Life and culture in the Roman small town of Tienen

Transformations of cultural behaviour by comparative analysis of material culture assemblages

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door

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DEDICATED TO MY PARENTS
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Preface

The dissertation that is lying in front of you is the result of a long process that started with the excavations of the southwestern periphery of the Roman vicus at Tienen-Grijpenveld in 1997. The excavation team, most of the time consisting of more than 20 members was coordinated by myself. Tom Debruyne and Else Hartoch were the fieldwork team leaders. From 1997 till 2003 the Grijpenveld team excavated with care thousands of contexts, mostly pits and ditches from the settlement and hundreds of graves from the cemetery. Some of these deposits with archaeological remains lain down by the people of the Roman vicus, like the contexts of the mithraeum, the pit containing a bowl with bronze objects and a statue of Fortuna and the pit with three dogs and a horse skull, were clearly ‘ritual’.

During the excavation the conviction grew that this site offered unique opportunities to study and compare in detail the composition of domestic, cemetery and ritual/ceremonial contexts. Moreover we believed that the results of this comparison could generate knowledge not only about the material culture of the people of the vicus but also on cultural practices, ideas and values in these different cultural contexts. This approach implied the building and testing of the theory that people consciously and unconsciously make choices in the consumption of material culture depending on the cultural context it is used in. Essential to this research was the development of a framework of criteria to identify ritual contexts, a ‘first off’ in Roman archaeology. The methodology required a database characterizing every find, including its fragmentation and completeness, in its archaeological context (layer and feature).

At the same time we understood that the contexts needed to be dated quite precisely to be able to group contemporary contexts in order to grasp the transformations in the material culture assemblages and ideas, values and practices. Since the majority of the contexts consisted of local pottery, this required the set-up of a typo-chronological framework of the locally produced pottery and a database structure and methodology that would allow also for close dating of each individual context.

This study, however, has in no way exhausted all the possible analyses to which the database can be subjected. Rather, it represents one line of research and a necessary first step in a contextual approach confirming that cultural contexts consistently determined the choice of which objects and animals were consumed and how they were deposited in different cultural contexts. The dissertation describes in detail the composition of the material culture belonging to a specific cultural context per phase and indicates differences and similarities between contemporary cultural contexts as well as a diachronical evolution within each specific cultural context. The results are a starting point for further and more detailed lines of research like for example to reconstruct ritual practices and inquire about belief systems underlying social action or to study processes of transformation of material culture and social practice in detail.

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The excavations were funded by the city of Tienen, the Gewestelijke Ontwikkelingsmaatschappij voor Vlaams-Brabant and the Instituut voor het Archeologisch Patrimonium (IAP) of the Flemish community. The post-excavation research was conducted mainly with financial support of the Flemish community within the framework of the Museumdecreet, the city of Tienen and the IAP (later VIOE (Vlaams Instituut voor het Onroerend Erfgoed) and presently the Agentschap voor Onroerend Erfgoed). Eternal thanks to the successive directors of these institutes, Prof. dr. Guy De Boe, dr. Dirk Callebaut and Sonja Vanblaere for recognizing the importance of this research and supporting it as much as possible within the policy of the agency and my personal tasks and goals.

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1. INTRODUCTION

It has been recognized in the last decades that the archaeological records of Roman sites are complex and multi-layered sources of culturally encoded information that so far have remained only partly tapped. New developments in theory and methodology show that we are making large steps forward in developing the discipline. A large diversity of specialisms can be involved in studying the archaeological record of Roman sites to provide information on past human behaviour. To integrate all strands of information a contextual approach seems a prerequisite. The major challenge is to organize the data in such a way that relevant links can be laid between groups of data to produce meaningful patterns. The analysis of finds within their archaeological context not only reveals information on things people used but also on cultural practices, ideas and values. The current study presents the set-up of a research methodology and its application to one particular line of research focused upon the transformation of practices and material culture in different cultural contexts (daily life, ritual and funerary) in the vicus of Tienen throughout the Roman period. This approach requires the building and testing of the theory that people consciously and unconsciously make different choices in the consumption of material culture depending on the cultural context it is used in. Hence types of contexts can be examined together with their associated material, and the nature of the context and activities and behaviour considered, and any patterns scrutinized and in turn interpreted from an archaeological perspective. A step further is to compare consumption patterns of different categories of objects between these different cultural contexts and phases. The excavation of the Grijpenveld site carried out from 1997 till 2003 has provided excellent circumstances in order to develop and test the database configuration for this specific line of research. It goes without saying that an infinite number of other research lines can be followed. The database was set up and tested in 2000. The major part of the post excavation research was carried out with a team consisting of 10 team members and took place from 2003 till 2006 directed by the present author.

The Grijpenveld site (fig. 1.1, 4.1 and 4.2) covers the southwestern periphery of the Roman vicus with amongst other features Flavian pottery kilns, a 3rd century mithraeum, an Augustan ceremonial enclosure, ritual deposits of all phases and a 2nd century tumulus burial. Connected to this peripheral zone a large cemetery of over 1400 graves was excavated. The site offers special research potential because of the large surface (15 ha) that was excavated and the interesting mix of finds and features from different cultural contexts: daily life, religious contexts and funerary contexts dating from the beginning of our era till the end of the 3rd century. The set-up of the post-extraction research design was a real challenge because of the high research potential of this dense, complex and culturally encoded archaeological record. In total 137,705 ceramic finds, 1,136 bronze finds, 4,456 glass finds, 11,929 iron finds and 4,456 animal remains were excavated from 4,580 features. As already mentioned it was clear from the beginning of the excavation that in order to broach the information from this site a contextual approach would be necessary. Another basic requirement for this research is a well-founded dating system that underpins the dating of individual archaeological contexts/deposits. Additionally, satisfactory solutions are sought for describing, registering and quantifying finds, both artefactual and ecofactual, that make meaningful exploration of relations between the data possible. These final conditions are crucial if we want to demonstrate how life and the social environment changed throughout the Roman period by combining different strands of information. A combination of information on the material categories for different phases of
the site, indeed, allows a comparative approach of consumption patterns. Not only chronological divisions provide meaningful analytical categories for the differentiation of consumption patterns. It is also interesting to compare consumption patterns between archaeological records that were formed within different cultural
contexts such as the settlement (with material culture from daily life), the cemetery (with objects used in funerary practices) and ritual depositions (created as special produce for a specific deity).

To find inspiration from existing methodologies of material culture research current directions in theory and methodology of Roman archaeology are examined in chapter 1. A state of the art of knowledge and research approaches to the cultural contexts that play an important role in this dissertation is presented. What do we actually know about daily life and the practices of rubbish disposal? A major source of information about the daily life of people, indeed, lies in waste depositions. These can reveal how people dealt with waste in the Roman period and what their idea on hygiene was. Closely related to this issue is the question of how ‘living’ household assemblages were composed? A second major research topic in this dissertation are ritual depositions. What is the state of affairs of the research of religious contexts and ritual practices? The chapter also explores how cemetery research can improve our knowledge on funerary practices. This brief overview of interesting research in chapter 1 allowed us to formulate our research aims and objectives and to find out how our own dataset should be structured.

In chapter 2 we present the Tienen methodology designed as a test case for multi-directional analysis of material culture of a Roman period site. The set-up should ensure that traditional, as well as research underpinned by theoretical perspectives is possible. Special attention is given to the methodology of studying ceramic assemblages per archaeological context, where the recording of fragmentation and completeness plays an important role. In this chapter we also present the newest typology of the Tienen ware, as a combination of traditional profile drawings and 3D reconstructions of a variety of fabrics the types were executed in. The availability of local type series with date ranges provided for each type offers excellent opportunities for dating the features. The role of local pottery in the chronology and phasing of this site is elaborated on at the end of chapter 2. Indeed the features that could be dated are grouped in 4 main phases.

One of the main research aims is to objectively distinguish ritual from rubbish deposits. For this purpose a set of criteria is proposed in chapter 3. The strength and objectivity of these criteria increases with the amount of criteria that are valid for each deposition. The identification of a series of ritual depositions results from the application of these criteria. Some general categories within these ritual deposits are proposed, based on the inferred practices they were constituted from.

In chapter 4 the consumption and deposition patterns of each material category (ceramic, animal remains, bronze, glass and iron) are analysed in detail per phase. Within each phase a clear distinction is made between waste contexts, cemetery contexts and ritual contexts. Attention is paid to similarities and differences between different contexts within the same phase and also to evolutions of patterns within the different phases. The analysis of the assemblages produced by the local potters and of the amount and variation of imported ceramics gives valuable insights in the transformations in the culture of the local society. The consumption patterns of animals in the different cultural contexts reveal unique information on the evolution of the economic system surrounding animal breeding as well as on the socio-cultural value of animals in Roman times. The consumption of glass and bronze objects throughout the Roman period shows interesting patterns on the availability of these objects and their specific use in different cultural contexts.

In chapter 5 the consumption patterns and the social practices inferred from the material culture assemblages in the different phases are placed in a bigger perspective of geo-political changes and regional developments. The combination of detailed data on transformations of material culture and practices within the vicus with data from regional developments in the civitas capital and in the countryside allows for a deeper appreciation of how life, culture and social practice was transformed during the Roman period. The main characteristics of the material culture assemblage of each of the four phases are typified by a short title that refers to the active involvement of society in the development of culture and identity. The active role of the community of the vicus of Tienen in the creation of its culture and in the transformations of social practices is a central theme in this chapter.

The theoretical contribution of this study to the debates on the concepts of so-called ‘romanisation’ and ‘Identity’ is briefly reflected on in the concluding chapter 6. Furthermore some opportunities for further research in the field of methodology, intra-site research and inter-site comparison offered by the rich dataset are proposed. Finally the feasibility of the application of the Tienen research methodology in the present day environment of commercial archaeology is put in perspective. A benefit-profit analysis between the research potential and the resources necessary are elaborated on. These considerations are crucial and timely in the discussion of the pinch-points which are holding back the development of the subject area of Roman material culture studies at a moment where more resources than ever are spent in many countries.
1.1 STUDYING ROMAN MATERIAL CULTURE: CURRENT DIRECTIONS IN THEORY AND METHODOLOGY

1.1.1 MATERIAL CULTURE IN ROMAN ARCHAEOLOGY TODAY

In Roman archaeology the material remains we recover during excavations consist of man-made objects in different materials like ceramic, glass, metal (artefacts); ecofacts like animal and plant remains and all alterations to the natural environment such as roads, buildings, pits and ditches. There are different ways to study this material mainly depending on research means and research questions. Apart from the means and the time, how we dig and how we study the finds and structures after excavation depends on a series of questions and pre-understandings. Objects can be studied by identifying and describing their type, material, function, place of production, date and the manufacturing process. But material culture can also be considered as containing complex and culturally encoded information on different aspects of society and culture. The potential of the information that can be gained from studying material culture for the interpretation of Roman sites has rarely been evaluated since the ‘rescue boom’ in the 1990s the increasing amount of large scale excavations in North-west Europe. Developer-funded archaeology has produced a mass of material culture, the potential of which has not always been exploited for a better understanding of culture and practice during the Roman period.\(^1\) The same can be stated for some sites that are not under immediate threat of development or erosion.\(^2\) Though the research on all categories of material culture has moved forward considerably in the last decades, new methodologies for the integration of information to increase research potential still need to be developed.\(^3\) This lack of evaluation of the research potential of methodologies that integrate detailed information on material culture has serious consequences for the discipline. As long as we cannot show what can be gained by detailed finds research, it will be hard to stimulate investment of more financial means and efforts in today’s archaeology. Moreover, choices for not excavating certain features or not studying certain categories of finds are now too often accepted in an uncritical way. In part, in Britain, in the Netherlands and in Flanders particularly, this may be because the bodies and authorities that should be ensuring standards have not asserted themselves and in some cases, contracting units have been able to determine the nature of works on site and the contents of reports.\(^4\) At present there is no way to evaluate the loss of information caused by these choices.

![Excavation of a burial in southeastern cemetery of the Roman vicus at Tienen-Grijpenveld. Photo author.](image)

Although the history and epistemology of finds research is a subject little explored by archaeologists,\(^5\) comparable and complementary pinch-points in material culture studies were identified in recent national research frameworks from Great-Britain, the Netherlands and Flanders.\(^6\) Especially since the 1990s theoretically

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\(^1\) Cool/Baxter 1999, 72; Fulford/Holbrook 2011.
\(^2\) Allison 2004.
\(^3\) Poblome/Malfitana/Lund 2007, 14; Lelong/MacGregor 2012.
\(^4\) Willems 2009.
\(^5\) Willis/Hingley 2007, 1.
orientated researchers and finds specialists point out that Roman material culture has been left largely unexploited as a source of information about the Roman past. Finds, often just appearing in catalogues of an excavation report without further analysis and interpretation, however, as the detritus of lived activities are an important source of information about the lives of people, so their reintegration in narratives on past society is essential and should be a fundamental aim. Finds work can take on a more explicit role in the integration of theory and practice in Roman archaeology. Traditionally it is often believed that finds research is based on empirical analysis, involving categorizing, cataloguing, counting, and the use of statistical methods. This (often implicit) point of view is based on the idea that an objective registration of data is possible and further analysis on the results of this finds research is often lacking from site reports. Often it is forgotten that finds research has grown organically and is built on the expertise gained by individual researchers. In reality different approaches to the study, quantification and registration of all find categories of a specific site are possible. The choices made in the research and registration of finds influence the potential outcome and the possible directions for further research. In the 1990s post-processual archaeologists claimed that Roman archaeology was failing to deal with many of the questions which scholars expected it to answer and there has been a lack of realisation of the fact that the real strength of the finds research lies in its capacity for allowing us to understand large-scale and long-term processes and to account satisfactorily for social and cultural variability.

In the last decades however, things have begun to change. Recent events like the annual Theoretical Roman Archaeology Conference, the Romeinensymposium in Amsterdam and the launch of the new journal Facta showed that archaeologists and finds specialists seek to find new ways to answer questions about the lives of the people in the past. These initiatives have both show-cased and stimulated new and vibrant research that cross-fertilized ideas on methodology and theory, often exploring exceptionally rich datasets in new ways.

There is clearly a need to develop theoretic frameworks and methodologies for intra-site research that incorporate information of all categories of material culture as well as context information as an important source of information on past activities. These theoretical frameworks can be inspired by principles used by sociologists and anthropologists to study social and cultural life in living human societies. In archaeology theoretical frameworks should employ all the data available from archaeological research and not only a selection of it. To incorporate all strands of information we need customized methodologies for analyzing and interpreting our data. These methodologies should be transparent in the structure of classification of archaeological data. Whereas the classification of material culture from an excavation can be considered as a more objective exercise, the application of a model that determines how to group and analyse data on material culture can be considered subjective. This model determines how we can translate groups of data into activities and choices of people in the past. The sum of these activities and choices of people are considered as culture in the broad sense of the word.

1.1.2 A WAY FORWARD IN MATERIAL CULTURE RESEARCH

In recent years theoretically informed archaeology has stimulated new ways of studying material culture. New ways of studying specific finds or find classes within specific sites have been introduced. This research is also called intra-site analysis. On the other hand the occurrence of several specific find types in different cultural contexts of different sites has been compared. This research is referred to as inter-site analysis.

Lessons learnt from inter-site analyses of material culture

Some researches dealing with specific find categories have moved beyond the prerequisites of typology, dating and cataloguing and have begun to interrogate their information to address a large range of questions related to the use and meaning of these finds. Specialists of specific material culture categories like ceramics and glass as well as small finds and animal bone, have looked for patterns of occurrence in different types of contexts (towns, military camps, rural settlements, cemeteries) in order to learn more about the use of these objects and to try to understand better the type of site and context they emerge from. It is impossible to provide an all-encompassing overview of all the recent research done in the area of inter-site analysis, so instead a few exciting case-studies

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7 Greene 2008.
9 Gardner 2007, 128.
are offered. These case-studies have been a source of inspiration for the methodology to study the material culture of the small town of Tienen, the variables the database should contain, and for a range of research questions for inter-and intra-site analysis.

Cool and Baxter compared well-stratified and closely-dated glass assemblages from military, rural and urban sites of Roman Britain with the aid of correspondence analysis. This methodology proved to be very effective in detecting recurrent patterns in the glass spectrum of for example urban sites. This kind of research raised further questions on the need to develop new methodologies for inter-site comparison of archaeological assemblages but also highlighted the poor availability of the necessary data from many excavation reports for further research.

Willis examined the occurrence of samian pottery on different types of site throughout Britain and revealed dimensions of patterning that provide a unique and exciting window upon differences in consumption styles that characterize society and cultural practice during the Roman era. The collected data demonstrate how the character of samian assemblages is strongly related to site type, status, function, exchange connections and identity. The study further defines ‘normal patterns’ or parameters of samian occurrence by time, region and site type. The study collates a large body of data and applies hitherto under-utilised methods in an endeavour to extract information from this material. The results of this research are spectacular and unique in demonstrating the huge potential of detailed artefact studies and inter-site comparisons. Willis’ research, like the previous one, has clearly revealed the need for new ways of collecting, recording and processing archaeological data from excavations and finds research. Pioneer work like this is necessary to design theoretical frameworks and suitable methodologies for future research. It was an important inspiration for the research design of the Tienen-Grijpenveld excavations, especially for the importance of the archaeological context, the methodology of quantification and dating and the search for the different cultural contexts in which specific artefacts and ecofacts were used.

Equally important for the construction of these theoretical and subsequent methodological frameworks is the detailed research on the occurrence of more specific types of objects like coins, lighting equipment, toilet instruments, military and seal boxes in specific site types, mostly to explore the cultural contexts in which these objects were used. Until recently these objects have been studied in terms of art-history, typology, chronology, and economic history. The information from the broad archaeological context and the sites in which they appear has been left unexplored for a long time. One of the many positive side effects of comparative research on the occurrences of specific objects between different sites is that it provides useful insights for new approaches for the future research of sites and helps to define the basic requirements of new methodologies, more specifically for the choice of data gathering and of the necessary structure of our databases.

There are, however, a number of problems with the theoretical framework of such generalist approaches, something remarked upon also by the researchers themselves. Many authors are confronted with emerging context patterns which are clearly complex and not always straightforward, as should be expected. This was formulated very clearly by Eckardt in her research on consumption practices of lighting equipment in Roman Colchester. “Identities and site activities are multi-layered, potentially contradictory and interwoven in ways which may be difficult to disentangle in the archaeological record.”

The inter-site comparison of the occurrence of certain find types or material categories without further information on the archaeological context indeed is somehow problematic. Before comparing assemblages of different sites, surely it is necessary to examine and identify the different kinds of deposits and contexts the objects occur in. I believe that one of the major challenges Roman archaeology is to understand which social practices and activities led to the formation of the assemblages deposited in different areas of our sites. Before comparing material culture between sites it is truly necessary to study and identify the assemblages, including all find categories, and the contexts they appear in within one site. It is exactly this kind of information that is lacking and is holding back the development of Roman archaeology and comparative research on Roman material culture in general.

This shows we need to think more about the types of deposits we are working with and how they came into being. First of all daily practices in handling waste can change from site to site and from time to time,
increasing the distance between what was actually consumed and what we excavate. Insights into these processes would facilitate the interpretation of the complex patterns emerging from the comparison of assemblages or single types of finds between different site types. Furthermore ritual contexts, mostly still unrecognized on our sites, often contain specially selected items and can therefore severely determine the composition of the archaeological assemblage in favour of certain material categories, to the disadvantage of others. Some of these effects were clearly picked up in the detailed research on the samian assemblages by Willis. But because of the lack of specific information on the composition of archaeological deposits it is not always possible for the specific find specialist to explain certain patterns. Therefore a detailed knowledge of all the deposits in features of an archaeological site is necessary if we really want to study how people in the past lived through the traces they left in the form of archaeological features and material culture.

One of the conclusions of the conference ‘Roman finds. Context and meaning’ organised in 2002 was that we seem to be only at the starting point of a search for new theoretically inspired methods to deal with the diversity, instability, complexity and multi-levelled character of material meanings associated with artefacts and their contexts. Better understanding of such aspects will facilitate an interpretive approach which is open to alternative readings of the same evidence (in line with early 21st century thinking and research ambitions). Similar ambitions can be found in the editorial statement of the new journal Facta, launched in 2007 to study the ancient material culture in its totality, with a view to clarify the complex wider implications of such evidence for understanding a host of issues concerning for instance the economy, daily life, politics, religion, and ultimately the history of the ancient Roman world. Clearly there is a need to focus on archaeological method that allows for interpretations sensitive to the particular as well as to the general. A basic requirement in developing methodologies is an approach which can reflect upon itself and probe its own taken-for-granted assumptions. This needs to be done on the level of the individual sites, before comparisons of occurrences of finds between different sites can produce reliable information.

The potential of intra-site analysis

In the previous section innovative ways for studying material culture by comparing assemblages from different types of sites of the northwestern part of the Roman Empire were discussed. In this section we will concentrate on new questions and innovative ways to study the material culture within specific sites. It is necessary to examine how new questions can stimulate different ways of studying and recording finds during the post-excavation process. In traditional site reports the finds are split up per material category or per find type and sometimes by function. In this way the relationships with the other finds in the archaeological deposit and the link to the evidence of their find-spot are lost. Moreover surprisingly few published Roman sites have the level of detail required for reconstructing their assemblages by context, which has important implications for further and future research. Traditionally the investigation of artefacts and animal remains from Roman period sites has consistently taken a rationalist view of data. The primary objectives of material culture research of a site mostly aim to identify chronological, technological and economical implications from patterning or to answer dichotomous questions like “Roman-native” or “rich-poor”. Site reports next to a catalogue often also contain a discussion on the degree of ‘romanisation’ of the inhabitants of a site while other areas of social life are neglected. More recently, Gallo-Roman culture is considered neither Roman nor native but a new dynamic creation which is understood differently by different people at different places. These differences imply that changes in material culture and how products were used in daily life can be different at each site and therefore have to be studied in detail at every site.

The material culture of a site is increasingly seen as playing an active part in sustaining existing social practice and creating new practices and identities. Material culture in its broadest sense includes the types of houses people lived in; the types of foodstuffs they consumed, and their preparation; the details of how meals were served; different forms of dress and physical appearance. The analysis of finds within their archaeological context not only reveals information on things people used but also on cultural practices, ideas and values. The archaeological records we excavate contain encoded information on the practices and processes that created them. These cultural practices can be revealed through detailed research and analysis of finds in their context. The material culture and everyday practices reveal the identity and culture of a site and makes it possible to

27 Hodder 1999,78-79.
29 Hill 2001, 17; Van Enckevoort et al. 2005; Martens et al. 2008;
compare it with other sites, studied in the same way and relating it to the meta-questions of ‘romanisation’, macro-economic change, religious behaviour and so on. This implies that without research on the micro-scale of individual Roman sites, the building stones for further research on a larger scale are missing. As will be shown in this section, the analysis and comparison of archaeological depositions within a site also proves to be successful in detecting consumption and deposition patterns in ritual contexts.

Before elaborating on the methodology of intra-site analysis in the next chapter, some examples of innovative research and research questions focusing on the composition of archaeological contexts of Roman sites are presented briefly. This kind of research is rare and confined to the last decade. Not surprisingly, given that for many years Roman provincial archaeology had been self-confident in its traditional 20th century approaches, the initial plea for a fundamental change in the methodology of finds research came from prehistorians, who suggested that ritual assemblages could be identified by investigating finds and their associations within archaeological features. Hill developed a methodology to get a fuller understanding of the nature and origins of the archaeological record for different types of sites of the Wessex Iron Age. One of the key questions of his research was whether the assemblages (of animal bone, and fabricated objects) reflect the actual proportions and numbers consumed in the past, or are they influenced by structured, ritual actions. Inspired by detailed taphonomic studies of animal bones by Grant, Maltby and others, Hill developed a profound methodology for establishing how that archaeological record was formed. Hill’s methodology to distinguish ritual from rubbish for a better understanding of the Wessex Iron Age societies was inspirational to the work of a number of Roman archaeologists, including that of myself.

One of the earliest examples of intra-site contextual analysis of a Roman site is the re-study and re-interpretation of the exceptional pits of the Newstead military complex (Trimontium) in south-east Scotland. Clarke used simple statistics to investigate associations between different types of material and between the positions of different classes of material within the deeper shafts of the site. His research showed that deposition was strongly patterned in a manner not previously recognized and which had not been given the prominence it warranted, with the most obviously significant materials concentrated together and in the bottom of the deepest pits. Statistical analysis suggested that at Newstead, the most significant artefacts were specialist religious equipment, weapons and armour, tools, equestrian equipment, bronze and ceramic vessels and querns. Groups of material were generally more significant than single items and whole items more significant than incomplete fragments. The most significant skeletal remains were found to be human, dog, horse, cattle and deer. Skulls of all species appear to have been more significant than other bones. According to Clarke the organized archaeological recording of the original excavators was too coarse for some more subtle patterns to be recognised. No further detailed comparison was made between the special deposits and non-special deposits. Clarke concluded that proper consideration of site formation processes on Roman sites is seriously lagging behind analysis for the Prehistoric periods. The recognition of this pattern of ritual disposal at Roman Newstead has had important implications for the future study of finds assemblages and Roman period society in general. Firstly, though dominated by practical rather than overtly religious artefacts, these assemblages cannot be assumed to have been a representative sample of everyday life. The most complete artefacts to have survived may have been carefully selected for their symbolic value. This would lead to overrepresentation of some types, particularly high status or more highly decorated examples. Conversely, there will have been serious under-representation or absence of other less symbolically charged artefacts. The second major point is that this picture of a symbiosis between economic and symbolic activity contradicts the normal image of Roman period religion conducted by priests at temples or shrines: these finds come from an area lacking any sign of a formal temple. Clearly a false impression of Roman religion as segregated from secular life has been created in the past and a large part of the ancient belief system ignored. Michael Fulford subsequently published an important article pointing out what others were beginning to recognize: structured and likely ritual deposits in and around Roman settlements.

Martin Pitts developed an approach for the interrogation of excavated pottery assemblages from archaeological sites, as a means of providing insights into themes such as social practice and identity, at an intra-site resolution. Particular emphasis is placed on the extensive digital archive from the Late Iron Age to Roman site of Elms Farm, Heybridge, Essex. Using a combination of simple (tables) and more complex statistical procedures (correspondence analysis), the contents and contexts of multiple pottery assemblages from this site

34 Grant 1984.
35 Maltby 1981.
36 Clarke/Jones 1996; Clarke 1997.
37 Clarke 2000.
38 Clarke 1997.
were analyzed with a view to shedding light on patterns of food consumption and identity. The resultant narrative of changing patterns of eating, drinking and disposal at Elms Farm is discussed in terms of the cultural, social, and economic impact of the arrival of Roman hegemony in Britain. Unfortunately Pitts lacked the information from the animal bone and other finds that accompanied his ceramic assemblages, which would certainly have provided complementary information on the nature of the deposits he is dealing with.

Maaike Groot studied the animal bone assemblages from the archaeological features from Tiel-Passewaaij, a rural settlement and cemetery in the eastern part of the Dutch river area. She explores the role of animals in the rural communities of the civitas Batavorum in the 1st to the 3rd century AD. Large-scale excavations of two settlements and a cremation cemetery in Tiel-Passewaaij have yielded an animal bone assemblage of around 30,000 fragments, and a valuable reference catalogue of the special animal deposits is included here. The author also investigates the use of animals in funerary and other rituals, as well as the role of livestock in the local economy and in the production of surplus products for the Roman market. A disadvantage of this research is the lack of integration with the other archaeological data that would have allowed more new insights on material culture and cultural practice on the site.

The studies highlighted above are innovative in exploring techniques for contextual analysis to gain more information from archaeological assemblages of specific sites in search of what we may term ‘a different Roman period’. Without an exception these studies revealed important information on aspects of daily life, previously believed inaccessible by archaeological research, not in the least in the domain of ideological or symbolic aspects of the material world. This extra information is provided by the context of discovery and the analysis of all associated material in the assemblages.

1.1.3 WHAT MORE TO ASK OF MATERIAL CULTURE RESEARCH?

Through the last decades a theoretically informed archaeology has produced new research questions and stimulated innovative ways of studying material culture in general. Especially the notion of context has gained great importance, ranging from the archaeological context and the composition of the archaeological deposit to the actual context of use. But still it can be remarked that even more attention can be paid to the development of methodologies to gain more information at the basic level of research: the analysis of finds and find assemblages and their complex relationships in the context of a specific site. Some researchers have indeed pointed out that in order to answer important questions relating to for example continuity and change in urban settlements or the relation between urban and rural sites, first worthwhile advances should be made by further targeted research at different classes of sites. This new research on the level of a site should also embrace the factors why and how the site emerged from the landscape and not least the relative importance of internal processes and external contacts. Critical for understanding a site is the study of production, distribution, and consumption, because so much of this underlies the model of an increasingly hierarchical pattern of towns and the debate over the role of early towns as religious foci, consumer cities or centres of commerce, production and innovation. Given recent advances in methods, scientific analytical techniques and the perspectives of archaeologists the time is ripe for building valuable comparative data for sites so as to broaden the scope of the enquiry. New methodologies should embrace a wider range of material and enable us to search for parallel variations in measurable things like the choices of consumption -particularly in relation to cultural variations in practice, for example, in the domestic or ritual sphere, or the more general question of how refuse was managed over time. Much more might also be learnt about the processes of transformation of assemblages of waste from households in settlement assemblages and in cemetery assemblages throughout the Roman period.

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40 Pitts 2007a.
43 Poblome/ Malfitana/Lund 2007, 15.
44 Burnham et al. 2001: 67-76.
The previous sections show the enormous potential of the research of material culture to gain direct knowledge about people’s lives, options and choices in the past. The archaeological records we excavate contain encoded information on the practices and processes that created them. Daily practices and choices of consumption and deposition of material culture can be revealed through detailed research, analysis and comparison of depositions. The material culture and everyday practices reveal the identity and culture of a site in a certain period and connects the archaeology of that site to the meta-questions of romanisation, macro-economic change and so on. This implies that without detailed research on the micro-scale of all types of Roman sites in different areas, the building stones for further research on a larger scale are really missing. This basic link between socio-cultural practice and material culture has direct consequences for digging up, studying and recording Roman sites. In other words this is a matter of professional responsibility. To be able to compare the material culture and practices within a site and between different sites there is a need for a high-level detailed standardised recording of all finds and a methodology to integrate all strands of information for further analysis of each site.

1.1.4 THE SOCIOLOGY OF MATERIAL CULTURE: BRIDGING CONSUMER CHOICES, PRACTICE AND COMMUNITY

In social studies the research of material culture as a source of infinite worlds of meaning is well developed and underpinned by different theories in the last decades. For this reason we consider sociology as an invaluable source of inspiration on how to extract more information out of material culture in Roman archaeology than we do today. It has been argued that previous generations of archaeologists, in describing material culture and in explaining social change, have lost sight of the ‘real people’ and reduced them to passive cultural pawns. For this reason I would like to give a brief and very selective overview of some developments in material culture studies that are significant in the light of this research.

In social studies the key theories of material culture developed in the 1980s demonstrated that social worlds were as much constituted by materiality as the other way around. Humans create, use and live with a wide variety of material objects. This world of man-made things modifies the natural world to provide a material environment in which social, economic and religious interactions take place. Unlike ideas, images, talk and text, made ‘things’ are not just presentations, but also have a physical presence in the world. Material culture provides evidence of distinctive forms of society because it is an integral part of what society is. Another important research object from sociology is the difference between material culture and linguistics. This difference is situated in the sheer diversity of its subject matter. In the case of language many of the most interesting aspects

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45 Hill 2001, 16-17.
47 Bourdieu 1977; Appadurai 1986; Miller 1987; Shanks and Tilley 1987a; 1987b; Deetz 1996.
48 Dant 1999.
that an academic can address relate to the generality of linguistic phenomena. In material culture, by contrast, there is a great deal more potential in looking at the diversity of material form than would be the case with linguistics. Material culture virtually explodes the moment one gives consideration to the vast corpus of different object worlds that we can discover.\textsuperscript{49} Material culture connects different people of a society, providing a meaning of shared values, activities and styles of life in a different and more enduring way than language use or direct interaction.\textsuperscript{50} The survival of large quantities of material culture from Roman times and the large information potential makes it invaluable for research on communities, especially when studied in its archaeological context. It is up to the archaeologists to exploit this source of information in a creative way. The difficulty of archaeology will be that any attempt to study material culture imposes various arbitrary classifications over what is actually an endless creative and hybrid world.

