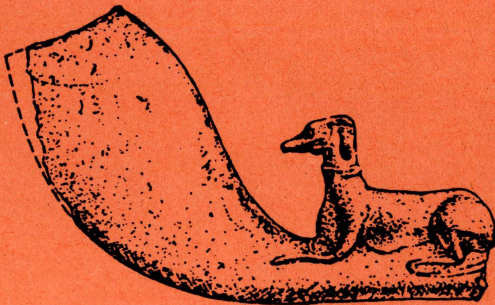
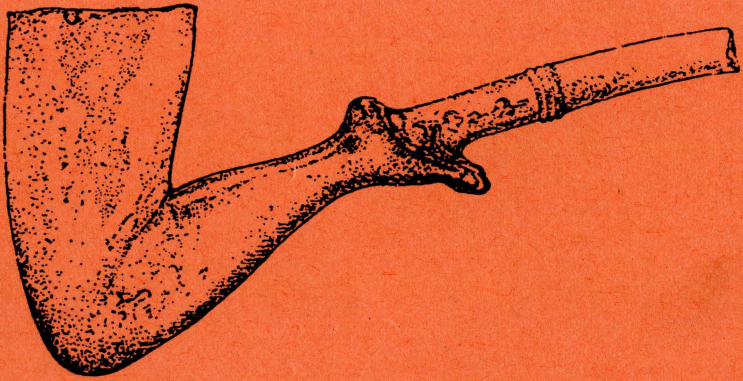


THE BARNSTAPLE  
CLAY TOBACCO PIPE FACTORY  
IN THE NINETEENTH CENTURY



By Richard Terry

David Higgins  
January 1989

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Illustrated by M. Brooks

Clay Tobacco-Pipe Making in Barnstaple  
before the Nineteenth Century.

The Barnstaple pipe making industry was established in the early years of the 17th century and there is strong archaeological evidence that the industry expanded throughout the century alongside the famous pottery industry. Indeed there is proof that clay pipes were being fired along with glazed pottery in the Potters Lane area as early as the 17th century.

Documentary evidence for the export of pipes in the 17th century is scarce according to Dr Alison Grant who has made a detailed study of the industry. The Port Books for Bideford and Barnstaple provide scanty information. Merchants listed as exporting tobacco pipes were general traders and it is unlikely that any of them were pipe makers. During the same period pipes were being imported from Chester and Holland both of which were major production centres. The most productive years for the Barnstaple industry were from 1660 and 1740 when pipes were being exported as far as Barbados and Boston. However the trade declined in the later 18th century, both locally and nationally, partly due to the international situation and partly to the increasing popularity of snuff.

North Devon is fortunate in having one of only three deposits of good pipe making clay in England. The clay is a creamy white ball-clay. The clay was broken into pieces and washed in tubs before being placed on boards to mature. It was then beaten with an iron bar and kneaded into a pliable mass.

The earliest pipes were hand made but as early as 1580 two piece brass moulds were being used. These were superseded in the 18th century by moulds of cast iron. Small portions of clay were hand-rolled into "blanks", roughly the length of the mould, partially dried on "dozening boards" (fig 1) and pierced with a wire to form the stem hole. This assembly was inserted into the mould which was then compressed in a vice.

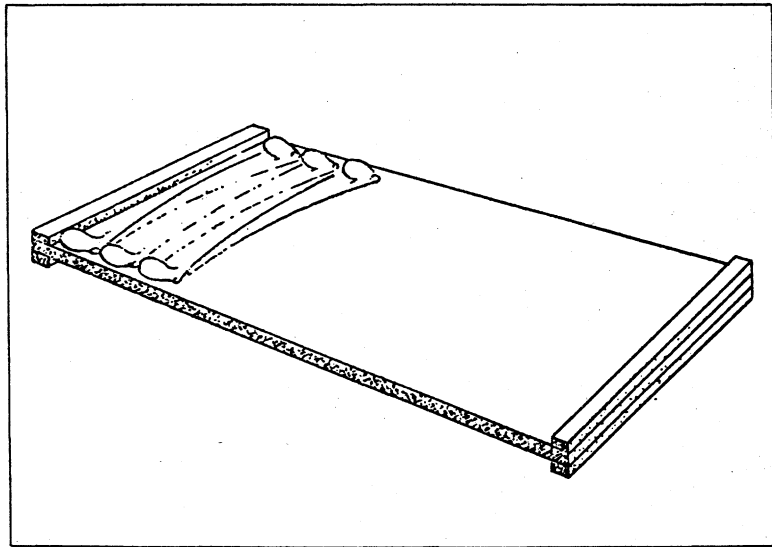


Fig. 1. Dozening Board.

The bowl was formed by using one of the following techniques. The first is described by John Houghton writing in 1693:

" A ... brass stopper is put into the great end to make the bole. "

The second method was described by Randle Home in 1688 as a "screw":

" This is an engine by which the moulds are screwed together and the mouth of the pipe made at the same time ... "

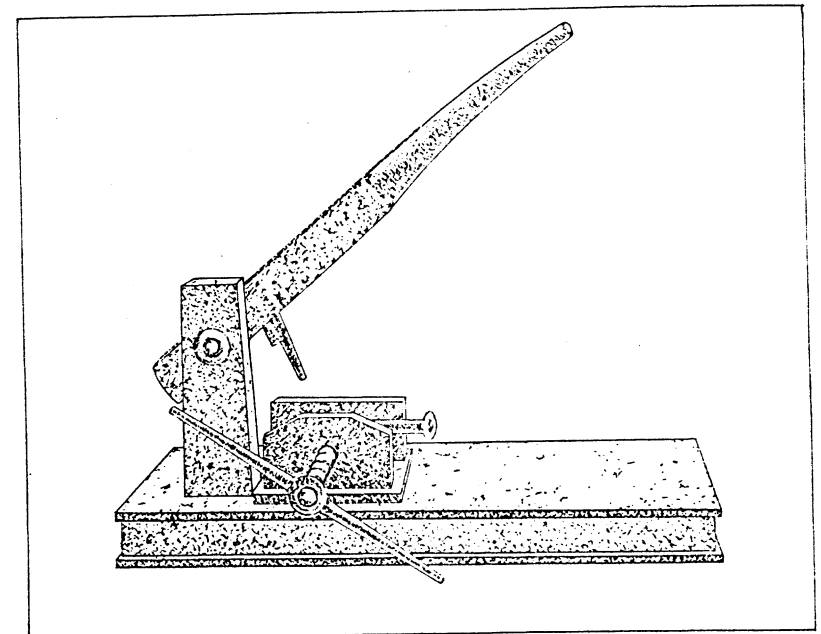


Fig. 2. Gin - Press.

