The archaeology of the clay pipe and the study of smoking

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Abstract

Studies of clay pipes represent one of the major fields of research in Post-Medieval archaeology but one that generally remains under-theorised, fetishising and decontextualising a class of artefact due to its prominence in the archaeological record and its suitability for typological dating. There are a number of possible ways forward to more adequately theorise clay pipes and this study focuses upon one way of doing this, by concentrating upon their functional role. To do this adequately, it needs to be recognised that clay pipes form only one element of a larger "tobacco consumption package" and represent only one of a number of alternative modes of tobacco consumption. Additionally, other archaeological non-artefactual evidence needs to be considered. To consider the functional role of clay pipes, it is necessary to challenge the twin assumptions that clay pipe fragments in the archaeological record automatically represent use-related discard and that clay pipes were used solely for the consumption of tobacco. By doing this, it is possible to link practice in the present (the study of clay pipes) with meaningful practice in the past (smoking and the consumption of tobacco). This approach seeks to simultaneously contextualise archaeological clay pipe fragments as part of a larger "tobacco consumption package" and critique the nature of the relationship between clay pipe fragments and tobacco consumption so that the material can play a richer and more relevant role in Post-Medieval archaeology and contribute to wider disciplinary issues.

Introduction

Although the study of clay pipes is a relatively well developed field within Post-Medieval and Modern artefact studies it can be argued that their archaeological study is relatively under theorised. There are a number of possible ways forward for more adequately putting them in a theoretical context and this study focuses upon one approach which is essentially that of considering their function. A number of equally valid alternative approaches exist such as the consideration of the context of production or the role of decoration [Footnote 1] but these will not be pursued.

Clay pipe studies can be traced back to the late nineteenth and early twentieth centuries but the seminal publication for recent clay pipe studies was Adrian Oswald's Clay Pipes for the Archaeologist (Oswald 1975). In certain respects this publication highlights the 1970s as marking a defining era for the study of clay pipes. The growing
acceptance of the value of excavating Post-Medieval deposits and the increased amount of rescue archaeology, particularly in urban settings, led to an exponential increase in clay pipe studies. The field has since acquired what might be considered all the trappings of an accepted field of archaeological artefact studies. It has a body, the Society for Clay Pipe Research plus its associated newsletter, a fledgling journal Clay Pipe Research, a monograph series The Archaeology of the Clay Tobacco Pipe (Davey 1979, 1980b, 1981, 1982, 1985a, 1987; Edwards 1988; Tatman 1994; Peacey 1996) and a set of guidelines for recording material (Davey 1981a; see also Webster 1982).

Despite this, clay pipe studies remain under theorised. They are focused almost exclusively upon clay pipes as isolated artefact without seeking to place them in any more meaningful context in contrast to studies for the Middle East (Baram 1999), Australia (Gojak and Stuart 1999) or on sites in America (Pena and Denmon 2000: 90-92) [Footnote 2]. This has been noted by Matthew Johnson who suggests that "as artefacts of tobacco consumption, they are linked in to a very wide matrix of changes connecting production and consumption, authority and resistance, Old and New Worlds" (Johnson 1996: 183-86). Whilst Johnson is vague with regard to possible methods for linking clay pipes to these wider themes he is correct to state that it is as artefacts of tobacco consumption that we must always consider clay pipes [Footnote 1]. Clay pipe reports are now a standard feature of archaeological reports of sites with a significant Post-Medieval or Modern component. These frequently provide relatively detailed quantifications of the clay pipe assemblage, although there is still scope for improvement particularly with regard to features such as stem length (Cessford 1997). Often the material appears to have been collected simply because it is accepted that as many artefacts as possible should be recovered from excavations and with no consideration of why it is being collected. As a result the data is usually only put to a very limited use. Many excavation reports seize upon typologies of clay pipes and makers marks of identified individuals as dating evidence, and this is often the only use to which they are put, a common fate for artefact assemblages from excavated sites (Blinkhorn and Cumberpatch 1997). A second relatively widespread use is to examine the sources from which the clay pipes at a site were obtained, predominantly through those examples with identifiable makers marks. Whilst both of these purposes are valid, they ignore the primary role of the clay pipes in the past.

