefield this area is, take one Preston company 'Richard Nickson' where twelve variations of his transfer printed label alone are known! This is without taking into consideration other variations such as size, shape and colour. (Figs. 42a & 42b)

The future of bottle collecting is a difficult thing to predict. As the population of the world grows so does the need for building houses, shops and services. Land untouched and undeveloped for centuries may now be opened up to present new bottles to the world, potentially some of them previously unlisted and unknown. In some places the bottle seam may be finite; Preston for example, was the first place in Britain to incinerate and then crush its waste, many bottles, some which might now be considered rare, lost to the world. Bottle collecting is indeed a global phenomenon and the world is getting smaller with the use of the internet and global market places like Ebay. For example, in the last month an English bottle from Dan Ryland's works in Barnsley – a rare cobalt blue Codd / Hamilton hybrid - was sold in the USA having been found in the seas off Bermuda to a bottle collector, specializing in coloured hybrids, from the Canary Islands. The knowledge of this purchase was gained from a British based internet forum. The price was $11,000 and the discussion on the forum was whether that was $10,000 too

much for a bottle without a filler's and just a maker's name on, especially one which had lost some of its colour and embossing from rolling about in the sea for over a hundred years. The buyer justified his purchase vehemently, he hadn't got one in his collection of coloured hybrids and so to him it was worth the outlay (The British Antique Bottle Forum, 2007). The internet also allows another aspect of collecting previously made difficult unless the collector had the time and inclination to spend hours at the Records Office, and that is researching the filler's companies alongside the companies who produced the bottles. Now thanks to sites like Ancestry.co.uk records such as census returns, trade directories and newspapers are now available at the touch of a button. The social history aspect of bottle collecting can now be satisfied almost instantly giving the sort of provenance that can add monetary value as well as historical value. Previously, bottle diggers may have met face to face at local club meetings or sales and the word about digs taking place may have spread through this local network. Now due to the internet people from all over the world are discussing their collections and posting pictures of their bottles for others to admire. Research is shared and questions answered in minutes

– people are no longer satisfied with owning just the bottle they now want to know who made it, who filled it, when it was made, how it was made, how it opened and closed, who sold it, who used it and how many were produced. Bottles, because of the wealth of this local information, feature in local history museums and even had their own museum called Codswallop at Elsecar Heritage Centre. This will mean that interest is maintained and next generation collectors will be created – especially as starter items for collections can be bought at car boots for as little as fifty pence. Even the way bottle digging is conducted has changed and will change further in the future. Google maps and internet access can now take us to sites previously housing dumps or old estates to locate potential digging sites and machinery such as diggers can now be hired to reach the lower levels, potentially housing the oldest material and most sought after finds. The improvement in transportation and the postal system means that these items will continue to be added to collections across the world thanks to the global market place – items from the old Empire particularly Canada, Australia and South Africa regularly find their way back to Britain to grace collections here. This world- wide market and the sometimes inflated prices created by it have meant that fakes have entered the market with cheap Chinese and Indian creations made to fool the collector. Cobalt Codds have been created using blue lacquer and incorrectly shaped and poorly printed ginger beer bottles will deceive collecting novices. The introduction of fakes to the market confirms

the interest in bottle collecting and shows that the fakers know there is money to be made from duplicitous actions; this will mean if the rare cobalt hybrid with the green marble can't be found beneath the earth it could be created in a glass blowing factory in India – bottle collectors beware (Codds and Odds, n.d.). (Fig. 43)

Figure 43: Reproduction Blackpool Codd with blue marble. Source: Paul Best

Figure 44: Included to illustrate the rise in soft drink production in the 19thcentury. Source: (Harrison, , p.312)

Numbers Occupied in the Drink Trade as Compared with Numbers Engaged in Other Occupations: 1841–1891. Both Sexes, All Ages, England and Wales

	1841	1851	1861	1871	1881	1891
TOTAL POPULATION (thousands)	15,914	17,928	20,066	22,712	25,974	29,003
Bakers	37,143	51,738	54,140	59,066	71,032	84,158
Butchers	44,938	62,185	68,114	75,847	81,702	98,921
Greengrocers/Fruiterers	7,908	13,418	18,045	25,819	29,614	40,963
Tailors	108,945	132,715	136,390	149,864	160,648	208,720
Shoemakers	187,943	240,252	250,581	223,365	216,556	248,789
Eating-house keepers & coffee-house keepers	1,542	?	3,955	5,452	8,173	11,535
Mineral-water manufacturers	541	?	1,360	2,555	4,662	6,691
Innkeepers/Publicans & hotelkeepers	53,246	?	66,260	77,049	70,106	78,013
Beersellers	5,629	?	15,767	16,361	16,583	17,606
Wine/spirit merchants	3,494	6,905	7,810	10,969	7,889	7,883
Brewers	9,357	?	20,352	25,831	24,567	26,312
Maltsters	7,965	?	10,677	10,356	9,531	9,088