This "engine" was a gin press. The overhead lever had a stopper (of adjustable size) attached to it which was pushed into the mould fitted in the vice. After the

moulding was complete the pipe was removed, trimmed of excess clay with trimming and smoothing tools and the piercing rod taken out. A short period of drying followed after which final trimming, polishing and smoothing took place.

In the 17th century the Barnstaple pipe makers fired their pipes either in the pottery kilns or possibly in purpose built pipe kilns. No pipe kilns have been excavated in Barnstaple to date. Excavations in Barnstaple provide evidence of pipes fired in potters' kilns. Some pipe wasters were found alongside pots in the pottery kilns excavated at Potters Lane between 1985 and 1987. This use of potters' kilns seems to have had its problems as many pipes were ruined by being splashed with glaze during firing.

Four tobacco-pipe kilns were uncovered in Portsmouth. These dated from the late 17th century. The original structures consisted of a cylindrical body attached to a square stoke-hole which had an exterior shell of red brick and stone with yellow clay bonding. The inner chamber of one of the kilns had been re-lined three times with bricks, which, the report says, were "insulated" with a layer of pipe clay containing reject pipe stems. This may have been a deliberate use of muffle to prevent penetration of atmospheric impurities. The fire was directed under the inner chamber through a long, arched flue, and this and the other structural features should be compared with those of the 19th century kiln described in the next chapter.

They share several features, and the latter kiln seems to be a developed version of the earlier model, rather than an original design. The pipe makers of 17th century Barnstaple may have used such a kiln, but none have been located so far.

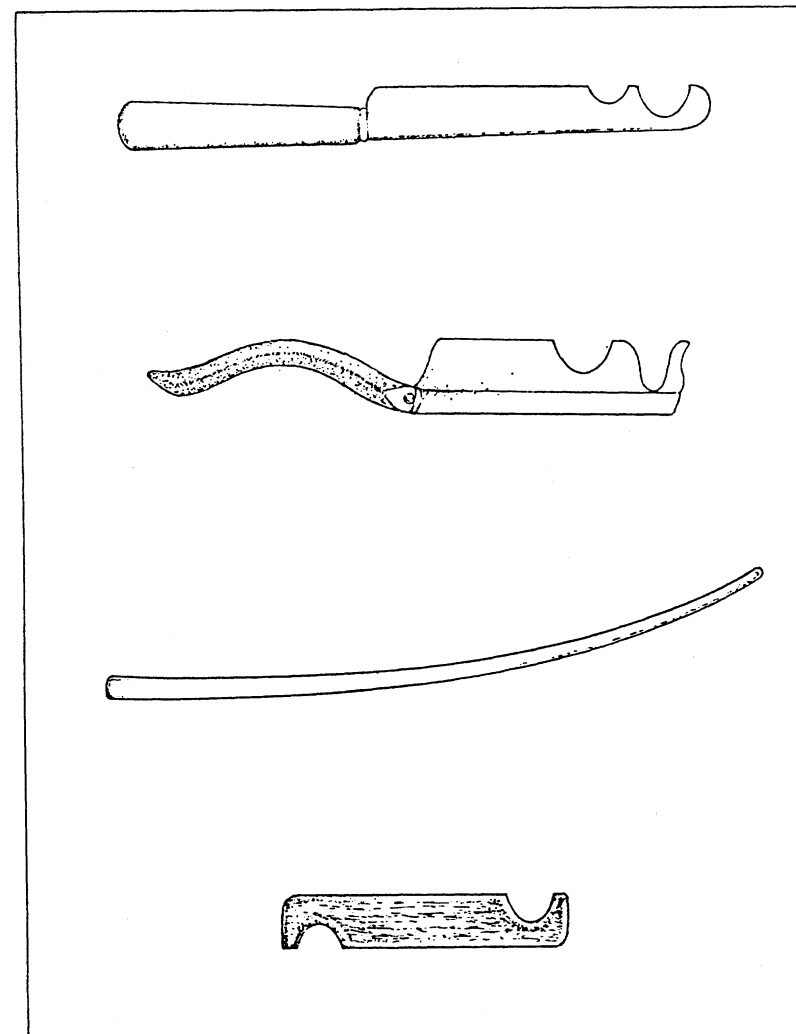


Fig. 3. Finishing and Smoothing Tools.

### Making the Pipes : Nineteenth Century.

It is probable that 19th Century Barnstaple pipe-makers used Peters Marland pipe clay, the digging of which was itself an industry undergoing something of a revival at this time. The clay was dug by clearing it of topsoil, scoring along its length and width, and cutting out nine inch cubes or "balls". These were weathered for several months before being transported to Barnstaple via Rolle Canal and the Torridge.

The basic method of making pipes changed little from the 1750's to Seldon's day, although mould making had by this time become a specialised industry, with a vast increase in the number of "fancy" pipes being made. L.S. Harley believes the reason for this lack of progress was that hand-moulding was so cheap, and there was little incentive to mechanise the process.

One source of information on the firing of tobacco-pipes is Andrew Ure's "Dictionary of Arts, Manufactures, and Mines". Figure 4 is based on his illustration.

Ure describes the central feature of a 19th century tobacco-pipe making kiln: the large sagger (a) placed over the furnace (b), supported on piers (c). This vessel was filled through a door (d) in the side of the kiln's fire-brick outer layer, which was blocked up during firing.