Material culture can also be addressed to study the value of the concept of 'agency', a term used in sociological and philosophical literature, mainly used to refer to individual free will and choice in archaeology. Since the arrival of agency in archaeology there has been anything but unanimity over its application and meaning. Generally however agency is accepted to be the way in which societies structures inhabit and empower agents, those agents' aims, ideals and desires and the material conditions of social life.\textsuperscript{51}

If we think of the material culture of consumer societies\textsuperscript{52}, like the Gallo-Roman society, they are in fact the point where large-scale produced consumer objects are encountered and used by individuals. These individuals establish and negotiate their own meanings and incorporate the objects into their personal cultural and behavioural repertoires, sometimes challenging and sometimes reproducing material culture.\textsuperscript{53}

Generally speaking we can say that by engaging different social practices and behaviours, individuals and groups produce and reproduce social structures in a spiral which repeats over and over again. These practices are constrained by rules and norms of the society, by the availability of material and immaterial resources. Within such a theory reflecting continuity more than change there should be room for consciousness, reflexivity, conflict and competition at the individual level.

If we translate what we have learnt from the social sciences to archaeology, it should be acknowledged that we can realistically attempt to identify the activities of individuals and groups in Gallo-Roman society through to identification of the composition of material culture assemblages in different contexts of the archaeological record of a site. If we consider that material culture and practices constitute culture, then the archaeological record provides access to the study of the general culture of a place at a certain time, as well as to the study of the activities of groups or individuals. Apart from information on activities, the material culture of the archaeological record can also contain information on consumption patterns of individuals, groups and the entire community of a settlement or a town. This places the study of material culture as a means rather than an end, right at the core of investigative endeavour in Roman archaeology.

1.2 MATERIAL CULTURE RESEARCH IN DIFFERENT CULTURAL CONTEXTS

As Roman archaeologists we had become accustomed to assume that much if not all of the archaeological record is constituted by rubbish: that is what key figures such as Sir Mortimer Wheeler, Sheppard Frere and Joseph Mertens thought. This assumption has had important consequences for Roman archaeology since it influences the way much of the archaeological record is excavated and how the finds are studied after excavation. But do we really know enough of the practice of rubbish disposal in Roman times to make this kind of inference without further critical research? Refuse disposal itself clearly consists of many different processes, varied combinations of which result in quite dissimilar deposits. In our research we would like to study the material remains of deposits as reminiscent of social relations in which they were produced, distributed, consumed and deposited, without taking for granted the origin or intention of the deposit. If we assume households were the cornerstone of the Gallo-Roman society in towns, does this mean that a major part of the waste was produced by households? Are household and industrial waste often mixed? Does this mean that industrial activities were part of household occupations? In a Roman town like Tienen, where industrial activities were certainly important if not the main factor of economy, such questions are very relevant for our understanding of local society. The comparison of the composition of waste assemblages reveals further information on consumption and deposition practices of the inhabitants of the small town and on their behaviour towards waste and hygiene in general. For this research it is useful to paint a general picture of the present knowledge of rubbish disposal and hygiene in the Roman world (in section 1.2.1.1). It is necessary to examine how household waste can be constituted in the

\textsuperscript{49} Miller 1998.
\textsuperscript{50} Dant 1999.
\textsuperscript{51} Dobres/Robb 2000, 8.
\textsuperscript{52} Woolf 2007; Dietler 2010.
\textsuperscript{53} Willis 1998; Woodward 2007.
archaeological record. For this question we will summarize some important results of the research of the material culture of a few households in Pompeii just before the eruption of the volcano in 79 AD in section 1.3.1.2.

Another major research aim of the Tienen-project is to identify patterns in archaeological depositions to isolate culturally significant social practices other than waste accumulation and deposition. Additional to the discard of waste, also the burial of the dead and the deposition of material as a way to communicate with the supernatural form a part of the material culture in the archaeological record. In other words the man-made deposits in the archaeological record are formed both by the accumulation and deposition of waste and by the intentional collection and deposition of material culture in ritual or in funerary contexts. These processes produce the material remains we excavate on a site, in a more or lesser degree altered by post-depositional processes. The accumulation and deposition of waste, the burial of the dead and the deposition of material culture for gods and ancestors are activities that take place in culturally different contexts with completely different intentions and purposes. The deposits that result from these activities form complementary parts of the common past of the society that created them. These deposits carry information on the practices that lead to the deposition of the assemblages and on the society that produced them. To make this interpretative research in the social domain possible it is first necessary to distinguish ritual depositions from waste depositions. In most cases it is not extremely difficult to recognize deposits of and for the dead, because they are often concentrated in cemeteries. But are we really capable of distinguishing ritual from rubbish depositions within the limits of the settlement? The present state of research on patterns in the composition of depositions in ritual and funerary contexts is presented in sections 1.2.2 and 1.2.3.

1.2.1 MATERIAL CULTURE AND REFUSE IN THE CONTEXT OF HOUSEHOLDS AND INDUSTRY

To understand the composition of waste deposits it is interesting to reflect on our knowledge of rubbish disposal and hygiene in Roman towns. Not much is known about this subject and due to the haphazard nature of the sources only a very general picture can be painted.

1.2.1.1 Research on rubbish disposal and hygiene in Roman towns

The practice of waste deposition in Roman times until recently remained a relatively understudied subject in archaeology. This is especially remarkable since much of the structural remains and material culture archaeology deals with have to do with waste. According to Thüry, author of a book about settlement hygiene and the attitude of people towards waste in the Roman period, the reason for this is not a lack of sources, but the attitude of the researchers towards the subject. He calls this theme "ein Stiefkind der Forschung".54 The result of this attitude towards rubbish deposits is that for too long the potential of material culture research upon archaeological deposits has been left unexplored. In publications often pits are described as waste pits without further research of the content, or an attempt to characterize their original purpose (which may not have been that of their final use, that is to say, as a receptacle for 'rubbish'). What do we actually know about the daily practice of rubbish disposal in Gallo-Roman settlements or about the knowledge of hygiene in Roman times? As a theoretical framework to the research of consumption and deposition in a town it is necessary to study what we know about the customs, regulations and attitudes towards waste deposition and hygiene in Roman times. Was there a concern for hygiene at all?

Literary sources relating to settlement and household hygiene

In present days people consider rubbish as dirty and smelly. They expect it to be collected regularly and transported away from living environments to be stored underground or destroyed in big combustion furnaces. Nowadays rubbish is considered unhygienic, possibly causing hazards for health. But how did people think about waste, house and settlement hygiene in Roman times? Recent research of literary sources on the subject of waste has greatly contributed to knowledge about different aspects of waste and hygiene in Antiquity.55

A first category of sources to be considered is the ancient medicinal literature. A comparison between Greek and Roman sources shows an evolution in the way of thinking about hygiene in relation to health. In the Greek period Hippocratic doctors established a direct link between the health of an individual and the environment he/she lives in and made a classification of various types of settlements according to their degree of

54 Thüry 2001, 3-4.
health. They considered factors like the main wind directions and hours of sun. Interestingly enough they never took into consideration the role of waste and hygienic conditions of these settlements in the health issues of their inhabitants. In the Roman period authors of medical essays show a new insight into the relation between the accumulation of waste in urban environments and the conditions of health of the inhabitants. In the work of Galen (2nd century AD) the idea of the influence of waste on water and air, two major factors in health, is expressed for the first time. The ideas were not very developed and play a minor role in the complete work, but they are nevertheless an important sign of the growing awareness of the possible problems of the accumulation of waste inside cities. In De Alimentorum facultatibus, Galen writes one section about fish. In various passages he mentions the relation between the quality of the fish and the environment it lives in. According to the author the worst quality of fish are the ones who live in the rivers passing big cities and feeding on excrements of humans. Not only do these fish rot faster after they have been fished, but they also smell awful. In another passage he mentions that fish living in rivers where excrements, water from the baths, from the washing of linen and from the kitchens are drained in are the worst of all. Galen also acknowledges the importance of clean air by adding air polluted by rotting substances, animals as well as vegetables, grains and excrements, to the list of unhealthy airs that were already noted down in Greek medicinal literature.

What do literary sources, other than medicinal, tell us about the behaviour towards waste in public places in Roman times? There certainly were institutions and regulations concerning the maintenance of the roads, not only in Rome, but also in the Hellenic and Hellenistic World. There are a number of legislative texts and graffiti about the prohibition of the deposition of waste in public areas. These texts are proof of actual problems in urban environments. A passage of the table of Heraclea, a compilation of extracts of Roman legislative texts, concerns the road system and the public space of Rome. The first part is dedicated to the construction, maintenance and cleaning of the public roads and the role of the residents on the one hand and the aediles on the other hand. The maintenance of the roads like the occasional replacement of paving to prevent the formation of puddle pools is the duty of the neighbouring residents. The cleaning of the roads is the responsibility of the aediles and the duouriri inside the city of Rome and the duouriri are responsible for the public roads outside the city. The next part, one of the most well-known texts on Roman legislation, is dedicated to the regulation of the circulation of vehicles in Rome and proves the importance of waste transport in big Roman cities. It prohibits the circulation of carriages in the city of Rome during the daytime, with some exceptions, notably for the carriages used for the transport of construction materials and demolition waste or for the deportation of waste. Other literary sources that mention the transport of waste outside the cities are scarce. In a story about the empress Messalina, Tacitus mentions that she wanted to travel in haste but only found a cart that normally transported waste from the gardens away from the city. Another source from the Hellenistic period mentions the transport of waste from a guesthouse out of the city. Next to these rather coincidental mentions of the transport of waste, the sources reveal a whole set of rules and laws that existed to regulate the disposal of waste and the tidiness of towns, about rinsing the streets with water from fountains, against throwing of waste and liquids on the street, against polluting sacred places and for the protection of drinking water against pollution. Back in Rome, a decree by the senate about an area named pagus Montians, stipulates that the tenant farmer should not deposit waste or earth on that particular area. Other inscriptions, like the 3rd century relief from Salona (Split) show that also private persons were concerned with the cleanliness of their environment and sometimes called in the help of the gods to sustain their wishes. The stone relief carries an inscription under a depiction of Hecate, with the following text, freely translated: Whoever abjects from the deposition of waste, of faecating or urinating in this place (street or quarter), may he have the mercy of the goddesses; the one who shows to be negligent, he will see! The absence of the name of a magistrate or a punishment could indicate that we are dealing with a non-official inscription. This inscription, which formulates a threat, confirms the heterogeneity of rules and efforts to keep a town clean and at the same time shows there was a recognized necessity for it. Sacred areas often seem to have required their own set of rules to guarantee their cleanliness. In Thasos this is especially clear for the zone of the sanctuary of Charities, where it is forbidden to pollute the area

57 Galen, De alimen
torum facultatibus III, 24, ed. Heinreich 362, 7-14–Kühn VI 710
58 Galen, De alimen
torum facultatibus III, 29, ed. Heinreich 369, 6-9–Kühn VI 721, 17-722, 2
59 Galen, De san
titate tuenda I 11, 16, ed. Koch 27, 20-22 = Kühn VI 58
60 CIL P. 593; ILS 6085; FIRA I, 13; Crawford 1996, vol. 1, no. 24, 355-391.
61 LI 56-67
62 Tacitus, Annales 11, 32.
63 Von Arnim 1904, 1204.
64 CIL P591; Thüry 2001, 22.
of the sanctuary. The road connecting the sanctuary of Heracles to the sea is cleaned by public services and prostitutes were forbidden. The other sectors of Thasos are to be maintained by the neighbouring inhabitants. A special inscription from Republican times was found in Lucera (Apulia) just outside the Roman city walls and deals with the prohibition of dumping waste, corpses or sacrifices to the dead in a place with ritual significance or “loucar”.68

Another interesting subject is the hygiene at the level of the household. How clean did the family keep their house and how did they dispose of their waste? For the cleaning, depending on the floor type, they used water, saw-dust and grinded gypsium. Archaeological finds like door mats, brooms and besoms give good insight on the appliances used. Sources mention that the houses were regularly cleaned, especially when visitors were expected or when a house was given over to a new tenant. In his handbook for agriculture, Cato the Elder advises people to take time to thoroughly clean the country estate. The wife of the estate owner should love the cleanliness; she should sweep the house and the hearth and do this daily before she goes to sleep.73

This small but heterogeneous sample of a large collection of guidelines and regulations that seems to have existed in many parts of the empire is quite remarkable. But what were the consequences in daily life? Hygiene of the streets was a favourite subject of the satirists. On the contrary, the philosopher Epictetus claims in the 1st and 2nd century AD that the inclination for tidiness is a characteristic man has in common with gods. Moreover, these are sources dealing with the whole empire. How was hygiene and cleanliness handled in the households of the northwest of the empire?

Archaeological evidence for settlement waste disposal and hygiene in the Northwestern provinces

Unfortunately there is no literary evidence that informs us about ideas on settlement hygiene in the northwestern provinces. Apart from the bath houses that are possibly indicative of new ideas on personal hygiene, what do we know about cleanliness of houses and settlements in our regions? Evidently there is a lot of potential in the archaeological sources, but until recently very little analytical work has been undertaken on this subject. An important turning point was the conference La ville et ses déchets: rebuts et recyclages, organised in 2002. The publication provides very useful information on the subject of waste disposal in Roman times. The presence of waste inside and outside urban settlements has been analysed in various degrees of detail. From the different approaches towards the subject of waste in Roman towns some general observations and conclusions can be made. Large refuse dumps were often situated at the edge of the towns and settlements. Inside the towns, settlements and army camps the rubbish was mostly dumped in structures, pits and wells that were out of use. It seems that the general idea was to avoid as much as possible the transport of waste over long distances. Exceptions are made when the transport of rubbish had a special purpose, for example to drain passages over rivers, creeks or marches or to fertilize the fields. Another common practice was to dump waste on roads to provide stability for vehicles and passengers. It appears that all towns have these general customs towards the disposal of waste in common. The common basis of applied rules and customs concerning the disposal of waste are also reflected in the heterogeneous set of literary sources we summarized in the previous section.

Next to the patterns emerging from a general research on rubbish disposal, more detailed research on day to day practices is necessary by analysing the characteristics of the structure and composition of the specific deposits. First let us take a look at some interesting results from more generalist approaches. In the Roman towns of Autun72 and Lyon,76 a similar sequence of behaviour towards waste can be determined. During the 1st century, waste was often deposited inside the town. By the end of the 1st century and during the 2nd century waste was more systematically transported to rubbish heaps outside the town. In late Antiquity, waste was again dumped inside the towns, due to shrinkage of the surface of the town. In Lyon the change in behaviour towards waste was seen in relation to evolution in the construction of roads at the end of the 1st century. In this period roads were paved more systematically and sewage systems were installed. This change in the road systems is also related to a development of houses that more often get surfaced floors, which are not suitable for digging pits to dispose of waste. Consequently it was necessary to transport waste outside of the towns. At the end of the 2nd, but mainly in the 3rd century, deserted houses or neighbourhoods are used for the storage of waste. It seems

67 Duchène 1992, 192-131 (SEG XLII,785)
68 CIL P. n. 401; Thüry 2001, 22.
70 Horatius, Epist. 1, 5, 7; Juvenalis, 5, 14, 59 ff.
71 Papyri Oxyrhynchus. 502; 912; 1036; 1128; 1694.
72 Cato, De agricultura 2, 3 and 39, 1.
73 Cato, De agricultura 143, 2.
76 Desbat 2003, 117-120.
that in the second half of the 3rd century the organisation of the removal of waste, as well as the maintenance of roads were less effective. In this period even the collectors of the sewage were filled with waste.\textsuperscript{77}

In Aix-en-Provence more detailed research has been undertaken to discover patterns in waste depositions, their place and their composition. The general impression of the researchers is that there was a relative autonomy in the approach to rubbish disposal in the periphery of the town, at least in the 2nd and 3rd century. In the southern periphery the characteristics of the depositions seem incompatible with a genuine municipal organisation. The patterns in the waste deposition seem to reflect individual practices although a certain organisation is detectable. Unfortunately the research was too limited in scale to prove a limited public interference. To answer questions about the organisation of waste disposal on the scale of a town, much more detailed information is necessary as well as a better understanding of individual behaviour. Furthermore it was concluded that generalizing research can easily mask a much more complex reality.\textsuperscript{78} In Aix-en-Provence a good example of the kind of information that can result from detailed analysis of the composition of waste deposits is provided. More specifically different categories of waste could be defined. Waste from the production of animal products could be distinguished from domestic waste deposits. This is by itself not a surprising result, but it is the extra information on the working methods of a butcher shop on the one hand and on the composition of domestic waste on the other hand that makes this kind of research extremely valuable. The domestic deposits show a greater variation in the animal species, with a higher proportion of smaller ruminants and a greater homogeneity in the distribution of anatomical parts. Domestic waste was mainly found \textit{intra muros}, in contrast with production waste that seems to have been removed in a separate circuit organised by the artisans themselves. Without doubt the craftsmen were forced to get rid of the waste they produced in their workshops regularly, because it could quickly reach large quantities of refuse, smelling bad and attracting vermin and insects.

Detailed research of waste deposits for the purpose of understanding the organisation of waste disposal in the past, can also provide important information on consumption and a series of activities in various socio-cultural contexts. It is important to remark that archaeozoologic research has especially exploited this potential efficiently. An excellent example of detailed analysis of a rubbish dump discovered in Tours (Indre-et-Loire, France) not only revealed detailed information on craft activities but also unique evidence as regards what was consumed in domestic contexts of the town. The rubbish was disposed in a palaeochannel at the southern periphery of the town, over a distance of 200 m. The position of this deposit under the water table created excellent conservation circumstances, so next to ceramics and animal bone also objects in wood and other organic materials were preserved. The deposit consisted of two superposed ensembles. The lower ensemble consisted of animal bones, often still in anatomical connection and grouped by types of bones and species. For example one group consists of skulls and long bones of horses. The ceramics consisted of incomplete pots, further broken \textit{in situ}. Wooden boards were broken by the weight of the animal bones in the same ensemble. The ensemble on top of this consisted mainly of organic material, mostly straw, ceramics, small finds and some animal bone. The ensembles did not contain demolition waste (stone, mortar, wall plaster) or production waste (slag), other than animal bones. The waste was not very fragmented, consisting of large sherds and no bone splinters are present. This deposit has all the indications of not being reworked. The homogeneity of the ensembles is confirmed by a close dating at the end of the 1st century and the very beginning of the 2nd. In 42 m\textsuperscript{3} sediment, 360 kg ceramics (13,640 sherds), 87 kg (14,000 fragments) animal bone, 5 kg of oysters (179 valves), 3 kg of nails (200 pieces), 0.3 kg of glass (285 fragments), 44 pieces of leather, 39 objects in iron, 34 objects in ceramic, 12 objects or pieces of wood, 8 objects in bone and 3 objects in glass were collected.

Only in the parts excavated \textit{in situ} 2 kg of unworked wood, shells of snails, insects, nuts, etc have been found. The ceramics show a diversity of functions and forms. The glass, rare in the occupation layers of Roman Tours, is well represented in this context with an exceptional diversity of forms. The animal bones show interesting characteristics. From the number of fragments per species cattle dominate the assemblage with 41 \%, followed by pork and sheep/goat. If the bones are quantified per minimum number of individuals, pork dominates with 31.2\%. The best represented parts from beef are those low in meat like the vertebrae, ribs, skull, and lower part of the feet. This together with the marks of knives, axes and saws shows that we are dealing with butchery waste. The presence of horn-cores confirms the activity of horn workers, while the presence of sawn metapodes indicates the activity of a workshop that produces hinges. The pork bones of the deposit are mostly from young animals, predominantly male and representing all parts of the skeleton. The parts most frequently represented from sheep/goat are the same as for the cattle and are characteristic for butchery waste. Different from the cattle are the presence of the legs which could indicate we are dealing with consumption waste. Horn-cores show that also the horns of sheep/goat were used to make objects in horn. All the long bones of horses show marks of boning, possibly for the consumption of the meat. There are no anatomical connections present: all the bones have been separated before throwing them away. The absence of the bones of the parts rich in meat

\textsuperscript{77} Desbat 2003, 117-118.
\textsuperscript{78} Nin/Leguilloux 2003, 159-161.
suggest that we are dealing here with the second phase of the butchery of the carcasses. Next to oysters, also shells of fresh water mussels, marine mussels and clams are present.

This assemblage at Tours is deposited in the deepest part of the palaeochannel probably as a blind drainage. Organic rich deposits, like straw, have properties of being a kind of semi-compressible that facilitate the passage of heavily loaded vehicles. The detailed study of this rich deposition of waste did not only reveal the reason for the deposition in this place, it also delivered a treasure of information on the daily life in Roman Tours.79

In Famars civitas Nerviorum) a massive drainage-canal was constructed over more than 500 m to secure the evacuation of sewage and domestic waste via repositories. According to Roger, this massive architectural work illustrates the will to guarantee hygiene and cleanliness of the habitation area of the town. The structure is indeed important evidence for the concern for hygiene in a major town of Gallia Belgica.80

At Lincoln a large late Roman bone assemblage has been recovered from the waterfront area by the Witham; the nature of the material has led to the interpretation that it is the waste remnant following systematic slaughter, processing and reduction of cattle carcasses of a commercial nature. Further, the character of the archaeology in the waterfront area generally (with systematic waste disposal, land reclamation, consolidation and surfacing episodes) is seen as evidence for enduring civic order and management in the colonia in the 4th century: the deposition of the cattle bone assemblage is an index of this regime.81

Generally it can be concluded that material was often carried some distance for disposal. Household rubbish generated by a variety of activities may have accumulated on a kind of midden and later been cleared up and thrown out elsewhere.

Fig. 1.4. Rectangular waste pits inside a metalworkers workshop of the Roman vicus of Tienen, Spikdorenstraat. Photo author.

A recuperation society
Studying deposits in pits and natural depressions, can teach us a lot about life in Roman times. Not in the least we learn a lot about the organisation of waste disposal, but also of other activities. Detailed study of waste can uncover a network of activities where recuperation largely dominates elimination. Clear examples of this recuperation society can be provided by studying waste from the processes apparently taking place after butchery. What we describe as butchery waste for certain craftsmen in Roman times was raw material to work with. For the butcher, or the owner of the cow, the products deriving from the butchery were commodities. As a spin-off of the stock breeding system, a series of industrial activities developed in towns for the production of objects in bone, leather and horn, marrow, marrow oil, fat, bone grease and glue. In case of glass it is clear that in most of the waste deposits glass is scarcely present and it is clear that an active collection of broken glass was organised. Again broken glass was a commodity in Roman times. Bronze objects that were broken or out of use

79 Dubant 2003, 165-177.
80 Roger 2003, 94-96.
81 Dobney et al. 1996; Dobney et al. 1999.
were clearly also recycled and also had a value of their own. This is clear from the finds of broken objects in bronze workshops all over the Roman empire. Iron objects are relatively scarce in waste contexts. A big exception is iron nails, mostly present in relatively high numbers in waste contexts. The reason for this could be that nails could not be reused, because iron could not be melted in the past, but only forged into another object. Nails are too small to be forged into a new object. There is a lot of evidence for the reuse of ceramic vessels, especially dolia and amphorae.\textsuperscript{82} Broken ceramics are more difficult to reuse, except to make chamotte for ceramic production. Often sherds were also used as fillers to mix with clay for the construction parts of oven structures for the production of pottery or for metal working, or for surfaces and flooring when set in clay. More research can be done on the habits of recuperating material by detailed analysis and comparison of archaeological assemblages.\textsuperscript{83}

1.2.1.2 Material culture and household activities

We can assume that a large part of the material culture that ended up in the archaeological record can be defined as refuse from households. Surprisingly enough archaeological assemblages from Roman towns have seldom been analysed for characterisation of household activities. In 2001, however, the potential of this research was highlighted in the archaeological agenda for Roman Britain.\textsuperscript{84}

**Household activities in the archaeological record**

A wide variety of people lived inside (and to some extent immediately outside) towns and contributed to the creation of the material culture of a town. To understand how a society functioned within a town it is necessary to study the material culture resulting from a variety of activities taking place at a town as well as the lay-out of both the town and its houses.\textsuperscript{85}

Many activities in Roman times took place inside the household (including the outside areas of the property). An important prerequisite for the research of domestic activities is that we consider and identify the finds in their archaeological contexts as elements in practices. For this analysis it is necessary to know the function of most of the objects present in the archaeological record. The most common functions of ceramics and small finds are established but need more testing. The characteristics of faunal remains in an assemblage can be analysed to identify the activities they resulted from such as cooking/eating, butchering or bone working. In this way it is possible to define the use and the functions of the material culture present in refuse assemblages and in some cases also to identify the activities that led to the creation of the archaeological record as it was at the time of the excavation. Self-evidently it is important to note that a lot of material is lost from the archaeological record due to bio-degradation. It is also necessary to keep in mind that the first activity that the archaeological record holds information on is the practice of refuse deposition. Many processes may have altered the composition of the assemblages and may have mixed a complex series of activities that took place in a household. For the interpretation of archaeological assemblages and an identification of the activities that took place in a household it is necessary to analyse and compare the composition of the different assemblages of a site in detail. It would also be useful to compare the composition of waste from households with well conserved house floor assemblages that actually reflect household activities. In cases in the Northwest provinces where fires have ravaged Roman towns there is surprisingly meagre evidence for material culture in situ: the inhabitants (or in the case of the Boudiccan revolt, the rebels) either had time to remove items before the inferno, or the burnt town and ashes were picked through subsequently and items extracted (e.g. at Colchester in the Boudiccan revolt, and later in London and Verulamium in the case of their 2nd century fires). The only extensive case where objects could be studied in situ in their domestic context is far removed from Gaul: Pompeii.

Given its Mediterranean/Italian location and deep integration within Roman metropolitan norms the function and the context of use of the objects in Pompeii cannot be directly compared with those from Gaul. Rather, it can provide a general framework for the interpretation of material culture from refuse contexts. Pompeii is considered to be the perfect site to study household assemblages, as the volcanic covering left the town and the house-floor assemblages hermetically sealed. It may come as a surprise to some that until recently no comprehensive study of Pompeian house contents, and particularly of the materials removed during excavations, has been carried out to identify the function of rooms and the activities that were carried out in a

\textsuperscript{82} Peña 2007, 61-200.
\textsuperscript{83} Idem, 2.
\textsuperscript{84} Burnham et al. 2001, 72.
\textsuperscript{85} Creighton 2006, 13.
Traditionally research into the use of space in Pompeian houses was the result of an overlay of textual evidence on architectural and, to a certain extent, decorative evidence.

**Household activities in Pompeii: A case study**

In her innovative research design Allison collated the contents of thirty Pompeian houses, material most likely to represent the latest activity in the houses before their individual abandonment. These data were used to analyze both the spatial distribution of household activities and the living conditions during the later occupation phases. Predominant distribution patterns demonstrated how some of the Pompeian rooms have been used. These patterns did not necessarily conform to the activities assigned to these room types by their textual nomenclature. This analysis also demonstrates that separation of activity areas primarily on the basis of modern analogy gives a biased view of how a Pompeian house was organized and how activities, domestic and industrial/commercial, utilitarian and formal- were distributed throughout the various spaces.

It is clear that the discovered patterns in the house contents are specifically relevant for Pompeii. The potential universality of some of these patterns has to be tested by comparing them to archaeological evidence from the material culture of individual dwellings in other parts of the empire and with refuse assemblages in general. A rigorous assessment of refuse for the identification of household activities would greatly advance our understanding of people in Roman times. The household activities that could be identified for Pompeii and the associated material culture can be used as a source of guidance for the research questions and the interpretation of the assemblages from Tienen. Self-evidently great attention is paid to the cultural differences between the two places. A quick overview however makes it clear that a certain degree of correspondence between the more universal activities can be noticed. It was observed that household activities, as documented by the contents of particular room types, were not always strictly segregated according to structural and locational types and that many overlapped. Allison therefore reassessed these data, commencing from the standpoint of the activities themselves and examining their distribution across the sample and across room type. This overview of activities in the sample of houses of Pompeii is precisely interesting as a framework for the interpretation of material culture assemblages in general. The specific places of discovery of the items in the house are also briefly mentioned when relevant for the identification of their use.

**Food preparation**

Allison divides evidence of food preparation activities in three main groups: cooking fixtures; movable cooking apparatus (for example braziers and truncated amphorae); and various vessels likely to have been used for food preparation. Large utilitarian bronze and ceramic vessels are most likely cooking vessels. Smaller bowls, jugs, and jars were likely to have been used in food servicing or food storage. Food preparation-utensils were not only found in the rooms they were used for cooking, but also as stored items in cupboards. Although the evidence is limited, apparently there was no pronounced preference for storing food preparation material towards the rear of the house as there was for food-preparation activities (presence of hearths). Such material, as a part of the household wealth, apparently has been stored also in the front area even if it was not used in this part of the house.

**Food storage**

Since organic remains were generally not recorded during excavation, food storage usually could not be verified, with limited exceptions (hazelnuts and fish bones in a vessel from a cupboard). While some of the amphorae recorded in this sample could have been used for water or commercial/industrial purposes, including distribution of foodstuffs outside the house, it is also probable that many of them, as well as other ceramic and glass storage jars, may have served as containers for foodstuffs (liquid and solid) for use within the household.

Evidence for food storage appeared in the front and in the rear of the houses. While this evidence in the front-hall generally consisted of vessels stored away in cupboards, in the rear of the house, the ambulatories of the garden seem to have been one of the main areas for food storage as was the case also with the small decorated rooms off them. Some amphorae may have been associated with building activity or fertilization processes unrelated to normal household consumption (like those filled with lime). A number of vessels with food content may have been placed as ritual offerings. Some of the large vessels found in garden and secondary courtyard areas were possibly for the processing of agricultural produce. It is not possible to ascertain whether

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87 Idem.
88 Idem, 203.
89 Allison 2004, 125-127.
certain bulk storage, as evidenced by the presence of amphorae or other large storage vessels was for foodstuffs. Nor was it possible to ascertain whether it was for household use or use outside the house.\(^90\)

**Food consumption**
Dining furniture and tableware are the most likely evidence for food consumption. Fixed couches or possible evidence of remains of movable ones may indicate areas used for the serving and consumption of food and drink. Vessels likely to indicate the serving and consumption of food take the form of bronze, ceramic, and possibly glass table ware and serving containers such as jugs. Many of the examples of tableware and serving vessels were indeed probably recorded in their place of storage rather than in their place of use (for example in cupboards).\(^91\)

**Sleeping**
The principle finds related with sleeping are evidence for bedding or couches. Generally there does not appear to have been one particularly dominant pattern for the choice of sleeping areas. It is conceivable that sleeping may have taken place in various parts of the house, distributed between front and back areas, and possibly related to gender, age, status, and season.