A more recent development is to consider assemblages in terms of their socio-economic implications. Factors such as bite marks, stem
length, milling, burnishing decoration and imports are taken as indicators of the economic or social status of the population who used the pipes (Akerhagen 2000: 34; Davey 1985b; Heard 2000: 61; Higgins 1995a: 47). Various factors can also indicate the presence of distinct ethnic groups (Atkin 1984) or the nature of the site such as taverns (Pearce 2000). The classic study of this is Peter Davey's comparison of the assemblages from Norton Priory and village (Davey 1985b: 164-66). The Priory site, which relates to landowning gentry and their servants, showed evidence of tobacco consumption at an earlier date, higher quality pipes with better mould quality, finishing and burnishing and better access to pipes from more distant sources such as Chester. This was taken as demonstrating that the inhabitants of the Priory were of higher social status than the villagers. Whilst undoubtedly correct and supported by documentary sources, the clay pipes are treated in a vacuum as if no other modes of tobacco consumption took place at Norton. Additionally, the use of clay pipes as status indicators is complicated by the fact that they could be classed as belonging to the wide range of cheap luxury items known as "populuxe goods", which appear during this period (Fairchilds 1993). The relatively low prices of such items sometimes meant that it may have been the poorer groups in society who were willing to pay extra for better quality versions of such artefacts, as this was one of the areas of consumption in which they could compete (eg. Mullins 1999).

Whilst it is possible to utilise clay pipes as sources of dating evidence, or to consider their origins without necessarily contextualising clay pipes more widely, it is impossible to utilise them as socio-economic evidence without doing so. Clay pipes belong to what might be termed the familiar recent past. They are not conceived of as alien or different but as something that is already understood so that their role and function does not require explicit discussion as we already think we know what it was. Given the increasing number of relatively large assemblages of clay pipe fragments from archaeological excavations, it seems likely that increasingly sophisticated methodologies will be developed to quantify and analyse this material. It therefore seems appropriate to consider what we are attempting to quantify. Rather than simply counting clay pipe fragments, meaningful quantification must be firmly contextualised with regard to smoking and tobacco consumption. In particular, clay pipes must be viewed as only one of several modes of tobacco consumption and need to be integrated with other archaeological evidence for tobacco consumption. Additionally, by placing such importance upon the functional role of clay pipes, it becomes necessary to fully examine the nature of the relationship between clay pipes and the consumption of tobacco. This is done by considering whether the material in the archaeological record relates directly to consumption and whether clay pipes had other functional...
roles. In this way contemporary archaeological practice, the study of clay pipes, can be linked with meaningful practice in the past, smoking and the consumption of tobacco.

The 'Tobacco Consumption Package'

The treatment of clay pipes in archaeological reports generally isolates them in a specialist artefact section, typically as an appendix at the end of a report. Clay pipes are the dominant expression of tobacco consumption within the archaeological record, but they are by no means the only such expression. When Stanley South defined his categories for comparing artefact patterning at Historic Period sites in North America he defined a 'tobacco group' (South 1975: table 4). South was uncomfortable with this group as it consisted solely of clay pipes and could have been placed within his larger 'activities group'. It was retained as a separate entity due to the high frequency of pipe fragments and a desire to retain this as a separate variable (South 1975: 97). When finds are quantified using South's methodology, the 'tobacco group' shows a wide range of variation which South attributes to variability in behavioural habits, that is differences in smoking habits (South 1975: 104-06). South's methodology is profoundly flawed as a means for interpreting and comparing sites (Orser 1989) but the definition of a 'tobacco group' or 'smoker's requisites' (Gawronski 1990: 58) is a useful concept [Footnote 3]. On balance, the term 'tobacco consumption package' appears the most appropriate as it emphasises the primacy of the activity itself, rather than the material culture associated with its consumption, and it does not favour a particular mode of consumption. One weakness is the assumption that only tobacco was consumed (see below) but this appears unavoidable. The 'tobacco consumption package' is defined as any item linked to the production, distribution or consumption of tobacco.

The definition of such a 'tobacco consumption package' can be viewed as part of a more general trend to consider artefacts not in terms of rather abstract material-based categories from a site, as defined by an area of archaeological excavation, but to look at them by function (eg. Thomas et al 1997), depositional context (eg Wrathmell 1987) or more meaningful spatial entities such as individual properties (eg. Brown 1997). Additionally, there has been a growing interest in consumption-based approaches to artefacts as opposed to more traditional production-based studies (eg. Courtney 1997; Douglas and Isherwood 1979; Fine and Leopold 1993; Johnson 1996; Miller 1987, 1994, 1995; Pyszczyk, 1987; Roche 2000; Weatherill 1988; Weiss 1996). Consumption does not of course occur in isolation...
and can only be understood in relation to the production and distribution. In the case of the 'tobacco consumption package' this relates both to the production and distribution of tobacco itself and to the production and distribution of the related artefacts such as clay pipes. Additionally in a capitalist society, as well as being items of consumption the elements of the 'tobacco consumption package' also need to be considered as commodities with an economic value (Johnson 1996, 192-96; Leone and Potter 1998). Perhaps one of the most obvious examples of this is that both tobacco and related artefacts became incorporated into the legal framework and were subject to a variety of forces such as taxation. This is particularly true where alternative modes of consumption are possible. For instance a duty on the sale of tobacco pipes imposed between 1695 and 1699 appears to have had a major impact in at least some areas (Dagnall 1985; Tatman 1985), presumably because this led to an increase in alternative modes of consumption. Other examples of tobacco falling within the legal framework, which probably also had an influence upon consumption patterns, include the licensing of tobacco sellers in the 1630s; various seventeenth century laws prohibiting the export of clay suitable for making pipes to protect the English cloth industry as it could be used as a substitute for fuller’s earth, and the gradual reduction and abolition of taxes upon imported clay pipes in the nineteenth century which led to a dramatic increase in the importation of French pipes.