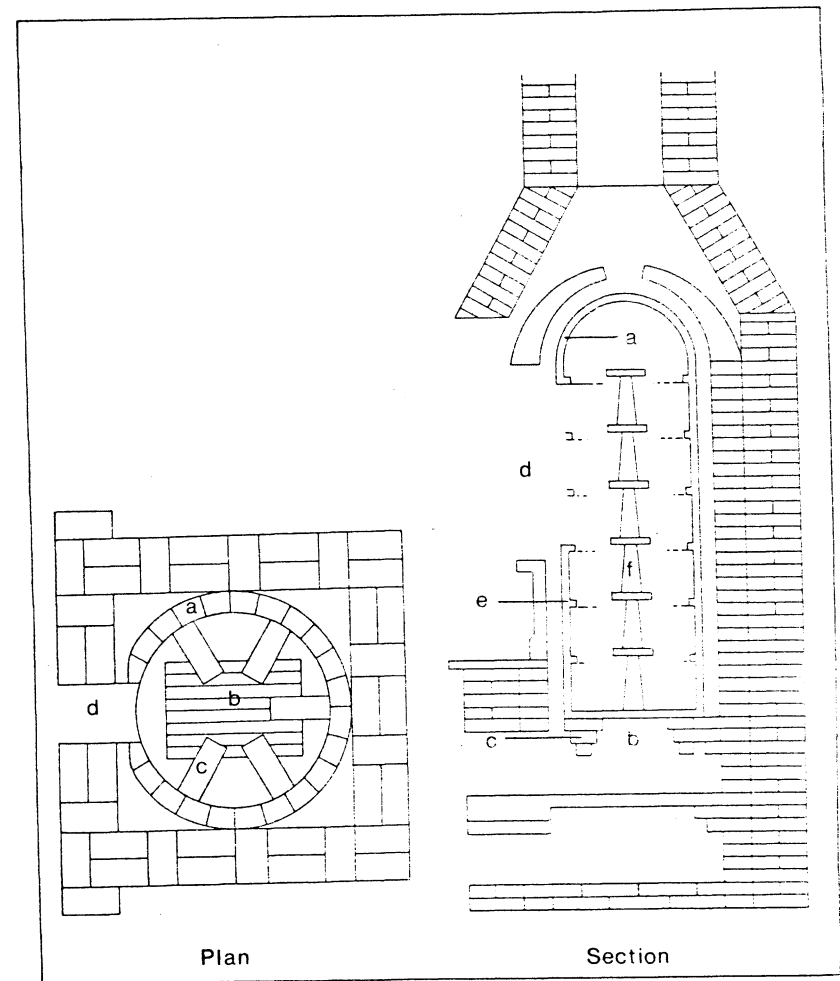


Fig. 4. Plan and section of C. 19th muffle kiln.

The sagger's own opening was filled up prior to firing with a "lath-and-plaster" mixture of pipe stems and pipe clay. The whole sagger was constructed of this material, known as "muffle", hence "muffle kiln". This mode of construction combined strength with a thin skin, requiring a modicum of clay and transferring heat well.

The pipes were arranged resting upon shelves (e) into the sagger, and set at gradations in order to house the different lengths of stem and pedestals (f) with the pipes. Ure gives the kiln's capacity as 7,200 (50 gross) "all baked within 8 or 9 hours". This firing time contrasts somewhat with the figure given by E. G. Ayto of about three days including time for the kiln to reach the 900 degrees C peak temperature and subsequent cooling. Ayto adds that a 19th century factory could produce several thousand pipes every day.

#### John Seldon and Nineteenth Century Pipe Manufacturing

After the fallow years of the late 18th century, tobacco-pipe making in Barnstaple appears to have undergone a small revival in the 1850's.

From documentary sources, Dr Alison Grant has reconstructed a picture of the extent of this revival. The Census of 1851 mentions a pipe-maker called Tate, who employed five men, but little else is known of him. The "Exeter Flying Post" of 1853 and 1854 carries advertisements for clay pipes made in Barnstaple by a William Thorne, in which he claims Australia as one of his export

markets. Dr. Grant suggests that these manufacturers were encouraged by the improving conditions of trade of the time, and indeed a newly-formed Barnstaple shipping company despatched its first two clippers to Australia in 1852 and 1853. Other markets were opened up by the completion of the North Devon Railway in 1854, linking Barnstaple to the national rail network via Exeter.

John Seldon's first advertisement appears in the "North Devon Journal" in 1857 (Fig.4). It seems that Seldon, a young grocer, had arranged for pipes to be made on his grocery premises in Joy Street. This would have caused few problems as these buildings possessed warehouses at the rear, part of one of which would have converted into a small manufactory.

Business must have been good for Seldon, because in 1858 he purchased part of an orchard and premises in Shute Lane (Alexandra Road), had a factory built, and early the following year began trading. The "North Devon Journal" of 3rd February 1859 carries his advertisement prominently at the top of the front page (Fig.5) and an article devoted to his "commodious" new factory. The article claims that the venture will provide work for "between 30 and 40 hands", and gives the area of the building as 90 feet by 70 feet, with "spacious and well ventilated rooms". The article is enthusiastic about the new enterprise, not only because it would provide "remunerative employment for the labouring population", but also for its example to other investors to direct funds into an area of the town in which there were "provisions and labour cheap".

**TOBACCO PIPES!!!**  
**SELDON & CO.**

RESPECTFULLY inform the Trade, that they have Erected and now at Work, A FACTORY, for the Manufacture of TOBACCO PIPES. The Workmen employed being First-class hands and the best Materials only used, they are confident the qualities are not to be surpassed; while the great saving effected on the better goods must recommend them all.

Price List free on application.—Cash or reference with orders.  
21, Joy-street, Barnstaple.

**TOBACCO PIPES!!!**

10	18-inch Tipt Pipes .....	} Best quality	Cash Price
10	18-inch imp. Brosly .....		(1s. 5d. Gross,
21	inch Bristol .....		2 0 "
21	inch imp. Brosly .....		2 9 "
18	inch London Straws .....		3 6 "
18	inch ditto do. ....	2 5 "	
18	inch ditto do. ....	4 0 "	

PIPE CLAY (small size), 3s. 6d.; large, 7s.—Liberal Discounts to Wholesale Buyers.

SELDON AND CO., Manufacturers, 21, Joy-street, Barnstaple.

**TOBACCO PIPES.**

LENGTH—15 Inch FLUTED, 1s. 5d., to 1s. 6d.  
" 18 " TAYERNS 1s. 9d., to 2s. 0d.  
" 21 " LIVERPOOLS, 2s. 9d.