**Ablutions and personal hygiene**
Much of the evidence for ablutions in Pompeian houses is in the form of fixtures such as latrines, basins and pools, bath complexes, as well as ceramic downpipes that may have been connected with the latrines or ablation areas on the upper floor. Almost half of the latrines were near the front of the house, predominantly in kitchens but also in corridors or as separate rooms off kitchens. Other areas undoubtedly for personal ablutions were pools and bath complexes. There was no direct connection between these installations and latrines, the latter being most associated with kitchen areas. This association might have been made because of drainage systems, but would have considerable impact on social practice. Loose finds that were likely to have been related to personal ablutions consisted of possible toiletries and washing equipment, for example, mirrors, combs, tweezers, strigils, basins and glass bottles. Many examples of glass bottles or basins were not included because it was not possible to assess their likely association with other personal hygiene material. Items of these types were often found in one particular room type and were generally stored in cupboards. In general such material was not found near areas with fixtures for ablutions or for the collection of water. This suggests that water for personal hygiene was brought into the rooms in which this material was found or that the material was stored away in those areas and taken out to appropriate areas for performing ablutions.\(^92\)

**Luxury and leisure**
Without preconceptions about what constitutes luxury, prestige, and leisure activities in a Pompeian house, it is difficult to assess what material would have been associated with these activities. In many ways it may be inappropriate to separate out any such material in this context. For example, many pieces of luxury furniture and vessels were associated with eating or drinking and cannot easily be separated from that category. Therefore, this discussion concerns material that might be classified as having served primarily for display purposes rather than more seemingly functional prestige material, such as that used for lighting or dining. This category therefore includes predominantly large-scale sculpture and furniture, often made of sculpted marble (for example tables, statuary, and fountain fittings) and fixtures (for example marble bases and stands) that had no apparent utilitarian function or whose display qualities seem to surpass any such function. It also includes large bronze vessels, bronze folding tables, beds or couches with bronze and silvered fittings, elaborate lamp stands, decorated silver and bronze vessels, or silver trays supported by statuettes. This material embodied the Roman concept of décor which demonstrated the owners’ cultural and political status. The separation of this material, particularly the sculpture, from material classed as religious may be inappropriate. Most of this display material was recorded in open areas of the house.

Allison also includes smaller-scale material that was likely to have been for luxury and prestige of a more personal kind. This applies particularly to jewellery, stamp seals, and toiletry items whose description

\(^{90}\) Idem; 127-130.
\(^{91}\) Idem, 131-134.
\(^{92}\) Idem, 136-139.
suggests that they were prestigious. It is quite possible that these, and individual pieces of bronze jewellery (for example bracelets), could have been lost items and their distribution is haphazard. Such items are included in the analysis only if more than one was recorded, or if they were in assemblages that suggested they had not been individually lost. These small-scale luxury or prestige items often appeared in cupboards in the front hall and in small closed rooms off the front hall.

A third category includes material that might be associated with leisure, such as gaming and musical equipment. Items associated with leisure such as gaming include dice, knucklebones and small buttons or counters. Musical instruments appear to have consisted of parts of wind instruments and cymbals. As might be expected this material was usually found in its place of storage, mostly in cupboards around the front area of the house. Gaming material was notably found in small containers in association with jewellery and toiletry.93

Religious activities
Identifying material culture associated with religious activities is a complex issue. Some material used in religious activities can be indistinguishable from items in other categories. The material in these categories consists of both fixtures and loose finds. Fixtures include aedicule (household shrines), lararium paintings, and semicircular niches painted with scenes related to the lares. Lararia were mostly situated in courtyard areas or in kitchens. The relation between household shrines and kitchens has been interpreted in the light of the association between food and religion.94 Portable material that could conceivably be associated with religious activities includes movable altars, as well as seashells and statuettes. It might also include animal parts, such as boars' teeth and deer antlers, as found in a cupboard in several houses. Large-scale sculpture, according to the author, appears to have been used primarily for prestige display while small-scale sculpture more often has religious functions. In addition to lares, and heads and busts assumed to have been ancestral portraits, a shrine in one of the houses contained statuettes of Jupiter, Juno, Minerva and Mercury. Another shrine contained an Egyptian statuette and a statuette of Fortuna. A wooden statuette of a young seated male in a shrine in a third house was believed to represent a genius. Other objects with possible religious significance, for example lamps and vessels containing food, have not been included in this analysis because it was not always possible to separate such material from the same types of objects that had more utilitarian functions. Such material was only included when it was found with an altar, a lararium painting or an aedicule.

In general the distribution of this portable material in the house follows a similar pattern to that of the religious fixtures, occurring most frequently in open areas. Sometimes, however it was stored in cupboards in such locations.95

Household production
Household production includes evidence of production activities or bulk storage of this production, either for household use or for distribution outside the dwelling, for example preserving agricultural produce. An industry that seems to have been important to the household of Pompeii is cloth production. Evidence occurred in the form of material used in weaving (loom weights), spinning, needlework and dyeing. Cloth production was a highly visible activity that took place in the most public parts of the houses, mostly the front hall area.

Other household industries for which there was apparent evidence in the contents of these houses was horticulture or agriculture. This evidence consists predominantly of iron tools, such as pruning knives, axes, picks, hoes and shears. These tools seem to have been spread all over the house, although usually in limited numbers. Without more detailed study of the types of tools and their possible uses, it is difficult to interpret this pattern, except to note that these tools may not have been for use in the garden of the house in which they were found but rather for cultivation outside the dwelling.

There is significant evidence that weighing was carried out in these houses. This evidence consists of scales and weights. Some of this material may have been used in food preparation for household consumption. It was largely absent, however, from the kitchens. More probably this equipment may have been related to the control of commodities coming into or leaving the house.

Amphorae, dolia and large glass jars were evidently used for the transportation and storage of commodities in bulk. A few amphorae were discovered with contents that were not original: hazelnuts, building repair material. Sometimes the quantities of vessels suggest they were found outside their place of immediate use. These were often situated in the front hall area or the main garden. The amphorae in the front hall might have been brought there from outside the house for consumption in the house. Alternatively, this pattern may indicate that produce from inside the house was deposited here for distribution outside the house. The fact that

93 Idem, 139-143.
94 Foss 1997.
95 Allison 2004, 143-146.
the *amphorae* were found in the main garden implies that commodities such as garden produce that had been produced or processed here was being stored either for household uses of for distribution outside. In one room of the sample of houses seemingly commercial quantities of ceramic cups and lamps of different sources suggests that the occupants of this house were engaged in some sort of trade in pottery. The associated discovery of raw clay implies that this business may also have involved pottery production. Whether it did or not, there seems to have been little definitive spatial separation between domestic and commercial activities in this house. In another house a unique collection of evidence of industrial activities has been discovered. Assemblages that indicated furniture production, carpentry and metal-working were discovered on the ground floor. On the upper floor material for surgical, pharmaceutical or toilet activities were discovered that seem more extensive than the needs of the house occupants would have required. These floors may have housed a variety of lodgers in different lines of work.

**Conclusion**

What have we learnt from this study of material culture and household activities in Pompeii in relation with the Tien research? Apparently there is a whole range of activities that can potentially leave traces in the form of material culture in waste deposits from households. Therefore it is to be expected that refuse assemblages can be a mix of different activities, not in the least also from industrial activities.

The study of Roman Pompeii gives us an insight into material assemblages as they existed in everyday cultural life. These can be called a ‘life assemblage’. In contrast, on site, from excavations, we recover the ‘death assemblage’, the mixed fragments that relate to life assemblages, but with which, as we have seen, there is no straightforward correlation. Some of the complications are apparent from the above: the question of context, of selection of material for waste disposal, the filtering of waste for recycling (recuperation). Other aspects include the removal of certain wastes for manuring on fields outside towns or on nearby ‘market gardens’ or holdings, perhaps some actually within towns. Another factor is the different rates of turnover of different types of artefact. In respect of the latter one can note that people might take more care with fine decorated cups and beakers which might be curated and last a generation and so would be quite infrequent site finds, whereas cooking pots may be regularly replaced. Hence the ‘death assemblage’ (that is what goes into layers of waste in the ground) could contain many more cooking pots to fine wares: more so in fact than was the actual ratio in the life assemblage. The fact that households produced a mix of different types of refuse is well illustrated by the variation of activities that took place in households, at least in Pompeii. Understanding the relationships between the living assemblage and the death assemblage is one of the challenges facing archaeologists and which is addressed in this thesis.

1.2.2 MATERIAL CULTURE AND RITUALS FOR THE LIVING

1.2.2.1 Gallo-Roman religion in the northwestern provinces

The Gallo-Roman religious culture encompassed a collection of beliefs concerning a metaphysical world which was the domain of ancestors, spirits and gods. This religious culture was constituted by different belief systems from the personal level to the household level, the local level, the regional level (*pagus*), the supra regional level (*civitates*) and the level of the empire. Within these levels different cult communities were formed. Every person composed his/her own set of beliefs, depending on traditions, personal choices, and a minimum of obligatory rules to be followed. Gallo-Roman religious culture was by no means static and was formed gradually throughout the Roman period by selection and redefinition of adopted ideas and goods within their own cultural context and with the creation of new cultural forms. After the integration of our regions in the Roman Empire the ethnic cultural groups with their own belief-systems were gradually organised to form different *civitates*. These *civitates* functioned quasi autonomously with their own magistrates and priests with a total freedom of religion (beyond, that is, what was officially required by the imperial cult). Every *civitas* constituted its own religious calendar, pantheon and rituals.

The religious ideas and practices can mainly be deduced by studying the material culture: through the identification, analysis and comparison of sacred places, through the research of epigraphic sources and iconographic sources and through the research of the practices by identifying and analysing ritual deposits.

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96 Idem, 146-153.
99 Dondin-Payre/Raepsaet-Charlier 2006, VIII-IX.
The subject of Roman religion in the northwestern provinces has gradually gained popularity during the last decades. For a long time Gallo-Roman religion was studied almost exclusively through epigraphic and iconographic sources and by analysing the architecture of temples. More recently ritual practices have been taken into account to study the subject with different foci of interest. An important start of an anthropological approach to pre-Roman tribal societies was made by Roymans, who also included the practice of votive offerings in his research. Derks made an important contribution to the subject of religious practices of the Roman period, not in the least by pointing out the enormous potential of the research of material culture to uncover different belief systems. Derks chose to approach the subject by uncovering regional differences in the material expressions of official cults and their evolution throughout the Roman period. Scheid mainly approached religion in *Germania Inferior* by studying regional differences in epigraphic sources in a detailed way. De Beenhouwer gave yet another perspective on religious practices by his research of the terracotta figurines recovered in the *civitas Tungrorum*. These different approaches, based on different source material give complementary information on religious practices. Epigraphic sources provide information on the gods that were addressed in votive inscriptions and on altars. They also offer an insight on the people involved in these dedications: their social rank and their origin. The research of the cult places, their geographical position, their layout, their architecture and the related iconographical and epigraphic sources give valuable input on the status of the sanctuary, the visitors and the residing god(s). The research of De Beenhouwer has been especially revealing in demonstrating the relatively high number of statuettes that were found in settlement contexts, compared to cemeteries and temple zones and in the types of statuettes selected. His research thus emphasised the importance of the practice of ritual deposition within the domains in which people lived, worked and recreated; in other words their lived environments.

1.2.2.2 Gallo-Roman religion in the *civitas Tungrorum*

The inhabitants of the city, the *vici*, the villas and the farms of the *civitas Tungrorum* had their own system of beliefs about the metaphysical world of gods, ancestors and spirits. Some general remarks and ideas on certain aspects of religion in the *civitas* can be made based on previous research. These ideas can be used as a general framework for the research on the ritual activities in the small town of Tienen.

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100 Roymans 1990, 49-90.  
102 Scheid 2006.  
103 De Beenhouwer 2005.
Important information on the gods that were worshipped can be gained from the study of inscriptions. In the civitas Tungrorum 32 dedications have been found in which 26 gods were mentioned. Within this collection 4 were local gods. No main deity could be determined for the civitas although it was concluded that Jupiter Optimus Maximus is very well represented. In Tongeren Jupiter Optimus Maximus, the Genius Municiippii Tungrorum, Fortuna, Hercules Magusanus, Jupiter Dolichenus, Hercules (?) and Volcanus were mentioned. In Jeuk 4 dedications for Hercules and one for Alcmena were recorded. In Sint-Huibrechts-Hern a dedication to Vihansa was discovered and in Vliermaal Jupiter Optimus Maximus was mentioned. In Tienen a bronze votive tablet was dedicated to Deus Invictus Mithras. It is remarkable that in comparison with the neighbouring civitates the Matrones are completely absent from the inscriptions. This may be explained by their being particularly associated with the Roman military and veterans. Derks has shown that the majority of inscriptions in our regions are formulations from votive practices. This means the votum formed an important aspect of the religious life of the inhabitants of our regions. The votum always implies a material offering.

It is not surprising, therefore, that we regularly discover pits with ritual depositions on Roman sites. Some aspects of the organized cults in the civitas can be deduced from the research on temples. The only known Roman-style temple of the civitas is that discovered in Tongeren. In Grobbendonk a temple complex was present with several Gallo-Roman temples. Gallo-Roman temples are often present near small towns like in the case of Kontich. Liberchies, Vervoz, Sauvenière (Baudect) and Namur. In Kontich the Gallo-Roman temple with porticus was situated in the centre of the vicus. In the surroundings of the temple fragments of statuettes depicting Minerva and Venus were discovered. In Hofstade a temple without porticus was laid out within a trapezium shaped temenos. Within the temenos two pits with ritual depositions were excavated containing a large amount of sigillata, bronze objects and statuettes. Some temples were incorporated in the domains of villa complexes, like in the case of Anthée. Isolated temple complexes existed in Hofstade. Foy, Furnaux, Grand-Hallet, Matagne-la-Grande, Matagne-la-Petite, Mellet, Tavigny, Vodéée and Fontaine-Valmont. In Tienen a mitraeum was situated in the southwestern periphery of the town. In the civitas open air cult places were discovered in Wijnegem and probably also in Tienen. These open air cult places were in active use mainly in the 1st century AD.

The research of terracotta statues and their context revealed important information on ritual activities in the settlements of the civitas Tungrorum. De Beenhouwer has shown that terracotta figurines were often discovered in industrial zones of settlements. This seems to be the case for Tienen, Tongeren, Destelbergen (Eenbeekheide), Harelbeke (Halleberg), Merendree (Molenkouter) and for the castellum of Oudenburg. A detailed research of the contents of these contexts seems necessary. A possible explanation for the presence of statuettes in industrial quarters can be sought in the fact that craft was a basis of subsistence for many households in Roman urban settlements. It seems logical that with a shift from agricultural to craft activities in settlements also a shift of religious activities towards industrial activities took place. The large quantities of terracotta statuettes discovered in pits with ritual contents are also possibly revealing the specific dieties involved in the ritual. In Asse (Kalkoven) a pit with 232 fragments of a series of 45 statuettes was recorded. The refitting proved that the fragments from the top layer to the bottom matched. The terracotta’s mostly represent horses, two horsemen, a man between two horses, three Venus figures and a dog. In Harelbeke (Halleberg) a ritual pit was discovered with a large amount of fragmented statuettes of mainly Venus and horses, but also a horseman, a Minerva, a matrix, a Cybele, a Juno, a Diana, a thorn-puller, a sitting man with rabbits, a sitting dog, a bull, a cockerel and a pigeon. No further information is available on the features or contents of this pit.
1.2.2.3 Current directions in research on ritual depositions

The aim of this section is to summarize the state of knowledge and interpretation of ritual depositions and to reflect on the reasons why these special deposits have been identified so rarely in the past. An analysis of these observations provides the theoretical basis for some approaches taken in this study. It goes without saying that the subject of ritual depositions constitutes an integral part of Gallo-Roman religion. The importance of studying ritual depositions in settlement contexts is twofold. First of all it is crucial for the understanding of the culture and practices of the people who lived in the settlements we study. Secondly it provides an insight of major importance into Gallo-Roman religion that is inaccessible by other sources.

Formal ritual depositions have only recently been recognized in Roman settlement contexts. In consequence no substantive conceptual framework or intellectual discussion existed in this sphere until recent years. This was despite the ‘strange’ nature of groups of finds frequently excavated on Roman period settlements through the 20th century and the occasional enlightened narrative such as that of Merrifield. There is no general consensus as to what these ritual depositions are, how they are structured and what their meaning is. This should be no surprise because religious activities in a town clearly consist of many diverse processes, varied combinations of which result in quite dissimilar deposits, often closely resembling waste deposits. Possibly also excavation practices and post-excavation research methodologies were, and still are, not suitable to sufficiently identify and record the details of ritual depositions or facilitate their study at the post-excavation stage. The consequence of not identifying ritual depositions in settlement contexts is mainly that a false impression of religion as segregated from secular life has been created and a large part of the ancient belief system thereby ignored.

It should not come as a surprise that the practice of ritual deposition in settlement contexts is a not well-known and an understudied subject if we consider that strikingly ritual depositions at temple complexes have themselves only recently come under the close attention of researchers. During the 19th and a large part of the 20th century the material culture of temple complexes in the Mediterranean was mainly studied to answer questions about chronology and art historical aspects of the cults. The large quantities of seemingly uninteresting ceramic sherds and animal bones, if collected and recorded at all, were often not studied and mostly remained unpublished. As a consequence ritual depositions have hardly contributed to present knowledge of Roman religious practices inside cult complexes. From the 1980s onwards a change in the approach to the research of temple sites can be noticed and more attention was paid to sacrificial practices. Gradually also the context of the votive gifts and their connection to ritual activities were taken into consideration. Next to the votive practice also the relics of ritual meals became a subject of research.

The acute need for detailed research of ritual deposits inside temple domains has been stressed in a series of colloquia in the last decade. The conference “Roman Mithraism: the evidence of the small finds” organised in November 2001 in Tienen (Belgium) was first in a row. The main aim of the conference was to compare the finds assemblages of different mithraea to look for the elements of unity and diversity in material culture and ritual practices of the Mithras cult. The main conclusion was that such a comparison has a high potential for identifying common cult practices but that the finds of most of the excavated mithraea had not yet been studied in a sufficiently detailed way (fig. 1.5).

In October 2002 the Round Table “Archéologie du sacrifice animal en Gaule Romaine. Rituels et pratiques alimentaires” was organised by l’Année épigraphique and CNRS. The main aim was to evaluate the potential of detailed research of animal bones discovered at temple complexes, settlement contexts and cemeteries in Gaul to study the practice of animal sacrifice and consumption. This comparison of bone assemblages between different cultural contexts is useful because in Gallo-Roman society where the gods live amongst the people and assist them permanently, there are multiple occasions for sacrificing, interweaving the daily life of people and conditioning also the alimentary habits. People sacrificed in the sanctuaries but also in houses, at cross roads and on tombs. As a consequence the research of ritual practices cannot be limited to temple complexes only. Therefore it was concluded that it is the whole of settlements, cemeteries and temple sites that have to be studied from a ritual point of view to get a grip on ritual sacrifice and alimentary customs.
In April 2008 the conference “Rituelle Deponierungen in Heiligtümern der hellenistisch-römischen Welt” was organised in Mainz to exchange information on recent well-studied ritual contexts, inside and outside temple areas. In this conference the need for a methodology to study and compare ritual depositions was highlighted.

As shown by the above-mentioned conferences, evidence for Roman period ritual deposition associated with cult buildings is coming to light and (re-)considered only fairly recently. Research into ritual behaviour through the study of the nature of special deposits in settlement areas of the Roman period is becoming gradually accepted and more common, but only since the millennium. This new interest is stimulated by a series of intertwined impulses that all originated in the 1980s but developed in the 1990s. First of all there is the aim and optimism of a group of archaeologists to approach cultural aspects of Gallo-Roman society, including religion, from archaeological sources. Second is the growing awareness that the diversity of expressions in ritual behaviour as evidenced in the archaeological records from the Iron Age is clearly reflected also in Roman ritual behaviour. Thirdly specialists in archaeozoology, started to detect exceptional features in assemblages from settlement areas. Fourth and equally essential is the development of large-scale excavations which enable an informed evaluation of contexts including special deposits, by comparing them with many other features of a site. This enabled field archaeologists to recognize ritual deposits during the excavation. These fairly recent developments have stimulated theoretical debate on ritual depositions on settlement sites. It is apparent that they are present in civitas capitals, small towns, villas and “native” rural settlements all over the northwest of the Roman empire.

In this theoretical debate taking shape from the colloquia and in articles, specialists have been looking for a suitable terminology to define ritual practices, for definitions of ritual and for criteria to distinguish ritual activities from profane ones. This theoretical debate has been crucial for the development of this special topic within Roman archaeology, to define the subject and to focus on the main question and problems for the development of the subject. On the other hand more fundamental research has to be done before the criteria can be set, the topic can be defined and the suitable terminology can be established.

A definition of ritual in the Gallo-Roman period can only be made after detailed research into the characteristics of all kinds of depositions on temple areas, at cemeteries, in settlements and in other places of the landscape (e.g. sources, rivers, crossroads). Since formal ritual depositions have only recently been recognized in Roman settlement contexts, there is no general consensus of what these ritual depositions are, how they are structured and what their meaning was. No definition of ritual can be universally applicable because its meaning changes as the context in which it is used changes. In Gallo–Roman society where the gods live amongst the people and assist them permanently, every person is likely to have had his/her own set of beliefs and performed rituals according to their choice, piety, fortune or misfortune in life and according to obligatory rules. Since there are no formal written sources on rituals in Gallo-Roman society and no detailed research on the phenomenon it seems wise not to define categories of ritual. If we try to define categories prior to proper research the risk exists that we would exclude certain categories beforehand. Also the discussion as to whether ritual actions can be distinguished from profane actions often seems theoretical and semantic rather than based on practical research for the Roman period. One can assume that the difference between a ritual and a profane action lies in the intention of the actor who is or is not addressing gods, ancestors, spirits or other supra-natural powers during his actions. The degree to which ritual action can be identified in the future will depend at least partly on the research methodology of excavations and the research of the excavated material culture.

It goes without saying that ritual actions have an impact on economy. The information we have on material remains on temple areas, cemeteries and ritual depositions in settlement areas are potentially very informative on amounts and selections of goods consumed in ritual contexts in Roman times. Also on this topic further research is necessary before declarations can be made.

130 Fulford 2001, 199.
131 Idem.
Another interesting topic is the distinction between public and private cults. The question remains where we can situate the ritual depositions we excavate in the settlements. Within private cult some scholars try to differentiate between ritual and magical acts. Since we discover amulets and curse tablets in our regions, we can assume that the practice of magic will not have been absent from the daily life of the people of our regions. Recent research has shown that epigraphic evidence on ceramics often shows anepigraphical signs, many of which are not just fantasy, but originate from a generally known repertoire of signs, mostly in the sphere of magic. Magic has always tried to locate the secret forces in nature (physis), their sympathies and antipathies. Magic can be considered as ‘the appropriation of ritual power for personal ends’. We can expect to discover material remains of magic in our settlements and cemeteries (fig. 1.6).

Previous debate highlights the need for developing a methodology to study ritual deposits and other deposits in more detail. In search of this methodology, we will look at some influential research that stimulated progress and innovation on this subject.

1.2.2.4 A research methodology for studying Roman ritual depositions

In Gallo-Roman society there are multiple occasions for sacrificing in settlements, at cemeteries and on temple sites. The issues summarized in the previous section raise the need for a thorough contextual study, bringing together all categories of finds normally considered in isolation and comparing finds assemblages between the different cultural contexts. By comparing different categories of evidence, any similarities or patterns that exist between compositions of animal remains, other finds and human remains can be assessed. If similarities exist, then explanations must be made through a consideration of all the categories of material. Only through such a study, can the question of the identification of ritual deposits be approached, and the large quantities of data available be harnessed to allow for any major patterns to be demonstrated statistically.

Hill developed a methodology to get a fuller understanding of the nature and origins of the archaeological record of Iron Age sites. One of the key questions of his research was whether the assemblages (animal bone and fabricated objects) reflected the actual proportions and numbers consumed in the past or are they influenced by structured, ritual actions. Inspired by detailed taphonomic studies of animal bones by

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133 Thomassen 1999, 55-66.
134 Van Andringa 2008, 27.
135 Cunliffe 1992, 77.
Maltby and others, Hill had realized that a thoughtful and sophisticated approach was needed in order to un-pick and thereby comprehend the complex archaeological record of Iron Age Wessex (which was seen at the time as a key area for understanding later prehistoric Britain) based on a detailed analysis of the assemblages and their contexts.

Clarke showed that deposition was strongly patterned within the deeper shafts of the Roman military complex at Newstead (see Section 1.2.1). Statistical analysis suggested that the most significant artefacts were specialist religious equipment, weapons and armour, equestrian equipment, bronze and ceramic vessels and querns. The most significant skeletal remains were found to be human, dog, horse, cattle and deer. According to Clarke the original archaeological recording was too crude for more subtle patterns to be discerned.\(^{137}\) The recognition of this pattern of ritual disposal at Newstead therefore has important implications for the future study of finds assemblages and Roman period society in general. The striking aspect of the research, as conducted and presented in the 1990s, was the profoundly structured nature of the deposits at this Roman site, something that had been overlooked there and elsewhere as the then conventional view of ‘rational Roman actors’ had prevailed: within this view non-temple/shrine sites and deposits (that is to say of ‘everyday Roman sites’) were not excepted to have symbolic and ritual material. The implication now was that a new way of looking at site material was evidently called for.

Martin Pitts developed an approach for the interrogation of excavated pottery assemblages from archaeological sites, as a means of providing insights into themes such as social practice and identity at the Late Iron Age to Roman period site of Elms Farm, Heybridge, Essex. The contents and contexts of multiple pottery assemblages from this site were analyzed with a view to shedding light on patterns of food consumption and a few contexts with evidence from feasting could be identified.\(^{138}\) Pitts seems equivocal as to the interpretation of the remains of these feasts to be ritual or not.\(^{139}\) The evidence of the remains of feasts is often identified as non-ritual. The deliberate breakage of cooking and table ware and other objects used in the context of the feast and the subsequent burial of the remains, however, seem to contradict that point of view.

Maaike Groot studied the animal bone assemblages from the archaeological features from Tiel-Passewaaij, a rural settlement and cemetery in the Eastern Dutch River Area. She investigated the use of animals in funerary and other rituals, as well as the role of livestock in economy.\(^{140}\)

All these studies are innovative in exploring techniques for contextual analysis to gain more information on ritual activities from detailed research of assemblages, found together within an archaeological context. Without an exception these studies revealed important information on religious practices, previously believed inaccessible by archaeological research. This extra information is provided by the context of discovery. Unfortunately in the above described cases the analysis of the associated material in the assemblages is often still missing.\(^{141}\) In the research project that is the subject of this dissertation we will further explore and test the methodology of contextual analysis with regard to the southwestern periphery and the cemetery of the Roman vicus of Tienen. In section 3.2 we will describe a number of criteria that could be indicative of the ritual nature of depositions. It goes without saying that only if combinations of these criteria are valid, one can conclude that a deposition was most probably ritual.

### 1.2.3 MATERIAL CULTURE AND RITUALS FOR THE DEAD

#### 1.2.3.1 Funerary practice in the civitas Tungrorum

Burial practices in the civitas Tungrorum were dynamic and regionally varied. Apart from the well known tumuli, cemeteries were excavated near the civitas capital, the vici, villa complexes, but they also occur more isolated in the landscape. Cremation was the predominant form of disposal until the end of the 3rd century. The deceased was placed, probably dressed, on the pyre, sometimes on a funerary couch. The deceased was accompanied on the pyre by a varying assemblage of containers with food and drink, complete or parts of animals, jewellery, items for leisure or of the professional life of the deceased. The ceremonies that took place before and after the cremation and the actual funeral are difficult for us to now grasp. Most of the information has to be gained from the graves and if conserved also from the pyre remains. In the 1st and 2nd century, and in the 3rd as we will show in chapter 4, a very common burial custom in the civitas was to collect the remains of the funerary pyre and place them in a pit that was backfilled subsequently with soil often containing a mix of sherds

\(^{137}\) Clarke 2000.

\(^{138}\) Pitts 2007a.

\(^{139}\) The full report on this site, excavated between 1993-5 (lead by Mark Atkinson) is still awaited, wherein a detailed presentation of the evidence and an interpretation will be available for scrutiny.

\(^{140}\) Groot 2008.

\(^{141}\) Lepetz/Van Andringa 2008, 17.
and ashes (possibly from (pre-)funerary meals or sacrifices). In the middle of the 1st century another funerary practice appeared in the civitas. In this practice (a part of) the cremated bones were collected from the pyre and placed (mostly in a receptacle) to be buried, sometimes accompanied by one or more containers with food and drink and other objects, in a pit especially created for this purpose. Often the soil to fill in the graves in this type of burial is quite “clean” and does not contain sherds and ashes. The fact that food and drink was often included in the grave, together with the characteristic that the soil to backfill this type of grave was unmixed clearly indicates that the burial ceremony that was taking place at the grave was very different from the above described funerary rituals. Cremation burial customs in the civitas, however, can consist of various combinations of the different practices described above depending on the choices of those responsible for the funeral. These choices were often influenced by the customs typical of the region and the period, but in some cases they may also have been determined by the circumstances of death or the wishes of the deceased. Throughout the Roman period inhumation burial was also practiced occasionally in the cemeteries (see section 4). It was not until the end of the 3rd century, however, that inhumation probably became the prevailing practice.

The cemetery complexes of the civitas capital, Tongeren, cover a vast area in the north-eastern and southwestern peripheries of the town. Unfortunately many parts were excavated in the 18th, 19th and first half of the 20th century when standards of grave recording were very poor. Consequently much of the potential information is lost. Since the 1980s parts of an inhumation cemetery with possibly early Christian burials were uncovered in the northeastern sector of the town. Several parts of the southwestern cemetery were excavated of which all but one final reports are awaited. This publication gives valuable insights into the complex organisation of the cemetery. The oldest part was enclosed and accessible by a monumental gate. In a later phase the cemetery was enlarged. In this cemetery different types of cremation burials were present next to inhumations. Several burials were marked by small stone monuments. Other burials were enclosed by round or square ditches. In one case a small mound covered the remains of a grave and an ustrinum. A remarkable feature of this graveyard is a perpendicular ditch system, interpreted by the excavator as flower beds. Not far from this cemetery 7 people and several horses were buried at the bottom of a round built stone structure in the middle of the 3rd century. The importance of the horse in the funerary ritual of the vicus of Tienen will become clear in chapters 4 and 5.

Few cemeteries belonging to the vici or small towns of the civitas have been excavated completely. An exception is the southwestern cemetery of the vicus of Tienen. Most of the cemeteries of the civitas show a mix of different types of cremation burials combined with some inhumations. This seems to have been the case in Grobbendonk. From the vicus of Asse a few urn burials were discovered in the western periphery and possibly two graves containing remains of the pyre were excavated in the northern outskirts. In Amay, situated in the southern part of the civitas, one of the graves of the cemetery was dressed with stone plates. In Clavier-Vervoort a small family cemetery consisted of six burials organised around a stone funerary monument. In Jupille and Theux, a mix of burial types, typical for the civitas was discovered.

In the vicus of Tienen a large cemetery of four hectares with more than 1400 graves was excavated at Grijpenveld, at the southwestern periphery of the town. The cemetery was bordered at the northern and eastern side by a ditch. Many of the graves were heavily eroded. The cemetery contained a mix of all types of cremation and inhumation burials with some exceptional features like, for example, a combination of a bustum with an inhumation and an urn grave in one pit, or an inhumation in a large pit with a hearth on top of it. Some inhumation burials were discovered in the bottom layers of the eastern delimitation ditch of the cemetery. These most probably belong to the earliest phase of the graveyard and may very well be interpreted as ‘founders’ graves. This cemetery will be elaborated on in the fourth chapter of this thesis.