It could be argued that the definition of a tobacco consumption package could be broadened to a more general 'leisure package' including other elements such as coffee, tea, chocolate, sugar, certain exotic foodstuffs and alcohol, many of which were introduced into Britain at around the same time as tobacco. Consumption of these items during the Post-Medieval and Modern periods has also left traces in the archaeological record and they were often consumed in conjunction with tobacco at taverns or coffee houses or in domestic contexts. Studies of such a 'leisure package' and the comparison of various elements within it, as has been undertaken in the Middle East (Baram 1999) and on assemblages from tavern sites in Britain and North America (e.g. Braydon 1988; Fryer and Selley 1997; Pearce 2000; Rockman and Rothschild 1984), could indeed be extremely interesting and a means by which the study of the 'tobacco consumption package' could be more widely integrated with other aspects of the archaeological record.

The concept of the 'tobacco consumption package' is perhaps most easily identifiable on waterlogged sites and shipwreck sites in particular, which can provide a valuable alternative perspective to conventional dry-land archaeological assemblages (Higgins).
1995a; 1997; see also Martin 1997). This is partly due to the preservation of organic objects that do not survive on dry-land sites, but of even greater importance is the fact that shipwreck assemblages contain items that would not normally enter the archaeological record. Groups of clay pipes are frequently recovered from shipwrecks which can be interpreted as the personal possessions of the crew and passengers of the vessel. These finds closely parallel the artefact assemblages recovered from dry-landsites. A wide range of other tobacco related material, such as pipes made of other materials, tobacco boxes and other items, is also found on shipwreck sites [Table 1].

It would be dangerous to simplistically assume that shipwreck assemblages are typical of tobacco consumption as a whole. Pipe covers that fitted over the bowl of the pipe with pierced holes for ventilation were designed to stop tobacco being blown away or burning too fast in a strong wind. They are therefore likely to have been specifically related to smoking on board ships. Nevertheless shipwreck assemblages make it clear that treating clay pipes in isolation is not a valid or useful approach to understanding tobacco consumption and they also highlight two main factors that are not normally apparent from dry-land archaeological assemblages. Firstly, clay pipes represent only one method by which tobacco could be consumed amongst a number of possible alternatives. Secondly, there are a wide range of items of material culture related to tobacco consumption.

Occasionally dry-land settlement sites also produce evidence for elements of the 'tobacco consumption package' other than clay pipes. In addition to clay pipes, excavations at Oyster Street, Portsmouth, produced a copper alloy tobacco box lid (Fox and Barton 1986: 185-223 and 243-44). Excavations at Basing House, Hampshire, as well as producing clay pipes also uncovered a pair of iron tongs (Moorhouse 1971: 39 and 72-76). Such objects first appear in the early seventeenth century and were used for obtaining embers from a fire to light a pipe with, the handle also acted as a pipe stopper. Tobacco related objects which appear to have been accidentally dropped into graves are also found occasionally and include tobacco boxes (Russell 1979:214) and pipe dampers (Bashford and Pollard 1998: 159) [Footnote 4].

It could be argued that at most archaeological sites clay pipes represent the only element in the 'tobacco consumption package' that is present, and that simply studying them as a group in themselves remains an appropriate course of action. Shipwrecks, nineteenth century sites and burials with grave goods could all be dismissed as relatively peripheral to most archaeological sites. Such an approach
effectively argues that the material that survives archaeologically should be allowed to control the archaeological agenda. A more valid approach is to recognise that the archaeological record is not an unbiased representation of past societies and activities. We should critique all the evidence in an attempt to link the archaeological evidence situated in the present with tobacco consumption as a meaningful activity situated in the past. To do this we need to question the link between clay pipes and the consumption of tobacco.