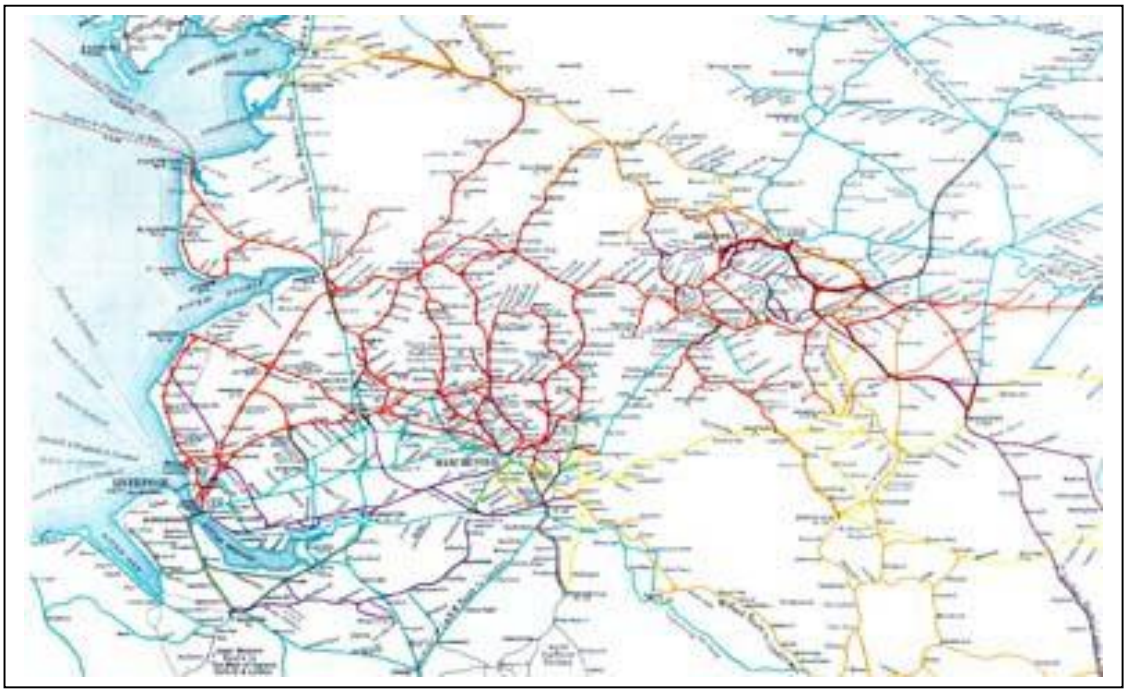
Chapter 5 Discussions

Materials and Availability

The earliest stoneware bottles used by soft drinks manufacturers in the town of Preston appear to have come from a small pottery at Eccleshill near Darwen a distance of 14.8 miles away by road today. The location of the pottery at Eccleshill appears to be just less than 50 miles from the potteries at Burton in Lonsdale which appear to have been its inspiration and possible source of its raw materials. Although, as there was were already brick making kilns using local clay at Eccleshill perhaps the raw material was sourced closer to home. The journey from Eccleshill to Preston would take just less than half an hour on the good road links we have today. That journey would of course have been much longer and more treacherous in the early 19th Century; Arthur Young famously suggested travellers should 'avoid as they would the devil' the roads around Preston about thirty years previously (Our Civilisation, n.d.). The road route between Preston and Blackburn and surrounding areas had improved with the addition of turnpike roads by 1825, so although a manufacturer of pottery would have less to fear from these 'improved' roads in the way of ruts and obstacles; a journey by road would not have been particularly conducive to carrying fragile goods such as bottles. The motion of the cart possibly would cause the bottles to connect whilst in transit and smash or crack and there was still a threat of cards overturning or colliding which would make sure an entire cargo was lost. Also turnpike roads charged tolls – an additional cost that would have to be factored in. Most pottery manufacturers, like Wedgwood at Eturia, preferred water to carry their fragile wares and canals were built to connect potteries in Staffordshire to their raw material providers in Cornwall. However, this doesn't seem possible as the mode of transport between Eccleshill and Preston as although river and canal does indeed by pass both places it does not seem to connect the two conveniently enough. Indeed the solution to this problem around 1850 appears to be the Lancashire to Yorkshire railway. Chris Leach of the LYRS supports the theory that this railway would have connected Eccleshill pottery by the station at Lower Darwen to all of the places related to the slab seal bottles; from as far west as Blackpool and south as Oldham (Chris Leach, Personal communication, 21 November, 2012). This railway connected all of the areas that are represented by slab seal bottles by 1848, which fits perfectly to the perceived dates for the early stoneware bottles' use in Preston and surrounding areas. This railway, many lines defunct since the 1950s, would also have connected Preston to

manufacturers of stoneware and glass in Yorkshire who seemingly produce later examples of bottles connected to Preston; the small pottery at Eccleshill probably forced out of the market due to its inability to compete with mass manufacture. The railway was probably the link to other companies that produced stoneware bottles such as Prices of Bristol and potteries in Glasgow. Notice that these places are in the west of Britain as is Preston and would have been served by the west coast mainline; making seemingly inaccessible places much easier to do business with in the 19th century. Moving goods by train was quicker and cheaper than either by canal or road and as the cost of bulk goods' transportation was reduced, it was possible to do sensible business with companies great distances away. Obviously, as Preston soft drink manufacturers started to trade with companies further afield then this would show in the change to design as Price's of Bristol were known for their utilitarian design and the Scottish producers tended to use the champagne shape over the standard ginger beer design. The growth of Lancashire glass making is also a factor in the changes to design and production of bottles in Preston. Found on many Preston bottles, particularly Codds and beers are the marks for Cannington Shaw a company in St Helens. Bottle making in the town, which steadfastly resisted automation until the 1890s, took off in the 1870s. The three main companies in the town for this purpose were Lyon Brothers, Nuttall and Co and the largest of the three, Cannington Shaw which employed 850 workers at its Sherdley Glass Works. (45)However, by 1913 all 3 St Helen's companies had been wound up with Nuttall and Cannington Shaw being incorporated into the United Glass Bottle Manufacturers – their bottles being marked UGB (Grace's Guide, 2007). Of course, Preston had been linked to St Helens by rail since the early 1860s providing the freight transport a growing soft drinks market would require (Chris Leach, Personal communication, 21 November, 2012) . The use of these Lancashire companies would alter the design of Preston bottles as Nuttalls specialised in Lamont, Vallet's, Tapp's, Chapman's, Barratt's, Nuttals and Nuttal's Lip bottles. Whereas Cannington Shaw produced Bulb, Beavis, Premier and Hybrid Codds – there are examples of Vallet's, Lamont and Barratt's bottles for Preston as well as Bulb and Premier Codds. (Codds Stuff, 2012)

