1 Introduction

Urban archaeology in the Netherlands provides us with a constant flow of excavation reports in which archaeological finds and settlement traces are published. The interpretation of archaeological finds such as ceramics is still difficult because a good theoretical framework is lacking. Cesspit finds are ideally suited to give information on the social-economic position of the household that used the cesspit. Recently, there have been some critical remarks on the interpretation of cesspit finds. In the 17th century a cesspit was a common phenomenon in most Dutch cities. But how did it function? How many times was it emptied and what was the meaning of waste in the economic system and in relation to the beginning of the consumer society in the 17th century?

Until now, the analysis of cesspit finds focuses on what has been found and not on what is missing. In this regard, a household inventory and a cesspit can be complementary, but there are many household goods that lack in both sources, for instance wooden dishes that were burnt or inherited pieces that were not listed in an inventory. Research in the Dutch city of Breda, especially on the inn 'De Drye Mooren' will be discussed in relation to the interpretation of archaeological finds from a 17th-century cesspit, their context and the theoretical framework1.

2 Waste processing

People produce waste and that waste often is a problem. It will be removed or thrown into the water, but the most popular way to get rid of waste was to put it under the ground, because in a city there is a natural lack of space. In the early modern period, the waste problem is a typical city problem.

Building density varies across and between cities, so the waste problems will vary too. In a town, every household produces waste. This has to be stored and that can be done in a hole, a barrel or a brick cesspit or cellar, depending on the wealth of the users and the available space. In Breda, from the mid-17th century on, cess gets an economic value because of its use as fertilizer. Although a private household still has to pay for emptying a cesspit, the city council earned money contracting out the collection of waste in the public domain. In Breda this service was called the ‘moosmeierij’ and it provided the city council with considerable earnings.

3 Dating findings from cesspits

Brick cesspits (originally used as wells) occur in Breda since the 14th century and gradually replaced wooden barrels. Brick cesspits could be more easily cleaned and were more durable. The cesspits or holes with content, which archaeologists discover, can be divided in a number of groups. There is waste material in an original hole or in a secondary hole and there are cesspits that were cleaned frequently and that after being discarded were not cleaned anymore. This may indicate that a new cesspit was taken into use.

When we look at the broad spectrum of publications on urban archaeological research of the last 30 years, we can detect an emphasis on describing material finds and only marginal attention for theoretical interpretation of archaeological traces and findings2. The theoretical interpretation by archaeologists is still very much in development and in relation to cesspit findings it is still rather restricted3. Almost every excavation in a town centre provides us with ceramics from cesspits. The

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1 This research was done for a PhD thesis: 'The memory of a street. Eight-hundred years of living in the Visserstraat in Breda', see Hupperetz 2004.
2 Verhaeghe 1990, 516, makes clear that archaeologists have less room for an objective presentation of their archaeological evidence because of the use of typologies and classifications that lead to unverifiable interpretations.
3 For an overview on the theoretical aspects of urban archaeology: Verhaeghe 1990, 503-587. The absence of references to historical sources on waste removal from cesspits i.e. Bartels 1999, 25-41. Recent Dutch research on the phenomenon of cesspits (by drs. M. Hoogsteyns) and the status aspect of cesspit finds (by drs. R. van Oosten) are to be published in the near future.
archaeological dating of these cesspits is often with a margin of 25 to 50 years. We have to distinguish between complex dating – the specific period in which all the objects from this complex were thrown away in this pit – and lifespan dating – the period in which these objects were in general use. 

Especially lifespan dating often leads to a inaccurate dating of cesspits. It is therefore rather alarming that recent historic research has shown that cesspits in 17th-century Breda were emptied every 4.5 years on average, which means that a lifespan dating of between 25 and 50 years in many cases will exceed the real dating by a factor of ten. The interpretation of these important archaeological finds is therefore not very accurate.