Small cemeteries connected with rural settlements seem to be influenced more by local or regional traditions. Cemeteries in the northeastern part of the civitas, in particular, often contain a high proportion of burials with remains of the pyre collected in a pit. These cemeteries are very similar to the burials studied by Hiddink in Weert. This was the case for the burials discovered in As, Gruitrode, Hamont (gemeente Hamont-

142 Vanvinckenroye 1982; Vanderhoeven et al. 1995.
143 Vanvinckenroye 1984.
144 Idem, 213.
145 Idem, 236.
146 Idem, 216.
147 Janssens 1975, 52.
148 Janssens 1966; Verbeeck, in prep.
149 Schelten 1981, 31–44.
150 pers. comm. D. Pauwels.
151 Gerritsen 2003, 194.
152 Hiddink 2003.
Achel), Maaseik, Ophoven (gemeente Kinrooi) and Overpelt. In Wijslingen – Plokre (gemeente Meeuwen-Gruitrode) the burials can be dated in the Late Iron Age and beginning of the Roman period. Here several square burial enclosures sometimes with 4 post constructions were aligned next to a larger rectangular structure.

In the Early Roman period groups of square and circular ditched barrows were laid out in the sandy region of Antwerp, in the northern part of the province. The rural cemetery of Weelde (Schootseweg) contained over thirty square and circular ditches, on the location of a Bronze Age burial mound. In Ravels two similar cemeteries with mostly round ditches also contained different kinds of post structures. This burial tradition belongs to a larger region that also includes the cemetery of Nijmegen-Hatert and that at Tiel-Passeweaij. Although more typical for this northern region of the civitas, round and square enclosures also appear occasionally on other cemeteries as in Tienen and Tongeren. The ditched barrows are probably a continuation or revitalisation of Iron Age traditions.

In the cemeteries of Tongeren and Tienen occasionally horses were deposited in pits/graves with or without human remains. The presence of burnt and unburnt horse bones in cemeteries seems to be a quite common element in some cemeteries of Northern Gaul. Groot shows that the absence of horses in older excavations of cemeteries rather reflects excavation strategy as well as the state of preservation of bone. This interesting phenomenon certainly deserves further investigation.

Last but not least we briefly reflect on the most famous type of burial in the civitas: the tumulus burials. At present around 344 tumuli are known in the civitas. These burial mounds are situated next to primary or secondary roads or are more isolated in the landscape, alone or in groups up to a maximum of five. The earliest tumuli appear after the middle of the Flavian period. Most of the tumuli were erected in the second half of the 2nd century. Tumuli were no longer constructed after the middle of the 3rd century. There are different types of burials under the mound varying from a stone or wooden funerary chamber, constructed at varying levels of depth under the ground. A variety of often valuable grave gifts were placed inside or on top of the funerary chamber. Most commonly the furniture within a grave chamber is constituted by a service for eating and drinking, objects for ablutions, toilette instruments, furniture, together with utensils for the preparation of food.

In the tumuli from the end of the 1st century AD and the first half of the 2nd century the furniture mostly consists of ceramic receptacles, very often cups and plates in samian ware. In the second half of the 2nd century a rise in receptacles in metal destined for the preparation and serving of wine as well as an augmentation in glass table ware can be observed. At the end of the 2nd and during the 3rd century the drinking service predominates while the assemblage of cups and plates are replaced by one big plate. The deposits situated on top of the burial chamber unfortunately remain unstudied in most of the older excavations. Some exceptions with regard to objects reported on top of the grave chamber are seven lamps and 7 incense burners at Warnant-Dreye, jugs at Gutshoven, and a service for ablutions at Esch. In the layer above the grave chamber of the tumulus of Braives some legs of piglets and in the case of Overhespen remains of goats are reported. On top of the tumulus of Tienen, Grijpenveld a young woman, a horse, dogs and a variety of food and drink containers were laid on top of the funerary chamber (see section 4.3.4). Except in the case of the tumulus of Tienen, though, the content of the layer on top of the funerary chamber has never been sieved out or studied in detail.

**Human remains in settlement contexts**

The presence of human remains in structures within settlements has attracted much scholarly attention through the last decades. In the civitas Tungrorum the practice is present but not very well studied. In a well in Elewijt...
fragments of two human skulls were discovered. Human remains were also deposited in several settlement contexts in Tongeren and in Tienen. The meaning of the presence of human remains inside the *vicus* of Tienen will be a topic in this study and elaborated on in the third chapter (3.2 and 3.3) of this thesis.

### 1.2.3.2 Current directions of research into funerary practices

Apart from a series of common points like the cremation of the dead and the burning of gifts on the pyre, every cemetery differs from other cemeteries in diverse ways. Due to the lack of detailed research reports only the most obvious and visible differences are often described. These differences mainly concern the presence or absence and the types of delimitation structures, the general grave type and the composition of the (complete) burial goods (e.g. ceramics, fibulae, coins and animal bone). Especially in the early records of excavated cemeteries the emphasis tended heavily towards the richly furnished burials at the expense of the unfurnished. Incomplete objects such as ceramics or glass and animal bone were often not retrieved during excavation or remained unstudied or not published. This archaeological practice is problematic because these fragments can represent objects that were placed on the funerary pyre or that were used during meals or other ceremonial practices forming an integral part of the death rituals.

In the past, few burials were sampled via sieving or sieved completely. Recent research has shown that only when all graves are recorded with the same attention to detail, relative proportions of furnished and unfurnished graves can be accurately established and the scope of furnishing be seen in perspective. Advances in attention to ‘on site’ information recovery should be balanced by equally careful structuring of data and a clear appreciation of the aims and methods of analysis. This is essential if the research potential of funerary structures is to be fully realised.

In this section we will show some fascinating examples of how progress has been made during the last few years by the detailed research of different find categories in their specific contexts within cemeteries. Recently Weekes has advocated an approach to cremation cemeteries of the period whereby greater attention is paid to the careful excavation of the environments of cremation burials in order to increase the probability of gathering more evidence of the cremation process. This outline strategy is all the more conspicuous for its novelty, although the excavation of some sites such as that at the Iron Age complex at Westhampnett in West Sussex has illustrated the potential. The last decades have seen spectacular new information gained from the research on human remains, animal bone and botanical remains. Surprisingly enough the methodology of research on ceramic assemblages from graves has not kept pace with this progress.

Before concentrating on a more detailed research of specific cemeteries we will show the conclusions of a synthetic and comprehensive research by Hiddink who studied funerary practices of the Gallo-Roman community in the Maas-Demer-Scheldt area. In this area, which roughly coincides with the northern half of the *civitas* Tungorum, over 400 cemeteries were inventoried, however, few had been studied and published according to scientific standards. Comparison of information that can be gained on a detailed level of the finds assemblages was therefore not possible. The most important conclusion, based on the available evidence, was that funerary practices were rather unique according to their geographical and chronological context. According to Hiddink the local character and variation of the funerary rituals make it impossible to measure vertical social stratification within the cemeteries. Therefore it is considered pointless to compare graves within a cemetery as well as between different cemeteries for this purpose. The author argues that the local grave rituals are the result of the autonomy and choice that local communities and families had to shape their death rituals and represent more than a series of random formation processes. The ‘function’ of the rituals, reflected in the composition of the grave goods, was certainly not to give a direct reflection of who the deceased was during his/her life. Hiddink also showed that the information retrieved from cemeteries can hardly be used to study any ‘romanisation’ processes. Although changes appear in the cemeteries over time, the local characteristics often seem to be persistent. The most visible changes appear in the set of gifts in the grave. The author contended that these changes are probably only partly a consequence of processes of romanisation because the influence of Mediterranean ideas about death and afterlife are hardly perceptible in the archaeological record of the graves. Hiddink argues that the structure of the graves is not influenced much by the Roman culture while the material culture does change fundamentally. The author claims that changes in material culture took place in certain

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174 Hiddink 2003, 62.
aspects of life but not in the world of ideas. This is an interesting theory, because the question remains how we can determine a change in the world of ideas of the people if not based on a change in material culture and practices. We will examine this interesting theory further by detailed research of the composition of the cemetery assemblages of the southwestern cemetery of the vicus of Tienen throughout the Roman period in chapter 4. The idea of this research is that a change in practice can reflect a change in the world of ideas. Although the death rituals were not always meant to reflect the social position of the deceased, we can assume that they mostly did fulfill a social and/or ideological function. The cremation, the burial and the funerary meal were means of ritual communication both within the local communities and with the supra-natural.

The overall rituals carried out after a person died, are difficult to grasp partly because not all the objects used ended up in the grave or are badly conserved, and partly because few of the cemeteries are studied and published completely. Hiddink claims that the totality of the finds potentially contains important information on various aspects of the funerary ritual. During the last decade detailed analysis of different categories of finds from cemetery assemblages indeed fulfilled the great expectations of offering valuable and unique insights into funerary ritual. Recent research of Maaike Groot on the animal bone assemblages from the cemetery of Tiel-Passewaaij shows the huge potential of detailed research on the finds from the cemetery assemblages for funerary ritual. Animals played an important role in funerary ritual. The complexity of funerary ritual requires the separated analysis of animal bones from different contexts within the cemetery: cremation graves, grave ditches, ceremonial pits, animal burials and animal bones that were found on the original ground surface. In her detailed analysis, Groot showed that different animals were used for different parts of the funerary ritual. Remains of pig and chicken were placed on the funerary pyre, cremated with the dead and buried with the rest of the cremated remains. These two species accounted for most of the animal bones found in grave pits; sheep was found as well, but in smaller numbers. The scarcity of chicken bones among settlement refuse suggests that the use of these species may have been restricted mainly to funerary ritual. While pig, chicken and sheep bones were mostly burnt and found in grave pits, horse and cattle bones were found unburnt, not in grave pits, but in grave ditches and on the original ground surface. Horse and cattle were used in post-burial rituals, when body parts of these species, especially skulls, were probably displayed on the burial mound.

Another special category of finds from graves are the botanical remains. Apart from different kinds of objects like pottery and animal products, plant foodstuffs formed an important component of the grave goods. As cremation was the most frequent funeral practice in our region at the time, there exists a fair chance of the botanical part of the offerings that ended up on the funerary pyre being preserved by charring. Until recently little research on the subject has been done within the civitas. Cooremans studied the charred botanical remains of a sample of the graves of the cemeteries at Tienen and Tongeren, both situated in the central part of the civitas. To show the huge potential of the research of these remains for the understanding of funerary rituals, the results are presented in particular detail below. In the cremation graves of these cemeteries, ashes and other remains collected from burnt-out pyres were deposited after cremations had taken place at the so-called ustrina. Therefore it can be assumed that not all the material was collected and that remains of different cremations may have become mixed up. However a few bustum graves, where cremation took place in situ in or above a pit, were discovered as well. In contrast to the graves containing secondary deposits, in bustum graves there is a fair possibility of recovering nearly all the material which became charred during the burning of the pyre, including offerings, pyre goods and possibly a small part of the nearby vegetation. One of the objectives of the research was to find out whether these remains contained botanical remains of ritual offerings or funerary meals. A further purpose was to determine whether differences existed between the botanical spectra from both cemeteries. In total, 1,523 samples from Tienen and 270 from Tongeren have been screened for the presence of seeds and fruits.

In Tongeren about 40% of the samples did not contain any botanical material at all. Wild taxa were found quite regularly but their numbers were usually low. A few charred seeds from taxa typical of grassland and disturbed places such as various Poaceae (grasses) and Polygonum aviculare (knotgrass) were present. Remains of food plants were the most important component. Cereal grains appeared regularly but also in rather small numbers. Hordeum vulgare (hulled barley) and Triticum spelta/dicoccum (hulled wheats, spelt and/or emmer) were most common. Remnants of fruits and nuts were hardly represented. Barely a few remains of Corylus avellana (hazelnut), Juglans regia (walnut), Prunus sp. (plums, in the widest sense) and Sambucus ebulus (danewort) were recovered. Pulses, in particular Lens culinaris (lentil) and Vicia faba (Celtic bean), accompanied by a little Pisum sativum (pea) and Vicia ervilia (bitter vetch), were undoubtedly the most

175 Hiddink 2003, 65.
176 Hiddink 2003, 65.
177 Hiddink 2003, 65.
179 Cooremans 2008.
180 Kreuz 2000; Bechert 1980.
important component. They were found in nearly 75% of all samples containing botanical material. Some of the samples contained so-called amorphous fragments that can be attributed to some kind of processed food, like bread, cake or porridge. Many, though, had a different structure and may be overheated, molten fragments of cereals, fragments of carbonised fruit flesh or charred parenchyma. The contents of the single bustum grave, dating to the end of the 1st to the beginning of the 2nd century was most outstanding. The remains were not evenly spread but concentrated in the assumed region of the head of the deceased. \textsuperscript{180} The assemblage consisted mainly of lentils and to a lesser extent Celtic bean with an admixture of bitter vetch and pea.

In Tienen, as many as 75% of the samples yielded no botanical material at all. Once more, wild taxa were rare, with mainly plants characteristic of arable fields and disturbed places such as *Vicia hirsuta/tetrasperma* (vetches) and knotgrass. In one of the samples a charred stem tuber of *Arrhenatherum elatius ssp. bulbosus* (oat-grass) was found. It is possible, though, that more of these remains were present but not recognised as such. Oat-grass has already been reported from other Gallo-Roman burial sites. \textsuperscript{181} It is a species of fallow land, and grows in the vicinity of roads and in meadows and thus may have been part of the local vegetation at the cremation site. It may have been used as kindling material, but it cannot be ruled out that it was used for its symbolic value as suggested by Viklund. \textsuperscript{183} Food plants again made up the most important component, although the ratio of the various classes differs from that at Tongeren. Cereals, fruits and nuts appeared with the same frequency in 43% of the samples, while pulses were somewhat less common, appearing in 34% of the samples. Hulled barley, hulled wheat, lentil and to a lesser extent Celtic bean were the main species. Pulses have always been known to be very nutritious, high in protein and were commonly used in Roman cooking and they may have been given to sustain the dead in their journey to the afterlife. Celtic beans are said to have held religious and magical significance in Roman civilisation and were commonly eaten at funerals. \textsuperscript{184} Apart from falling apart into two cotyledons or being fragmented, they did not appear to have been cooked. Hence it may very well be that they were deposited on the pyre raw or dried. In the category of the fruit and nuts, hazelnut, plums and danewort appeared quite regularly. Corylus avellana (hazel) belongs to the gathered species. The fragmentation of the nutshells may be the result of human intervention meaning that the nuts were most probably consumed. In contrast to the situation in Tongeren, some of the samples did not so much attract the attention by higher densities, but by the presence of fruit, among which were some less commonly found types. Indigenous gathered taxa like *Cornus sanguinea* (dogwood), *Crataegus monogyna* and *C. laevigata* (hawthorn and midland hawthorn) and danewort as well as imported, cultivated species namely *Olea europaea* (olive), *Vitis vinifera* (grape), *Juglans regia* (walnut), *Pyrus communis* (pear) and cultivated plums were recognised, be it in small quantities. Apart from dogwood and danewort, most of the taxa appear regularly in Gallo-Roman cemeteries. But both dogwood and danewort can also be regarded as wild plants as they were usually not eaten. The berries of dogwood are bitter and slightly poisonous but the plant may have been used otherwise, for example for the extraction of oil. Likewise, danewort does not seem to be the most obvious grave gift, although it has previously been found in burial contexts. Whether it was used as food, for its medicinal properties or perhaps for its magical powers is not clear. \textsuperscript{185} Apart from arable weeds, wild plants from disturbed places and meadows were also present. These may derive from dried hay and straw used as tinder for lighting the pyre or they could reflect part of the local vegetation at the cremation site.\textsuperscript{186} Rather than suggesting the season of burial, the presence of the wild plants probably illustrates that cemeteries were apparently not very well cared for.

Fragments of fruit flesh of cultivated plums were relatively well represented, with part of the fruit flesh sometimes still attached to the fruit stone. Apart from fruit flesh, fragments of bread, porridge, parenchyma and possibly plant ashes were also occasionally present. The pips and stones from the fruits on the other hand could reflect waste thrown away after a funerary meal at the cemetery. Remarkably, the only *bustum* in Tienen (1st century AD) containing a fair amount of botanical material showed a completely atypical spectrum with a total absence of pulses and the somewhat unexpected presence of *Panicum miliaceum* (Millett). The occurrence of Millett is all the more remarkable because this crop based on results from the settlements at Tongeren and Tienen seems to lose importance during the Roman period. One can only speculate about the reasons for this inconsistency. It is not unusual to find different combinations of grave goods, nor is it necessarily due to differences in religion, ritual or degree of romanisation. It may indeed very well be that burial offerings were susceptible to personal preferences.

\textsuperscript{180} pers. comm. M. Vandenbruaeen. \\
\textsuperscript{181} Bakels 2005. \\
\textsuperscript{182} Robinson 1994. \\
\textsuperscript{183} Viklund 2002. \\
\textsuperscript{184} Davis/de Moulins 2000. \\
\textsuperscript{185} König 1993. \\
\textsuperscript{186} Kreuz 2000.
All in all, the botanical spectra of the cemeteries in Tienen and Tongeren were rather homogeneous which is perhaps to be expected, as most graves contained secondary deposits of material gathered at the *astrinæae* and an admixture of material from more than one cremation is likely to have taken place, although to what degree is hard to assess. In general, remains from edible plants including cereals, pulses, fruit and nuts were predominant. Especially in Tongeren, pulses, lentil and Celtic bean in particular seem to have been popular ingredients of the funerary meals and/or ritual offerings. All plants found in these cemeteries appear regularly at Gallo-Roman graveyards in northwestern and central Europe.\(^{187}\) Most of the remains found were present in small numbers, but it has to be taken into account that a substantial part of the gifts would have been completely consumed by the fire. It is always difficult to assess whether the finds derive from burial offerings to the deceased and/or to the gods, and whether they were placed on the pyre, or come from the remains of a funerary meal.

In Tongeren no imported, exotic plants were found, while in the *vicus* of Tienen these were in fact present, but sporadically. This cannot be attributed to a difference in degree of romanisation, as both towns are regarded as having been influenced by Roman culture in a similar way. It proves indeed almost impossible to assess status or the degree of romanisation of the deceased from the grave goods. This is confirmed by Blänkle *et al.* who mention that “rich” graves may contain no exotic botanical material whatsoever.\(^{188}\) Besides, sometimes an evolution through time is mentioned, for example at Vindonissa where an evolution starting with pulses, then with hazelnuts and finally to cereals was noticed.\(^{190}\)

This research reveals a unique view on many still unknown aspects of funerary ritual from the central part of the *civitas* and shows the importance of systematic and detailed research of every context within the limits of a Roman cemetery. Apart from these cemeteries indications for plant offerings are either scarce or absent.\(^{190}\) It seems to be premature at this stage to attribute to regional differences between burial practices the contrast in those recorded plant assemblages from the loess region and the picture from sandy Flanders, where so far only cereals have been found as grave goods.\(^{194}\) More research needs to be undertaken. Remains of bread are reported from the southern part of the *civitas.\(^{192}\)* Further research of the burial contexts in which the botanical remains are found in the Tienen cemetery will be presented in chapter 3.

1.2.3.3 Towards a new methodology to study funerary rituals

In the previous section (1.2.3.2) I have tried to show the importance of detailed research upon all the remains in funerary contexts. This implies a methodology of systematic recording of finds and sieving of at least a sample of all the contexts in a cemetery. Careful structuring of the data of all the find categories after excavation and a clear appreciation of the aims and methods of analysis are essential for the research potential of funerary environments to be fully realised.\(^{193}\) With the excellent examples of detailed research of animal bone by Groot and of botanical remains by Cooremans, the potential of an integration of detailed research of all the find categories per archaeological context of a cemetery for studying funerary rituals can be seen in perspective. This kind of systematic and detailed research will make the comparison with contemporary graves and between graves of different phases of the cemetery worthwhile to establish different patterns in funerary practice. One important factor is the distinction between the different layers in graves. The layer covering the remains of the funerary pyre may often in particular contain a mix of finds that should be studied in detail. Recent research into the layer on top of the funerary chamber of the *tumulus* of Tienen, Grijpenveld, showed that this layer contained a mass of information on funerary practices and funerary meals (see section 4.3.4). As a consequence of the fragmentation the finds in this layer most remained unstudied in the past. In chapters 3, 4 and 5 the methodology applied in Tienen will be illustrated for the southwestern cemetery of Tienen. I intend to illustrate that if sufficient steps are taken to retrieve such data, it may be possible to detect some of the social and cultural choices that were made. For example, does funerary cuisine change visibly over time, and can we see any regional patterns? Are these remains reflective of the typical diet within the area, or were these foods perhaps chosen for religious reasons? Does the age and sex of the deceased individual have any bearing of the food that they were buried with? The significance of answering these questions for individual cemeteries becomes even more obvious when a comparison of this kind of information from different cemeteries is evoked to

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188 Blänkle *et al.*, 1995.

189 Petrucci-Bavaud *et al.* 2000.

190 Verhaert *et al.* 2004; In ’t Ven *et al.* 2005.


192 Laurent 2001.

determine regional differences in funerary customs, for the identification of social differences in material culture and practice in the Roman period.

1.3 RESEARCH AIMS AND OBJECTIVES

In the community of the vicus of Tienen, consumer objects produced or imported on a small or large scale are encountered by individuals who make choices in which goods they can and want to acquire. These choices are influenced by a number of factors. Were the goods intended for use in everyday life or were there special requirements for example in the context of ritual practices or funerals when certain specific prescriptions had to be followed? By their behaviour and the material culture associated with them, individuals and groups established and negotiated their meanings and incorporate such objects into their personal cultural and behavioural repertoires. The creation of the culture and identity of the vicus community, therefore, has a very strong factor of agency at its basis. The factor of agency should be at least partly reflected in patterns within consumer choices. The study of consumption patterns provides a pragmatic approach to the integration of the vast quantity of material culture that comprises the most tangible and common traces of everyday experiences, but also of the practices that were conducted in the ritual context of the population of the vicus.

In the Grijpenveld site (fig. 4.2) the southwestern periphery of the town and a large cemetery with more than 1300 graves were uncovered. The site also provided evidence for ritual depositions, from obvious examples as in the context of the Mithras temple, to less straightforward identifiable ritual assemblages. The presence of these different cultural contexts means that the material culture of the site has a large potential for studying and comparing consumption and deposition patterns in the settlement as well as in the cemetery. The aim of the present research is to explore how the full potential of the information on the material culture of this site could be tapped for inter-site analysis as well as for intra-site studies. The methodology should enable the researcher to explore the archaeological record maximally and in an innovative way. Ideally the proposed methodology provides a template for highly qualitative research at the basic level of sites, in which a maximum amount of information is identified, providing infinite possibilities for analysis, in a cost effective-way. The proposed methodology has special potential for the Roman period because of the widespread and comparatively large material record commonly encountered and recovered through fieldwork, the relative typological uniformity of much of the material, the stratification of a large proportion of artefacts and ecofacts and the chronological refinements of the period. In the research presented in this thesis the dataset is interrogated towards a chronological and diachronic analysis of the finds assemblages to investigate changing patterns of consumption and deposition, with particular emphasis on patterning within and between deposits of different cultural contexts: the settlement waste contexts, the cemetery and the ritual depositions in the settlement. The methodology designed for this purpose has at its centre, a ‘state of the art’ relational database. All the material culture categories that are recorded in the database will be discussed including an explanation for each of the attributes (data base fields) and their potential for traditional and innovative research. The attributes of the different material categories contain predefined lists of variables that often required a lot of research and can be copied and used for the research of other sites. This makes the methodology as well as the database re-usable and easily adaptable for other Roman sites.

Another major research aim of this study is to design a methodology to distinguish ritual from rubbish depositions through analysis of the database of the finds. For this purpose a set of criteria to identify ritual depositions will be defined. Due to the fact that religious activities in a town consist of many diverse processes, varied combinations of which result in quite dissimilar deposits, these often closely resemble waste deposits. In our research of consumption and deposition patterns in different cultural contexts, however, the identification of ritual depositions in crucial. The goal is to isolate assemblages that result from ritual practices in the settlement from waste contexts to examine the possibility of differentiating specific choices and needs for religious purposes from the daily live consumption of objects and goods. Studies of distinctive consumption patterns underpin the characterisation of archaeological deposits formed as a result of practices undertaken within different cultural contexts. Due to the fact that no set of criteria for analysing complete Roman assemblages have been established and tested, before the proposed method has to be considered as a starting point in the research of the subject and can be tested and refined in future research. The criteria are described and reference is made to previous research.

The following important research aim is to examine consumption and deposition patterns for the different material categories: ceramics, animal remains, bronze objects, glass objects and iron objects per phase and per cultural context: the settlement waste, the cemetery and ritual contexts. This analysis provides a basis to detect differences in consumer choices between the different cultural contexts within the different phases, as well as an account of changes of the assemblage compositions over time. The aim is to find out if there is a difference in the choice of consumer objects available on the market for different socio-cultural purposes. To which level was the pottery assemblage for funerary meals or grave gifts different from the pottery used in daily life? Was
there a preference for the inclusion of certain functional categories of bronze or glass objects in mortuary rituals? Is the choice in animals or animal parts influenced by the fact that they were part of funerary ritual? The same questions are valid for the ritual contexts.

As a conclusion the results of the previous analysis are placed within a context of the general political and economical developments and the landscape and society of the Civitas Tungrorum to check if our observations confirm or contradict existing ideas about the Roman period in our region or if we can propose new ideas about life and community in a small town of the Civitas Tungrorum.

It is important to emphasize that the database has much wider potential for different strands of research than the questions and aims it is used to address for in this thesis. The results of this analysis and synthesis will provide the basis for further, more detailed research on the one hand and comparative research with other sites on the other hand.

In essence this research involves
-an analysis of the present practices in finds research and the way material culture is addressed to answer questions concerning the way people lived in the past
-a general overview of the state of the art of research of funerary practice, ritual practice and rubbish deposition in the civitas Tungrorum
-the building of the theory that there is a difference in the choices of material culture used in every-day life practices and material culture used in funerary and other ritual contexts and that these practices and the material culture involved are not static but change over time
-that these differences reflect conscious and unconcious choices that offer unique insights in practices performed in the past, but also give a glimpse on the world of ideas of the people from the vicus
-designing a methodology to test the theory, keeping in mind the fact that every kind of research that reasonably can be envisaged for the near future should be possible due to the structure and and characteristics of the dataset
-the testing of the theory by analysing the differences in material culture categories between the different cultural contexts per phase
-the study of the transformation of practices and material culture within a cultural contex throughout the Roman period
-to place the observations we made in the general context of what we know of the civitas, keeping in mind the relevant geopolitical events; this is also to test to what degree or contradict the present ideas on daily life, ritual and funerary practices and life in small towns in general and in respective phases of the Roman period.
2. THE TIENEN METHODOLOGY: MULTI-DIRECTIONAL ANALYSIS OF MATERIAL CULTURE

2.1 ROMAN TIENEN

2.1.1 ROMAN TIENEN IN THE WIDER LANDSCAPE AND SOCIETY OF THE CIVITAS TUNGRORUM

The vicus of Tienen is situated in the centre of the fertile loess area of the civitas Tungrorum, in the province of Germania Inferior on the road connecting Cologne to Boulogne (fig. 2.1, fig. 2.2). The vast territory of this civitas and its position between the limes and Belgic Gaul determined its development throughout the Roman period. Within this framework we will consider the developments relevant for the vicus of Tienen from the conquest until the end of the 3rd century. The civitas was founded initially as a part of the province of Gallia Belgica, while at the end of the 1st century AD it was probably incorporated into the province of Germania Inferior. The administrative borders of the civitas, especially of the northern part, are still a subject of discussion. The diversity of soils influenced the cultural and economical development of different regions of the civitas. Recent research indicates that these different landscapes were exploited efficiently with an adapted and balanced mix between agricultural, pastoral and craft activities. Contact between the different regions was facilitated by several road and river systems. To provide a wider context for research of the vicus of Tienen we will concentrate here as much as possible on the cultural development of the loess area of the civitas, without loosing out of sight the global developments and processes in the wider region.

Fig. 2.1 Roman road system in the 1st century AD with Tienen located on the road between Cologne and Boulogne. Drawing Guido Martens.

The process of change that was initiated by the Roman conquest in the fertile loess region of the *civitas* is difficult to grasp. The period from the conquest until the first decade AD is virtually unknown due to a lack of literary and archaeological sources. The so-called ‘AVAVCIA’ and ‘ANNAROVECI’ coins that were probably minted and mainly distributed and deposited within the borders of the *civitas* in that period constitute a new element in the material culture of a society that was already in marked evolution.¹⁹⁷ Coinage began in the Lower Rhine region in the 2nd century BC with imported gold coins from more southerly regions. It was not until about the mid-1st century BC that local coin production came into full swing, reaching a peak in the second half of the 1st century with issues of low-value coins. It is interesting to look for the reasons behind the minting of large quantities of low-value bronze or poor-quality silver coins in the study region in the second half of the 1st century BC. In contrast to older gold coins, the relatively late, low-value coins in Gaul and the Rhineland are generally regarded as small change and are associated with emerging markets and the monetized exchange of goods. However, there is no serious evidence in the Lower Rhine region for the existence of larger market centres, which argues against a strictly economic interpretation of native coin issues in the period before the advent of Roman camps under Drusus in about 15 BC. It is therefore in traditional tribal contexts that we must seek an explanation. As Aarts and Roymans pointed out coins were probably minted in connection with public ceremonies and rituals, which were designed to produce and reproduce central ideas and values of collective identities. As such, coinage contributed to the symbolic construction and social cohesion of groups. It is perhaps no coincidence that the coin production boom in the Lower Rhine region coincided with the formation of new tribal entities, as a consequence of the advent of Rome in the region. It is important to outline that the production of ANNAROVECI and class I AVAVCIA coins probably ran parallel with the ethnogenesis of the Tungri. It seems likely that this new political grouping, also sought to profile itself as an ethnic entity. From this perspective then, the low-value coins were not primarily struck to satisfy an economic need for small change. The first coin series to which this economic need was applied were the class II/III AVAVCIA coins, which appear to have been deliberately minted for use within a Roman monetary system, targeting the camps and camp villages.

In the Augustan period the first important signs of the new structural organization of the *civitas* become visible in the archaeological record. The road system that connects Köln (Cologne) to Boulogne was established (fig. 2.1, fig. 2.2). The city of Tongeren was founded, as well as a series of smaller towns next to primary and secondary roads within the *civitas*. On the Köln-Boulogne road, the small towns of Tienen, Elewijt, Asse and Velzeke were founded. For Tienen and Velzeke this early date is confirmed by structural remains. In the cases of Elewijt and Asse the date is based on a large amount of bronze coins from the Augustan period. These earliest *vici* were probably founded as an act of collaboration between the Roman authorities and the local elites. The planning of the layout of the cemetery of the *vicus* of Tienen as early as the Augustan period confirms the involvement of authorities in the origin of the time and can be used as an argument against a pure organic growth. By the end of the 1st century AD the network of main roads in the *civitas* was probably completed.

The *vicus* of Tienen is connected to the *civitas* capital (Tongeren) in the east and to smaller centres like Asse, Elewijt and Velzeke to the west by the main road Cologne-Boulogne. A network of secondary roads connected Tienen to other small towns like Grobbendonk to the north, Taviers to the south and Baudecet to the southwest. Like Tienen itself, these small towns or *vici* fulfilled central economic, cultural and/or administrative functions in their regions. As discussed repeatedly before in other publications, the term *vicus* is often ‘misused’ for a heterogeneous group of settlements of different sizes, different layouts and without doubt different socio-economical and cultural roles. This is also true for the term ‘small town’, as studies of these sites in Britain

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198 Rogge 1980, 71-75.
199 Magerman 2006, 148-149.
show.\textsuperscript{202} At present the state of research of most of these small towns is too limited to give meaningful insights about their planning or the role they played in their regions throughout the Roman period.\textsuperscript{203} One of the elements most of these \textit{vici} have in common is the importance of craft production.