Figure 45: Lancashire & Yorkshire Railway – route can be seen in red. Source: The Lancashire & Yorkshire Railway Society



Productivity and Profitability

By 1901 the town of Preston had a similar population to what it has now as a city, around 120,000. This figure had risen dramatically throughout the 19th Century and can be attributed to the growth of industry in Victorian Preston and the lure of jobs in the urban factories. This gave drinks manufacturers a vast market to appeal to. In fact some beer retailers literally cornered the market waiting for the thirsty workers at factory gates between shifts to appease their dry throats caused by cotton dust and industrial vapours. With such a captive audience for their produce it is little surprise that the town of Preston has much to offer in the way of variation for the bottle collector. Once these bottles had been drained of their refreshing liquid they would simply be tossed aside and forgotten about or taken back to be refilled. The parched factory worker would probably pay only lip service to the receptacle and perhaps this has restricted the market in Preston for real stand out items of interest to the collectors. Codds were expensive to produce so aside from the ultra -rare Premier, Bulb and coloured marble and lip examples the Preston market is peppered with standard codds of the 6oz and 10 oz varieties. A number of companies, both the small and the seemingly more successful, have put their names to Preston cods, but then in the late Victorian period the codd patent was the most successful closure variant on the market. It would seem that there was little need to employ the more elaborate codds available, as the standard did a perfectly good job of holding liquid. In a market where there was room for competition why go to the extra expense of a pear shaped marble in a Hayne's codd or an expensive coloured variety just for lemonade sipped in seconds? In terms of stoneware used to house ginger beer and other cloudy brews it would seem the market had room for all comers also and the glut of simple impressed or poorly printed ginger beer bottles suggests that it was quantity that interested the fillers of Preston not quality. In a mass market perhaps fillers would look to do business with Pearson's of Chesterfield with their reputation as the second biggest stoneware manufacturer because they would know Pearson's would be used to dealing with stock in large numbers and so could probably afford to price competitively (Blakeman, 1998 p. 14). This has meant that any printed bottles there are for Preston, if produced by Pearson's, are of limited quality and are uninspiring in design. A large market, safe for a number of drinks producers to compete happily within, like Preston, would appear to be restrictive to the collecting market, meaning that items that are available are mass produced, cheap and utilitarian. In a smaller town where competition was fiercer, then fillers may go out of their way to produce memorable

designs and possibly patent their own unique items such as the Michell's Patent or the Hammond's variation.

Market and Economy

Drinks manufacturers and fillers of bottles were certainly spoilt for choice when it came to what type of bottle their product would adorn. Users of stoneware in the mid- 19th Century appeared to favour the locally hand thrown slab seal bottles whereas later the widening market made the affordable impressed or cheaply printed bottle more apt. Aside from the bottle itself there was the choice of closure to select; most Preston bottles represent the standard blob top cork closure also found on glass beer bottles. However, variations were available although rarely selected; the Meadowcroft, the Galtee More, crown cap and swing top are all rare variations found in Preston. Furthermore, there was a choice of glaze, the rarest pink is not yet linked to Preston, but blue and green variations are incredibly sought after and expensive to prize from collections. The range is even wider for the soft drink manufacturer or beer retailer who chose glass bottles to house their liquids. Glass bottles come in various shapes, a variation that was also reflected in stoneware:, standard, skittle, champagne, dumpy, Hamilton, cucumber or round bottomed. As for closures the list is seemingly endless: cork, crown cap, bullet stopper, marble, swing stopper, internal screw thread and external screw thread. Then if you take into account the variations on the stoppers themselves then the list grows further; Bullet stoppers made from lignum vitae, glass or pottery, Codd closures with round or pear shaped marbles caught by dimples and grooves in the neck or the base of the bottle, dimples which could number one, two, three, four and beyond. Hand blown bottles, semi -automated produced bottles with applied lips, sheared lips, blob tops, moulded bottles. Amber glass, green glass, aqua, cobalt blue, teale, purple, brown, black, swirls, coloured lips – red, brown, green, blue, amber – again the colour variation in glass is amazing and can price some items out of the market. Hybrid Codd hamiltons, hybrid Codd Hamilton skittle shaped Codds, hybrid Codd cucumbers – again these half breed Codds, produced to ease the Codd into a market of cautious consumers, are incredibly rare and this is reflected in the prices that can be achieved for such. Why are they so intriguing to collectors; for the sheer audacity and unnecessary variations in design? Many of the stranger Codd variations brought no actual improvement to the already successfully patented Codd but just simply reflected manufacturers desperate to get a foothold in a very lucrative market. Unfortunately, few seemed that innovative or desperate for success in the saturated market that was Victorian Preston. As much as