4 The ‘moosmeierij’ in Breda

In Breda, the cleaning of cesspits is already known from the city accounts of 1493 when ‘Jacopen den Stadsknecht’ received money for his job. During the 16th century the cleaning of cesspits was part of the duties of the ‘moosmeier’, that also included cleaning the streets, and the clearing of sewage pipes and gutters. In 1537 Jacopen den Moesmeyer had to visit all places where gutters or canals were concealed. If they were congested, they had to be cleared within three days or a high penalty was due. The streets were cleaned three times a week, also to prevent infectious deceases. This we can conclude from the regulations of the city council in 1548 regarding the cleaning of the streets: “to prevent plague and sweating, it is necessary to purify the streets three times a week: on Monday, Tuesday, and Saturday and also on Holy Days.”

In the first half of the 17th century the predecessor of the municipal sanitation department (in Breda called the ‘moosmeier’ ) was paid for removing the city trash and he also supplied the various towers and gates with peat. More and more, waste from the streets was used as fertilizer. Because of the substantial land reclamation, there was a great need for fertilizer. The trade in faeces thus became an attractive business. In Breda, the important change in the waste trade can be traced through the city accounts. Until 1649 the city paid the ‘moosmeier’ to remove the city waste, but from then on, the ‘moosmeier’ had to pay the city. Since 1649, the city could farm out the ‘moosmeier’ office and pretty soon earned more than 1000 guilders a year from it (fig. 1). Only from the second half of the 17th century the ‘moosmeierij’ changed because of the construction of drainage systems and the pick-up system of vessels, but the benefits were still high.

5 Innovations in housing culture and consumption

A lot of change occurred behind the façades in the 17th and 18th century. The circulation of consumer articles was increasing during the 18th century. This influenced home furnishing and affected the household. The material housing culture was strongly influenced by these changes in consumer patterns. The central hypothesis is that the introduction and application of new fashionable – but less durable – goods increased the circulation of these consumer goods more and more. It would be interesting to explore in which period the so-called ‘age of stability’ – when the traditional housing culture showed hardly any innovations – has ended. Research in the Krimpenerwaard and in Groningen puts this change in the middle of the 17th century. In Antwerp the ‘birth of consumer society’ is placed in the first half of the 18th century. The innovation of housing culture fits with the common trend of a diminishing attachment to durable goods and a preference for fashionable goods. Ceramics and glass – used as tableware – could not be repaired when broken. Lasting Spanish chairs were replaced by upholstered chairs and rush-bottomed chairs, pewter plates were replaced by trendy ceramics and stamped and gilded leather was substituted by wallpaper. This development is clear in the 18th century but it is too early to see a connection with the Breda cesspit finds.

FIG. 1 Farming out the ‘moosmeierij’ of Breda during the period 1600-1830 (source: City Archive of Breda, Municipal accounts and Acten Magistrael).

4 Bartels 1999, 38-39; 65% of the cesspit finds in this study had a complex dating with a margin of more than 50 years.
5 As an example the cesspit of the inn ‘De Drye Mooren’ can be used. Based on the archaeological evidence a dating between 1650-1675 was possible. The historical data however make a complex dating possible in a maximum period of 10 months in 1661-1663 (Hupperetz 1994).
7 See the year-accounts of the City of Breda 1920, Bijlage 7, 8: sale of manure matter 35.157 guilders,
9 Blondé 2002, 299-301.
6 The night worker in the inn ‘De Drye Mooren’

Cleaning the cesspit was done at night because of the terrible stench. On January 4th, 1678 blacksmith Martinus van Reenen came to ‘De Drye Mooren’ and worked on the privy. Probably the same day the pit was to be cleaned by night workers employed by Jacob Huigen. The pit was opened and closed by mason Adriaen Fiers. After the cleaning, the carpenter Daniel van Arendonk with two servants repaired and fixed the privy during half a day. In 1675 the opening and closing of the cesspit was done by the night worker and the mason.