**Alternative modes of tobacco consumption**

Clay pipes represent only one of a number of methods for consuming tobacco (*Kiernan 1991: 27-52*). It is increasingly being recognised in pottery studies that it is necessary to consider the role and importance of vessels made of other materials to truly understand pottery assemblages (e.g. *Egan 1997*) and pipes are also found manufactured from a variety of other materials. Briar wood and meerschaum pipes, which eventually came to almost totally replace clay pipes, become quite visible in nineteenth and twentieth century assemblages. They are common on North American sites of this period such as Martinez Adobe, California (*Pfeiffer 1983*), Fort Walsh, Saskatchewan (*Ritcher 1983*), and Buffalo, New York (*Pena and Denmon 2000: 91*) where all elements of the tobacco consumption package are considered together. Although there is a general acceptance of the value of Post-Medieval archaeology this has only recently extended to include the nineteenth and twentieth centuries in Britain, unlike North America where studies of this period are much better established. Meerschaum pipes are most often present in the archaeological record in the form of their mouthpieces made from amber, carved bone and in the late nineteenth century vulcanite and other plastics. Briar pipes are mainly of nineteenth century date but earlier examples of wooden pipes, which closely resemble the forms of clay pipes, are known (*Markell 1988*). Metal pipes of between late sixteenth and nineteenth century date made of iron, steel, pewter, brass, tin and silver are also known (*Atkin 1993a, 1993b; Barton1994; David1993; Duco1997; Gallagher 1994;Higgins1993, 1995b, 1997a; Parker1994*). It is unclear what role these metal pipes played and whilst some appear to be children's toys or shop signs others were definitely used for smoking. Those made of silver may have been status symbols, others may relate to long sea voyages when it would have been difficult to replace broken pipes, or to early experimentation with materials before clay pipes came to dominate the market. Pipes made of porcelain were mass produced in Germany with stems made of buffelhorn parts that screw together
(Duco 1987, 1998; Flaherty 1998; Graf 1997a; Linton, 1998; Schavelzon 1998; Simpson, 1998; Tupan 1983). It is unclear how common pipes made from other materials were in comparison to clay pipes, as it can be argued that the majority of other materials are less likely to be recovered archaeologically. This is due to a variety of factors, such as some materials being less fragile or more valuable and having the potential to be recycled.

A number of artefacts can be linked to the use of pipes, although not necessarily those made of clay. Flint strike-a-lights have already been mentioned. Pipe stoppers, which were used to press down the burning tobacco in the pipe bowl, can be specifically related to pipe smoking (Dagnall 1984; Forsyth 1993; Fresco-Corbu 1961; Pinto1961: 33-37). Cases for holding clay pipes, such as those found on the Lossen, appear to have mainly been plain wooden objects but they could also be made of ivory or lacquer and beautifully carved and inlaid with metal and mother pearl (Barton 1994; Pinto 1961: 25-32). Bone apple-corers or cheese scoops, whilst known from earlier periods, occur mainly in seventeenth or eighteenth century deposits (MacGregor 1985: 180; Margeson 1993: 120 and 191). This makes little sense if these objects were used for coring apples or taking samples from cheese, but there is evidence that they were also used for cleaning out clay pipes (Joice and Joice1976: 1). It would therefore appear that the increase of this artefact type in this Post-Medieval period relates to it acquiring an alternative use related to the consumption of tobacco.

There were also a number of other methods for consuming tobacco that did not involve pipes, these include snuff, cigars and cigarettes. All of these are much less likely to leave detectable traces in the archaeological record. Snuff is mainly detectable in the form of snuff boxes, unfortunately it is often impossible to distinguish between snuff boxes and those used to contain tobacco for pipe smoking, although some have small spurs projecting inside near the hinges designed for pressing tobacco into a pipe. These oval, rectangular or oblong containers were usually made of copper or brass, although iron and silver examples are known (Hughes 1971; McCausland 1951 : 100-136; Pinto1961: 70-87; Russell 1979). The evidence of shipwreck sites and occasional other finds suggest that after pipes these boxes are the most common artefacts of evidence for tobacco consumption and they are also frequently mentioned in documentary sources. As well as being kept in metal boxes tobacco could also be stored in leather pouches and jars (Fresco-Corbu 1963). Tobacco jars for holding pipe tobacco were originally made of lead but by the mid nineteenth century were made of glazed earthenware or wood with lead or foil linings (Pinto 1961: 38-43). Such jars varied in size between large storage jars for use in shops, smaller personal storage jars and
even smaller jars for use, implying a wide ceramic assemblage associated with tobacco consumption (Gage and Marsh 1988: 32-35 and plate 48).