these innovations in design could draw attention to your produce it was equally as likely to be a company's demise. Codds were expensive to produce and are blamed for sending companies into bankruptcy as they tried to compete with production costs, bottle piracy and the threat that bottles would simply be smashed rather than returned by boys after the marbles. This again can limit the number of Codds representing firms in Preston and limit the costly, unnecessary, variations being seen within collections due to their rarity and value in the collecting market. To appeal to customers and extend their market bottle producers and fillers would simply advertise. Some of the best advertisements can be seen on the bottles themselves in the form of slab seal, impressed marks, printing, embossing and latterly paper labels. The bottle collector may extend their collections to 'Go-Withs' and collect paper advertisng ephemera or other items. Posters would be placed in bars or retailers establishments, advertising the latest drinks product or its exciting new receptacle. Syphons would be placed on bars with acid etched designs advertising its filler and producer. Also on the bar would be match strikers, tin trays and ash trays advertising drinks products and their bottles. Advertisements would be taken out in newspapers and magazines to appeal to consumers to taste a particular product or try a new closure that could keep the bubbles in your lemonade for longer. By the early 20th Century with cheaper printing available advertising was everywhere and could help a company to become local, national or even international best sellers with their drinks produce or the bottle that held it. The early 20th century therefore often saw the demise of the small local companies and the rise of conglomerates buying up these companies and incorporating them into national or multi- national corporations with large market shares. This happened with the small bottling factories in St Helens taken over by UGB and in Preston with local breweries being taken over by, the local but more successful, Matthew Brown PLC which then relocated to neigbouring Blackburn. The bottle and drinks industries changed beyond recognition and this era tends to be ignored by the most serious bottle collector as the mass produced molded bottle has little appeal and usually finds itself in the spoil heap of bottle digs. Unless it has a local name on it and then the most ardent of collectors, the local collector, will give even a mass produced local bottle a home. These sorts of bottles will form a significant part of a Preston collector's lot representing successful companies like Matthew Brown and Seeds.

Social Factors

As we have seen Preston was a fast growing industrial town of a sizeable population by 1901. There was an influx of migrants to Preston in the 19th Century who sought work in the cotton industry. Some incomers to Preston were Irish immigrants who often found themselves living in the cheapest accommodation; cellars beneath street level. It was in these courtyard tenements that some of the most horrific living conditions could be found, overflowing cess pits and contaminated standpipes. It was in the midst of this filth that diseases such as cholera and typhoid thrived. When the link was made by Dr. John Snow between cholera and water in the 1850s people looked for safer liquids to consume as opposed to 'bad water'. The answer appeared to lie in brewed soft drinks such as ginger beer, horehound beer and dandelion and burdock. These drinks had undergone the brewing process and therefore the water they contained had been through a heat process that killed the germs that caused disease. Many drinks manufacturers including those in Preston used this as an opportunity to increase sales and target potential customers fearful of 'bad water'. This, coupled with a flourishing temperance movement, lead to an increase in soft drink manufacturing in towns like Preston; this in turn increases the number of bottles attributed to such companies that can be added to collections. Epidemics of cholera in Preston and across Britain in the 1840s coincided with the growth of the temperance movement which has its roots in Preston from the 1830s. The cheesemonger Joseph Livsey managed to encourage thousands of fellow Prestonians to become teetotal and turn away from alcohol. These teetotallers turned to softer alternatives and many temperance establishments grew up in the town and across the country to serve non- alcoholic beverages to thirsty workers. These early hotels and bars can be associated with some of the earliest and most significant stoneware bottles in the Lancashire region; the slab seal bottle probably produced at Eccleshill. Companies with these early beginnings, influenced by temperance, grew and continued to serve the community safe beverages from stoneware bottles. The stoneware bottle, as the companies themselves, adapted and evolved throughout the 19th century from the hand potted slab seal to the printed or labeled offerings produced with semi -automated techniques. The companies evolved from local backyard producers brewing ginger beer on stoves in kitchens, to brewing establishments on the site of retailers' premises, to huge purpose built factories like Seed's site at Cold Bath Street in Preston. The need for such premises was driven by an increasing population and a more competitive market. Obversely, these temperance

bars and hotels were not the only places that town dwellers could frequent in order to quench their thirsts. Preston, despite its teetotal leanings, also has a reputation for its plentiful public houses in the 19th Century. Beer had been seen as safe drink for centuries and small beer, a weak version, was commonly drunk by children. The poverty of Preston and its accompanying conditions meant that the tavern and drink were often the only respite for paupers. The 1831 Beer Act eased the licensing laws and made it easier for drinking establishments to be set up; in the Victorian period Preston had more public houses per square mile than anywhere else in Britain. These hostelries would often brew their own beer meaning that flagons with the establishment's name on are commonly found. Other named products would be the so called 'pub' or spirit flasks. In the 1870s when beer started to be sold in bottles then the public houses often added their name to the bottles, even if the product inside was not brewed by them; rather a company such as Guinness or Bass. Beer bottles of the late 19th century are common to Preston bottle collections as are public house associated flagons and flasks. Equally, so are bottles associated with wine and spirit merchants in the town. This battle between beer and temperance in the town have meant that the bottle and its contents represent more than just a receptacle thrown away, instead they tell the social history of the town through the consumers and those that catered for them.

Individuals

Indeed those that catered for the drinking public; whatever their persuasion, are as interesting as the bottles themselves. It is often through their drive to succeed that the most innovative bottles are brought to the market. Haysworth, the chemist and soft drink manufacturer, in his brief career, adds the Premier Codd and green coloured glazed ginger beer bottles with Meadowcroft closures. Seeds and Ellis Wilkinson, with their industrial scale production, brought Bulb Neck Codds and coloured lips and marbles to adorn standard Codd versions. Perhaps Wilkinson, rather than innovative, was cautious as his coloured glass would project against bottle piracy and potentially increase his profits if the expensive Codds were returned to him to refill. Nickson of Preston didn't produce bottles of stunning design but the key interest with this company is sheer volume – the fun in collecting his bottles is to collect all the variations. Nickson does add one rarity, the cobalt blue glazed ginger beer, which, alongside the two other companies known for producing this type of bottle in the town, provides bottle collectors with a goal to add to their collection. Perhaps the most socially interesting character associated with Preston bottles is Mary Battle the seemingly backyard producer of ginger beer from Avenham. She is known for leaving behind a very rare slab seal bottle coveted by collectors all over the world but the Holy Grail for Preston collectors. This women, mentioned only in census returns of the time, previously a seamstress, built up a business as a ginger beer manufacturer with bottles that matched the quality of more established figures in the business such as Henry Aspden of the Temperance Hotel, William Hodgson and Peter Kellett. The slab seal representing Preston has perhaps had the biggest impact on the collecting world but there were Preston producers who made a national impact within their own life times. Matthew Brown, like Mary Battle, started small with a brewery on Pole Street before going on to purchase over forty public houses and three malthouses in the town. He floated his company in the 1870s and by the 1920s Matthew Brown PLC was able to buy up smaller breweries in Lancashire. Matthew Brown bottles are largely mass produced and uninteresting but his company name lives on in the national psyche forever associated with bottled beer.