Unfortunately, however, the state of knowledge and publication of most of the excavated sites is problematic (with the exception of Asse, Braives and Liberchies). This is unfortunate because all the artefacts but especially the ceramic assemblages of these towns are potentially revealing with regard to the commercial contacts, the social practices and the identities of the inhabitants of these small towns. The importance of publication of typologies and characterizations of the ceramics produced in these regional centres therefore cannot be overestimated for identifying the relationships between the capital, small towns, villas and farms of the \textit{civitas Tungrorum} and beyond, as well as for the understanding of the development of Gallo-Roman culture in this region. Equally limited is the state of knowledge of the organisation of the countryside of the fertile loess area of the \textit{civitas Tungrorum}. For a long time Roman-style villas were considered to be the only form of rural occupation in this area. During the last decades more evidence of farms and groups of farms of ‘indigenous tradition’ has begun to emerge. These farm complexes mostly consisted of two-aisled farmhouses of the Alphen-Ekeren type, with granaries, a stable and a sunken hut. In the Flavian period some of these wooden farm complexes were replaced by villa complexes in stone. This was the case for example in Erps-Kwerps,\textsuperscript{204} Neerharren-Rekem,\textsuperscript{205} Val-Meer,\textsuperscript{206} Rosmeer,\textsuperscript{207} Broekom,\textsuperscript{208} Vechmaal\textsuperscript{209} and Smeermaas.\textsuperscript{210} The new materials characteristic for identifying a villa such as stone, mortar, concrete and tiles were probably introduced gradually in the area. The details of the process of change in the plans and execution of the villa’s and farms are often difficult to identify because of a lack of (research of) dating evidence for the different construction phases.

Contemporary to these so-called villa complexes ‘more native’ types of farm complexes existed. In Veldwezelt several farmhouses were organized around two drinking pools for cattle. One of the farmhouses had a stone cellar. Another farmhouse was equipped with a trapezium-shaped enclosure at a short (gable) end of the house. The whole complex was surrounded by a ditched enclosure.\textsuperscript{211} The byre houses, the drinking pools and the spatial organisation of the complex seem to indicate that the main activity was stock breeding. The presence of iron slag on the site shows that smelting of iron ore was also practised on this farm. Similar byre houses were discovered in Houtem-Vilvoorde,\textsuperscript{212} Sint-Huibrechts-Lille,\textsuperscript{213} Kessenich,\textsuperscript{214} Petit-Enghien and Gesves.\textsuperscript{215} The discovery of these farms next to the villa-complexes suggests a mixed exploitation of the landscape with an optimized system of agriculture, stock breeding and craft activity.

The research potential of the villa-sites of the area has been left largely unexploited. In the northern part of the \textit{civitas} the only complete villa has been excavated at Hoogeloon.\textsuperscript{216} The other completely excavated villa sites are situated in the southern part of the \textit{civitas}. The variation in size and spatial organization of these settlements are well studied and can probably be extrapolated to the rest of the \textit{civitas}.\textsuperscript{217} Many villa complexes have their annex buildings dispersed around, mostly in front of the main dwelling like in Nivelles, Lantinnes, Saint-Gérard and Wanceennes.\textsuperscript{218} The villas of Hamois, Vezin and Maillen have their annex buildings organized around a courtyard.\textsuperscript{219} More strictly planned are the double courtyard villas with an axial lay-out. This type of villa was discovered in Anthée, Meslin-l’Évêque, Velaines-Popuelles, Hackourt, Emptinne et Habay-la-Vieille.\textsuperscript{220} The same style of villa is present in Switzerland, Germany and Picardy but absent in Italy or

\textsuperscript{202} Millett 1995; Willis 2008.
\textsuperscript{203} Martens et al.; \textit{vici} onderzoeksbalans; Brulet 2008, 83-84.
\textsuperscript{204} Verbeek 1994.
\textsuperscript{205} De Boe 1981; 1983; 1987.
\textsuperscript{206} De Boe 1971.
\textsuperscript{207} De Boe/Van Impe 1979.
\textsuperscript{208} Vanvinkenroye 1988.
\textsuperscript{209} Vanvinkenroye 1987; 1990.
\textsuperscript{210} Pauwels/Creeemers 2000; Pauwels/Creeemers/Cooremans 2006.
\textsuperscript{211} Pauwels et al. 2003; Vanderhoeven, Vynckier/Wesemael 2006; Vanderhoeven 2006; Wesemael 2006; Pauwels 2007.
\textsuperscript{212} In ’t Ven et al 2005.
\textsuperscript{214} Creeemers/Van Noppen 1999
\textsuperscript{215} Brulet 2008, 132.
\textsuperscript{216} Slofstra 1982.
\textsuperscript{217} Habermehl 2011, 31-96.
\textsuperscript{218} Brulet 2008, 133.
\textsuperscript{219} Brulet 2008, 133.
\textsuperscript{220} Brulet 2008, 135; on this type of villa see also Roymans/Habermehl
Therefore it is considered a new Gallo-Roman creation. Much rarer in the civitas is the villa type organised around different courtyards as in the case in Mettet or the Mediterranean type of villa organised around a peristylium like the one of Rognée. The size of these villa complexes can vary from 1.68 ha in Hamois until 12 ha for the villa of Anthée. This diverse occupation of the countryside brings us to the question of the organisation of the landscape and to the question of the presence of a centuriatio in this region. Until now this question has had to remain unanswered due to a lack of large-scale excavations or excavations outside settlement boundaries. Recent research into the remaining relicts in the present landscape, however, has presented some interesting results.

The position of this fertile area of the civitas so near to the limes forces us to think about the way supply systems for the troops along the Rhine were organised throughout the Roman period. This will involve considering the relationship between the annona militaris and the taxation system, but also looking at inter-regional trade and supply systems will be very useful. Together with the tax system, infra-structural and small-scale innovations seem to have encouraged economic development of the area from the Augustan period onwards. The army should not be seen as the sole driver of economic and cultural growth of the region. In the 1st century AD the process of increase in agricultural production, the expansion of craft production, the increased regional exchange the intensified long distance commerce the expansion of coinage, and urbanization all led to the growth of consumption and, possibly, also of consumers. The research on the transformation of the material culture and social practices of the vicus of Tienen should be placed in this broader framework.

Fig. 2.3. A group of three monumental tumuli at Tienen, Grimde. Photo Michel Pauwels.

Fig. 2.4. Reconstruction of a group of three Gallo-Roman tumuli in the eastern periphery of the vicus of Tienen, Grimde. (Author/Axell Communications).

221 Brulet 2008, 135.
222 Brulet 2008, 138-139.
225 Greene 1986.
Apart from habitation and infrastructure the landscape of the civitas was also determined by funerary and religious structures. The most characteristic burial monuments are tumuli that are a typical feature of the villa landscape (fig. 2.3 and 2.4). At present some 344 tumuli are known from the civitas (see also section 1.2.3.1).226 These burial mounds are often situated next to primary or secondary roads. The earliest tumuli appear after the middle of the Flavian period in Berlingen227 and in Avennes228 near Braives. The majority of the tumuli can be dated in the second half of the 2nd century. There are no more tumuli known after the middle of the 3rd century. A variety of valuable grave gifts were often placed inside or on top of the funerary chamber (fig. 2.5, 2.6 and 4.85). A difficult question to answer is which people were buried in these striking monuments. It is often suggested that it must be men or women from the aristocracy, rich landowners, or high-ranked members of the administration. The inscription of the levelled tumulus of Vaux-les-Cherain indeed mentions a decurio, Vitorius Caepius.229 Without doubt a lot of potential lies in detailed research of the position and visibility of these tumuli in the landscape and their connection to villas, vici and the capital. New research has also shown the importance of the presence of older monumental burials for the choice of the location of some of the tumuli. One of the Grimde tumuli situated on the outskirts of the vicus of Tienen next to the Boulogne-Cologne road was erected on top of a prehistoric long barrow (fig. 2.3 and 2.4).230 The tumulus of Tienen-Grijpenveld, in the southwestern periphery of the vicus (fig. 4.1), was also erected in the immediate vicinity of a prehistoric burial mound. An important question remains how these monuments were designed and looked like in the Roman period. Probably their surroundings were embellished with gardens and in some cases certainly also stone monuments, doubtless leaving quite an impression on the passerby (fig. 2.4).

The impact of the presence of temples and sanctuaries on the landscape of the civitas is difficult to assess due to poor knowledge, as a consequence of a general lack of excavations in the area. The only known classical Roman temple of the civitas was discovered in Tongeren.231 Gallo-Roman temples are present near small towns as in the case of Grobbendonk, Kontich,232 Liberchies, Vervoz, Sauvenière (Baudecet) and Namur.233 Some are situated next to the property of a villa complex, like in the case of Antheé.234 Isolated structures existed in Hofstade,235 Foy, Furnaux, Grand-Hallet, Matagne-la-Grande, Matagne-la-Petite, Mellet, Tavigny, Vodecée and Fontaine-Valmont.236 In Tienen a mithraeum was discovered in the periphery of the town.237 Open air cult places were discovered in Wijnegem, Hoogeloorn 238 and probably also in Tienen (fig 4.24, fig. 4.25).239 These open-air cult places were in active use mainly in the 1st century AD, which may reflect their potential Iron Age connections.240 This small number of known cult places in the civitas without doubt only reflects a fraction of the total number of temples and sacred places that must have existed in Roman times. Burials, ritual and (small) religious foci are likely to have formed a key physical and conceptual aspect of the landscape of the civitas Tungrorum.

The end of the Roman period in the study area is difficult to grasp, again due to a lack of research of different types of settlements and due to a lack of the availability of well-established regional pottery chronologies. An overall socio-economic and demographic decline was a fact by the end of the 3rd century. In Tongeren and in the vicus of Tienen, no indications for a real crisis before this period. Without doubt the military troubles and the subsequent gradual abandonment of the Rhine limes under Gallienus (253-268) had a great influence on the region. The exact consequences however remain difficult to define. The installation of the Gallic empire by Postumus (260-269) and the further failing of the limes defence system led to the invasions of Germanic groups in the years 275-276 with substantial changes in the habitation of the civitas Tungrorum. From the scarce indications from excavation reports we can assume that many settlements, villas and farms were abandoned, while others underwent important change. The impressive city walls and some historical sources

226 Annaert 1982.
227 Roosens/Lux 1973, 48.
229 Brulet 2008, 196.
230 Helsen 2009.
233 Idem.
234 De Laet 1950.
236 Idem.
238 Slofstra/Van der Sanden 1987.
239 see also section 4.1.4; Martens et al. 2002.
240 Like for example the enclosures of Kontich-Alfsberg (Antwerpen) or Kooigem-Bos (West-Vlaanderen)
show that Tongeren was an important town during the 4th century. Rescue excavations of the last years confirm this picture. The most impressive remains of the Late Roman period are a basilica church and a representative city dwelling. The picture of the rest of the civitas in the 4th century remains enigmatic.

The variation of farms, villa complexes, vici and the main town of the fertile loess area of the civitas Tungrorum indicate that a wide variety of people with different social, cultural and economic backgrounds were living in the area. The evolution from the post-conquest period till the end of the 3rd century presented different kinds of changes for every individual of each generation living in this area. People experienced and actively contributed to the change of the environment and the material culture of their region by making choices in the production and the consumption of material culture for housing, clothing and the social practices they performed.

2.1.2 PREVIOUS RESEARCH

The presence of the elaborate grave complex, consisting of the three well-conserved tumuli, in Tienen-Grimde, have long since played an important role in the imagination of the people about the Roman past of the town (fig. 2.3 and 2.4). Especially evocative have been the rich furniture of the burial monument amongst which the most unique objects are an onyx cameo of the emperor Augustus in a golden frame (fig. 2.5) and a golden engagement ring (fig. 2.6), discovered during an excavation at the end of the 19th century; these items symbolize the prosperity of this region in the Roman period.  

Fig. 2.5. Onyx cameo depicting the Emperor Augustus from one of the tumuli of Tienen, Grimde (National Trust, Waddesdon Manor)

\[242\] De Loë 1895.
The discovery of the grave chamber of the tumulus of Tienen-Avendoren with rich Roman bronze objects in the early 1950s reinforced this idea of the importance of Tienen in the Roman period. It was not until the 1970s, however, that a first systematic study of the stray finds and the occasionally recorded observations by amateurs on building sites was conducted. This study offered quite an accurate picture of the general characteristics of the Roman small town: its large extent and its important role in the region. Since the 1980s four excavation campaigns yielded more detailed information on the infrastructural and the socio-economic development of the town. During the first campaign in 1982 a team from the museum of Tienen under the direction of Dirk Cramers and later of Marlies De Clerck excavated some smaller trenches in the southern outskirts of the Roman vicus. In these trenches a Claudian cellar, a 3rd century pottery kiln and pits filled with (so-called) waste were discovered. Later research has shown that some of these pits in fact contained ritual depositions. Due to the methodology of post-excavation research in which all the finds of the site were studied together per material category and not per archaeological context these quite obvious ritual deposits could not be identified at the time.

In the beginning of the 1990s a new excavation was conducted by the museum and led by Jurgen Jeunesse in the western periphery of the town, next to the Zijdelingestraat. The results of this excavation remain unpublished. According to the archaeologist this site consisted mainly of pits with waste from glass production.

In 1995-1996 a team of the Institute for the Archaeological Heritage of Flanders directed by Alain Vanderhoeven and Geert Vynckier excavated an area in the western part of the town. On both sides of a pebbled road, a granary with a length minimum of 60 m (fig. 1.1 c, 2.7 and 2.8) and a bathhouse (fig. 2.7) of the Flavian period were laid out. In the beginning of the 2nd century these buildings were demolished and replaced by houses with a common portico facing the street. Around the houses pits with iron slag and waste from bronze production were found. Other pits contained waste from the processing of animal bone into secondary products like marrow or fat. Apart from its obvious residential purpose this area clearly also fulfilled both craft and commercial functions during the 2nd and 3rd centuries.

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243 Mertens 1953.
244 Mertens 1972.
245 Thomas 1983.
247 pers. comm. J. Jeunesse.
Fig. 2.7. Plan of the excavation in the Roman vicus of Tienen, Zijdelingsestraat – Tienen. (green = granary / red = bathhouse) (A. Vanderhoeven, G. Vynckier, B. Pauly).
2.1.3 THE GRIJPENVELD PROJECT: THE EXCAVATION RESEARCH STRATEGY

From 1997 till 2003 an extensive rescue excavation of an area of approximately 20 ha was carried out in the southern periphery of the modern town of Tienen on the site called ‘Gripenveld’ (fig. 1.1 c, 2.10 and 2.11). This area covers most of the southern and western periphery of the Roman small town and the complete southwestern Gallo-Roman cemetery (fig. 2.11). On the Wijngaardberg an enclosure occupied during the early and Late Iron Age and a medieval vineyard coincided partly with the territory of the Roman cemetery. On the top of the plateau brick ovens from the medieval period have been excavated, overlapping the plot of land of an Augusto-Tiberian farmhouse. An overview of the most important Roman period features will be given per phase in chapter 3. In this section information will be provided on the excavation strategy. In the next chapter the post-excavation research design will be elaborated upon. As will be shown these strategies were strongly determined by some major research questions, which (apart from the traditional ones) took form during the excavation. A crucial factor in this process was the discovery of the first structured depositions at the very beginning of the excavation. It became clear that one of the potential research objectives of this site was to examine whether it was possible to establish a methodology to ‘objectively’ distinguish ritual from rubbish depositions. Closely related to this problem is the issue of how Gallo-Roman society dealt with waste. The importance of finding an answer to the above questions is crucial for various reasons. This line of argument has been commented on in section 1.2.2.
Fig. 2.9. Excavation in progress at the site of Tienen, Grijpenveld.

Fig. 2.10. Aerial photo with hypothetical boundaries of the *vicus* of Tienen and location of the Grijpenveld site. Tom Debruyne, PORTIVA.
Whether ritual depositions can be distinguished from rubbish depositions largely depends on the knowledge of how the inhabitants of the *vicus* dealt with waste. Was most of the rubbish lying around on the surface and only occasionally thrown in pits, or was the reverse the case? Why did they throw rubbish into a pit at all? Was it to fill up the pit or to get rid of the rubbish or a combination of these? How long did it stay on the surface before it was buried? Can we distinguish different categories in rubbish depositions? All of these questions have to be answered before we can distinguish ritual from rubbish depositions. The motivation to develop a methodology to resolve these basic questions grew steadily during the excavation as more evidence for ritual depositions was collected and registered, whilst it was apparent that no adequate nor prospective method for discriminating deposit types existed that could be adopted and employed. This evidence consisted for example of special configurations of animal remains, ceramic ensembles and bronze objects. For these reasons the conviction grew that understanding the genesis of an archaeological context is as important as the identification of the material in it. By producing lists of categories and types of ceramics and other objects in archaeological features, like in traditional finds reports, only a part of the research potential of a pit is used.

![Fig. 2.11. Simplified overview of the archaeological complexes from different periods at Tienen, Grijpenveld.](image)

The analysis of the formation process of archaeological records can provide information on different kinds of practice in Gallo-Roman society. This subject has rarely been thoroughly examined in past archaeological studies. In order to be able to study the formation processes of archaeological contexts, the excavation should be carried out very carefully. In the case of Tienen this implied that all features were to be excavated stratigraphically, all the finds were collected and special attention was paid to register features of intentional deposits. The finds from the different materials discovered in the layers of a feature were all identified and characterized. The information that is inherent and inferred for these finds is summarized under section 2.2.4. Finally, the interconnection and interdependence of these individual elements should be examined. Relationships between the finds are potentially meaningful in various ways and these connections can be discovered and tested thanks to the format that has been set up for the database, as explained in section 2.2.3.

To sum up, these research questions had two main consequences for the archaeological fieldwork. First of all we had to fully understand the stratification of all the features on the site, as should be the case in all excavations. Secondly, our excavation and registration techniques had to be sufficient enough to record the necessary information on the identification and registration of special deposits. Of particular interest for the
The development of our excavation and sampling methodology was Hill’s research on archaeological contexts of the Iron Age of Wessex.\textsuperscript{249} The work of Grant and of Clarke also greatly influenced the way in which the fieldwork was adapted while also providing input for the methodology of the post-excavation study.\textsuperscript{250} In essence, their research has in common: the focus on the archaeological context, the consideration of all finds in it, the detail of this research (eg. completeness of pottery; associated bone groups) and their attention for ritual aspects in the archaeological record.

2.2 CONTEXT AND MEANING: THE TIENEN METHODOLOGY

In the previous section insights were provided on the excavation strategy. In this chapter the post-excavation research design will be elaborated on. While the research questions had rather limited consequences for the excavation strategy as explained above, as we were already digging all features, collecting all finds and registering important details, the implications for the post-excavation research design were much more far reaching. The research questions and methodology start with the premise that the people from the 	extit{vicus} created, used and lived with a wide variety of material objects, actively created a material environment in which social, economic and religious interactions took place. The large quantities of material culture remains we excavated on the Grijpenveld site virtually explode with meanings if we use them as a source of information in a creative way. The challenge of the methodology is to overcome various arbitrary classifications and organize the information in such a way as to explore it to gain an understanding of the 	extit{vicus} as an endless creative and hybrid world. In a consumer society, like that of Roman Tienen, consumer objects are encountered and used by individuals, who establish and negotiate their own meanings and incorporate such objects into their personal cultural and behavioural repertoires. We will show how we can realistically attempt to identify the activities of individuals and groups in the 	extit{vicus} of Tienen through the identification of differently composed of material culture assemblages in different contexts of the archaeological record. If artefacts and practices constitute culture, then the archaeological record provides access to the general culture of a place at a certain time, as well as to the activities of groups or individuals. Apart from providing a perspective on activities, the material culture of the archaeological record can also contain information on consumption patterns of individuals, groups and the entire community. This places the study of material culture as a means rather than an end, right at the centre of present-day engagement with the archaeological record of the Roman era.

2.2.1 RESEARCH QUESTIONS AND AIMS

In short the main research aim is to analyse the difference between the material culture that is reminiscent of the routine every-day experiences and choices that “go without saying” on the one hand and the material culture that is a result of more exceptional practices, influenced by conventions, prescribed procedures and conscious choices related to funerals and rituals on the other hand. The material culture involved in these practices, as well as the practices itself may have changed overtime. The characterisation of how the material culture reminiscent of these practices change in each phase gives us insight in the transformation of material culture and practice throughout the Roman period in the vicus of Tienen.

To reach our research goals the questions we need to answer, the products needed and the analyses that have to be carried out are formulated below. The order in the research questions below reflect the research design: the most complex and ultimate questions come first and the questions that need to be solved to reach these goals follow below.

- To compare patterns in consumer choices in ritual, funerary and waste contexts per phase
- To compare patterns of deposition practices in ritual, funerary and waste contexts per phase
- To date all the archaeological contexts optimally based on chronological evidence of all the finds, including the locally produced pottery
- To establish a detailed typo-chronology for the locally produced pottery
- To distinguish ritual from waste deposits in archaeological contexts
- To define criteria to distinguish ritual from rubbish depositions
- To identify patterns and characteristics of ritual depositions to reveal choices in

\textsuperscript{249} Hill 1995.
\textsuperscript{250} Grant 1984; 1991; Clarke 2000.
consumption and practices of deposition
- To identify patterns and characteristics of funerary depositions in graves to reveal choices in consumption and practices of deposition
- To detect evolution in choices in consumption in ritual, funerary and waste contexts
- To detect evolution in patterns of deposition in ritual, funerary and waste contexts

The methodology of studying and registering all the finds categories, including the attribution of the different functions will be elaborated on in detail in 2.2.4.

2.2.2 RESEARCH METHODOLOGY

The basic link between socio-cultural practice in the vicus of Tienen and its material culture remains, as described above, has direct consequences for the way we studied and recorded the finds. The link between practice and material culture is constituted by the archaeological context that is the binding element between all the parts of the assemblage contained by it. Therefore the archaeological context is the key element in our research methodology. To be able to compare the material culture and practices in different cultural contexts within a site and between different sites there is a need for a high-level detailed standardised recording of all finds and a methodology to integrate all strands of information for further analysis. The data should be structured in such a way as to make all kinds of analysis possible, from the general to the specific, and from traditional research to research based on theoretical constructions. Above all the methodology should allow the above formulated basic assumptions to be tested against the evidence. To enable this, a predetermined range of information on all the finds per layer and per feature should be generated and integrated to provide more insight into the archaeological context, how it was formed and what happened to different objects before they were deposited, completely or partly. Per material find category a specific range of variables was determined to provide the necessary information for all kinds of useful research at the present and in the future (see also 2.2.3 and 2.2.4). Care was taken that the right balance was made between the amount of research and data input and the usefulness of the data.

This database is also suited to be screened for patterns in the deposition of waste in Roman times and to identify the different categories of ritual depositions. As a result we will define the different characteristics of ritual depositions on the one hand and waste on the other. In other words, we are looking for the non-coincidental patterns of structured depositions. For example, we could look for a link between the occurrence of square-shaped features, dog bones, and pots with a completeness of more than 75%. To be able to identify this kind of special deviations from the general patterns a special set of data had to be created especially for the ceramics. The research potential provided by this extra set of data was estimated to be so huge that a lot of effort went into the research of and data input for the ceramics. Apart from the collection of all the information of archaeological contexts in one database the most important novelty in our post-excavation research methodology was precisely this approach to the ceramics. As the fragmentation and completeness of ceramic objects seemed very important for the analysis of depositional practices we decided to design a specific research methodology for this aspect. The details of this research will be elaborated on in sections 2.2.4.1. Without going in detail here it is important to state that the ceramics per archaeological context/feature were reassembled into groups of sherds belonging to the same vessel (fig. 2.14 and 2.15). Although some insecurity about the chances for success existed in the beginning, the methodology proved to be very useful and less time consuming than initially imagined. We tested the method on the ceramics from the mithraeum complex in 2000 to present the results on the Conference in 2001.  

The importance of evaluating the completeness of the pots in archaeological contexts cannot be overestimated as we will show in the third and fourth chapters of this thesis. The completeness can be used effectively to determine the freshness of the waste in a context; for example was the rubbish lying around on the surface for many years or were broken pots immediately thrown into a pit? A ritual deposition could contain more complete (not intact!) pots than a layer of waste that has been lying around at the surface and finally ends up in a pit. The average sherd weight would also be higher in the first case. Of course, great care should be taken when interpreting these results because of a lack of comparable research. For example a fresh pottery dump can also contain a high average sherd weight and many complete pots. If an individual pot consists of fragments spread over different archaeological features it is also registered in the database. A lack of time has prevented us from conducting specific research for refitting the sherds of pots between all the different features, although this would be very useful for examining the spread and movement of objects and waste over the site and not extremely time consuming. Beside the detailed information on ceramics a lot of research and data on individual fragmented animal bone, articulated bone groups or complete carcasses, but also the species, the age

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and the anatomical parts was included together with basic information per basic unit (layers) and per archaeological context (feature) in the database.

The Grijpenveld-site in Tienen seems to offer a unique opportunity to test this methodology to compare the deposits from refuse contexts with those from contemporary ritual contexts and funerary contexts (and equally as there are a high number of features per cultural context thereby assisting the statistical reliability of the output of the results). A critical success factor for this methodology is representativeness of the Grijpenveld site for Roman Tienen as a whole. In this discussion a distinction will be made between the periphery of the settlement and the cemetery. The Grijpenveld site (fig. 4.1) is situated at the outskirts of the town and contains, next to the ceremonial enclosure, the tumulus and the mithraeum, also craft infrastructure. Spread over the area (except within the ceremonial enclosure) numerous pits with rubbish deposits occur, with many evidently originally dug for the extraction of loess, and thus, following extraction, 'available' to the deposition of waste. The latter can be deduced to come from different areas/households/communities of Roman Tienen as the endemic Roman era problem of urban detritus was locally resolved. Archaeological evidence for settlement waste disposal in other Roman centres (see 1.2.1.1) has, indeed, shown that rubbish from different places “intra muros” was often disposed of in peripheral zones of towns and smaller centres. Given the overall sample sizes are large and we are dealing with 'rubbish' we can legitimately have a default assumption that the sum of mixed deposits of pottery and finds from the different layers per phase are likely to be representative as they are an amalgamation of actions/material/processes of deposition, diluting the exceptional.

This latter type of approach would be a conventional view (that might be called a 'working hypothesis') amongst those who study Roman ceramics, although it is essential to monitor pottery contents from layers and be alert to distinctive or exceptional material, for the nature of site formation is multi-faceted. The settlement zone of the Grijpenveld site is therefore likely to generate an acceptable level of representativeness for each phase, although new data from other areas of the vicus can always be added to create a more 'average' consumption assemblage. This fact by itself shows the importance of integral recovery and research of archaeological assemblages. For the ritual depositions the representativeness is even less straight-forward. The Grijpenveld site, as a peripheral zone, clearly was a place where the remains of all kinds of ritual activities were deposited in underground features. It is possible that the successive construction of the late-Augustan ceremonial enclosure, the 2nd century tumulus and the 3rd century mithraeum, but also the proximity of the cemetery played a role in or even determined the 'special status' of this area that next to an industrial function also seems to have had an important 'ritual' use. It may be noted that in Late Iron Age Temperate Europe craft and productive activities were also frequently associated with religious locations suggesting that divine intervention or evocation may have been considered highly important to the productive process. Common features of ritual assemblages are, quite to the contrary of waste assemblages, that they include items that were intentionally selected for a specific occasion, often intentionally broken or damaged and intentionally deposited. In a way these ritual activities are all unique and an average 'ritual assemblage' conceptually would seem to make little sense. It was considered useful, however, to look for common patterns in these depositions for a better understanding of specific consumer choices and a transformation of these choices due to evolving belief systems. The ritual depositions were therefore singled out with the aid of a set of criteria (see chapter 3) per phase and considered as an average ritual assemblage to look for similarities and differences with contemporary settlement waste assemblages on the one hand and cemetery assemblages on the other hand. The cemetery seems to provide a good average sample of the vicus inhabitants, with no special rich or poor graves. The numbers of graves that could be dated are unevenly divided between the different phases. These numbers are considered sufficiently relevant (phase 1: 23; phase 2: 281; phase 3: 198 and phase 4: 53) to provide a representative or ‘even’ collection of data for the cemetery assemblage per phase. In fact due to the fact that the cemetery seems to represent a socio-economically average population, the assemblage can offer a unique view on the sense of identity of the non-elite inhabitants of the vicus.

2.2.3 THE STRUCTURE OF THE DATABASE

With the present research questions in mind it was obvious that computing assistance would be essential; we would never resolve the complicated structures of deposition of the thousands of items and assemblages with human intellect alone. Their arrangement and associations within the archaeological features was clearly complex, but nonetheless amenable to documentation, coding, listing and sorting via computer software. Based on field experience and study of literature, we decided that the solution was to design a database with variables containing information upon the features, the stratigraphical components of the features and of all the finds. For each find category a ‘Fill in list’ of objective variables, not too detailed but also not too superficial, had to be created. To make this possible research of literature on the subject was carried out and a specialist was consulted

253 Willis 2007, 121.
for each material category. The concept and aim of the database was also discussed with colleagues who had some experience with setting up databases. In order to design the right structured database several days of discussion with the information technology specialist were necessary, as were several testing sessions. Finally, we chose to create a relational database in which the data are placed in matrices that can be interlinked. At the time when this pathway was selected the recognition that relational databases held considerable potential for archaeological enquiry was only just dawning and was beginning to be employed for some post-exavation projects in Europe. However, in so far as relational databases were developed for projects in subsequent years, seemingly in many cases, their use remained mainly for listing rather than the application of detailed relational analysis. Logically, the structure of the database reflects very well the aim of the research. At the top we have the entity of the site itself and at the bottom we have the entity of the layers, between which we have the contexts as linked entities or layers. The layer entity acts as a pivot between the data of the site and the data of the finds (fig. 2.12). As we have already mentioned, the variables or attributes of the database were carefully selected as a function of the research questions. A separate ‘Fill in’ list was made for the ceramics, glass, animal bone, metal, stone, botanical and human remains. The advantage of this database is that it can be interrogated in all directions, by individual finds specialists as well as for more general archaeological issues. It can serve as a database for traditional research questions as well as for more innovative, exploratory or speculative aims. Queries could be run to interrogate the database as to the occurrence of a very wide range of data types and associations, as the nature of the trends in deposition were explored. For example, we could request differences in assemblages between different contexts; in which contexts samian ware occurs, how much and which types; or the proportions of local to imported wares throughout the Roman era. This configuration of the database was designed in 2000. At that time the version Access 97 was used to develop the database. In the mean time it is updated to Access 2002-2003. For our purpose this database provides sufficient storage and an efficient query execution mechanism. 254

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254 The database, however, is inaccessible to the most popular and powerful web-based search engines. Over the last few years, however, research is looking for a way to unlock information from traditional relational databases. The STAR Project (Semantic Technologies for Archaeological Resources) uses the CRM CIDOC Conceptual Reference Model (CRM) as an umbrella framework for cross searching different archaeological datasets and the grey literature. They make use of the English Heritage extension to the CRM (CRMEH) for modelling archaeological processes. The project has developed various web services for accessing the CRM and related archaeological thesauri, along with a demonstrator for cross searching. In the future, vast amounts of fragmented archaeological data could thus be systematically structured and made available to a wider community. see also Binding/May/Tudhope 2008.
database. In the mean time it is updated to Access 2002-2003. For our purpose this database provides sufficient storage and an efficient query execution mechanism.²⁵

2.2.4 MATERIAL CULTURE CATEGORIES: TRADITION AND INNOVATION

The study of finds from archaeological sites has greatly improved and often changed our understanding of life and culture in the Roman period radically in recent years. One important area for improvement, however, remains a systematic and rigorous recording of the finds at the individual context level that allows detailed analysis of specific find categories, as well as provides meaningful datasets for understanding social practices like, for example, waste deposition or ritual deposition. As mentioned under 2.2.3 a relational database was created to sustain all kinds of future enquiry and research. In order to make detailed research by comparative analysis of specific categories of finds between different sites possible, traditional ways of recording finds remain necessary. At the same time new strands of information have to be added to try to solve more complicated problems like the evolution in consumption patterns, in waste disposal strategies and in the characteristics of different kinds of ritual deposition. In designing the composition of the datasets per find category in the methodology of this study, a set of traditional and more innovative parameters (variables) were chosen by which to record finds. An important characteristic of the database design is the fact that it is relational and links all strands of information on finds and features of the site. Generally, the most innovative aspect of the variables for the different find categories is the appreciation of the fragmentation and completeness of objects (artefacts and ecofacts). In the case of ceramics and glass the registered fragmentation and completeness is mostly representative for their state in Roman times. Also for bronze and iron finds an innovative aspect in the datasets is that they enable accurate recording of object fragmentation and representation. This means that not only the complete objects are recorded, but also the fragments. In this case, however, the fragmentation might be
a result of post-deposition processes. For the animal bone assemblage we attempted to produce a systematic method for recording all useful information on fragmented bones as well as on complete bones, anatomical connections and complete skeletons. Also in case of the animal bone, unfortunately conservation conditions can play a role in the fragmentation of animal remains. Another innovative aspect of the present methodology is the inclusion of the chronological value of each datable object to create a solid foundation for the dating of archaeological features. The locally produced pottery quantitatively provides the most valuable dates because of its abundant presence. The capacity to date individual features optimally is an important way forward in providing a timeframe for the phasing of the site. This timeframe is of major importance for further chronological analysis of the site in terms of consumption and deposition practices and their transformations throughout the Roman period.