Occasional tobacco jars were stamped with the names of pipemakers suggesting that they were perhaps sold together, even if the pipemaker did not manufacture the jars as well (Higgins 1992). Other objects related to snuff taking include snuff bottles and horns, rasps for grinding the tobacco, spittoons and small spoons (Gage and Marsh 1988: 27-29; Hughes 1971: 25-29; Pinto 1961: 61-69). Bone brushes, which are common discoveries on Post-Medieval sites had a range of functions (Macgregor 1985: 180), some may be linked to the practice of snuff-dipping where they were used to rub snuff against the teeth and gums. Snuff was stored and sold in pots that are likely to enter the archaeological record but would not necessarily be recognised for what they were. Cigar and cigarette consumption is even less likely than snuff taking to leave evidence in the archaeological record although it appears that clay pipe makers also made cigarette holders (Egan, 1994).

These different modes of consumption are of profound importance for any attempts to utilise pipes as a source of socio-economic evidence. It could be argued that in urban centres with well documented social divisions that can be identified spatially it should be possible to compare artefact assemblages. One particularly well documented example are towns with major universities such as Oxford and Cambridge where it should be possible to examine whether or not the clay pipes reflect a town versus university division as has been demonstrated for wine drinking (Banks 1997). Given the gender and social makeup of the university it might be assumed that smoking should be more common and the pipes used should be of a higher quality. There are certainly some documentary sources that appear to support this, in particular smoking appears to have become established rather earlier at the university than in the rest of Oxford or Cambridge. By the late eighteenth century, however, there is evidence that tobacco in general and pipes in particular were unfashionable at the university. In particular it was noted that pipes were generally only used by the older members of the university, and that amongst the younger members the main type of smoking appears to have been the use of short pipes on the river in the evening.

In general short pipes are considered to be indicative of low social status, so simplistic socio-economic analysis of late eighteenth century pipe assemblages could clearly be misleading. There is also evidence that much tobacco consumption by members of the university probably occurred at locations outside the university itself such as at coffee
houses which had a mixed clientele. Tobacco consumption was also prohibited in certain locations at certain times and there is also evidence that in some social situations cigars were preferred to pipes. Such factors mean that socio-economic assessments of tobacco consumption by members of Oxford or Cambridge universities based upon archaeological evidence are likely to be profoundly flawed unless they are richly contextualised.

Non-Artefactual Evidence

The vast majority of evidence for tobacco in the archaeological record is artefactual, but tobacco consumption is also expressed in a number of other ways. Tobacco itself can be found, as is the case with the wreck of the Amsterdam which produced lumps of tobacco leaf strands, held together by flat painted bamboo pegs, and insects associated with the West Indies (Gawronski 1990:372). No other confirmed examples of tobacco have so far been recovered from the British Isles, although it has sometimes been claimed that pipes still containing tobacco have been found (Edwards 1994; Pearce 2000, 168). This lack may be partly due to the fact that tobacco would have been fully or partly processed prior to its importation into Britain (Giorgi 1997:209) but tobacco should still leave traces in the palaeo-botanical record.

The introduction of tobacco consumption has profound health implications. Whilst most of the conditions which smoking contributes to leave no skeletal evidence and are therefore archaeologically invisible, the prolonged use of a pipe can leave wear marks in the teeth (Morris 1996; Wells 1996; Woollard 1996).

Architecturally, clay pipe kilns have attracted a great deal of attention (Peacey 1996) but structures related to the storage and protection of tobacco (Spurgeon and Thomas 1997) and mills for producing snuff (Cherry 1972:217) are also known. The introduction of tobacco also had some less material impacts, for instance a variety of place and street names are based upon pipemaking (Cessford 2000).