Chapter 6 Conclusion

There is little doubt that the bottle has evolved in design and production methods over the period 1830 to 1930. Within that hundred year period the material of choice for bottle production moved from stoneware to glass and methods of production shifted from hand-made to automated. The market for soft drinks also grew along with the urban population; due in part, to the Industrial Revolution. This lead to necessary changes in bottle manufacture and design with the attempts to contain carbonated beverages; perhaps the most significant changes that occurred being the move from the egg shaped Hamilton to the Cucumber to the Codd. The invention of the Codd itself brought numerous innovations to the bottle through competition within the market and various patents, some unnecessary, were taken out simply in the attempt to share the wealth that the Codd's success had brought. Competitors would try to outdo each other and this led to uniqueness in the bottles they produced. The resulting adaptations in closures, shape, colour and size all bring with them added interest to collectors. Some of the most sought after bottles for collectors are coloured Codds and Hamiltons, rare patent closures such as Tapp's or Hayne's (Fig.25) and stoneware bottles with coloured glazes. Preston itself has some of the bottle collecting world's rarest and most desirable bottles in the form of the early stoneware slab seal bottles, probably produced locally in Eccleshill. The use of the slab seal bottle was likely to prevent bottle piracy or reuse by other companies. This bottle was undoubtedly influenced by the temperance movement that encouraged the working poor of Preston to give up alcohol in favour of soft drinks like ginger beer. Henry Aspden of the Temperance Hotel in Preston was just one filler of the slab seal examples found in Preston. Renowned bottle collector Paul Best states that these slab seals are perhaps the most significant bottle Preston has to offer the collecting world. Beyond the slab seals, produced largely between the 1850s and 1870s, Preston can be seen as a microcosm of the bottle producing world. The town moves with the national trends buying into the Codd market in the 1870s and the semi automation of the latter Victorian period that produced the printed and impressed stoneware bottles in large numbers. That is not to say that Preston does not have rarities other than the slab seal. These include cobalt blue hamiltons, coloured lip and marble Codds, Meadowcroft ginger beer bottles with a green glaze and Premier and Bulb neck Codd variants. Many of the rarer Preston variants are associated with particular companies like Haysworth, Wilkinson and Seeds. These companies also appear to be the most successful soft

drinks manufacturers able to afford the most up to date bottles on the market, as well as the methods to advertise them.

In addition to the growing market and innovative companies there were other influences in the production and design of Preston bottles. The Industrial Revolution led to a population rise in Preston but also to horrific housing standards that caused water borne diseases such as cholera – consumers had to look for safer products than water to drink. This had an impact on the soft drinks industry which in turn led to changes in bottle design and manufacture in the town beginning with the slab seal bottles and continually evolving through to the Codd bottle and other glass patents.

Other social factors that have to be considered when assessing why Preston bottles changed in design and manufacture are the temperance movement and the Beer Act. Ironically, these two measures at either end of the drinking spectrum both had an impact on bottle design and production in the town. The temperance movement encouraged growth in the soft drinks trade and the Beer Act allowed many licenses to be taken out to sell beer, which was regularly bottled after 1870. With so much competition, a little bit of uniqueness would be noticed amongst the largely uniform stoneware and glassware – which is why Aspden, Haysworth and the like would add the extra detail such as the slab seal or green glaze to their bottles.

So, the Preston bottle evolved and changed between 1830 to 1930 due to many factors; some simply to do with a change in stoneware and glass production techniques, some can be considered the work of innovators nationally like Hiram Codd or locally like the potters of Eccleshill and some can be put down to social influences like temperance or social status. Preston was a northern industrial town, and within the context of the Industrial Revolution, cannot be overlooked; without it the population would not have grown to create a market for change and the change could not have been brought about without the advancements in mass production that the Industrial Revolution facilitated.

Change is still a factor for the Preston bottle collector today and advancements in technology mean that the bottle world grows smaller, as Preston bottles are being traded worldwide and as interest in the hobby grows. The collector can now find information on the internet about Preston bottle producers and fill in the social history, weaving a provenance for the bottle that tells the story of the person who produced the bottle, the person who filled it and of course, the person who drank from it and, thankfully, discarded it to be found again in the 21st Century. This amazingly varied and interesting pursuit of bottle collecting can indeed change in an instant. All the talk of

Preston's rarest bottles commanding high prices due to their scarcity would be brought to an end if a large cache of Mary Battle slab seals were to come to light; when say, the ground is broken on a building site in Avenham. In fact, beneath our very feet, there might be the ammunition to render this thesis totally redundant; and it is that unknown element that makes bottle collecting and researching so exciting!