The night workers were often employed by the ‘moosmeier’ who was bound to certain terms of employment. In 1651 it was specified that the ‘moosmeier’ for every cesspit and every night could charge four guilders at the most. And for every worker he should provide one pint of beer. In 1669 the terms of employment were more precisely described in the ‘ordinance on the night worker’. The cleaning of a pit or cellar had to be done by a team of six men and would cost eight guilders for one night and fourteen guilders for two nights. Furthermore candles and a pint of brandy had to be provided for every man. The ‘moosmeier’ was responsible for decent tools and a cart for the transportation of the garbage. He should avoid polluting the streets. The cleaning of the cesspit of ‘De Drye Mooren’ was done on average every 3.6 years.

7 Cleaning the cesspits in Breda

We can compare the data on ‘De Drye Mooren’ with some other inns, public buildings and private households in Breda. Almost always one cesspit is mentioned but at the public buildings sometimes more than one cesspit or cellar is indicated. The average costs from ‘De Drye Mooren’ are the same as in the Latin School, the ‘Geweldigten Huis’ and the inn ‘Het Groot Hert’. The differences in the average number of cleanings was dependent on the size of the cellar or the cesspit. Furthermore the amount of produced waste was also crucial but data on this aspect are lacking. The comparison data on the private households are from the accounts of the Institution for Orphans. From seventeen households we have historical data on the cleaning of cesspits. The pits form these households were cleaned regularly every 4.2 years and this is comparable with the data we have on the inns which were cleaned every 4.4 years.

The waste-production of toilet, household goods and kitchen should be larger in the inns but they had probably larger pits and cellars, and the cleaning costs of the inns are therefore higher, as can be seen in the average costs (table 1).

8 Waste from the inn ‘De Drye Mooren’ 1661–1663

The glass and ceramics from the cesspit of ‘De Drye Mooren’ were part of the tableware that was used in the inn (fig. 2-4). Regularly, a plate or a glass must have broken. The broken pottery, glass and other waste material were thrown in the cesspit which was also filled with human faeces from the toilet. This privy, also mentioned as ‘secret’, ‘privet’ or ‘heymlicheyt’, was located in the courtyard next to the inn. It had to be cleaned once in a while and this was done by the night workers. During the extension of the inn in 1663 the existing cesspit was closed and a new toilet and cesspit had to be built. From the accounts it is clear that this cesspit (together with three other pits) was cleaned between October 10th, 1661 and October 10th, 1662 by

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**Table 1**

Comparison of the cleaning of cesspits/cellars from inns (1, 4, 5, 6), public buildings (2, 3) and seventeen different households (7) in Breda (1606-1702); the costs are in guilders. Source: City Archive of Breda, Municipal accounts, Church-accounts and accounts of the Institution for Orphans Breda.