LONDON STRAWS, CUTTEYS, &c.—Tobacco, superior quality.  
3s. 7d., at

**SELDON AND CO'S.,**  
21, Joy-street, Barnstaple.

**SELDON & CO.,**  
**TOBACCO PIPE MANUFACTURERS,**

DESIRE to inform the Trade that having completed their NEW AND COMMODIOUS FACTORY, they will be now in a position to execute Orders with facility, on the best possible Terms.

They would further state that having made satisfactory arrangements for the manufacture of CORKS, they will be able to supply every description in price and quality, equal to the best Houses in the Trade.

Epocry. Barnstaple, February 1st, 1854.

Unfortunately for Seldon, the business proved unsuccessful. From the sources available, it is difficult to accurately pinpoint its demise, but we can estimate that it lasted about three years. In his history of Victorian Barnstaple, Gardiner briefly mentions Seldon's factory, hinting vaguely at a closure date of around 1865. There are certainly several pipe makers listed in the 1861 census, and these were probably Seldon's employees. However, pipe manufacturing is not among the trades mentioned in a Directory of 1866, in which Seldon is described as a grocer. There do not appear to be any advertisements for pipes in the 'North Devon Journal' after 1859, and in the 1862 editions Seldon's advertisements are for groceries only. Without further evidence, only rough guesses can be made about his pipe making business; what is known for certain is that he eventually sold the premises as a malthouse in 1879, having let it to his brother, a spirits merchant, for several years previously.

This seems to fit Seldon's operation, in which he employed mainly women and young men, who would have provided labour at a relatively low price.

The new "fancy" pipes were many and varied. There were designs bearing names of public houses, sailing ships, animals, and flowers. Intricate designs such as an eagle's claw clutching an egg and portraits of famous people were introduced: Fig. 6 shows a simple version of the "claw and egg" type. The "yard of clay" or "Churchwarden"

Fig. 5. Seldon's advertisements.



also originated around 1850; it was literally a yard in length. Shorter, more durable versions were made, the ordinary pipes being given away with a pint of beer by publicans.

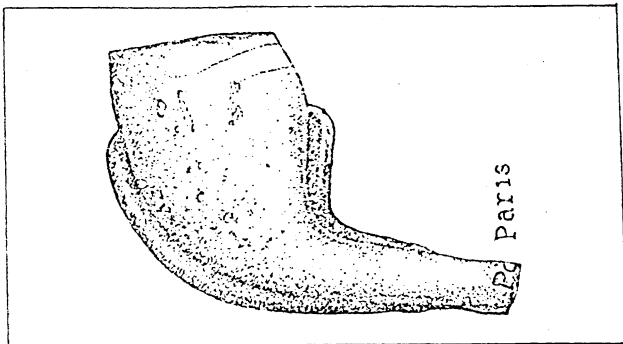


Fig. 6. "Claw and Egg" pipe.

Looking at the fancy pipes excavated at the Bear Street site, several interesting features emerge. Those pipes marked "Paris Depose" (Paris Registered) may have been made from moulds imported from France (Fig.11). This reflects material from secondary sources which suggests that French manufacturers at the time were exporting large quantities of fancy pipes, influencing their English counterparts. However identical pipes not bearing the French stamp suggest Seldon possibly had similar stamps made for himself, copied from the French patterns. Bearing in mind the volume of imports of French pipes, it is unlikely that Seldon was actually exporting to France, using the stamp as a marketing ploy.

Two other French techniques had been tried out by Seldon. The first was the use of red potter's clay; many un moulded rolls of

red clay were excavated, although no finished examples exist. Seldon also used artificial tints; quite a number of the excavated fancy pipes having an amber or purplish finish. The tinting technique originated in France in about 1850, being an attempt to reproduce the natural amber colour which clay pipes attain after some use. This colour gradually degenerated into a dirty brown, and pipe makers were given back large amounts of used pipes, which were then re-fired to their original white. The discovery of a small number of smoke-blackened pipes provides evidence that Seldon also used this re-firing process. Gardiner notes that local innkeepers were accustomed to sending pipes to Seldon for renovation.

#### The Bear Street Site

Bear Street has been a main entry into Barnstaple since at least the Medieval period, and documentation concerning the street exists from the 14th century. The importance of the road in the development of the town is further suggested by the location of a Civil War fort at what is now Sunset Heights.

As an arterial road, industry grew in conjunction with it; to the south of the street lay the large complex of brick and tile making factories known as Brick Field, productive in the 19th century. This period saw other changes in the area. Following the requirements of the 1834 Poor Law Amendment Act, the Union Workhouse was built in Shute Lane on the site of the present Alexandra

Court. The new building cost £4,000 and housed nearly 250 inmates.

The area continued to grow with the building of John Seldon's tobacco-pipe factory opposite the workhouse, shortly before Shute Lane was patriotically re-named Alexandra Road in the 1860's. Although never a particularly wealthy part of Barnstaple, it possessed a readily available supply of labour housed close by, which would have been a major factor in Seldon's choice of site.

#### The Excavation

In the autumn of 1986, the NDDC Rescue Archaeology Unit carried out an evaluation project in the area between Alexandra Road and Queen Street in advance of redevelopment. Initially, the work consisted of the excavation of a series of trial trenches (Fig.7), by machine and by hand, together with documentary research. This method of excavation aims to maximise information using the minimum of resources, and to determine, in a short space of time, areas meriting further investigation.

Trenches in the vicinity of Alexandra Road revealed an area of considerable archaeological interest. A wide range of 17th to 19th century items were unearthed including fragments of distinctive sgraffito pottery and early clay tobacco-pipes. The latter were subsequently dated at around 1620.

Excavations adjacent to Alexandra Road revealed a cobbled surface covered by a layer of red potter's clay. Burnt areas, a considerable quantity of 19th century



△ Approximate Location of Bear Street Trial Trenches.  
 - - - - - Limit of excavation.