Appendices:

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Context

Preston lies in the county palatine of Lancashire and has occupied a strategic position on the main road from southern England to the North of England and Scotland beyond since the Twelfth Century; when it was granted its charter and became a town. Its earlier origins possibly come from its association with the Grey Friars and friary which earned the settlement the name Priest Tun which later developed into Preston. The Medieval town developed due to Preston's position on the main thoroughfare between north and south and the fact it lies on the River Ribble. Part of the attraction of Preston was due to its market attended by residents from all over Lancashire - it was described in the Sixteenth Century as a 'good market town'. By the Sixteenth Century Preston was already associated with the textile trade and both linen and wool were made in the town. It was also trading timber, hemp and iron with Europe and had less savoury connections to the slave trade due to its docks. Preston is mostly known for its connection with cotton; its first such mill opened in 1771. By the late eighteenth century Preston was connected to Wigan and Warrington by stagecoach and to Lancaster by canal. The census of 1801 tells us that Preston had a population of 11,887, fuelled by its links to 'King Cotton' the population had risen to 69, 361 by the mid nineteenth century. The Industrial Revolution that brought Preston profit and prestige also brought its residents filth and squalor. Cholera outbreaks are recorded in the town in both 1832 and 1848. With these conditions came inevitable unrest amongst the poor and to drown their sorrows the population frequented the many public houses and inns that Preston was home to – Preston once had the dubious claim to fame of having more public houses per square mile than any other town in England. It was perhaps this vast quantity of ale houses that encouraged Joseph Livsey to form the Temperance Society in 1832 which went on to advocate teetotalism. Cotton dominated Preston until the 1920s when, by that time, Preston's population was 120,000 and Preston remains similar in size today. Preston's rich and varied history potentially influenced the output of bottles and it is the intention of this thesis to reflect upon how Preston's trade links, its growth during the Industrial Revolution and its social history, such as the links to Temperance Movement, affected bottle manufacture and design in the period 1850 – 1920.

Like Preston the bottle itself has had a long and varied history. Today bottles are usually made from glass or plastic but the earliest bottle like containers were made from shells, gourds and animal skins. The art of glass making was known before 1500 B.C. when the Egyptians and the Syrians could not only make glass but colour it also; adding

cobalt to the mix of sand and alkali produced blue, iron oxide green and so on. The Romans brought glass to Britain for both practical and decorative purposes but it was not until the sixteenth century that glass making was established in England encouraged by Dutch refugees. Early glass bottles were hand blown and crude. The sheared lip which made drinking from a bottle difficult was refined by 1650 when the technique to produce a ‘rolled lip’ was acquired. Further progress in the development of the bottle was made when the ‘kick up’ was able to regulate the uneven base of a bottle caused by a broken off pontil - the mark left by the glass blower’s rod. Despite the advances in glass making techniques the most common containers used in the seventeenth century were made from earthernware and stoneware. The stoneware and glass bottle has evolved and developed greatly since the seventeenth century in both its design and purpose. (Hedges, n. d., p. 5-6)

Notes:

[1.] The lamb and flag are is the symbol seen on the city shield of Preston and has become the symbol of Preston. It is thought that the lamb represents a connection to St. Wilfred, the saint that Preston's Parish Church (now St. John's) was originally dedicated to in the Middle Ages. (Prestonian, 1996)

[2]. Ginger beer was to become, by 1900, Britain's most popular 'non intoxicating drink' but its history is long and varied. Up until the late 19th Century water itself could not be relied upon as a safe drink – Preston records two outbreaks of Cholera a deadly waterborne disease in 1832 and 1848 - and therefore people would usually only drink water that had undergone a heating process. Such a drink would be the 'small beer' which was simply boiled water with added leaves or herbs such as nettles or dandelions which was then left to ferment and the resulting liquor drawn off to be consumed, usually by the poor. Even children would partake of small beer and this can be said to be the precursor of our modern day soft drink. It is recorded that the Native American Indians were adding ginger to their water in Barlow's Discovery of Virginia and by 1820 Charles Lamb tells us that farmers would brew up quantities of ginger beer and sell it to passing trade. (Emmins, n.d., p. 11)

[3.] Mary Battle first appears in the census records of Preston in 1841 where she is recorded as a dressmaker age 35. By 1851 she appears to have changed trades and is recorded as a manufacturer of ginger beer – she appears to both live in and trade from a property in Oxford Street in the Avenham area of the town. She continues in this trade in the 1861 census but then cannot be traced in census returns as a ginger beer manufacture after this time. Her death is recorded in 1879 at the age of 79 and there is no record of a will. (Ancestry, 2002)

[4]. Henry Aspden is first cited as a ginger beer manufacturer in Slater's Directory of 1848 and appears to be a contemporary of Mary Battle being recorded in the census returns within this trade right up until his death in 1875. Aspden, born in Blackburn, the place where the slab seal bottle is said to originate, trades in the Stoneygate area of the town and cites his address as St John's Place. By 1853 Aspden is trading under the company name Dougal and Aspden and in his will is able to leave a figure of 'under £1500' to his widow Ellen. (Ancestry, 2002)

[5.] Peter Kellett dies in 1891 and his will was proved by Robert Aspden an innkeeper which appears to show a connection between these two Preston manufacturers. As

Kellett is a later addition to the manufacturing of soft drinks in Preston, being first noted in a Trade Directory of 1873 as a ginger beer and soda manufacturer on Almond Street in the town, it could be supposed that Kellett absorbed Aspden's business into his own. It would appear Kellett continued Aspden's tradition of using the slab seal bottles, simply exchanging Aspden's seal trademark for his own. Aspden commonly used the lamb and flag of Preston as his trademark whilst Kellett favoured the horse. By 1881 Peter Kellett is recorded in the census for Preston as an Aerated water manufacturing master employing 7 men. In the premises next door a William Edward Kellett is making ginger beer, so this appears to show an expansion of Kellett's business. Hodgson too appears to trade on a larger scale than Battle, although he only comes to light as a soda water manufacturer in the 1861 census, later than both Battle and Aspden. Soda water, essentially carbonated or fizzy water, was another popular 19th Century drink and those who manufactured soda water often produced other soft drinks such as ginger beer, Kellett also produced both. Aspden on the other hand was famed not just for his ginger beer but also for his champagne cider so these slab seal bottles need not have held just one type of product. Hodgson seemingly dies in 1879 but although there are records of a will it does not state how much his business was worth at the time of his death. What he does leave as a legacy however, are his sought after slab sealed bottles with his known trademarks of either a lion and crest or a windmill. (Ancestry, 2002)