The function of clay pipes

The function of clay pipes rarely attracts any discussion and it is generally accepted that they relate to the consumption of tobacco. This relationship between artefact and function has been assumed to be
unproblematical, largely because the pipes are perceived as belonging to a well understood 'familiar' past. It is assumed that all clay pipe fragments recovered from excavations, with the possible exception of kiln sites, relate directly to the consumption of tobacco and represent rubbish which was discarded when a pipe broke accidentally. It is also assumed that the discard occurred relatively close to the location of tobacco consumption. This axiomatic linkage can be challenged in a number of ways. Like all artefacts clay pipe have life histories or cycles (Gojak and Stuart 1999: 44-46) and could enter the archaeological record at any stage during their life. Stages prior to consumption include production, distribution and retail. Numerous clay pipe kiln sites have been investigated archaeologically and these have generally produced large quantities of pipe fragments (Peacey 1996). Such assemblages generally include numerous pipes that were discarded due to breakage or misfiring. Additionally, both complete and fragmentary clay pipes were frequently used to form a part of the kiln known as the muffle (Peacey 1996). The trade in clay pipes necessitated their transportation, often over substantial distances. In some instances this involved transportation by water and shipwrecks are a valuable source of evidence for understanding the trade in claypipes as a number of sites have produced direct evidence for the transportation of groups of pipes [Table 3]. Such evidence is rarely replicated on dry-land sites, possible examples include groups from Cape Town, South Africa, which may have broken in transit (Graf 1996a) and New York, which may represent the dumping of a cargo of poor quality imports (Dallal 1984). It is likely that clay pipes were frequently broken during transit but this usually left a much less distinctive impression in the archaeological record. Another large group of broken pipes in London appears to relate to the destruction by customs authorities of examples perceived of as pornographic (Egan 1996: 9).

After transportation clay pipes were sold through a variety of retail outlets. It is likely that some breakage again occurred at this stage and it is also possible that occasionally unsold stock was disposed of. An example of this includes 700,000 pipes found in a tobacconist's storeroom in Stockholm (Ljung and Nelson 1985). After a period of use pipes would accumulate a buildup of residues and would need to be cleaned out by re-firing the pipe. Some sites that have produced large quantities of claypipes, such as a lime kiln at Thorpewood, Peterborough, probably relate to such 'burning out' (Cessford 1998). An alternative practice appears to have been to simply bury the pipes so rain and natural chemicals would wash out the nicotine (Tatman 1984). None of these depositional contexts relate directly to tobacco consumption as they occur at other stages in the pipe life cycle. Additionally, even if pipes were broken or otherwise discarded during
consumption, practices such as night soil ing mean that their ultimate depositional context might be some distance from the context of consumption. Studies that seek to study the 'tobacco consumption package' therefore need to pay close attention to context to try and determine that artefacts relate directly to consumption and not to other stages in the artefact life cycle.

Once broken pipe fragments could be reused for a number of purposes, some of which involved modification of the fragments such as beads and whistles (Gojak and Stuart 1999:40; Graf 1995, 1997b; Huey 1974; Schirie et al 1990; Sudbury 1978; Walker 1976). Whilst the majority of such published examples are from overseas such modification may also have occurred in Britain (Brook 1991). Additionally fragments could be reused for a variety of purposes without any form of modification (Parker 1988).

Documentary sources indicate that clay pipes could be used for a number of other purposes. The alternative uses that tend to attract attention are usually the more bizarre and colourful [Footnote 5]. Whilst such use is undoubtedly of minor significance, these examples do challenge the notion that clay pipes only served a single function and suggest that other more widespread and less bizarre alternative uses may have existed which failed to attract the attention of writers.

The idea that clay pipes were used for the consumption of tobacco ignores the fact that other types of material could be consumed by smoking. Residue analysis can be undertaken, however in the rare instances when this occurs it is not to check for the consumption of tobacco, as this is so taken for granted that it does not require evidential support, but to test the idea that cannabis was also consumed [Footnote 6]. This approach appears to take it for granted that tobacco was the normal material to consume in a pipe and seeks to look for the possibility of other material as if this was unusual. In fact a variety of materials could be smoked such as herbs from the fields and hedgerows (Tatman 1984b), old man's beard (Wood 1991), coltsfoot and tea (Tatman 1992). There is also good evidence that tobacco was frequently adulterated with other substances and came in a range of qualities.