Fig. 7. Location of Bear St. Trenches.

tobacco-pipe and fragments of glazed tile resembling a type used within a kiln as a support for articles during firing, were also found. Evidence of fabric from a muffle kiln (a device described later) was unearthed, although the kiln itself lay beyond the area of excavation. The sheer volume of these finds - of fired pipe-clay wasters, mis-shapen stems, and discoloured (i.e. overfired) bowls - suggested, even without documentary evidence, that this was the site of a production centre, rather than a rubbish tip, at some point in the 19th century.

Documentary sources confirmed the existence of a clay tobacco-pipe factory in the mid 19th century in Alexandra Road. The factory is identifiable as being that of John Seldon, operating from 1859. The building seems later to have been used as a malthouse (see Fig. 8, a map of 1889), and as stables, before conversion to an agricultural warehouse. Finds of early 17th century clay pipes from this site and other evaluation trenches, late 17th century clay pipes together with waste material found near Trinity Street, suggest that this factory may have been merely the latest phase in a long tradition of clay pipe making in this part of the town.

A full investigation of the threatened area was then carried out. Work done on exterior areas showed levels of 17th century and Medieval occupation. A trench cut parallel to Alexandra Road revealed a likely boundary ditch of late Medieval date running across the site.

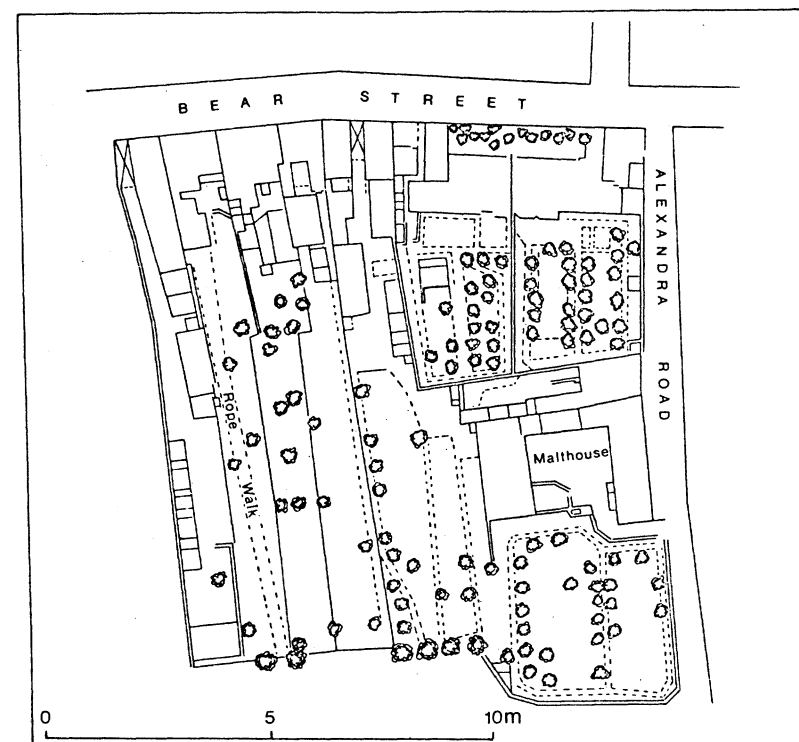


Fig. 8. The malthouse, once Seldon's factory

The area excavated encompassed an area of approximately 300 square metre (Fig.9). Once the upper layers of modern concrete and tarmac were removed, several large features were revealed. These included walls and floorings of various types.

A series of small pits and gulleys, of pre 19th century date, were cut by a brick, stone, and mortar wall running 8 metres North to South. The wall was abutted to the East by a cobbled surface over mortar and sand.

There were several interconnected walls of stone and mortar, one of which (a) ran the whole width of the site, cutting an earlier