[6] Early potters would have been served by a child assistant to hand crank the potter's wheel. Later foot operated machines did away with the need for a child assistant. (Blakeman, 1998, p. 11)

[7.] The two tone appearance of the glaze was created by dipping the whole bottle in a light coloured slip ware glaze and then dipping the neck and shoulders of the bottle into a darker slip to create a shiny two tone effect. The ‘Bristol glaze’ is so called as it was developed in that south west city in the 1830s. The ‘Bristol glaze’ was increasingly favoured in the 19th Century as it didn't release as many noxious pollutants into the air as the salt glazing technique did. (Askey, 1981, 1998, p. 73)

[8] Meadowcroft was himself a manufacturer of soft drinks and it appears to be a need for increased commercial productivity that leads to Meadowcroft applying for various patents featuring both bottle design and closure and bottle manufacturing machinery – including the ‘Bottle Syruping and Crown Corking Device’. (patentmaps, 2012)

[9.] A similar patent unknown in Preston called the Murray patent also created a bulge in the neck to hold the cork tighter but this is a minor patent confined to a Scottish

company. Another variation on the Meadowcroft Patent is also lesser known, the F A Bird & J B Fenby's Patent Closure, also attempted to allow the cork to be held firmer into the neck by using grooves in the neck and later a tapered stopper – this again is not found in Preston but is known in Birmingham. (Askey, 1981, 1998, pp. 87 - 89)

[10.] A rare patent found on Doulton bottles is a variation on an internal screw top called a Margetts Patent; it is also unknown in Preston. A further patent introduced as an improvement on the common crown cork is the Marples Patent but this again is unknown in Preston and appears confined to one bottle discovered in Ledbury. (Askey, 1981, 1998, pp. 87 - 88)

[11.] One shape that is unlikely to ever be found in Preston is the 'square' – this bottle seems unique to a company in Chichester. Another shape – the beehive neck – is known only to a company called Mills in London. Again these shapes set the company apart from the competition and make identification easier – it would appear that this type of innovation was limited in Preston. (Askey, 1981, 1998, p. 91)

[12.] The Miles and Struthers closure was an earlier version of the Galtee More but used two drilled holes but this is even rarer than the Galtee More and is not known in Preston. (Askey, 1981, 1998, p. 87)

[13.] Donoghue V Stevenson court case. It is suggested that this law case brought to an end the use of stoneware bottles in August 1928. The Stevenson in this case is a Scottish soft drinks manufacturer and the Donoghue, a Mrs. Mary Donoghue. Mrs. Donoghue sued Stevenson when she found the remains of a snail in her ginger beer bought from an ice cream parlour in Paisley, Scotland. (Blakeman, 1998, p.8)

[14.] Examples of stoneware Hamiltons discovered seemingly represent only London, Liverpool, St Ives and Chesterfield, the indications on the bottles show they are probably all made by the Bourne and Burton potteries in the Midlands, with some showing possible links to London companies. (Askey, 1981, 1998, p. 114)

[15.] George Godfrey Beaumont was a chemist and druggist of Friargate whom, we are told in Slater's Directory of 1855, also sold oil as well as being a maker of soda water, a grocer and tea dealer until the 1880s.

[16.] One company in Salford is famed not just for its Globe trade mark but also its preference of amber glass in its bottle production, making it stand out from those companies simply relying on aqua coloured glass.

[17.] Some bottles go to great lengths to explain where their produce came from and might include descriptions like 'Next to the parish church' or 'Across from the cemetery'.

[18.] Also how could the hamilton be served at the dinner table with the danger that it might roll off? The latter problem was solved with associated hamilton paraphernalia like the hamilton stand, the best dinner tables would have extravagant silver stands adorning the table, the less well-off would have the plated variety.

[19.] A famous type of cucumber bottle is known as the Maugham's Patent bottle – there is some disagreement in the bottle world as to whether the patent was taken out on the bottle or the contents Maugham's Carrera Water. Whichever is correct the Maugham bottle became synonymous with 'Carrera Water' and soda water in general which is why this product was generally housed in this shape of bottle. (Hickman, 2007)

[20.] The Connor's patent was produced with pear shaped marbles in the neck rather than the round ones that young children sought to play with. (Codds Stuff, 2001)

[21.] The Barret Eler's patent earned such a moniker from the long usually wooden plug that had a rubber seal applied to one end. When the bottle was filled the rubber seal was forced into the neck of the bottle to create an air tight seal protecting the carbonated contents from leakage. Henry Barrett patented his design in 1868 alongside John Adams so the design is sometimes described as an Adams and Barrett patent. The Elers part of the name was added when Charles Elers bought up Adam's estate after he died in 1871.

[22.] This is not Barrett and Eler's only patent stopper as they are known for others including one known as the disc stopper which is a rare patent and are also associated with the internal screw stopper. Barrett and Eler's patents can be found in Australia and the USA. (digger'sdiary, n. d.)