In the next sections the recorded variables for ceramics, glass, bronze, iron objects and bone are shown with drop down boxes including predefined lists and a brief discussion of their research potential. Transparency in the creation of datasets for Roman sites and an evaluation of their research value afterwards can provide important ways forward in the research of specific find categories as well as discovering new paths of research for more theoretically oriented studies. The dataset of the pottery assemblage is the most fully outlined here because it is considered that the highest gain can be made here for new understandings in Roman archaeology. In contrast the dataset to record the bone assemblage is only briefly commented on because it is a well established discipline and indeed not the speciality of the writer.

2.2.4.1 Pottery

Research aims and methodology

Pottery can be considered the most important category of finds from the Roman period and traditionally provides a basis for establishing chronology and commercial networks. More social questions have often been limited to the degree of uptake of Roman types and styles or the relative richness of the inhabitants of a settlement, a town or in a cemetery. One of the reasons for the limited use of pottery as a major source of information is that traditionally there has been little consideration of how and why this pottery entered the archaeological record. Roman site pottery reports are mostly principally concerned with form, fabric, chronology and provenance of ceramics. In many reports indeed a lot of time and effort is spent to identify, catalogue and publish ceramics but because of the research methodology and the recording system applied its potential for telling us about the lives of people who used it remains to a large extent untapped.

I want to argue, indeed, that a potentially important problem is the research methodology and the subsequent organisation and structuring of the data for further analysis. One of the basic problems is that ceramic assemblages from settlement sites are often not studied by context but are all thrown together to subsequently be divided up in different general categories for research. This methodology is seriously detrimental for the research of settlements and for our understanding of the people who lived there, their lives, choices, practices and possibilities.

The comparison of ceramic assemblages from different contexts and dates to see if recurrent patterns emerge promises to be one way of exploiting the ceramic resource and the proposed methodology is designed to achieve this. It has the potential to reveal the patterns occurring in the composition, the fragmentation and completeness of ceramic assemblages and in the presence of other objects in glass and metal and of organic remains such as bones or charred plant remains. Analysis also remains to be done on the relations between the places where assemblages have been deposited and their composition. Detailed analysis of archaeological deposits can also shed light on our understanding of the quantified data for pottery or faunal remains, if it appears that selection processes may have biased the deposits in favour of, or against a particular class of material. The question always remains whether archaeological records reflect average consumption patterns of ceramics or if they are very biased by all kinds of processes of recycling, reuse or intentional deposits. Another issue that causes problems for interpreting ceramics is the fact that many of the organic remains originally deposited have been lost due to decomposition. This can be especially misleading in ritual or funerary contexts where ceramics were originally deposited as containers of food and drink and not for their implicit value alone. The study of the ceramic assemblage that is deposited, how it is structured and how the different objects ended up together in the deposit has a large information value because the patterns forthcoming from study should directly reflect certain human actions in the past. Studying the ceramics from all the waste contexts of a Roman site in the same detailed way and comparing them should reflect not only different habits of rubbish disposal, but also provide a lot of information on the daily use of ceramics and the social and cultural behaviour of people in Roman times. Changes in eating and drinking underline the significance of ceramics for the

256 Peña 2007, 2.
257 Cool 2006, 37.
manner in which meals were prepared, served and consumed. Also the link between the different categories of material culture in the waste deposits seem to have a high research potential to reveal patterns of past behaviour in the Roman small town of Tienen.

Fig. 2.13. Refitting pottery from the excavations of Tienen, Grijpenveld. Photo author.

In fact this approach implies a conceptual framework of how and why we study the pottery of an excavation. Traditionally the motivation to study the ceramics of a site was to date the features and to attribute social and economical labels on the site. The contextual analysis of ceramics is looking for the processes and actions that led to the formation of an archaeological record to reveal actions and motivations of individuals in Roman times. To make this kind of analysis possible, a new methodology for the study and recording of the ceramics with their relevant characteristics in a context is necessary. This approach to the study of ceramics is the subject of this section within the present research. For this purpose traditional and new ways to quantify and characterize finds are combined. In the first part of this section the general research methodology to study the pottery of this site is elaborated on. In the second part we will dwell on the set of different aspects and characteristics with the pre-selected lists that are registered in the database. This is a uniform way of organizing the data with a close relation to the envisaged research questions. The reasons why a certain field of data was included and the research potential of this strand of information for future research will be explained. Care was taken that nothing unnecessary was recorded and that no too time consuming actions had to be performed during the study or during the phase of input into the database. The research methodology and the set of chosen characteristics of the ceramics to be recorded were validated by Paul Tyers and Robin Symonds at the time of the research design. Both are ceramic specialists with experience in developing research designs for Roman sites.

Before we start with an explanation of the research methodology for the ceramics it is important to note that a maximum of sherds was collected from the excavation. Apart from the samples from sieving or the special contexts, hand recovery using a trowel to search the soil in a wheelbarrow was applied. The speed of the excavation was adapted to make this kind of maximum recovery possible. This is an important choice because much of the potential information that can be extracted from ceramics depends on the methods used to collect it and the rigour with which they are systematically applied. Without going into detail for these reasons at this point it is worth noting that this has to do mainly with a striving to recover the exact composition of the assemblage and a registration of the completeness of the various ceramic individuals (that is pots) in an archaeological context. After washing and drying each ceramic sherd was marked with a find number that refers to the layer in the archaeological feature it was discovered in. Also the weight of the sherd is marked on it with Indian ink for easy input afterwards. At the actual time of research all the ceramics from a layer in a feature are put on the table for sorting into separate groups, first per fabric and later per individual ceramic item. Subsequently the ceramics from the next layer (if present) from the same feature is added and the same process of refitting starts again. This implies that the sherds that belong to one and the same individual are grouped together per feature. It is possible that groups (sets) of sherds that belong to more than one layer within the same feature are formed alongside groups (sets) of sherds that belong to only one specific layer. More often than not some ceramic individuals are represented by only one sherd. At the end of this process all the sherds that belong to one and the same individual are grouped on a piece of paper on which further determination of a number of characteristics are registered for input in the database (fig. 2.14 and 2.15). This set of characteristics is unique for the ceramic individual and consists of the fabric, the type, the completeness and if rim sherds are present also of

\[258\] Pitts 2007b, 705-707.
\[259\] Peña 2007, 351-352.
the diameter. At the time of input into the database, all sherds of an individual vessel are registered separately per sherd, because of possible different find numbers in case the sherds belong to different layers and also because of the necessity of the indication of the sherd weight. Per sherd we also noted if it is part of the rim, the wall or the bottom of a pot. Evidently the rest of the indexed characteristics of an individual remain the same, so the rest of the record can be copied.

The categorization of the ceramics is outlined below, listing the variables (fields) registered in the database.

**Ceramic group**
This classification corresponds to the large groups, in which ceramics are traditionally divided, mainly based on a mix of characteristics like clay matrix, firing conditions, inclusions and surface treatment (table 2.1). These are still quite heterogeneous groups of ceramics that are more than anything else easily distinguishable visually. The classes mostly also correspond to certain research traditions and can often be assigned to specific ceramic specialists. Some of the categories have more ancient research traditions than others, are traditionally more densely studied and consequently have more chance to end up being published in detail within excavation reports. Good examples of well-studied groups are samian ware and *amphorae*. It was considered useful to include these broad categories of classification to ceramic individuals per archaeological context for establishing some broad research questions concerning general trends in assemblages within a site and in between sites. The categories are especially practical for inter-site comparison because they are quite universally used. The diverse properties that led to the traditional division into these categories are mostly a consequence of visual characteristics that are easily applicable to subdivide large numbers of ceramics. This diversity of characteristics and the fact that these classes are based upon prioritizing varying qualitative elements of form, function, colour and surface treatment, emergent from piecemeal developments in ceramic study, makes this categorisation less useful for research questions about for example consumption, commercial contacts or socio-cultural practices.

<table>
<thead>
<tr>
<th>ceramic group</th>
</tr>
</thead>
<tbody>
<tr>
<td>samian ware</td>
</tr>
<tr>
<td>colour coated ware</td>
</tr>
<tr>
<td>mould-decorated ware</td>
</tr>
<tr>
<td>mica-dusted ware</td>
</tr>
<tr>
<td>pompeian red ware</td>
</tr>
<tr>
<td>terra nigra</td>
</tr>
<tr>
<td>terra rubra</td>
</tr>
<tr>
<td>oxidized ware</td>
</tr>
<tr>
<td>smoked ware</td>
</tr>
<tr>
<td>reduced ware</td>
</tr>
<tr>
<td>amphorae</td>
</tr>
<tr>
<td>jugs</td>
</tr>
<tr>
<td>mortaria</td>
</tr>
<tr>
<td>dolia</td>
</tr>
<tr>
<td>lead glazed ware</td>
</tr>
<tr>
<td>hand-formed ware</td>
</tr>
<tr>
<td>black-slipped ware</td>
</tr>
</tbody>
</table>

Table 2.1. Classification scheme of ceramic groups used in the Tienen database.

**Ceramic fabric**
Fabric analysis is the study of pottery using characteristics of the clay body, the inclusions and the technique with which the pottery is made. Within this methodology groups of sherds with the same look and feel are first grouped together using the naked eye. The occurrence of striking features such as grog, quartz, calcite,…or the
absence of inclusions render a first classification. The general theory and the approach of fabric analysis will not be elaborated on in this thesis. The general theory and the approach of fabric analysis will not be elaborated on in this thesis. Within the subject of this work it is important to present the methodology and research potential of this diagnostic set of characteristics. For our research purposes we were obliged to create a list and reference collection with the identification of the known and most common fabrics of our sites’ assemblage. This was an intensive research project of its own that had to be conducted before establishing the database pre-selection lists. For this purpose collaboration between researchers dealing with ceramic assemblages from the region was instituted. Our final list of fabrics is mainly based on the International Fabric Reference Collection created by the Centre Régional d’Archéologie Nationale (CRAN) of the Université Catholique de Louvain (UCL) with the kind aid of Fabienne Vilvorder. This list was extended by some fabrics discovered during the research of the mortaria excavated in Tienen and the ceramic assemblage from Tongeren by Sonja Willems and Frédéric Hanut. During our research new fabrics were identified and added where possible. Another ceramic research group was set up by Xavier Deru at the University of Lille 3. This study group helped with defining and identifying new fabric groups from the regions to the north and northeast of the civitas, without always being able to know the provenance of the fabric group, mostly because the atelier (workshop) has not been discovered yet. In this way a quite unique list of fabrics was created for regional pottery thanks to the collaboration between the ceramic specialists within the region and outside the region (table 2.2).

Not only was the list of ceramics that occur in the region created in this way, but at the same time the knowledge of all kinds of fabric groups grew within our team studying and identifying the ceramics. For all research questions it is relevant to know that the sources of pottery change with time. Deep knowledge of fabrics of an assemblage is important for studying regional and supra-regional distribution patterns per phase of the site. Equally interesting is the opportunity created to identify and compare the composition of assemblages per archaeological context, to define choices in consumption and possibly link these choices with social practices or activities that took place when the assemblage was formed. A good example is the comparison of choices of consumption of local, regional and supra-regional pottery from contemporary assemblages in profane settlement contexts, in ritual contexts and in cemetery contexts.

<table>
<thead>
<tr>
<th>fabric code</th>
<th>fabric category</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMUN</td>
<td>Amphora, undefined</td>
</tr>
<tr>
<td>ARGBS</td>
<td>Argonne, black-slipped ware</td>
</tr>
<tr>
<td>ARGCC</td>
<td>Argonne, colour coated ware</td>
</tr>
<tr>
<td>BATAM-BIIB</td>
<td>Baetican Amphora Beltram B II B</td>
</tr>
<tr>
<td>BATAM-D20</td>
<td>Baetican Amphora Dressel 20</td>
</tr>
<tr>
<td>BATAM-D23</td>
<td>Baetican Amphora Dressel 23</td>
</tr>
<tr>
<td>BATAM-D7/11</td>
<td>Baetican Amphora Dressel 7/11</td>
</tr>
<tr>
<td>BATAM-H70</td>
<td>Baetican Amphora Haltern 70</td>
</tr>
<tr>
<td>BAVAYFCC</td>
<td>Bavay, fine ware, colour coated</td>
</tr>
<tr>
<td>BAVAYFOX</td>
<td>Bavay, fine ware, oxidized</td>
</tr>
<tr>
<td>BAVAYMO</td>
<td>Bavay, mortaria</td>
</tr>
<tr>
<td>BSUN</td>
<td>Black-slipped, undefined</td>
</tr>
<tr>
<td>CCUN</td>
<td>Colour coated, undefined</td>
</tr>
<tr>
<td>CHAMTN</td>
<td>Champagne, Terra Nigra</td>
</tr>
<tr>
<td>COCCNOOR</td>
<td>Coarse ware, colour coated, northern group, orange</td>
</tr>
<tr>
<td>COLCC</td>
<td>Cologne, colour coated ware</td>
</tr>
<tr>
<td>COOXNOOR</td>
<td>Coarse ware, oxidized, northern group, orange</td>
</tr>
<tr>
<td>COOXUN</td>
<td>Coarse ware, oxidized, undefined</td>
</tr>
<tr>
<td>CORNOOR</td>
<td>Coarse ware, reduced, northern group, orange</td>
</tr>
<tr>
<td>CORUN</td>
<td>Coarse ware, reduced, undefined</td>
</tr>
<tr>
<td>COSMNOOR</td>
<td>Coarse ware, smoked, northern group, orange</td>
</tr>
<tr>
<td>COSMUN</td>
<td>Coarse ware, smoked, undefined</td>
</tr>
<tr>
<td>DOCATUN</td>
<td>Dolium, calcite tempered, undefined</td>
</tr>
<tr>
<td>DOUAM</td>
<td>Dourges, <em>amphorae</em></td>
</tr>
<tr>
<td>DOUCC</td>
<td>Dourges, colour coated ware</td>
</tr>
</tbody>
</table>

260 The essential principles are those outlined by Peacock, see Peacock 1977.
261 Willems 2009.
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOUCOOX</td>
<td>Dourges, coarse ware, oxidized</td>
</tr>
<tr>
<td>DOUCOSM</td>
<td>Dourges, coarse ware, smoked</td>
</tr>
<tr>
<td>DOUFOX</td>
<td>Dourges, fine ware, oxidized</td>
</tr>
<tr>
<td>DOUFSM</td>
<td>Dourges, fine ware, smoked</td>
</tr>
<tr>
<td>DOUMD</td>
<td>Dourges, mica-dusted ware</td>
</tr>
<tr>
<td>DOUMO</td>
<td>Dourges, mortaria</td>
</tr>
<tr>
<td>DOUMOCC</td>
<td>Dourges, mortaria, colour coated</td>
</tr>
<tr>
<td>DOUN</td>
<td>Dolium, undefined</td>
</tr>
<tr>
<td>EIFECOOX</td>
<td>Eifel, coarse ware, oxidized</td>
</tr>
<tr>
<td>EIFECOR</td>
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</tr>
<tr>
<td>FLBAMUN</td>
<td>Flat bottom amphorae, undefined</td>
</tr>
<tr>
<td>FOXUN</td>
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</tr>
<tr>
<td>FRUN</td>
<td>Fine ware, reduced, undefined</td>
</tr>
<tr>
<td>FSMUN</td>
<td>Fine ware, smoked, saponaceous fabric</td>
</tr>
<tr>
<td>GLUN</td>
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</tr>
<tr>
<td>HFCAT</td>
<td>Hand-formed ware, calcite tempered</td>
</tr>
<tr>
<td>HFCT</td>
<td>Hand-formed ware, coarse tempered</td>
</tr>
<tr>
<td>HFFT</td>
<td>Hand-formed ware, fine tempered</td>
</tr>
<tr>
<td>HFSA</td>
<td>Hand-formed ware, salt ware</td>
</tr>
<tr>
<td>HFSH</td>
<td>Hand-formed ware, shell tempered</td>
</tr>
<tr>
<td>HFVG</td>
<td>Hand-formed ware, vegetal tempered</td>
</tr>
<tr>
<td>ITAM</td>
<td>Italic region, amphorae</td>
</tr>
<tr>
<td>LEZBS</td>
<td>Lezoux, black-slipped ware</td>
</tr>
<tr>
<td>LIBFLBAM</td>
<td>Liberchies, flat bottom amphorae</td>
</tr>
<tr>
<td>LIBMO</td>
<td>Liberchies, mortaria</td>
</tr>
<tr>
<td>LYOAM</td>
<td>Lyon, amphorae</td>
</tr>
<tr>
<td>LYOCC</td>
<td>Lyon, colour coated ware</td>
</tr>
<tr>
<td>MAAASCOOX</td>
<td>Maas region, coarse ware, oxidized</td>
</tr>
<tr>
<td>MAAASCOR</td>
<td>Maas region, coarse ware, reduced</td>
</tr>
<tr>
<td>MAAASCOSM</td>
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</tr>
<tr>
<td>MAAASFLBAM</td>
<td>Maas region, flat bottom amphorae</td>
</tr>
<tr>
<td>MAAASFOX</td>
<td>Maas region, fine ware, oxidized</td>
</tr>
<tr>
<td>MAAASMO</td>
<td>Maas region, mortaria</td>
</tr>
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<td>MARFLBAM</td>
<td>Marseille kilns, flat bottom amphorae</td>
</tr>
<tr>
<td>MDNG</td>
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</tr>
<tr>
<td>MDSOAP</td>
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</tr>
<tr>
<td>MDUN</td>
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<td>MOCTUN</td>
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<td>MOSOAP</td>
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<tr>
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<tr>
<td>NOGAM-G13</td>
<td>North Gaulish amphorae Gauloise 13</td>
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<tr>
<td>ORAM-CA189</td>
<td>Oriental amphorae Camulodunum 189</td>
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<td>PRIT</td>
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</tr>
<tr>
<td>PRNG</td>
<td>Pompeian red ware, North Gaulish</td>
</tr>
<tr>
<td>PRSG</td>
<td>Pompeian red ware, South Gaulish</td>
</tr>
<tr>
<td>PRUN</td>
<td>Pompeian red ware, undefined</td>
</tr>
<tr>
<td>RHINECOOX</td>
<td>Rhine region, coarse ware, oxidized</td>
</tr>
<tr>
<td>RHINECOR</td>
<td>Rhine region, coarse ware, reduced</td>
</tr>
<tr>
<td>RHINECOSM</td>
<td>Rhine region, coarse ware, smoked</td>
</tr>
<tr>
<td>RHINEFOX</td>
<td>Rhine region, fine ware, oxidized</td>
</tr>
<tr>
<td>RHINEFSM</td>
<td>Rhine region, fine ware, smoked</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>RHINEMO</td>
<td>Rhine region, mortaria</td>
</tr>
<tr>
<td>RHINETWGG</td>
<td>Rhine region, thin walled granular grey ware</td>
</tr>
<tr>
<td>RHONFLBAM</td>
<td>Rhone region, flat bottom <em>amphorae</em></td>
</tr>
<tr>
<td>RHONFOX1</td>
<td>Rhone region, fine ware, oxidized, fabric 1</td>
</tr>
<tr>
<td>RHONFOX2</td>
<td>Rhone region, fine ware, oxidized, fabric 2</td>
</tr>
<tr>
<td>RHONMO1</td>
<td>Rhone mortaria, fabric 1</td>
</tr>
<tr>
<td>RHONMO2</td>
<td>Rhone mortaria, fabric 2</td>
</tr>
<tr>
<td>RUECOSM</td>
<td>Rue-des-Vignes, coarse ware, smoked</td>
</tr>
<tr>
<td>RUEFOX</td>
<td>Rue-des-Vignes, fine ware, oxidized</td>
</tr>
<tr>
<td>RUEFSM</td>
<td>Rue-des-Vignes, fine ware, smoked</td>
</tr>
<tr>
<td>RUEMD</td>
<td>Rue-des-Vignes, mica-dusted ware</td>
</tr>
<tr>
<td>RUEPR</td>
<td>Rue-des-Vignes, Pompeian Red ware</td>
</tr>
<tr>
<td>RUETN</td>
<td>Rue-des-Vignes, Terra Nigra</td>
</tr>
<tr>
<td>SA</td>
<td>Samian ware</td>
</tr>
<tr>
<td>SCHEMO</td>
<td>Scheldt Valley, mortaria</td>
</tr>
<tr>
<td>SOAP</td>
<td>Saponaceous ware</td>
</tr>
<tr>
<td>SOAPCC</td>
<td>Saponaceous ware, colour coated</td>
</tr>
<tr>
<td>SOGAM-G12</td>
<td>South Gaulish <em>amphorae</em> Gauloise 12</td>
</tr>
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<td>SOGAM-G4</td>
<td>South Gaulish <em>amphorae</em> Gauloise 4</td>
</tr>
<tr>
<td>SOLMO</td>
<td>Soller mortaria (Germany)</td>
</tr>
<tr>
<td>TIECC</td>
<td>Tienen, colour coated ware</td>
</tr>
<tr>
<td>TIECOCC</td>
<td>Tienen, coarse ware, colour coated</td>
</tr>
<tr>
<td>TIECOOX</td>
<td>Tienen, coarse ware, oxidized</td>
</tr>
<tr>
<td>TIECOOXCT</td>
<td>Tienen, coarse ware, oxidized, coarse tempered</td>
</tr>
<tr>
<td>TIECOR</td>
<td>Tienen, coarse ware, reduced</td>
</tr>
<tr>
<td>TIECORCT</td>
<td>Tienen, coarse ware, reduced, coarse tempered</td>
</tr>
<tr>
<td>TIECOSM</td>
<td>Tienen, coarse ware, smoked</td>
</tr>
<tr>
<td>TIECOSMCT</td>
<td>Tienen, coarse ware, smoked, coarse tempered</td>
</tr>
<tr>
<td>TIEDO</td>
<td>Tienen, dolium</td>
</tr>
<tr>
<td>TIEFAR</td>
<td>Tienen, fine ware, Ardoisé</td>
</tr>
<tr>
<td>TIEFLBAM</td>
<td>Tienen, flat bottom <em>amphorae</em></td>
</tr>
<tr>
<td>TIEFOX</td>
<td>Tienen, fine ware, oxidized</td>
</tr>
<tr>
<td>TIEFR</td>
<td>Tienen, fine ware, reduced</td>
</tr>
<tr>
<td>TIEFSM</td>
<td>Tienen, fine ware, smoked</td>
</tr>
<tr>
<td>TIEGL</td>
<td>Tienen, glazed ware</td>
</tr>
<tr>
<td>TIEMO</td>
<td>Tienen, mortaria</td>
</tr>
<tr>
<td>TIEMOCC</td>
<td>Tienen, mortaria, colour coated ware</td>
</tr>
<tr>
<td>TIEMOCT</td>
<td>Tienen, coarse tempered mortaria</td>
</tr>
<tr>
<td>TIEPR</td>
<td>Tienen, Pompeian Red ware</td>
</tr>
<tr>
<td>TIETN</td>
<td>Tienen, Terra Nigra</td>
</tr>
<tr>
<td>TIETR</td>
<td>Tienen, Terra Rubra</td>
</tr>
<tr>
<td>TIETW</td>
<td>Tienen, thin walled ware</td>
</tr>
<tr>
<td>TIEUN</td>
<td>Tienen, undefined</td>
</tr>
<tr>
<td>TNSOAP</td>
<td>Terra Nigra, saponaceous fabric</td>
</tr>
<tr>
<td>TNUN</td>
<td>Terra Nigra, undefined</td>
</tr>
<tr>
<td>TONCC</td>
<td>Tongeren, colour coated ware</td>
</tr>
<tr>
<td>TONCOCC</td>
<td>Tongeren, coarse ware, colour coated</td>
</tr>
<tr>
<td>TONCOOX</td>
<td>Tongeren, coarse ware, oxidized</td>
</tr>
<tr>
<td>TONCOR</td>
<td>Tongeren, coarse ware, reduced</td>
</tr>
<tr>
<td>TONCOSM</td>
<td>Tongeren, coarse ware, smoked</td>
</tr>
<tr>
<td>TONCOSMCT</td>
<td>Tongeren, coarse ware, smoked, coarse tempered</td>
</tr>
<tr>
<td>TONFOX</td>
<td>Tongeren, fine ware, oxidized</td>
</tr>
</tbody>
</table>
Table 2.2. Classification scheme of fabric codes and categories used in the Tienen database.

<table>
<thead>
<tr>
<th>Fabric Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>TONFR</td>
<td>Tongeren, fine ware, reduced</td>
</tr>
<tr>
<td>TONFSM</td>
<td>Tongeren, fine ware, smoked</td>
</tr>
<tr>
<td>TONMOCC</td>
<td>Tongeren, mortaria, colour coated ware</td>
</tr>
<tr>
<td>TONUN</td>
<td>Tongeren, undefined</td>
</tr>
<tr>
<td>TRIBS</td>
<td>Trier, black-slipped ware</td>
</tr>
<tr>
<td>TRUN</td>
<td>Terra Rubra, undefined</td>
</tr>
<tr>
<td>TWUN</td>
<td>Thin walled ware, undefined</td>
</tr>
<tr>
<td>WAASCOR</td>
<td>Waasland, coarse ware, reduced</td>
</tr>
<tr>
<td>WAASFR</td>
<td>Waasland, fine ware, reduced</td>
</tr>
</tbody>
</table>

**Ceramic form**

This broad categorisation denominates the general form of a vessel, without applying a specific type form from a known type series (table 2.3). The general form of a vessel is often linked to a presumed function especially in combination with the fabric. For example a bowl in samian ware will be defined as table ware while a bowl in regional ware can be identified as cooking ware. Since general forms, like plate, bowl, beaker, jug,... rarely have a chronological value or a reference to a certain production place, the information provided by this categorization can be mainly used for general research questions concerning the occurrence of certain forms. In many ceramic reports data are organized by a first division into general fabric groups and subsequently by general forms. The advantage of this broad categorisation of forms is that comparisons can be made at inter-site level, because the general denomination of forms is applied quite universally in Roman archaeology. This category of information, however, can also be relevant at intra-site level for general research questions concerning the forms present in a certain phase or a comparison between different phases of the site, for example to determine changes in cuisine, habits of serving drinks and food, eating habits or storage facilities. Analysis of the occurrence of forms in different kinds of contexts such as ritual, funerary and waste assemblages- can also be informative on the motivations for the consumption and deposition of certain vessel forms.

<table>
<thead>
<tr>
<th>Ceramic Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>amphorae</td>
</tr>
<tr>
<td>beaker</td>
</tr>
<tr>
<td>bottle</td>
</tr>
<tr>
<td>bowl</td>
</tr>
<tr>
<td>crater</td>
</tr>
<tr>
<td>cult ceramic</td>
</tr>
<tr>
<td>dish/plate</td>
</tr>
<tr>
<td>dolium</td>
</tr>
<tr>
<td>incense burner</td>
</tr>
<tr>
<td>jar</td>
</tr>
<tr>
<td>jug</td>
</tr>
<tr>
<td>lamp</td>
</tr>
<tr>
<td>lid</td>
</tr>
<tr>
<td>mortarium</td>
</tr>
<tr>
<td>pot</td>
</tr>
<tr>
<td>undefined</td>
</tr>
<tr>
<td>sieve</td>
</tr>
<tr>
<td>figurine</td>
</tr>
<tr>
<td>saucepan</td>
</tr>
</tbody>
</table>
Table 2.3. Classification scheme of ceramic forms used in the Tienen database.

**Ceramic type**
The table of categories of ceramic types identified in the pottery assemblage can be found together with their dates of occurrence under the title ‘Date range’ below (table 2.6).

The creation of a ceramic type series of Roman pottery is possible because of the habits of the potters in reproducing a limited range of popular forms with relative accuracy. Roman potters have clearly followed recipes and procedures that have been passed down to them and that they repeated and, in turn, passed on to their successors. The output of a workshop or a series of workshops often consists of some imitations of popular types of pottery and a series of types with characteristics more typical of the region. Mostly this assortment of forms changes only slowly throughout the Roman period. This evolution in forms also gives a chronological dimension to the pottery assemblages. Archaeologists can create type series by grouping together similar items judged on a number of criteria assessed simultaneously, and their separation from dissimilar groups.262 Traditionally, regional type series including pottery from different origins have been created alongside type series from specific pottery workshops. For the attribution of types to the ceramics of our site in Tienen a number of existing type series were used, but since a large proportion of the ceramic assemblage was produced locally, we were obliged to establish a typo-chronological series to make detailed registration of the data from this pottery possible. Indeed, no other typology was specific enough to categorize the local Tienen ceramics to a level that was satisfactory. The local ceramic type series was produced with special attention for the purpose of making a practical and easy determination of types possible, even when not many sherds are available in an archaeological context. In this type series we looked for a correct balance between distinguishing subtle variations in forms and defining more general prototypes. The choice to work rather with prototypes and not too many variations in subtypes in the typology increased the chance that a sherd or a group of sherds could be attributed to a type. The fact that a maximum of the local ceramics could be typologically determined self-evidently increased the analytical potential of the contexts and the site. The contrary would be true if we worked too much with subtypes, which would make the attribution of sherds to a certain type much more difficult and result in a larger proportion of ceramics in the category ‘undetermined’.

To assign types to the vessels that were not locally produced we made use of established typological series. For a consequent and systematic registration of types the most suitable series per group were agreed upon. For the regional ware the type series that Vanvinckenroye produced for the determination of the pottery of Tongeren was used.263 For the ware that was imported from known production centres further away more specific and universally used type series were used, like for example Niederbieber for the black slipped ware of Trier.264 To guarantee a uniform attribution of names to the types a predefined but extendable list of types was made available in the database (table 2.6).

A large advantage of attributing types from well known type series to the ceramics of a site in a database lies in the exchangeability of information between people who study and compare ceramics of different sites. The prospective information yield provided by this classification of ceramics mainly lies in its potential for providing dates to contexts and functions to ceramics. Both are indirect data that are mainly based on the specific type of a vessel, sometimes in combination with the fabric. The close relation between types to specific dates and functions places this classification in a key role in the analysis of different functions within a context.