Conclusion

The clay pipe, whilst archaeologically ubiquitous upon archaeological sites of the Post-Medieval and Modern periods, is only one of a range of types of evidence for tobacco consumption. Whilst other forms of
evidence are less common, they demonstrate that alternative modes of tobacco consumption existed and that tobacco consumption produced a range of other material remains. Taken together, these material remains can be viewed as an archaeological 'tobacco consumption package'. Whilst it could be argued that the recognition of such a 'tobacco consumption package' is relatively meaningless, as clay pipe fragments will continue to overwhelmingly dominate the material evidence for tobacco consumption recovered archaeologically, the adoption of such a framework is still helpful. It serves to integrate a number of disparate strands of evidence that are usually artificially separated by the form of archaeological reports where most types of artefact are separated by material type. The identification of a 'tobacco consumption package' also re-establishes the centrality of the functional role of the clay pipe rather than rendering it as an abstract artefact type. In doing this it becomes necessary to critique the link between the clay pipe and tobacco consumption. Some pipes entered the archaeological record at stages in their life cycle either prior to or after their use for tobacco consumption. Pipes could also be used for a range of other functions and a range of substances other than tobacco could be smoked. Whilst none of these significantly challenge the assumption that the majority of clay pipes were used for tobacco consumption, they do suggest that simplistically linking the two in all situations is an oversimplification. Other modes of tobacco consumption are rarely mentioned in clay pipe studies and considerations of alternative modes of tobacco consumption are usually limited to considering their role in the decline in the use of clay pipes (eg. Atkinson 1970: 181). There is strong documentary evidence that different modes of consumption were favoured by different social groups along class, occupational and gender lines (Goodman 1994; Kiernan 1991). Sources indicate that such patterns varied both spatially and temporally. When different modes of consumption exist, then cost can be an important factor so that changes in the price of clay pipes, for instance due to taxation (Dagnall 1985) or wages (Lawrence 1984), could have an impact on the number of pipes used or of the way the pipes were treated. Other factors such as fashion can also be crucial. This suggests that the clay pipes recovered at a site only represent a partial picture of smoking and tobacco consumption and any attempt to link the material evidence to meaningful past practice must consider the full range of modes of consumption possible. If clay pipe studies are to escape from being regarded by archaeologists solely as a useful form of dating evidence to be used more widely as a source of socio-economic evidence, then they need to be placed in a much firmer context.
Footnotes

[1] Johnson suggests that studying the iconography of decoration on clay pipes is one way to study such themes (1996, 186). Decorated pipes only form a small fraction of clay pipe assemblages and a focus upon this aspect of the artefact, whilst equally valid, represents a different but complimentary approach to the one adopted here, which focuses upon functionality, to which decoration is clearly but indirectly linked. Additionally studies of decoration should not be limited to a single area of material culture, as many of the motifs employed on clay pipes also occur on a wide range of other artefact types. With regard to decoration it has been noted that in North America Africans made pipes and used traditional African decorative motifs as a means of describing personal identity and status (Emerson 1994) whilst in Britain, Australia and North America pipes were used as a means of expressing an Irish identity (Alexander 1986; Gojak, and Stuart 1999, 44-46; Pena and Denmon 2000: 91-92). Armorial decoration consisting of royal coats of arms of Britain (Atkinson and Oswald 1980; Atkinson 1984a; Atkinson 1984b; Hammond, P. 1995; Heard, K. 1998; Le Cheminant 1980a, 1980b) or the emblems of other countries such as America (Dagnall 1991) or Prussia (Tatman 1993) are also an interesting potential avenue. Irish emancipation and various other political campaigns are also commemorated (Atkinson 1997; Hammond 1991; Le Cheminant 1996; Melton 1990). It is also possible to consider form as well as decoration. There are often local variations in form with foreexample the identification of a number of distinct regional typologies within Britain (Oswald 1975), whilst internationally there are twobroad groupings of claypipes, the long stemmed and stub stemmed varieties (Heite 1994). The dominance of these two different traditions in different geographical areas appears to be linked to the themes that Johnson identifies.

Another important potential approach is to look at the social context of the production of clay pipes. Detailed documentary studies of pipemakers in a particular locality, such as Tatman's work on the parish of Newington in Southwark (Tatman 1994), specially if they are widened to consider the immediate neighbours of pipemakers, can allow us to study production from more than a purely technological viewpoint. Detailed studies of an individual family of pipemakers such as the Ring family of Bristol (Price et al 1984) can also achieve the same effect. Many excavations on kiln sites have focussed largely on the kiln itself (Peacey 1996). When kiln sites are investigated as part of more extensive excavations such as at Oyster Street, Portsmouth, for example (Fox and Barton 1996) this provides at least the potential of providing a wider archaeological context for the kilns.

[2] There are of course exceptions to this. Many studies make passing reference to other evidence for the tobacco trade, mainly in documentary sources. Attempts to link clay pipes with other aspects of the tobacco trade include studies on Cornwall (Douch 1970) and Tynesian (Edwards 1988).

[3] Other systems designed for different purposes are problematical as they tend to separate items related to smoking. For example tobacco pots are 'furniture' whilst tobacco boxes and pipes are 'personal belongings of the crew' in systems designed for shipwreck assemblages (Reinders 1985; Kleij 1997, 183-84). Whilst such systems are useful in other contexts they are not appropriate for studies relating to tobacco consumption.