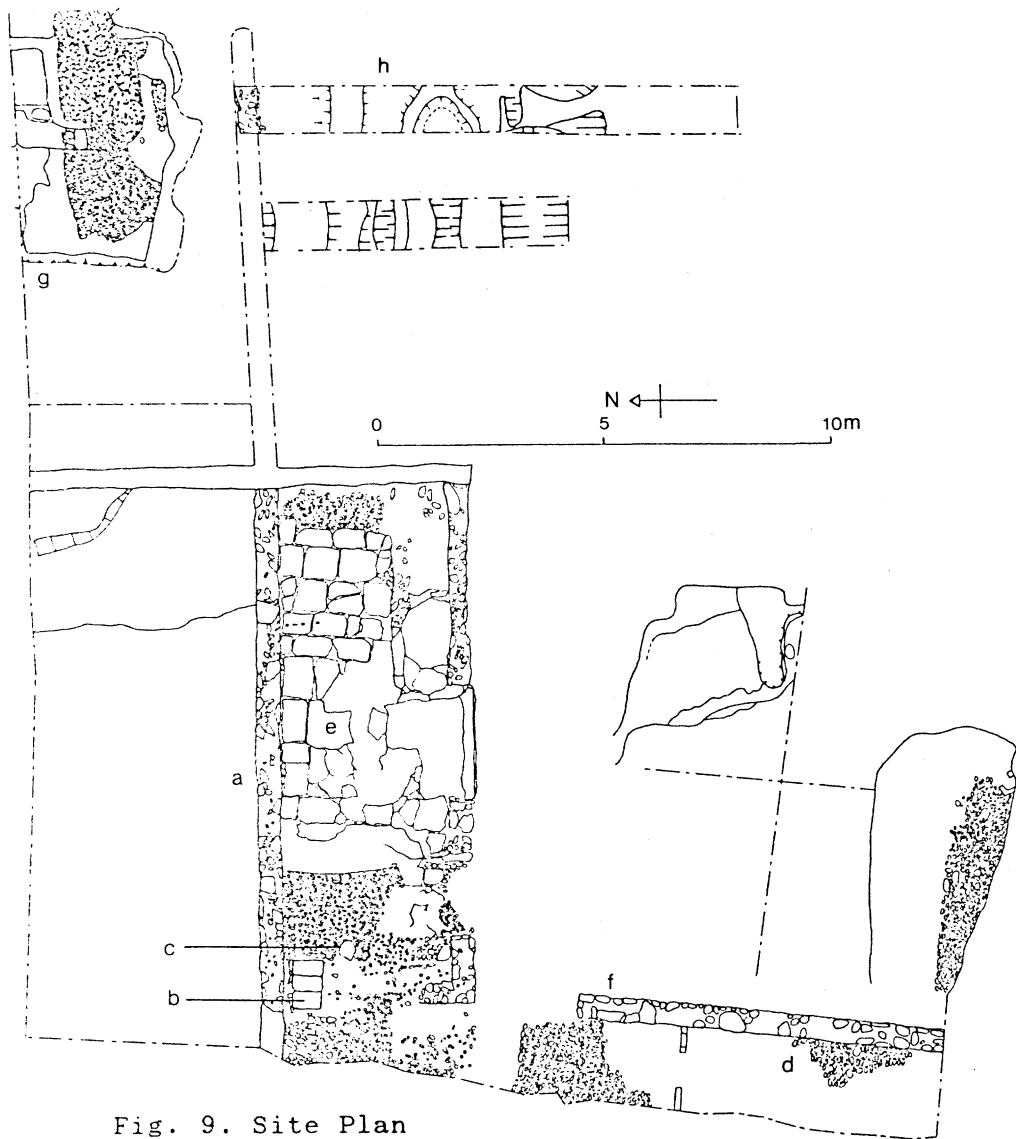


Fig. 9. Site Plan

pit. This was abutted by a feature (b) which included a series of three slate slabs arranged to form a gradient. This was filled by layers of mortar, slate, sand, and ash waste. It is unclear what this feature might have been, but a nearby shallow (c) pit

filled with pipe clay suggests its possible use as part of a tub in which clay was cleaned. Surrounding these features were cobbled walkways (d) and interior slate/paved floors (e).

A stone and clay-bonded wall (f) ran North-South along the entire length of the site on the western edge, butted at right angles by a stone and mortar wall. The North East corner of the site revealed extensive cobbling (g), to the South of which were a group of trenches and pits (h). These were filled with layers with charcoal inclusions, pipe clay, and red potter's clay. It is possible that these were Seldon's rubbish pits.

Given the firing times ( see above ), this would mean that Seldon might have had at least two, possibly more, working kilns. This can only be demonstrated by further excavation. One other feature noticeable when examining the many stems from the site is the green glaze added to their tips. This was common practice at the time, and was done not only to prevent the porous clay drawing moisture from the smoker's lips and causing them to adhere to the pipe, but also as a stylistic measure.

It would seem then, that Seldon, buoyed up by the initial success of the Joy Street factory, pulled out all the stops in terms of techniques of mass-production in his second venture. Unfortunately for him, his timing was poor, as he set up his business at precisely the same time as cigarettes were being introduced and becoming popular, and the briar pipe was displacing the clay as the pipe smoker's favourite.

### The Pipes: Archaeological Significance.

The clay pipe is one of the most common finds on archaeological excavations. In view of its short, useful life, it can be particularly helpful in the dating of other items found in conjunction with it, and the site as a whole. Pipes, therefore, are particularly significant for the archaeologist, especially in the urban rescue context, in which they may be the only identifiable find in any given area of a site. Securing a date for the pipes is made possible by reference to a typology in chronological order according to particular design features. This method can also connect a specific pipe to a region or even a production site; this can provide much information about trading links between producers and markets. (Fig.10).

1. 1600-1630, small capacity.
2. 1610-1640, bulbous body.
3. 1630-1650, larger capacity.
4. 1690-1720, rim and foot parallel.
5. 1710-1740, upright stance.
6. 1760-1800, thin elongated bowl.

The methods used in the original drawing up of a typology are outlined by Adrian Oswald, an authority on the clay pipe's relationship to archaeology. He suggests four techniques for doing this. The first, and most obvious, is to look at the pipes which carry dates with maker's marks; these are unfortunately rare. Secondly, it is sometimes possible to identify a maker by comparing the initials on the pipe with pipe makers mentioned in source documents. The problem with this method is that several generations of the same family may have had the same initial, and another technique is needed to provide a more accurate date.

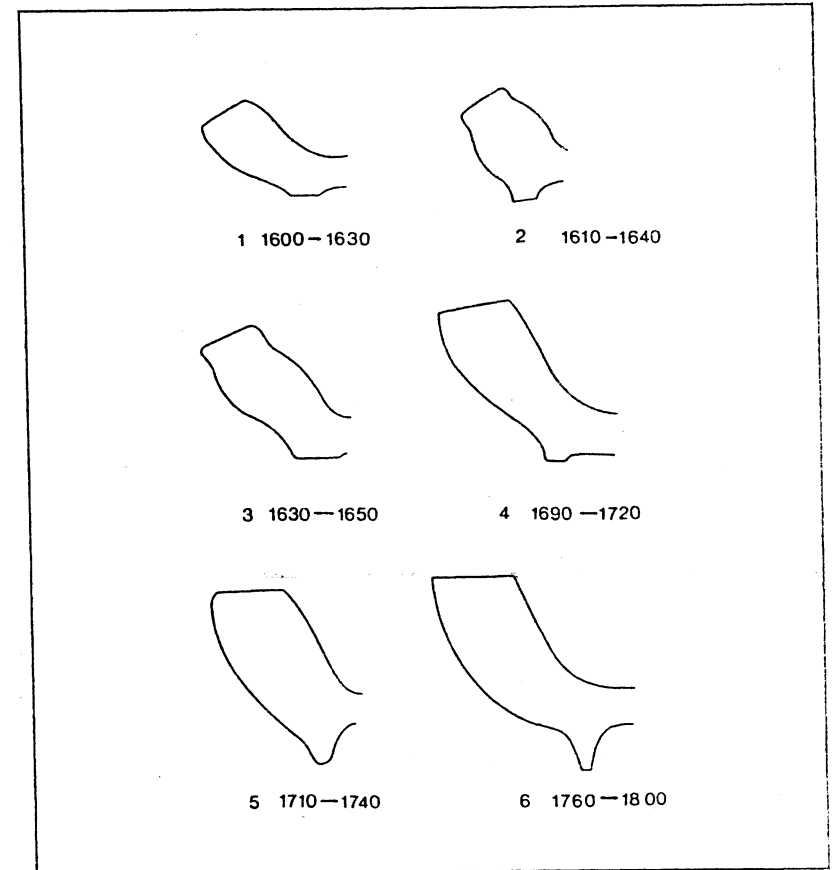


Fig. 10. Pipe development, rough chronology.