**Ceramic function**
To make straightforward analysis of different functions of ceramic assemblages possible the most probable function is assigned to each type (table 2.4). These functions are general enough to have a high probability of being correct, although specific types of ceramics can be used for a variety of secondary functions. Especially the fabric in combination with the type often gives a conclusive idea on the function of the vessel. The reason for this is that ceramic types were clearly produced by the potter with a predetermined mix of clay with a certain function in mind. Indeed this is especially true for the pottery of the Roman era where a close correspondence between fabric, form and appearance, and function is apparent, in the way it is not so for some other periods. Many times, however, the function of a vessel is not so clear and more research can be done for example by

264 Oelman 1914.
systematically recording traces and deposits in vessels. Vessels that are regularly sooted and/or burnt have been used to cook food on hearths, over open fires or embedded in hearths. Another clear example is the vessels that are used as kettles or similar to heat water and consequently build up deposits of limescale (where the water used has a calcareous element). These traces and the methods of registration are elaborated on below in this section.

<table>
<thead>
<tr>
<th>ceramic function</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>cultic ware</td>
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</tr>
<tr>
<td>kitchen ware</td>
<td></td>
</tr>
<tr>
<td>lighting</td>
<td></td>
</tr>
<tr>
<td>storage/transport ware</td>
<td></td>
</tr>
<tr>
<td>table ware</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.4. Classification scheme of ceramic functions used in the Tienen database.

**Fragmentation: considering rim, body, base, and handle sherds**

Since each sherd has to be introduced in the database separately to be able to assign a group of sherds to a common individual we were offered the opportunity to adhere extra information on individual sherd level, for example the weight, but also the part of the vessel the sherd belongs to. This information has special value for different kinds of analysis. First of all it can be useful to study the different proportions of rim, body and bottom sherds to understand how a context was formed and furthermore which parts of a pot have more chance to enter the archaeological record. It is also interesting to analyse if a certain selection took place in the context of ritual practices. During the study of the ceramics (per context) we noticed some contexts with a higher proportion of rims of vessels possibly because of an intentional selection of these parts for ritual purposes. Therefore it was useful to add this information to the database to test if an overrepresentation of rim sherds is a potential characteristic of ritual depositions.

Another interesting research potential is created by the fact that our research methodology and database structure makes it possible to quantify also vessels represented by sherds within contexts that do not include rim sherds. This raises the opportunity to check how representative the quantification of a ceramic assemblage based on only rim sherds is and how it deviates from quantification based on all the ceramic sherds. This last research is not related specifically to our site in Tienen but adds to the general discussion on the methodology of quantification of pottery that has been a general point of discussion for the last ten years.

**Completeness**

The methodology of refitting ceramic vessels per context allows for an appreciation of the completeness of each vessel as recovered from the archaeological deposits (fig. 2.14 and 2.15). For this appreciation we predetermined 5 categories, varying from less than 25 percent to 100 percent (table 2.5). A good knowledge of form, types and sizes makes this appreciation on the completeness of vessels easier. The completeness of the vessels from a context can be a very informative on the deposition practices in Roman times, especially on how the people dealt with waste. A high proportion of nearly complete pots in a context would suggest that these vessels ended up in the context soon after they stopped being used. We can imagine that pots in a household context do not break daily and waste was piled up in a spot before being dumped definitely on a rubbish heap. Probably broken pots are therefore likely to get mixed up with other waste before ending up in pits with other waste. It is clear that broken pots were mostly lingering around somewhere before they were finally discarded in a cut feature or build-up layer for us to find. To study the completeness of pots of a context is a principal way to provide access to the research of practices of refuse disposal because it can be determined from the completeness of pots how fresh and coherent a ceramic assemblage is and thus was at the time of disposal. After this appreciation we can go further to analyze the composition and characteristics of the assemblage recovered from the context. The composition of primary assemblages (deposits that are undisturbed and thus contain well-associated artefacts) can inform for example on the practices that took place before the deposition of household waste. It can indicate the consumer choices and the practices of the household that produced the waste. Pottery assemblages studied in this way can also be used for spatial analysis because it can be demonstrated how and why they entered particular subsoil features and general refuse management strategies can be examined. In this way spatial analysis to define different practices in different areas of the town can have a certain sense of accuracy.

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Another category of assemblages that are deposited not long after they were constituted are ritual deposits. These too can be composed of vessels that are more complete than average waste contexts, because they are deposited shortly after the successive acts in rituals (feast, ceremony, sacrifice) took place and there is not a lot of chance that many sherds were lost but maybe also because often special care was taken to collect all material for ritual deposition in an underground feature. The fact that all the contexts of the site Tienen-Grijpenveld, regardless if they were situated in the cemetery, the settlement or in a ritual context like the sanctuary for Mithras, are studied to determine the completeness of the pots in the same way makes this ceramic assemblage critical for research of Roman assemblages and practices in the region.

The information of the completeness of a pot is just as relevant as its type or fabric or could be even more relevant, depending on the questions asked. After the development of typologies and the development in distinguishing fabrics, it is now time to ask new questions again concerning the quantification and registration of pottery. I would like to argue that the research of the completeness of vessels per archaeological context can play a key role in future research of ceramic assemblages.
Table 2.5. Classification scheme of different categories of completeness used in the Tienen database.

<table>
<thead>
<tr>
<th>Completeness</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Full record</td>
</tr>
<tr>
<td>&gt; 75%</td>
<td>Mostly complete</td>
</tr>
<tr>
<td>50% - 75%</td>
<td>Partially complete</td>
</tr>
<tr>
<td>25% - 50%</td>
<td>Incomplete</td>
</tr>
<tr>
<td>&lt; 25%</td>
<td>Vastly incomplete</td>
</tr>
</tbody>
</table>

From the beginning of the excavation it was clear that few of the features of the Grijpenveld site intersected and that dating of the contexts based on their stratigraphical position would be impossible. Of course, this pattern of discrete (separated) contexts is a characteristic of many rural sites and smaller civil centres of the Roman period in north-west Europe. Therefore it was decided that maximum information had to be gained from the dates of the pottery and the other finds to date the features. As mentioned before each vessel can be dated based on its type and fabric. Even if the type and the fabric of a pot is identified, however, it is still often difficult to establish the precise date-range of a vessel. One of the reasons for this is the big difference in the production date and the circulation date of pottery. The dates available in literature can vary from an estimated date range of the production, to date ranges representing the occurrence of vessels in archaeological contexts, the latter evidently usually covering a much larger time span. For the dating of contexts based on the collection of all the individual dates of the vessels it contains it is not easy to decide how wide a data range of each type has to be chosen. Previous research clearly showed how long ceramic vessels, especially imported table ware like samian, could circulate or stay in use before they were finally deposited. We experienced this difficulty while establishing dates for the Tienen typology. In truth these aspects are a fundamental consideration for the archaeologist of the Roman era. Some points to be aware of are that often in the past pottery specialists and others have talked of ‘the date of production’ of a pottery type (expressed as a date range), when really what they mean (but often seem not to realise) is the date at which a type is found in archaeological deposits. It is unlikely that we will know when a type was actually made as to know this we would require better quality information than is usually recovered at kiln sites; rather, what we do know is the date of deposits within which types occur when discarded or entering the record. When we have a number of such examples available this knowledge is our ‘date range of the pot’, and so then might be expressed as ‘the date range of deposits within which type X normally or most frequently occurs’. Millett has written on this matter showing that the manufacture of pottery types usually follows a normal distribution curve, and that is echoed by a similar curve in its frequency in site deposits – all be that, accordingly, slightly later in date. Seriation can help establish such curves. What makes matters a little more complicated is the point made above that different types of pottery can have different rates of ’turnover’, that is, for instance, many examples of one type (such as a cooking jar) might be in use, consumed and discarded while over the same period only one example of a table ware form may be consumed (perhaps because it is used less often or used more carefully). Further, residuality can be a factor, though we can note that usually all types have a low and long residual ‘tail’ to their frequency curve. These matters are discussed in the subject literature and need noting; they are factored into the approach taken here.

The opportunity created by a comparison of all the dates of all the ceramics in a context, however, allows for a best possible date of an archaeological feature. A special effort was made to establish a timeframe for all the identified types that occurred on the Grijpenveld site, for the local pottery as well as for the regional and supra-regional ceramics (table 2.6). The time span of occurrence of a specific type established from the dates of the features it occurs within in turn allows for a redefinition of the originally estimated time span of occurrence of that type in the small town of Tienen (as this means enables the overall ‘behaviour’ or frequency profile of the type to be discerned, allowing the time span of its normal occurrence to be apparent and any residual ‘tail’ to equally be identified. In this way the relative accuracy of the originally set time span of occurrence of all the types can be tested for excavation sites within the vicus of Tienen. Thanks to this possibility of cross-checking dates of types, we can envisage that all future research will provide a closer time span of the date of occurrence of all Tienen and other types. Once established the likely date range of a pot type can be transferred from one site to another, provided the sites are situated not too far from each other. This kind of

research can also provide a closer date for types of which the production date could not be well established at their production centre due to a lack of data with chronological value.

<table>
<thead>
<tr>
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<th>ceramic date range from</th>
<th>ceramic date range till</th>
</tr>
</thead>
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</tr>
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</tr>
<tr>
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</tr>
<tr>
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</tr>
<tr>
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<td>280</td>
</tr>
<tr>
<td>B2</td>
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</tr>
<tr>
<td>B3</td>
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Table 2.6 Classification scheme of ceramic types and date ranges used in the Tienen database.

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<td>180 - 280</td>
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<td>Z1</td>
<td>50 - 250</td>
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</table>

**Diameter**

The diameter of a vessel was determined if a part of the rim was present. The diameter combined with the type/form gives a clear indication of the size and proportion of vessels. The determination of the sizes of vessels in a context provides a means to comprehend the kind of vessels that were used in different contexts and different practices. For example we noticed that certain forms appeared in smaller sizes than average in cemetery contexts while the same forms appeared in extraordinary big proportions in the context of the Mithras temple. This implies that a conscious choice of use of vessels in different sizes for different purposes was taking place. Such insights into the choices of people to purchase/employ certain vessels in more specific situations like rituals and funerals, but also in daily practice within households, can provide invaluable information on cultural selection and action in Roman times.

**Burnt by use/secondary burnt**

On many sherds of ceramic assemblages traces of fire can be determined (fig. 2.16). Mostly it can clearly be seen whether the part of the pot the sherds belong to was influenced by heat before the pot was broken or afterwards. Pots or bowls belonging to form types that are associated with regular use in cooking often have traces of fire and sooting on the bottom and near the rim. Sherds from these cooking pots often have traces of fire and heat on the outside wall and sometimes uniformly on the broken edges. Sherds that were influenced by heat after they were broken clearly also carry marks of change in colour on the sides. As mentioned above the database system was designed to add information at the level of individual sherds. We took the opportunity to note if a sherd was burnt by use or secondary burning here termed ‘secondary burnt’ for different research purposes. One important potential research area is the function of pots. Information on how often sherds of a certain type of pot carry marks of heating can confirm if the assumed cooking function of that type of vessel is correct. It is also possible that the uses of vessels that were not assumed to have a function that implies being heated have to be reconsidered. In one case firing traces on a dolium showed a secondary function as an oven.

![Fig. 2.16. Cup in Tienen ware with traces of exposure to fire.](image)
The categorisation of sherds as secondary burnt gives insight in a totally different spectrum of research questions mainly on the practices that were carried out in different cultural contexts before deposition. First of all it can be useful to evaluate whether waste was burnt before deposition. This analysis can offer insights in how waste was handled in different periods and in different parts of the Roman small town of Tienen. In ritual contexts of the settlement area it can be important to determine the proportions of burnt sherds of individual vessels to study the practice of the intentional destruction by fire of objects that were used for ritual purposes. In the funerary context it is important to evaluate which types of pots were secondary burnt in order to study which pots, with which function, were destroyed by fire on the funerary pyre or in another fire. Unfortunately the distinction between the fire of a funerary pyre and another fire can not be made by studying burning traces on sherds.

Traces

Just as the traces of heating on individual sherds give information upon the function of a vessel as a cooking pot, the presence of different kinds of remains conserved on the sherds can be informative on the function of the specific vessel. In this field of the database we identified three different kinds of remains that can be found on sherds as is shown in the table below (table 2.7). Tar, lime ("limescale") and the more general category of crusts are the main traces that can readily be identified on sherds.

In the Tienen assemblage traces of lime were often identified on the inside of sherds from large jars. This confirms the function of jars as recipients used for the heating of water. It was considered interesting to establish how often these traces could be noticed on jars and other vessels as direct evidence of practices in the past. This was important for the research on the functions of the products from the pottery workshop in Tienen as well as for vessels from other workshops.

Traces of tar (or 'bitumen') are known to be found on the rims of vessels used for the trade of foodstuff that had to be transported and conserved for a longer period. The tar was applied on the lid and the rim of vessels to seal off the content of the pot from the air. Well known examples of vessel that often contain tar on the rim are dolia and the so called “kurk urnes”, or hand formed-bowls in Belgic ware.

Much less clear is the composition of "carbonized crusts" often present on the inside or outside of vessels or sherds. These crusts are hard to identify and therefore contribute little to the determination of the use or the function of pots without further analysis of the composition of the crusts. The crusts themselves carry a large research potential for the analysis of food and other substances produced and used in the past. The indication in the database of the presence of crusts makes this assemblage very accessible for future research.

| ceramic traces | | | |
|----------------|----------------------|----------------------|
| crust          | lime                 | tar                  |

Table 2.7. Classification scheme of traces on ceramic used in the Tienen database.

Decoration

In this field of the database the decoration of individual sherds is noted. If decoration is present on a sherd, a choice between five types of decoration can be selected in the database: stamped, moulded, painted, carved or spring. This extra information on the appearance on top of the classification of the type of vessel was added to make research into the chronological evolution of decoration methods of the Tienen production possible. This evolution in decoration patterns, especially of table ware is considered to reflect a cultural evolution in fashion and taste of the people living in Roman Tienen on the one hand and the technological changes required to fulfil a higher demand on the market on the other hand. It was expected that the more time consuming decoration methods gradually went out of use during the 1st century.

Quantification

An evaluation of different methods for quantification has recently been published by Vanhoutte, Dhaeze and De Clercq.269 For our research goals we wanted to test a different method. While designing the outlines of the methodology to study the ceramics and equally important the ways of registering information in the database, we

encountered two major challenges to maximize the research potential of the ceramic assemblage for inter- and intra-site analysis. One challenge was to find a way to identify and quantify the exact number of vessels present in an archaeological context/feature, even if only represented by one or more sherds. The other challenge was to find a way to maximize the compatibility with other pottery reports in terms of quantitative methods employed. We realized that a lack of compatibility would hinder future comparative research and synthetic analysis which would imply the loss of a large amount of work and interesting data. The present database is designed to generate different kinds of quantitative data: sherd count, weight and numbers of vessels. These quantified data can be generated on each possible level of inquiry: on the individual context level, but also per group of fabrics or for specific fabrics, per form, per type and this variety of data can be also requested per occupation phase.

As explained above in addition to the number of vessels, also the completeness of the vessels and their fragmentation is studied and registered. This combination of data allows one to evaluate the effect of taphonomic processes but also intentional selection for deposition. Indeed the completeness, the breakage rates, the presence of certain parts of pots in an archaeological deposit is not only dependent on taphonomical processes but can also be the result of conscious human practices. Therefore studying the exact number of vessels present in a context, with their completeness and fragmentation is not only a way to quantify ceramics but also a crucial tool for further analysis of the context and the relation with other contexts.

The data on the number of sherds was automatically included in the database because, as explained above, registration of ceramics took place on the level of individual sherds. In this way the number of sherds can automatically be generated, which was considered to give added value because a number of reports include only information by sherd count. The quantification based on the number of sherds, however, is not used in this thesis for any analytical studies. All kinds of quantification based on the weight of sherds can easily be generated by our database but will not be used for our type of research. It is foreseen for future analysis and to enable valid comparative analysis within different contexts of the Tienen site or between different sites for it facilitates the possibility of examining spatial variation across the ‘settlementscape’.

2.2.4.2 Bronze objects

**Bronze shape**

Some 1136 bronze objects were recovered during the excavations. The objects with a similar shape and function are defined under the category ‘bronze shape’. This is an important level of categorisation for the inter- and intra-site analysis of archaeological assemblages to study aspects of life and culture in Roman times (table 2.8). This field in the database allows for the use of bronze objects to be studied in specific contexts like the waste of households within a certain period or in a specific area in the Roman town of Tienen. The chronological evolution of the use of different bronze objects can be informative on the transformation of habits, fashions or the availability of objects. It is on this ‘general’ level of classification of bronze objects that a comparison can be made of the occurrence of certain categories of objects in specific cultural contexts: in the context of profane daily life; in the context of rituals or in funerary contexts. We want to discover the different meanings these objects can have within these different cultural contexts. Also for inter-site analysis this is a good level of registration for comparison of the occurrence or absence of bronze objects, because it is specific enough to have real comparative value and not too detailed to make “universal” comparison impossible.

<table>
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</tr>
<tr>
<td>bell</td>
</tr>
<tr>
<td>cochlearia</td>
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<tr>
<td>fibula</td>
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<td>buckle</td>
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<td>hairpin</td>
</tr>
<tr>
<td>handle</td>
</tr>
<tr>
<td>jar</td>
</tr>
<tr>
<td>candlestick</td>
</tr>
<tr>
<td>chain</td>
</tr>
<tr>
<td>button</td>
</tr>
<tr>
<td>pyxis</td>
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</tbody>
</table>

270 Willis 2004, 4.2.4.
The category ‘bronze groups’ refines the broad categorisation of objects within the group ‘bronze shape’ that is outlined above (table 2.9). This refinement is based on specific features that are characteristic for a certain category of objects within the general ‘shape’ group. For intra-site analysis this category of information is added to the database to study potential chronological differences in the occurrence of certain specific features within the general shapes or to study if these specific variations occur more in certain cultural contexts than others. For example it would be worth while to find out if fibulae with enamel inlay (fig. 2.17) or rings with intaglio relatively occur more often in ritual and funerary contexts than in waste contexts than do more common fibulae or rings.

For inter-site analysis this extra information is added to increase the potential for comparison of the occurrence of similar types of objects on a more detailed level than the general shape but a more general level than a specific type.
Table 2.9 Classification scheme of groups of bronze objects used in the Tienen database.

**Bronze subgroup**

The category of subgroups is especially created for fibulae because they belong to the best studied bronze objects of the Roman period (table 2.10). This subgroup is created because the type series available to categorize fibulae are often specific for the types present in a certain area and do not contain all the types that occur in Tienen. The subgroup of fibulae created in the list defined above can be very useful for finds specialists to study the chronological occurrence of certain kinds of fibulae, in the mostly well-dated archaeological features of Tienen. The characterisation of the types of cultural context categories these different fibulae occur in: profane waste deposits, ritual deposits or funerary deposits also allows for a better insight into the various uses of different types of fibulae.

<table>
<thead>
<tr>
<th>Bronze subgroup</th>
</tr>
</thead>
<tbody>
<tr>
<td>wire fibula</td>
</tr>
<tr>
<td>bud fibula</td>
</tr>
<tr>
<td>bow fibula</td>
</tr>
<tr>
<td>eye fibula</td>
</tr>
<tr>
<td>head-stud fibula</td>
</tr>
<tr>
<td>Langton Down fibula</td>
</tr>
<tr>
<td>aucissa fibula</td>
</tr>
<tr>
<td>hinge fibula with profiled bow</td>
</tr>
<tr>
<td>toothed fibula</td>
</tr>
<tr>
<td>bar fibula</td>
</tr>
<tr>
<td>rosette fibula</td>
</tr>
<tr>
<td>enameled bow fibula</td>
</tr>
<tr>
<td>disc fibula</td>
</tr>
<tr>
<td>tutulus fibula</td>
</tr>
<tr>
<td>decorated disc fibula</td>
</tr>
<tr>
<td>oval of polygonal disc fibula</td>
</tr>
<tr>
<td>equilateral disc fibula</td>
</tr>
<tr>
<td>omega fibula</td>
</tr>
</tbody>
</table>

Table 2.10 Bronze subgroup.

**Bronze type**

The above mentioned type series of bronze objects are very useful for the dates they provide so the objects can be used as dating evidence for archaeological contexts. Apart from their potential chronological value the classification of types is also important to the study of the geographical distribution of specific types of bronze objects (table 2.11). For issues related to the chronological and geographical distribution and for further questions the find specialists may want to answer we included this category of information in the lists of data on
bronze objects. This level of detail of registration of bronze objects has little value for intra-site analysis in terms of studying occurrence or spatial analysis of objects with specific functions.

<table>
<thead>
<tr>
<th>bronze type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riha</td>
</tr>
<tr>
<td>Van Buchem</td>
</tr>
<tr>
<td>Van de Weerd</td>
</tr>
<tr>
<td>Ettlinger</td>
</tr>
<tr>
<td>Lloyd-Morgan</td>
</tr>
<tr>
<td>Allason-Jones</td>
</tr>
</tbody>
</table>

Table 2.11. Classification scheme of types of bronze objects used in the Tienen database.

**Bronze function**

To enable straightforward analysis of different functions in finds assemblages at context level or at site level the most probable function is assigned to each general category of bronze object (table 2.12). These functions are general enough to have a high probability of being correct although specific objects can be used for a variety of secondary functions. The possibility of studying the occurrence of certain functional categories of bronze objects in different cultural contexts like ritual or funerary contexts carries great potential for identifying more symbolical functions of certain objects and for comparison with their function in profane contexts of daily life.

<table>
<thead>
<tr>
<th>bronze function</th>
</tr>
</thead>
<tbody>
<tr>
<td>clothing</td>
</tr>
<tr>
<td>jewellery</td>
</tr>
<tr>
<td>vessel</td>
</tr>
<tr>
<td>lightning</td>
</tr>
<tr>
<td>surgical and toilet items</td>
</tr>
<tr>
<td>instrumentum domesticum</td>
</tr>
<tr>
<td>horse gear</td>
</tr>
</tbody>
</table>

Table 2.12. Classification scheme of functions of bronze objects used in the Tienen database.

**Bronze completeness**

The registration of the completeness of bronze objects has little representative value for their completeness at the time of deposition or disposal (table 2.13). It is merely added to register its state upon retrieval from the soil. In some cases, like for example in the case of the halved coins from the Augusto-Tiberian period, there is enough evidence to prove that the object was really deposited in an incomplete state in the ground. In most cases however the conservation history of bronze objects in the soil is hard to predict. When we examine the general composition of the assemblage of a specific deposit the completeness of bronze objects is not taken into account.

<table>
<thead>
<tr>
<th>completeness</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
</tr>
<tr>
<td>&gt; 75%</td>
</tr>
<tr>
<td>50% - 75%</td>
</tr>
<tr>
<td>25% - 50%</td>
</tr>
<tr>
<td>&lt; 25%</td>
</tr>
</tbody>
</table>

Table 2.13. Classification scheme of completeness of bronze objects used in the Tienen database.
**Bronze colour**

The field ‘bronze colour’ was added to the database for diverse reasons (table 2.14). First of all it is considered important to register the colour of bronze objects upon retrieval (fig. 2.18). This can be important to evaluate and monitor the conservation process of the object. Secondly colour can be an interesting element in the research of the differential conservation of various compositions of bronze objects in combination with the research of characteristics of the soil it was conserved in. This field of colour is not considered important for the analysis of the composition of archaeological assemblages to study consumption patterns and social conduct. It is important, however, to study the relation between the composition of the assemblages, and the micro-environment created by the soil and these objects in the deposit, in relation to the conservation of the bronze object.

<table>
<thead>
<tr>
<th>bronze colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>light green</td>
</tr>
<tr>
<td>dark green</td>
</tr>
<tr>
<td>brown/orange green</td>
</tr>
</tbody>
</table>

Table 2.14. Classification scheme of colours of bronze object used in the Tienen database.

**Extra alloy**

In some cases the bronze objects are coated with a layer of other, often more precious, metal. This field was added to indicate the kind of metal used for the coating of the object (table 2.15). This category is important for the find specialist studying metal objects as well as for the archaeologist studying the composition of certain deposits in detail in terms of richness or in respect of uniqueness.

<table>
<thead>
<tr>
<th>bronze extra alloy</th>
</tr>
</thead>
<tbody>
<tr>
<td>tinned</td>
</tr>
<tr>
<td>plated</td>
</tr>
<tr>
<td>gilded</td>
</tr>
</tbody>
</table>

Table 2.15. Classification scheme of bronze coatings used in Tienen database.
Corrosion
First of all it is important to register the state of conservation of a bronze object upon retrieval. The degree of corrosion observable in a bronze object can be indicative of the type of micro-environment an object was contained in for almost two millennia (table 2.16). The micro-environment is influenced not only by the soil-type, the ground water level and the history of land use (with or without fertilizers) but also by the composition of the assemblage the object was situated in.

<table>
<thead>
<tr>
<th>Corrosion</th>
</tr>
</thead>
<tbody>
<tr>
<td>not oxidized/corroded</td>
</tr>
<tr>
<td>slightly oxidized/corroded</td>
</tr>
<tr>
<td>highly oxidized/corroded</td>
</tr>
</tbody>
</table>

Table 2.16 Classification scheme of degrees of corrosion of bronze objects used in Tienen database.

Burnt/unburnt
In the form belonging to the bronze objects a field was added to note if an object was visibly in contact with fire or not. This is important not only in the case of cemetery contexts to see if the object was present on the funerary pyre but also in other contexts to study practices like the burning of waste or possibly the ritual destruction by fire of objects.

Inscription
The registration in the database if an inscription is present on a bronze object is useful for an efficient report to specialist researchers or in case the object has particular significance within an intentionally composed assemblage.

Date range from…till
The dates indicated in the available type series of bronze objects presented above, are mostly quite broad and regionally dependent. Unlike certain ceramic wares, the place and date of the production of bronze objects is mostly difficult, if not impossible, to determine for the obvious reason that the composition of these objects can seldom be linked to certain known workshops. Forms are often in use for a long time and imitated in different regions for different time spans. For all these reasons bronze objects are not always useful for closely dating archaeological deposits. Even in the case that coins are present in a context their dating value is still questionable and remain an important subject of research. Within the framework of this research methodology it is certainly interesting to test the dates of all or certain kinds of ceramics in an archaeological context against the dates of coins. The dating of contexts independent from coins is of great value for studying the circulation periods of coins on the one hand and the possible reasons for disposal or deposition on the other hand. It is indeed interesting to detect patterns in the choices of coins for deposition in ritual or funerary contexts and how these deviate from patterns of coins found in waste deposits.

2.2.4.3 Iron objects
Iron objects are rarely part of detailed analysis of archaeological assemblages at context level. In the Grijpenveld excavation more than 10 000 iron objects were uncovered. Most of these objects were nails. Some general overviews of iron tools give a very good general impression as to which iron tools were available in Roman times. Given a few exceptions, however, there is no research on the presence of types and sizes of iron objects, especially of nails, in different cultural contexts of a Roman site. Due to the fact that iron objects are often badly conserved few excavation reports include all fragmentary objects. For the sake of completeness however a total overview of all the objects present in a context is registered in our research methodology and database system.

272 Angus 1962, 956-968.
Shape
This denomination of the broad category of objects with a similar shape and function is important for inter- and intra-site analysis of archaeological assemblages, to study aspects of life and culture in Roman times. This field in the database allows for studying the use of iron objects in specific contexts like the waste of households within a certain period or in a specific area in the Roman town of Tienen (table 2.17). The use of different iron objects can be informative on the transformation of certain practices, habits or techniques. It is on this ‘general’ level of classification of iron objects that a comparison can be made of the occurrence of certain categories of iron objects in specific cultural contexts: in the context of profane daily life; in the context of rituals or in funerary contexts. We want to discover the different meanings these objects can have within these different cultural contexts. Also for inter-site analysis this is a good level of registration for comparison of the occurrence or absence of iron objects, because it is specific enough to have real comparative value and not too detailed to make “universal” comparison impossible. For iron objects this is an important level of classification because specific type series are rarely available and where they exist are only for limited categories of objects like for example nails. The fact that iron objects are often recycled in Roman times and are often not conserved in good conditions makes a detailed analysis of the objects that are present all the more important.

<table>
<thead>
<tr>
<th>iron shape</th>
<th>Slug</th>
<th>Belt piece</th>
<th>Hook</th>
<th>Handle</th>
<th>Chain</th>
<th>Clamp</th>
<th>Plate</th>
<th>Needle</th>
<th>Nail</th>
<th>Ring</th>
<th>Key</th>
<th>Spade</th>
<th>Split pin</th>
<th>Strip</th>
<th>Stylus</th>
<th>Fork</th>
<th>Sword</th>
<th>Knife</th>
<th>Scissors</th>
<th>Plane</th>
<th>Strigilis</th>
</tr>
</thead>
</table>

Table 2.17. Classification scheme of shapes of iron objects used in Tienen database.

Group
This category refines the broad registration of objects denominated within the group ‘shape’ that is outlined above more specifically for the group “nails” (table 2.18). Nails are by far the most frequently found iron object in Roman Tienen, like on most Roman sites, without doubt mainly because they cannot be forged into other objects or other nails when they are out of use. The research potential of nails in archaeological contexts has not been exploited fully yet. Therefore this refinement within the group ‘nails’ is adopted that refers to a choice of finishing in the production process of a nail but also to the possible use that was made of the nail. This categorisation can be interesting for intra-site analysis to study potential functional differences in the occurrence of nails and the meaning of this occurrence in the specific cultural contexts: the cemetery or the settlement.
For inter-site analysis this extra information on the finishing of the nails is added to increase the potential of comparison of the occurrence of similar types of nails on a more detailed level.

<table>
<thead>
<tr>
<th>iron group</th>
</tr>
</thead>
<tbody>
<tr>
<td>flat-headed nail</td>
</tr>
<tr>
<td>conical-headed nail</td>
</tr>
<tr>
<td>dome-headed nail</td>
</tr>
</tbody>
</table>

Table 2.18. Classification scheme of groups of iron objects used in Tienen database.

**Broad nail size**

These four broad categories of the sizes of nails were added to the database to provide a general impression on the size of a nail, in case a more specific measurement could not be taken, due to corrosion or fragmentation (table 2.19). An extra motivation to create this category in the database was the fact that this is the case for most of the nails and a general appreciation of the size seemed useful for further functional analysis of assemblages. The four categories correspond to precise length categories explained below. For the uniformity of the information this categorization was also provided for the nails that could be measured more precisely. Generally it is interesting to discover the difference in composition between nail assemblages from cemetery and nail assemblages from settlement contexts or to look at the spatial distribution of nail sizes within the site to discover different contexts of use of different nail sizes.

<table>
<thead>
<tr>
<th>iron nail size</th>
</tr>
</thead>
<tbody>
<tr>
<td>small</td>
</tr>
<tr>
<td>average</td>
</tr>
<tr>
<td>big</td>
</tr>
<tr>
<td>very big</td>
</tr>
</tbody>
</table>

Table 2.19 Classification scheme of sizes of iron objects used in Tienen database.

**Nail size category**

As mentioned before nails cannot be forged into other objects. This is without doubt the main reason why they are by far the most common category of iron objects found on Roman settlement sites. This probably also implies that the archaeological assemblage of nails potentially provides a representative sample of the assemblage available and in use in Roman times. All the more it is important to maximize the information on this category of objects. For this reason the nails were the subject of a masters thesis by Veronique Guillaume. For the registration of the size of nails it was decided to work with fixed size categories based on the categories that could be observed from the best conserved nails (table 2.20). These categories should correspond exactly with the categories available in Roman times. The size of a nail, together with its form type is without doubt related to its specific use. Therefore, the study of the presence of these different categories of nails in different assemblages with different compositions is important; it is vital to study the contexts of use of these nails.