[23.] During the 1880s he improved the patent by using a glass stopper to reduce breakages and make the stopper lighter. Vallet's bottles were also known as ledge mouth bottles and were patented in 1875 with a stopper that could easily be transferred from a broken bottle to another bottle without damaging the India Rubber seal – this meant Vallet could sell his wooden stoppers to other companies for their bottles as well as put it in his own bottles. He could also make money from his patented bottle designs and stopper extraction device. (Aussiebottledigger, 2008)

[24.] Thomas Sutcliffe's patent was produced by Wade and Dobson – Suitcliffe was for a time a partner of Dobson who is believed to be the same Dobson of the Dobson codd variation. Sutcliffe was based in Manchester for a short period of time and some of his patent bottles are marked for Manchester. He ended his partnership with Dobson to concentrate on such patent closures as the ones produced in this North West city. (Paul Best, Personal Communication, 8 May, 2011)

[25.] There are other examples of patented bullet stoppers which are much rarer, for example the Rule's patent of Swinton and the Tapp's patent both of Cheltenham. These are examples of local patents that did not spread to use nationally and so will not be found associated with Preston. Tapp's patent was actually contested by Sutcliffe and Barrett and Eler as being too similar to their designs – a sign of how competitive the bottle market was in the late 19th Century. (Paul Best, Personal Communication, 8 May, 2012))

[26.] There were some initial concerns that gas would be lost when the screw top was opened but when people noted that the stopper could be replaced quickly into the bottle when partial contents had been poured; thus allowing the bottle to retain enough gas for a second aeration.

[27.] As some people opened their Codd bottle by pushing down the marble with their little finger, despite there being a number of purpose built openers on the market for such a purpose, then contamination appeared a risk with both methods. Other companies jumped on the internal stopper bandwagon and were soon producing their own variations. One such company is Riley's who in 1892 produced a lignum vitae internal stopper but later stoppers could be wood, ebonite, vulcanized rubber and even glass. Riley's stoppers could include the name of the firm and improved on the earlier Barrett patent by including a protrusion that allowed for easier opening and closing. The Riley's patent stoppers were used up until the 1960s (Adnams, 2012). Another alternative is the hexagonal Bird and Fenby's patent screw top stopper which proved to be a patent limited in success and only taken up by a few companies – so a rare stopper to find. One really strange use of Barrett's internal screw thread was on a Codd bottle! This is a very rare and of course totally unnecessary use of two types of closure on one bottle. It would seem that the same idea applies as to that of the Hamilton Codd hybrids – allowing those familiar with the Codd bottle to experience the use of the new internal screw stopper in a comforting Codd form. Sadly none of these strange hybrids are to be found marked for Preston. (digger'sdiary, n.d.)

[28.] The Fernley's patent appears to be an early forerunner of such a bottle with an external screw top. (digger'sdiary, n.d.)

[29.] Matthew Brown was born in Preston in 1803 and took over the running of a brewery from his father in the 1830s. His main brewery was in Pole Street which had the adjacent public house the Angler's Inn. It is likely that he sold his produce straight out of his pub and so had no need for a bottled product in this period. By 1886 Brown had three

malthouses at Lark Hill, Maudland and Moor Park plus 46 public houses – it is also said as a local farmer and stockman that Brown grazed his animals on Moor Park in the town. As his business was now such a going concern it is likely that Matthew Brown would be moving his beer product around in barrels to be sold out of his public houses rather than in bottles. (cottontown, n. d.)

[30.] Matthew Brown PLC remained a key name in the brewing industry until it was taken over by Scottish and Newcastle in the late 1980s. (cottontown, n. d.)

[31.] CH Marsden of Marsden and Kay is recorded in the 1911 census as a druggist aged 40, single and boarding with a Gillibrand family. (Ancestry, 2002)

[32.] The soda syphon was used to prevent carbonated water going flat; the valve and hollow corkscrew which was introduced in order to do this was formulated in France in 1829. (bottlebooks, 2004)

[33.] William Stone Haysworth lived on Haysworth Street in the town with premises in Aqueduct Street and also associated premises on Moor Park photo. He was for a time a chemist and a mineral water manufacturer. He died in 1892 aged only 36 but left a considerable sum to his widow of £1257 16 s and 4d; the equivalent of over £75,000 today. William appears to have come from a fairly well-to-do family as his father, listed in the census returns with William, is a joiner employing two men and two boys – his other sons. In fact in the 1861 census when William is 3 years of age his father is recorded as a builder and quite possibly built the houses on Haysworth Street, which still exists today, himself, hence the name of the road. At the age of 15 William is a chemist and druggist and we must assume he is serving his apprenticeship in a business local to Plunginton, perhaps the premises on Aqueduct Street he is later associated with. As William marries in Warwick in 1882 to a lady called Annie Gedney then the window for opening his chemist and later mineral water manufacturing business in the town is a short one as he is dead by 1892. (Ancestry, 2002)

[34.] Many companies chose the beehive as their symbol, also connected to masonry and showing industry. Other companies chose sports imagery; the bicycle is a feature on some companies' bottles probably to show how up to date they are with new technology. Other companies chose the globe to mark their bottles to show their universality, whilst some chose images to affirm their name like Bell.

[35.] Clay explains some of the worst conditions: 'A visitor entering Queen Street, finds himself facing a row of privies of more than 100 yards long. The doors of the privies are about 6 feet from the house doors opposite and the space between one privy and

another is filled up with all imaginable and unimaginable filth; so that the street consists of passages little more than 6 feet wide, with dwelling houses on one side and a continuous range of necessaries, pigsties and middens on the other, with a filthy surface drain running along one side ... 12 houses have their only outlets upon this disgusting and pestiferous passage.' (Chapple, 2000)

[36.] Nothing to do with drinking tea instead of booze rather Dicky Turner's stammer over the word 'total'. (Walton le Dale, 2000)