More information can be gained if we examine representations of pipes in contemporary pictures and woodcuts, although the inaccuracies of the artist are an obvious problem here. Finally, pipes can be dated by referring them to objects found in association with them in the course of an excavation. Here, of course the accuracy of the dating depends upon the interpretation of the other objects. Another technique, not mentioned by Oswald, involves pipes which incorporate commemorative features: for example, a portrait of Lord Kitchener would suggest a date around the time of the Boer War. Other figurals however, such as Victoria, would have been produced over longer periods of time, and would not be susceptible to such accurate dating.

Using such methods, a relatively sound typology has been constructed over the years, against which yardstick newly excavated pipes can be measured and accurately dated. The changes in the form of pipes over time reflect broader movements. For example, as tobacco became cheaper and more readily available, so the size of the bowl became larger. Another noticeable feature is the abrupt change from sloping to upright bowl form after around 1710, when the gin-press became more widespread.

#### Pipes from the Bear Street Site

When the site of Seldon's factory was excavated, around 1,500 whole bowls and 40,000 fragments of pipe stem were found.

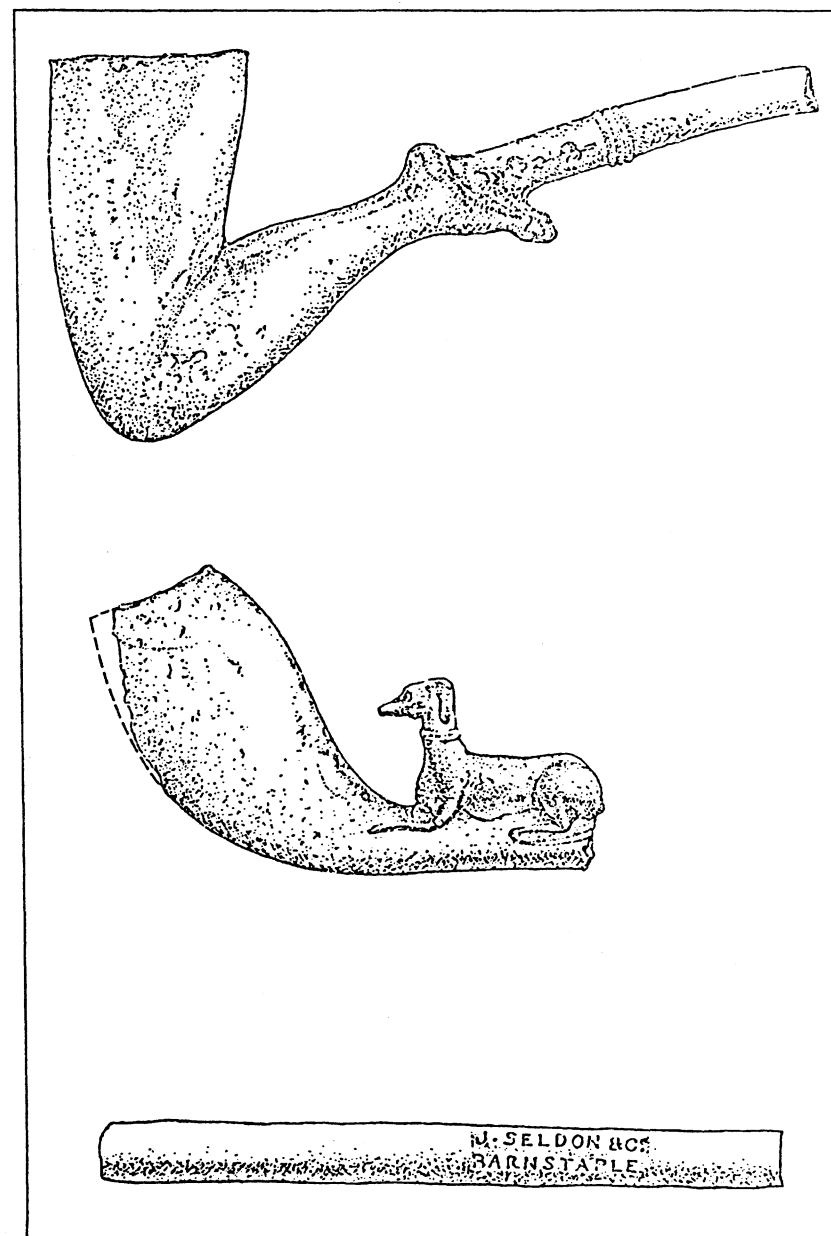
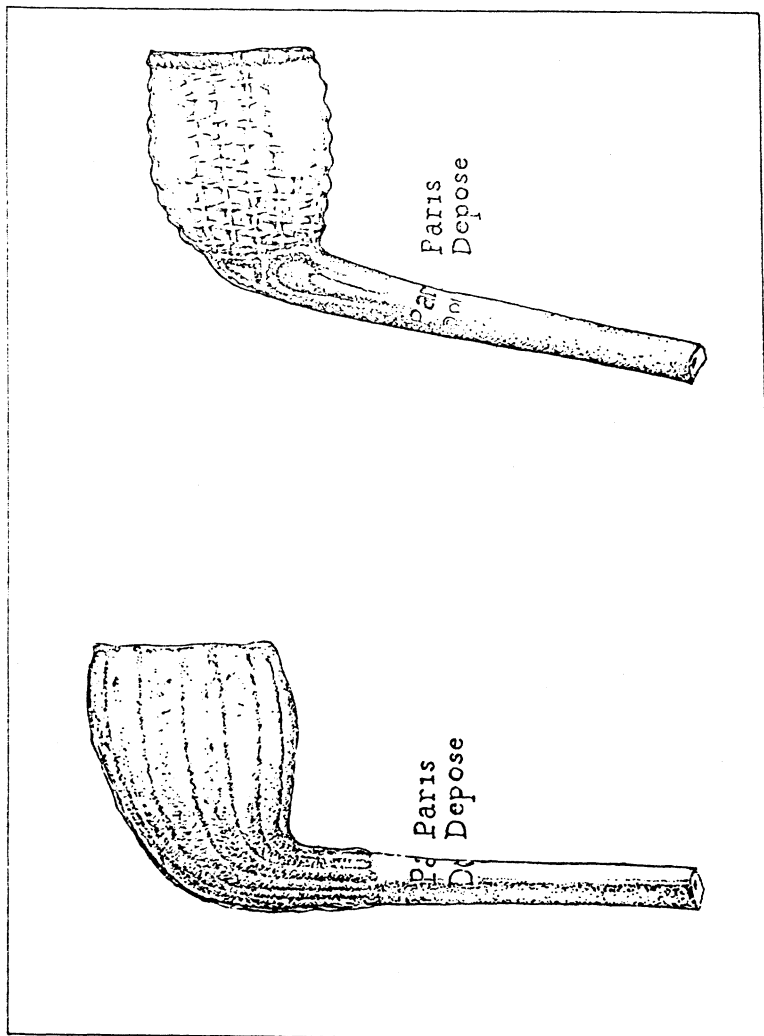