[4] Deliberate grave goods of the Post-Medieval period are rare in Britain and the evidence for the placement of pipes in graves highly equivocal (eg Evans 1996) but elements of the 'tobacco consumption
package’ are illustrated by burials at Cape Town, South Africa, (Graf 1996b). A clay pipe in one burial was associated with two pieces of flint used as strike-a-lights and a tinder-box. Another pipe was associated with a flint and a copper tinder-box whilst a third burial with no pipe contained a silver snuff box.

[5] Some examples include their use as an aid to mouth to mouth resuscitation and for enemas (Tatman 1984a), stirring glass and as an aid to photography (Smiesing 1984), fishing, fireworks, in games (Ayto 1988), prisoners in jail using them to obtain alcohol (Ayto 1988; Dagnall 1998), as part of a hookah (Tatman 1990), as instruments of violence (Andrews 1991; Jackson and Jackson 1994; Norton 1991; Tatman 1991), dancing (Crowley 1993; Freeman 1993), hunting rabbits (Higgins 1994) and feats of strength (Tatman 1995).

[6] Some testing has been undertaken on Middle Eastern pipes to determine if they were used for consuming hashish or tobacco, the results indicated tobacco consumption (Simpson 1994). There have also been attempts to learn if Shakespeare smoked cannabis.

http://www.independent.co.uk/story.jsp?story=49533

Tables

Table 1  Shipwreck sites with evidence for the ’tobacco consumption package’.

<table>
<thead>
<tr>
<th>Site/Vessel</th>
<th>Clay Pipes [personal]</th>
<th>Other Pipes</th>
<th>Other personal possessions</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alderney</td>
<td>Yes</td>
<td>Pewter</td>
<td></td>
<td>David 1993; Davenport and Burns 1995: 40.</td>
</tr>
<tr>
<td>Colossus</td>
<td></td>
<td>Brass</td>
<td>Pipe stomper</td>
<td>Morris, 1984: 333; Wood</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Location</th>
<th>Presence</th>
<th>Item Details</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curacao</td>
<td>Yes</td>
<td>Decorated copper pipe cover</td>
<td>Sténuit 1977b: 115-16 and 119.</td>
</tr>
<tr>
<td>Kronan</td>
<td>Yes</td>
<td>Brass pipe cleaner, wooden tobacco cover</td>
<td>Akerhagen 2000; Einarsson 1988: 293.</td>
</tr>
<tr>
<td>Lossen</td>
<td>Yes</td>
<td>11 wooden pipe cases, 2 snuff boxes and 1 tobacco box</td>
<td>Molaug 1998: 165.</td>
</tr>
<tr>
<td>Machault</td>
<td>Yes</td>
<td>Tobacco boxes</td>
<td>Davis 1997: 40.</td>
</tr>
<tr>
<td>Santo Christo de</td>
<td>Yes</td>
<td>2 brass tobacco</td>
<td>McBride et al 1975:</td>
</tr>
<tr>
<td>Castello</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Table 2  The 'tobacco consumption package' at Fort Walsh.

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clay Pipes</td>
<td>409</td>
<td>92.5</td>
</tr>
<tr>
<td>Wooden pipes and related artefacts</td>
<td>7</td>
<td>1.6</td>
</tr>
<tr>
<td>Meerschaum pipes and related artefacts</td>
<td>26</td>
<td>5.9</td>
</tr>
<tr>
<td>Total</td>
<td>442</td>
<td></td>
</tr>
</tbody>
</table>

Table 3  Evidence for the transportation of clay pipes from shipwreck sites

<table>
<thead>
<tr>
<th>Site/Vessel</th>
<th>Evidence for trade in clay pipes</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castle Cornet</td>
<td>Pipes probably a small part of the cargo</td>
<td>David 1985.</td>
</tr>
<tr>
<td>Hollandia</td>
<td>Unused pipes with traces of buckwheat packing</td>
<td>Cowan et al 1975.</td>
</tr>
<tr>
<td>Monte Cristi, 'Pipe</td>
<td>Yes, scattered</td>
<td>Hall1989.</td>
</tr>
</tbody>
</table>
wreck'

Norwegian? 1000+ pipes. Dutch, 3 different types  

TXSIV  
A number of barrels of Dutch pipes  
Kleij 1997: 188.

Vergulde Draeck  
223 unused pipes of one type found stacked head to tail in a wooden box.  
Green 1973: 278 and 283-84; 1977: 152-68.

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As always this article would have not been possible without the assistance of Anja Wolle. I would also like to thank the editors of Assemblage and the two anonymous reviewers who provided very helpful comments. My thanks also to Richard Brewer without whom I would never have become interested in clay pipes.

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Routledge.


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