<table>
<thead>
<tr>
<th>Nr</th>
<th>House</th>
<th>Period</th>
<th>Number of reference years</th>
<th>Number of cleanings</th>
<th>Average in years</th>
<th>Average costs</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Vrechendael</td>
<td>1645-1698</td>
<td>55</td>
<td>7</td>
<td>7.8</td>
<td>20.60</td>
<td>Sometimes 3 pits</td>
</tr>
<tr>
<td>2</td>
<td>De Latijnse school</td>
<td>1653-1682</td>
<td>30</td>
<td>5</td>
<td>6</td>
<td>11.60</td>
<td>Once 5 cellars</td>
</tr>
<tr>
<td>3</td>
<td>Het Geweldigten Huis</td>
<td>1693-1702</td>
<td>9</td>
<td>2</td>
<td>4.5</td>
<td>12.32</td>
<td>Once 4 nights</td>
</tr>
<tr>
<td>4</td>
<td>(Achter) Muizekkamer</td>
<td>1692-1700</td>
<td>8</td>
<td>3</td>
<td>2.7</td>
<td>14</td>
<td>Once 2 nights</td>
</tr>
<tr>
<td>5</td>
<td>Het Groot Hert</td>
<td>1697-1702</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>11</td>
<td>Several pits</td>
</tr>
<tr>
<td>6</td>
<td>De Drye Mooren</td>
<td>1657-1696</td>
<td>36</td>
<td>10</td>
<td>3.6</td>
<td>10.31</td>
<td>Pit, later cellar</td>
</tr>
<tr>
<td>7</td>
<td>21 other houses ¹</td>
<td>1606-1679</td>
<td>328</td>
<td>73</td>
<td>4.4</td>
<td>2.69</td>
<td>Each time one pit</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1606-1702</td>
<td>471</td>
<td>105</td>
<td>4.4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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10 91.14.1.7.4.14.13.11.11.12.13.14 Ten times during 36 reference years (1657-1696) shows that each 3.6 years the cesspit or cellar was cleaned.
Theunis Janssen, the night worker, and his people. He received 8,50 guilders. In 1987 this cesspit was discovered and the content of this pit therefore must have been ‘produced’ between October 10th, 1661 at the earliest, and the summer of 1663, a period of about 18 months. The cesspit contained (on the basis of minimum number of specimen) 43 beer and 41 wine glasses (fig. 3), 49 clay pipes, a comb, bones and 137 ceramic vessels: 30 plates, 19 platters, 12 lobed dishes (fig. 4), 13 stoneware (beer) jugs (one with the remains of a pewter lid), 11 pipkins (fig. 2), 4 strainers, 13 bowls, 1 frying-pan, 3 lids, 1 flowerpot, 4 chamber pots and several unknown objects. Pewter is lacking in the pit because it could be repaired or melted. The finds from this cesspit can be compared with the inventory of the kitchen house which was recorded on April 23rd, 1678 and represented then the value of 7,80 guilders.

Based on the archaeological data we can estimate that on average once a week a glass, a tobacco pipe and a ceramic vessel was broken in the inn and thrown away. These objects were vulnerable, since these were Venetian glasses and clay tobacco pipes. The plates were heavily used and therefore were broken regularly. It is remarkable that only a few ceramic beer-jugs were found, but this is very likely explained by the use of pewter jugs that were never thrown into the cesspit.

9 Conclusions: micro history, archaeology and the study of housing culture

The historical and archaeological context of cesspit finds is very complex and should be taken into account during interpretation. One could use the approach of Microstoria or micro history. This is a research method that aims to limit the research object as much as possible. By restricting the research object to a certain closed find – mostly linked to one household – we have a very limited spatial entity. Limiting the scale works as an analytical principle. Through this kind of detailed studies we can observe more interconnections. In many cases historians use microstoria as an anthropologist or as an ethnologist in

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15 Sam, Church-accounts of the Grote Kerk, III-8-59 f. 81 and 81v.; Hupperetz 1994.
16 Levi 1991, 95; see also Jacobs 2000.
the sense that one is looking for a contextual meaning. Through microscopic analyses sometimes meaning can be given to apparently arbitrary details, thus arriving at far-reaching conclusions. In the case of research on cesspits microstoria will provide more information on the lifestyle than the study of large numbers of cesspits that lack a sharp dating or clear historical context.

Combining archaeological and historical data, and considering them from a perspective of micro history can lead to interesting conclusions. The fact that cesspits in Breda were cleaned every four years should be taken into account as we study the finds from cesspits and try to date them. Furthermore, the change in the economic value of waste in 17th-century Breda should be considered crucial. This could have influenced the way in which people regarded and handled waste. The relation with the beginning of a consumer society and the innovation of housing culture is interesting and should be studied more from the archaeological perspective. The common trend of a diminishing attachment to durable goods and a preference for fashionable goods could also be visible from the archaeological data.

Acknowledgements
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17 See for a large scale inventarisation of cesspit finds: Bartels 1999.
Bibliography