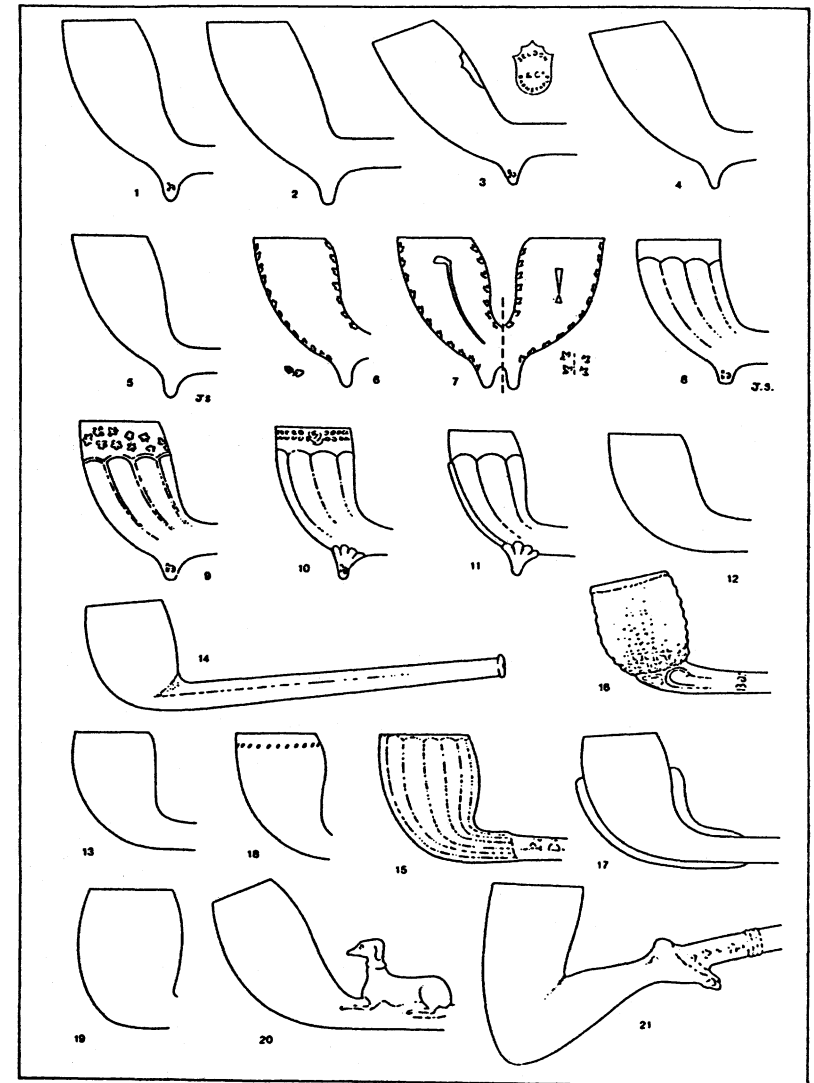
Fig. 11. Greyhound and Leg fancy pipes; stamped stem.



Included in these is a large selection of "fancy" pipes, including ladies' legs and hunting dogs. Others bear the cartouch "Seldon & Co., Barnstaple"; some stems carry this phrase as a stamp (Fig.11). The special significance of these forms is that, coming as they do from a short-lived, dated factory, c1857 - 1865, they can be used to date other collections of pipes in which they occur. Such close dating is rare in archaeology, and underlines the value of clay pipe research for both the archaeologist and local historian alike.

Catalogue

- 1) Thin walled; tall bowled; narrow, elongated, tapering spur; initialled "J.S."
- 2) Thicker walls (ridges inside bowl); long, tapering spur; not initialled.
- 3) Thin walled; bowl angled forwards; small, round mouth; cartouche: "Seldon, Barnstaple"; spur initialled "J.S."
- 4) Bowl has thicker walls and is more flared than 3), although angle similar; spur plain or initialled "J.S."
- 5) Bowl thin walled, upright, and short; spur plain or initialled "J.S."
- 6) Bowl has small, round mouth, plain sides, decorated with oak leaves in relief down seams; not initialled.
- 7) Pipe and Goblet motif; seams decorated with ivy leaves; not initialled.
- 8) Thick walled, fluted bowl; smooth seams; spur initialled "J.S."
- 9) Thick walled, fluted bowl, with raised scallops and leaves decorating top; spur initialled "J.S."
- 10) Fluted bowl, rose and laurels around top; spur plumed and initialled "J.S."
- 11) Fluted bowl, plain top; spur plumed; no initials.
- 12) Briar copy; thick walled, short bowl, angled slightly forward.
- 13) Briar copy; (upright version of 12).
- 14) "Cutty" pipe.
- 15) Moulded scallops form bowl; marked "Paris Depose" on stem.
- 16) Basket weave design "fancy" pipe; some stems marked "Paris Depose".
- 17) Stylised claw-and-egg design; large, round bowl.
- 18) Similar to 12), though stem thinner; denticulated motif around rim.
- 19) Large, rounded bowl; none found with stem attached.
- 20) Greyhound fancy pipe.
- 21) Lady's leg fancy pipe.





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