Fig. 2.19. Remains of sandals with small nails in an inhumation grave of the southwestern cemetery of the Roman vicus of Tienen, Grijpenveld.

Which type and size category of nails are common in the waste of households, compared to the categories in cemeteries or ritual contexts? Did the nails enter the archaeological record still within the wooden objects they were once fixed to? As Van Driel-Murray clearly states, it is important to take the research of nails further than the selective descriptions in catalogues.

<table>
<thead>
<tr>
<th>Iron Nail Category</th>
<th>Length Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category 1</td>
<td>1.4-1.6 cm</td>
</tr>
<tr>
<td>Category 2</td>
<td>1.8-2.1 cm</td>
</tr>
<tr>
<td>Category 3</td>
<td>2.3-2.8 cm</td>
</tr>
<tr>
<td>Category 4</td>
<td>3.5-4.2 cm</td>
</tr>
<tr>
<td>Category 5</td>
<td>4.7-5.1 cm</td>
</tr>
<tr>
<td>Category 6</td>
<td>5.6-5.9 cm</td>
</tr>
<tr>
<td>Category 7</td>
<td>6.3-6.7 cm</td>
</tr>
<tr>
<td>Category 8</td>
<td>7.9-8.4 cm</td>
</tr>
<tr>
<td>Category 9</td>
<td>9.9-10.5 cm</td>
</tr>
<tr>
<td>Category 10</td>
<td>10.9-17.7 cm</td>
</tr>
</tbody>
</table>

Table 2.20. Classification scheme of size categories of iron nails used in Tienen database.

**Function**

To make analyses of different functions in finds assemblages straightforward at context level or site level the most probable function is assigned to each general category of iron object (table 2.21). These functions are general enough to have a high probability of being correct although specific objects can be used for a variety of secondary functions. The possibility of studying the occurrence of certain functional categories of iron objects in different cultural milieux like ritual or funerary contexts carries great potential for identifying more symbolical functions of certain objects and for comparison with their function in profane contexts of daily life. Good examples of possible ritual or magic uses of ‘ordinary’ iron objects are provided by Pliny who claims that nails
that are used in different ways for their apotropaic properties.\textsuperscript{274} A theoretically informed analysis of the presence of shoes in cemetery and ritual contexts has been provided for by Van Driel-Murray.\textsuperscript{275}

\begin{tabular}{|l|}
\hline
iron function \\
clothing \\
fitsings and fastenings \\
instrumentum domesticum \\
horse gear \\
production waste \\
\hline
\end{tabular}

Table 2.21. Classification scheme with categories of functions of iron objects used in Tienen database.

**Slag**
Within the form of iron objects also a tick box for slag is provided. In this case also the weight of the iron slag is registered. The registration of slag is important for studying the functional composition of assemblages on the one hand and the spatial distribution of slag to identify areas of activities or dumping places of workshops on the other hand.

**Weight**
As mentioned above the weight of iron slag is registered for the quantification of slag in archaeological contexts.

**Completeness**
The registration of the completeness of iron objects has little representative value for their completeness at the time of deposition or disposal. It is merely added to register their state upon retrieval from the soil. There is no way of telling in which state the object was deposited in the ground. When we examine the general composition of the assemblage of a specific deposit, therefore, the completeness of iron objects is not taken into account.

**Colour**
The colour of iron is added to provide information on the state of preservation upon retrieval (table 2.22). The colour can be an interesting element for research on the differential conservation of various characteristics of iron objects in combination with the research of characteristics of the soil it was conserved in. The colour of an iron object is not considered important for the analysis of the composition of archaeological assemblages. It is important, however, to study the relationship between the composition of the assemblages and the micro-environment created by the soil, the water table and the other objects present in the deposit.

\begin{tabular}{|l|}
\hline
iron colour \\
orange/brown \\
blue/green \\
\hline
\end{tabular}

Table 2.22 Classification scheme of categories of colours of iron objects used in Tienen database.

**Corrosion**
The degree of corrosion is registered by means of the following three categories: not corroded, slightly corroded or strongly corroded. It is important to register the state of conservation of an iron object upon retrieval. The degree of corrosion observable in a bronze object can be indicative on the type of micro environment an object

\textsuperscript{274} Plinius, *Naturalis Historia* 28, 17.63.
\textsuperscript{275} Van Driel-Murray 1999, 131-140.
was conserved in. The micro-environment is influenced not only by the soil-type, the ground water level and the history of land use (with or without fertilizers) but also by the composition of the assemblage the object was situated in.

**Burnt**
In the database form belonging to the registration of iron objects a field was added to note if an object had been in contact with fire or not. This is important not only in the case of cemetery contexts to see if the object was present on the funerary pyre but also in other contexts to study practices like the burning of waste or possibly the ritual destruction by fire of objects. In the case of nails it is possible that nails were burnt together with the wood they were fixed to without intentionally wanting to destroy the nail. It is furthermore problematic to determine whether or not an iron object has been in contact with fire due to the high melting temperature on the one hand and due to poor conservation of most iron objects on the other hand. It was nevertheless considered worth while to test the value of this field of information while it can be readily assembled.

2.2.4.4 Glass objects

**Glass shape**
The predefined list “glass shape” is a general categorisation of objects classifying those with a similar shape and function (table 2.23). This level of registration is very useful for analyzing the functional composition of archaeological assemblages at the site level but also on context/deposit level (fig. 2.20). Due to the widespread practice of recycling generally only small quantities of fragmented glass are discovered in archaeological deposits of this period. This fragmentation often hinders the identification of the shape of the objects.

![Fig. 2.20. Glass objects from Tienen, Grijpenveld.](image)

This makes a careful registration of glass fragments present in archaeological deposits all the more important and potentially interesting. The analysis of the occurrence of glass fragments in well dated assemblages can reveal the activities and practices in different cultural contexts as in households, in ritual contexts or in funerary contexts. For this kind of functional analysis this level of categorisation of glass objects is ideal.

<table>
<thead>
<tr>
<th>glass shape</th>
<th>bowl</th>
<th>unguentarium</th>
</tr>
</thead>
</table>

84
<table>
<thead>
<tr>
<th>glass group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>deep bowls</td>
<td></td>
</tr>
<tr>
<td>shallow bowls</td>
<td></td>
</tr>
<tr>
<td>bulbous unguentaria</td>
<td></td>
</tr>
<tr>
<td>tubular unguentaria</td>
<td></td>
</tr>
<tr>
<td>candlestick unguentaria</td>
<td></td>
</tr>
<tr>
<td>square bottles</td>
<td></td>
</tr>
<tr>
<td>hexagonal bottles</td>
<td></td>
</tr>
<tr>
<td>cylindrical bottles</td>
<td></td>
</tr>
<tr>
<td>bulbous jugs</td>
<td></td>
</tr>
<tr>
<td>conical jugs</td>
<td></td>
</tr>
<tr>
<td>ovoid jugs</td>
<td></td>
</tr>
<tr>
<td>cylindrical jugs</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2.23. Classification scheme of categories of shapes of glass objects used in Tienen database.**

**Glass group**

This is a refinement of the broad category of shapes of glass objects (table 2.24). In this category more specific features of general shapes are grouped together. The classification is especially interesting for the geographical and chronological research of the occurrence of specific types of glass objects for which type series are not always available. The category is probably not particularly important for the functional analysis of glass objects in specific cultural contexts.
jugs with trefoil rim
unguent jar
open rings
closed rings
segmented beads
cylinder-shaped beads
square-sectioned beads, long-shaped
long polygonal beads
prism-shaped beads
biconical beads
oblong beads with round section
heart-shaped beads
pear-shaped beads
oval beads with flat section
round beads with flat section
boat- or kidney-shaped beads
gadrooned beads
diamond-faceted beads
melon beads
annular beads
globular beads
open bracelets
closed bracelets
square-sectioned beads, cube-shaped

Table 2.24. Classification scheme of categories of groups of glass objects used in Tienen database.

Glass type
The above mentioned type series of glass objects is very useful for the information it provides for dating archaeological deposits in addition to dating evidence from the ceramic and bronze objects. Apart from their potential chronological value the classification of types is important to study the geographical distribution of specific types of glass objects as well as for further questions the glass specialists may want to answer. This level of detail of registration of glass objects has little value for intra-site analysis in terms of studying occurrence or spatial analysis of objects with specific functions or for the occurrence of objects in different cultural contexts.

Glass function
The most probable use is assigned to different forms of glass objects to make the analysis of different functions in finds assemblages at context level or at site level straightforward. These functions are general enough to have a high probability of being correct although specific objects can be used for a variety of secondary functions (table 2.25). The possibility of studying the occurrence of certain functional categories of glass objects in different cultural contexts like ritual or funerary contexts carries great potential for identifying more symbolical functions of certain objects and for comparison with their function in profane contexts of daily life.
Table 2.25. Classification scheme of categories of functions of glass objects used in Tienen database.

**Glass colour**

Glass can have many colours depending on its composition (table 2.26). Technical studies of archaeological glass divide the ingredients of glass as formers, fluxes, stabilisers, as well as possible opacifiers or colourants. The addition of a field with quite a large variation of colours for registration on sherd level is useful for the research on the composition of glass. Also the study of the relationship between the colour of glass objects, their function and their shape and their chronological occurrence can be envisaged. The above mentioned range of questions shows that the information on glass colour is useful for specialist research of the Tienen glass rather than for the composition of find assemblages.
Glass decoration
The categories of decoration that can be ticked in boxes of the glass form in the database at sherd level are the following: stamped, moulded, painted, carved, polished, marbled, appliqués and sandwiched. This category of information is added for specialist research as for example the chronological evolution of the techniques used for the decoration of glass.

Glass pontil mark
In the database it can be indicated if a glass object carries a pontil mark. This is mostly important for specialist glass research.

Glass technique
The information on the production technique is added to the database for the glass specialist, for example to study the chronological evolution of the applied techniques to produce glass (table 2.27).

<table>
<thead>
<tr>
<th>glass technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>mould-pressed (cast)</td>
</tr>
<tr>
<td>mould-blown</td>
</tr>
<tr>
<td>free-blown</td>
</tr>
<tr>
<td>rod-formed</td>
</tr>
<tr>
<td>other</td>
</tr>
</tbody>
</table>

Table 2.27. Classification scheme of categories production techniques of glass objects used in Tienen database.

Glass production material
This category was created for the registration of finds that are related to glass production and do not belong in any other material category (table 2.28). It was created mainly because evidence for glass production was discovered in the vicus. Spatial analysis of the occurrence of glass production material becomes an easy task with the inclusion of this category of information.

<table>
<thead>
<tr>
<th>glass production material</th>
</tr>
</thead>
<tbody>
<tr>
<td>raw glass</td>
</tr>
<tr>
<td>slag</td>
</tr>
<tr>
<td>waste</td>
</tr>
<tr>
<td>other</td>
</tr>
</tbody>
</table>

Table 2.28. Classification scheme of categories of glass production material used in Tienen database.
**Glass completeness**
It is interesting to note the completeness of glass objects to study the practices of deposition and disposal of glass (table 2.29). Mostly glass objects appear very fragmented in archaeological deposits and often only one or two sherds are present, mainly due to recycling practices. Occasionally, however, also complete glass objects are found, mainly in intentionally composed assemblages like in funerary context. Often individual glass sherds are not registered at context level. The inclusion of all glass fragments for an integrated analysis of all finds assemblages is envisaged by this category of information.

<table>
<thead>
<tr>
<th>completeness</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>&gt; 75%</td>
<td></td>
</tr>
<tr>
<td>50% - 75%</td>
<td></td>
</tr>
<tr>
<td>25% - 50%</td>
<td></td>
</tr>
<tr>
<td>≤ 25%</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.29. Classification scheme of categories of completeness of glass objects used in Tienen database.

**Glass diameter**
If possible the diameter of the rim of a glass object is recorded or in cases of a bead also of the body is added in the database. The diameter of an identified type of object gives a good indication of the size without actually having to see it.

**Glass fragmentation: rim, neck, body, base, handle**
For glass vessels much valuable information about the composition of the assemblage resides in handle and body fragments. Given that glass assemblages are always much smaller than pottery ones because of the re-cycling of broken glass, there is a need to maximise the information from all elements. Since each sherd has to be introduced in the database separately to be able to assign a group of sherds to a common individual we were offered the opportunity to add extra information on individual sherd level referring to the part of the vessel the sherd belongs to. This information has special value for different kinds of analysis. First of all it can be useful to study the different proportions of rim, body and bottom sherds to understand how a context was formed and to analyse if a certain selection took place in the context of ritual practices.

**Glass secondary molten**
The information provided in the database that indicates whether a sherd or object was secondary molten material creates research opportunities on the practices that were carried out before deposition (fig. 2.21). First of all it can be useful to evaluate if waste was burnt before deposition. This analysis can offer insights with regard to how waste was handled in different periods and in different parts of the Roman small town of Tienen. It can also be the case that glass was molten in the preparation process for glass production. In the settlement area it can be important, however, to determine the presence of molten sherds or objects to study the practice of the intentional destruction by fire of objects that were used for ritual purposes.
In the funerary context it is important to evaluate which type of glass objects were secondary molten to study which objects with which function were destroyed by fire on the funerary pyre or in another fire. Unfortunately it is impossible to distinguish between the fire of a funerary pyre and another fire.

**Date range from…till**
The dates indicated in the available type series of glass objects are mostly quite broad and regionally dependent. Unlike with certain ceramic wares, the place and date of the production of glass objects is mostly difficult, if not impossible, to determine because the composition or shape of these objects can seldom be linked to certain known workshops. Forms are often in use for a long time and imitated in different regions for different time spans and often with recycled glass. For all these reasons glass objects are not always useful for closely dating archaeological deposits. Within the framework of this research methodology it is certainly interesting to test the dates provided by ceramics for archaeological contexts against the dates of glass objects.

**Quantification**
Given that glass assemblages are always much smaller than pottery ones because of the re-cycling of broken glass and doubtless as it was actually a rarer material in the Roman era than mass produced ceramics, there is a need to maximise the information from all elements. For evaluating and studying glass assemblages it is important to provide an overview of how many sherds are present of which types of objects per archaeological site context and at feature level. In our database this information is provided together with the completeness of the object but assemblages can also be quantified by number of sherds per shape, type or for each occupation phase separately.

2.2.4.5 Animal remains

**Introduction**
The excavation in Tienen has generated large quantities of animal bone. A system of recording bone fragments has been developed in cooperation with the archaeozoologists Anton Ervynck and Ann Lentacker. The strength of the system lies in its flexibility for answering specialist questions and recording all necessary information at context level. The methodology enables the application of a wide variety of quantitative methods, and combines these with spatial analysis. Conservation conditions of the soil that can vary even within a site according to what type of feature the bones are deposited in are noted.  

Due to the fact that this set of data is part of a relational database and can be linked to the datasets of the other find categories at context level, a huge research potential is created. The combination of the data from other categories of finds multiplies the research possibilities because it allows for a better characterisation of assemblages from the individual contexts. In this way a range of research possibilities is created that vary from the interpretation of animal husbandry to the taphonomy of individual features and the characteristics of ritual deposition.

---

Archaeozoology is a well-developed discipline within archaeology. The variables that can be studied are well known and their research potential is very firmly evaluated by the group of specialists active in the field. Therefore it is not considered useful that I elaborate aspects of animal bone as that can better be explained by the specialists. I will concentrate on the direction and research potential of the variables applied in the database and briefly discuss their value for understanding cultural practices in the Roman period.

**Group**
The main animal groups discovered in archaeological assemblages when hand collected and in poor preservation condition are birds and mammals (table 2.30). This is the most general level of distinction of groups of animals.

<table>
<thead>
<tr>
<th>fauna animal group</th>
<th>fauna species</th>
</tr>
</thead>
<tbody>
<tr>
<td>aves</td>
<td></td>
</tr>
<tr>
<td>mammalia</td>
<td></td>
</tr>
<tr>
<td>unidentified</td>
<td></td>
</tr>
</tbody>
</table>

Table 2.30. Classification scheme of animal groups used in Tienen database.

**Species**
For the analysis of the composition of the finds assemblages it is necessary to identify and register the animal bones at the species level (table 2.31). In this way the species represented by their bones can be identified within individual deposits as well as for the analysis of the assortment of animals per phase and per cultural context, for example for the settlement, the cemetery and ritual contexts. A deviation from the species composition normally present in butchery and consumption waste can signify that we are dealing with a special ritual deposit. For identifying ritual deposits more information on the animal bones than only the identification of species can be very useful, as will be shown below. The universality of animal species makes the inter-site comparison unproblematic.

<table>
<thead>
<tr>
<th>fauna animal group</th>
<th>fauna species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aves</td>
<td>domestic goose</td>
</tr>
<tr>
<td>Aves</td>
<td>domestic duck</td>
</tr>
<tr>
<td>Aves</td>
<td>jackdaw</td>
</tr>
<tr>
<td>Aves</td>
<td>raven</td>
</tr>
<tr>
<td>Aves</td>
<td>small passerine</td>
</tr>
<tr>
<td>Aves</td>
<td>chicken</td>
</tr>
<tr>
<td>Aves</td>
<td>unidentified</td>
</tr>
<tr>
<td>Mammalia</td>
<td>goat</td>
</tr>
<tr>
<td>Mammalia</td>
<td>dog</td>
</tr>
<tr>
<td>Mammalia</td>
<td>cat</td>
</tr>
<tr>
<td>Mammalia</td>
<td>horse</td>
</tr>
<tr>
<td>Mammalia</td>
<td>sheep</td>
</tr>
<tr>
<td>Mammalia</td>
<td>horse or cattle</td>
</tr>
<tr>
<td>Mammalia</td>
<td>sheep or goat</td>
</tr>
<tr>
<td>Mammalia</td>
<td>pig</td>
</tr>
<tr>
<td>Mammalia</td>
<td>black rat</td>
</tr>
<tr>
<td>Mammalia</td>
<td>rodent</td>
</tr>
<tr>
<td>Mammalia</td>
<td>hare</td>
</tr>
<tr>
<td>Mammalia</td>
<td>fox</td>
</tr>
<tr>
<td>Mammalia</td>
<td>red deer</td>
</tr>
</tbody>
</table>
Table 2.32 Classification scheme of types of remains of animals used in Tienen database.

<table>
<thead>
<tr>
<th>faun type of remains</th>
<th>Bone</th>
<th>Antler</th>
<th>Tooth</th>
<th>Shell</th>
</tr>
</thead>
</table>

Table 2.31. Classification scheme of animal groups and species used in Tienen database.

**Type of remains**
The type of faunal remnant is registered at this stage. A distinction is made between bone, antler, tooth and shell (table 2.32). This division was made to make straightforward analysis of artisanal activities possible. When a bone is registered, if possible, further identification of the skeletal element is made.

**Skeletal element**
It is important to identify the part of the skeleton the bone belongs to for the analysis of the practices that took place before the deposition of the animal bone (table 33). If an animal was butchered it is important to know which part of the animal ended up in the archaeological record as butchery waste and which parts ended up with the consumption waste from the table and kitchen. This is especially true when we are dealing with specialised butchery practices of which the waste of the chain of operations ended up in a different place than the waste from parts of the animals that were prepared and consumed (fig. 2.22). It is also possible, however, that some animals were butchered at home in which case the butchery waste ended up together with the kitchen and table waste. Possibly these practices varied in time and it is worthwhile studying the composition of waste assemblages in terms of representation of skeletal elements of different animal species per phase.

Next to butchery waste and consumption waste the archaeological record also contains bone working waste. As will be shown some parts of specific animals were used more often than others for producing bone artefacts. A selection and concentration of these bones can signify preparation for activities of bone working. Some animals or parts of animals were not consumed
but were deposited intentionally as a sacrifice for the supernatural. These deposits can show deviations from normal butchery or consumption waste in terms of the species and skeletal elements present in the deposit. Additionally, the age of the animals and whether they are part of assemblages in anatomical connection, plays a role in the identification of ritual deposits. It goes without saying that the analysis of the other objects present in the deposit can also lead to the conclusion that an assemblage was composed and deposited for ritual purposes.

<table>
<thead>
<tr>
<th>fauna animal group</th>
<th>fauna skeletal element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aves</td>
<td>phalanges leg</td>
</tr>
<tr>
<td>Aves</td>
<td>others</td>
</tr>
<tr>
<td>Aves</td>
<td>phalanges</td>
</tr>
<tr>
<td>Aves</td>
<td>tarsometatarsus</td>
</tr>
<tr>
<td>Aves</td>
<td>tibiotarsus</td>
</tr>
<tr>
<td>Aves</td>
<td>skull</td>
</tr>
<tr>
<td>Aves</td>
<td>pelvis</td>
</tr>
<tr>
<td>Aves</td>
<td>phalanges wing</td>
</tr>
<tr>
<td>Aves</td>
<td>carpometacarpus</td>
</tr>
<tr>
<td>Aves</td>
<td>radius</td>
</tr>
<tr>
<td>Aves</td>
<td>vertebrae</td>
</tr>
<tr>
<td>Aves</td>
<td>femur</td>
</tr>
<tr>
<td>Aves</td>
<td>un (unidentified)</td>
</tr>
<tr>
<td>Aves</td>
<td>ulna</td>
</tr>
<tr>
<td>Animal Group</td>
<td>Skeletal Element</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Aves</td>
<td>sacrum</td>
</tr>
<tr>
<td>Aves</td>
<td>urostyl</td>
</tr>
<tr>
<td>Aves</td>
<td>furcula</td>
</tr>
<tr>
<td>Aves</td>
<td>coracoid</td>
</tr>
<tr>
<td>Aves</td>
<td>sternum</td>
</tr>
<tr>
<td>Aves</td>
<td>scapula</td>
</tr>
<tr>
<td>Aves</td>
<td>humerus</td>
</tr>
<tr>
<td>Mammalia</td>
<td>radius</td>
</tr>
<tr>
<td>Mammalia</td>
<td>cervical vertebrae</td>
</tr>
<tr>
<td>Mammalia</td>
<td>thoracal vertebrae</td>
</tr>
<tr>
<td>Mammalia</td>
<td>lumbal vertebrae</td>
</tr>
<tr>
<td>Mammalia</td>
<td>sacrum</td>
</tr>
<tr>
<td>Mammalia</td>
<td>caudal vertebrae</td>
</tr>
<tr>
<td>Mammalia</td>
<td>ribs</td>
</tr>
<tr>
<td>Mammalia</td>
<td>sternum</td>
</tr>
<tr>
<td>Mammalia</td>
<td>clavicula</td>
</tr>
<tr>
<td>Mammalia</td>
<td>skull</td>
</tr>
<tr>
<td>Mammalia</td>
<td>phalanx II</td>
</tr>
<tr>
<td>Mammalia</td>
<td>astragalus</td>
</tr>
<tr>
<td>Mammalia</td>
<td>calcaneus</td>
</tr>
<tr>
<td>Mammalia</td>
<td>metapodial</td>
</tr>
<tr>
<td>Mammalia</td>
<td>podal</td>
</tr>
<tr>
<td>Mammalia</td>
<td>axis</td>
</tr>
<tr>
<td>Mammalia</td>
<td>atlas</td>
</tr>
<tr>
<td>Mammalia</td>
<td>hyoid</td>
</tr>
<tr>
<td>Mammalia</td>
<td>teeth</td>
</tr>
<tr>
<td>Mammalia</td>
<td>mandible</td>
</tr>
<tr>
<td>Mammalia</td>
<td>maxilla</td>
</tr>
<tr>
<td>Mammalia</td>
<td>horn core</td>
</tr>
<tr>
<td>Mammalia</td>
<td>scapula</td>
</tr>
<tr>
<td>Mammalia</td>
<td>phalanx III</td>
</tr>
<tr>
<td>Mammalia</td>
<td>humerus</td>
</tr>
<tr>
<td>Mammalia</td>
<td>phalanx I</td>
</tr>
<tr>
<td>Mammalia</td>
<td>metatarsal</td>
</tr>
<tr>
<td>Mammalia</td>
<td>tarsal</td>
</tr>
<tr>
<td>Mammalia</td>
<td>fibula</td>
</tr>
<tr>
<td>Mammalia</td>
<td>tibia</td>
</tr>
<tr>
<td>Mammalia</td>
<td>femur</td>
</tr>
<tr>
<td>Mammalia</td>
<td>pelvis</td>
</tr>
<tr>
<td>Mammalia</td>
<td>metacarpal</td>
</tr>
<tr>
<td>Mammalia</td>
<td>carpal</td>
</tr>
<tr>
<td>Mammalia</td>
<td>ulna</td>
</tr>
<tr>
<td>Mammalia</td>
<td>other</td>
</tr>
</tbody>
</table>

Table 2.33. Classification scheme of animal groups and skeletal elements used in Tienen database.
**Diagnostical Zone**

The determination of diagnostical zones relies on the premise that a skeletal element can be divided into a number of morphologically distinct zones that can be recorded (table 2.34). If the bone is not complete then the identification of the diagnostical zone allows for a more detailed recording of what is actually present in the archaeological record. The advantage of the recording of diagnostical zones lies in the correct identification and quantification of archaeozoological assemblages that allows for detailed analysis and interpretation of archaeological deposits. Furthermore it gives a correct impression of the fragmentation of the animal bone assemblage which is of major importance for identifying practices like butchery, the ‘winning’ of marrow out of bone fragments or the investigation of what sort of consumption was undertaken. The number of assemblages quantified by the zonal method is limited.

![Table 2.34. Classification scheme of diagnostic zones of animal bones used in Tienen database.](table)

<table>
<thead>
<tr>
<th>fauna diagnostic zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>CB (complete bone)</td>
</tr>
<tr>
<td>PF (proximal fragment)</td>
</tr>
<tr>
<td>SF (shaft fragment)</td>
</tr>
<tr>
<td>DF (distal fragment)</td>
</tr>
<tr>
<td>NV (not valid)</td>
</tr>
</tbody>
</table>

Number

The number of bones or bone fragments is registered per species, per skeletal element and per diagnostical zone. This is an easy and accurate way of registration and quantification of the animal bones present in the archaeological record at context level.

Part of anatomical connection

On the registration form it can be indicated if an animal bone is a part of an anatomical connection (fig. 2.23). This is important for evaluating the type of deposit. Anatomical connections are often present in ritual depositions, although articulated bones are occasionally also found among normal refuse.

![Fig. 2.23. Dog bones not in anatomical connection and dog foetus from the tumulus burial in the southwestern periphery of the vicus of Tienen, Grijpenveld.](image)

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278 Cool 2006, 11.
279 Grant 1984, 102-119.
**Individual code**

The individual code can be given to different skeletal elements that belong to the same animal. In this way it becomes possible to evaluate whether an animal might have been buried in a feature but was only partially conserved, or that not all the bones were retrieved completely during excavation, or a combination of both.

**Weight**

The field weight is available, but has not been used until now.

**Age estimation**

The age at death of animals is an important element in the analysis of the animal bone assemblage of a site (table 2.35). In combination with the sex of animals, the age of death is a major element for studying the economy of a small town and the wider region. The estimation of the age of animals can also be an important element in the research of rituals. In the case of the burial of the *tumulus* of Griepen dog and pig foetuses were excavated (fig. 2.23). In the deposits next to the *mithraeum* the bones of lambs and piglets were discovered. The age of animals that were entirely sacrificed or that were partly consumed in ritual banquets is significant and the way this age deviates from the daily consumed animals is important for gaining insights in the enigmatic world of ritual and religion in the small town of Tienen and the wider region.

<table>
<thead>
<tr>
<th>fauna age estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOE (foetal)</td>
</tr>
<tr>
<td>SUB (subadult)</td>
</tr>
<tr>
<td>JUV (juvenile)</td>
</tr>
<tr>
<td>ADU (adult)</td>
</tr>
<tr>
<td>NV (not valid)</td>
</tr>
</tbody>
</table>

Table 2.35. Classification scheme of estimated ages of animals used in Tienen database.

**Gnawing marks rodents/carnivores or signs of weathering**

Per animal bone or bone fragment that is introduced in the database the presence of gnawing marks of rodents or of carnivores is indicated in a tick box. Sometimes it is readily apparent that a bone was weathered before deposition in a feature. All this information allows evaluation as to how long the bones had been exposed to open air. This knowledge offers a number of research opportunities like for example to study the practice of waste deposition and hygiene in the *vicus* or a totally different strand of research like the evaluation of the freshness of a deposit.

**Burn marks, chop marks, cut marks**

The presence of the marks mentioned above can be indicated in a tick box per bone or bone fragment. Research topics on the appearance of chop marks, on which bones they occur and which animal species are important for identifying and studying butchery practices in different phases of occupation of the town are thus possible. The research of patterns in cutting marks is important for the study of practices of cutting the meat off a bone. They can be made by the butcher, in the kitchen or at the table.

**Taphonomical category**

One of the taphonomical categories as shown in the table above can be attributed to a single bone or a group of similar bones or bone fragments. Different from the above recorded data on animal bone from the archaeological record, is inferred information (table 2.36). This is useful in so far as it enables further analysis or testing of data on animal bone or comparison with data from other find categories in the same archaeological context.

<table>
<thead>
<tr>
<th>fauna taphonomical categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>consumption refuse - slaughter offal</td>
</tr>
<tr>
<td>consumption refuse - kitchen waste</td>
</tr>
<tr>
<td>consumption refuse - table leftovers</td>
</tr>
</tbody>
</table>
2.2.5 TYPOLOGY OF THE TIENEN POTTERY

Since the discovery of the pottery kilns on the Grijpenveld (fig. 4.1) in 1998 it became increasingly clear that this production at the vicus of Tienen played an important role in the provision of pottery for both the local population of consumers and in the wider region. As the excavations proceeded, we started to recognize the local pottery and realized it was produced almost from the moment of foundation of the vicus until it was abandoned. Therefore the typology of the Tienen ceramic is a cornerstone of the present research methodology. Since the majority of the pottery in the archaeological record of the vicus is produced locally and no typology of this ware existed before, it was of crucial importance that the typology was ready before the post-excavation research could start up. Without a typology of the Tienen ware a detailed registration of the finds would be impossible. In the next section (2.2.6) the importance of the typology in the dating of the features will be elaborated on. The role of the local pottery for understanding the culture and identity of the community will be highlighted in chapters 4 and 5.

Accordingly a thorough research of the types, the fabric and the functions of the Tienen ware was executed, while the excavation was still in progress. Thin sections were studied and chemical analysis of the ceramics and the potential raw materials was carried out. In 2004 the first version of the typology of the Tienen pottery was distributed, together with some samples to recognize the ceramic fabric, among the ceramic specialists of the wider region. This typology was based on the results of a typological research of the waster material from the Flavian kiln sites and the research of some larger pottery assemblages from the 2nd century and the 3rd century. Until now no specific research on the distribution of the Tienen ware has been carried out but its presence was recognized in the capital Tongeren, in the vicus of Liberchies, Braives, Grobbendonk, Elewijt and Velzeke and in the villas of Hoegaarden, Bierbeek, Wemmel, Jodoigne, St. Truiden, Montenaken, Walsbets, and Wezeren. Further away Tienen ware was identified in Boulogne, Venlo and Scheveningen.

The 2004 version of the typology has been completed by some new forms that have been discovered in research that was executed subsequently. The result is a new version of the typology presented below (table 2.37). In the lay-out that is presented the background colour of the Tienen typology is determined by the predominating functional category of the form groups: table ware, kitchen ware, cultic ware, storage/transport ware. For each type a profile drawing and the most common fabrics reconstructed in a 3D drawing are provided. The abbreviations of the fabrics mentioned under the 3D drawings can be found under section 2.2.4 (table 2.2). The methodology for the dating of the types is elaborated on in the next section 2.2.6. The date for the types can be found in table 2.6.

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280 Degryse/Martens 2003.
282 Lauwers/Van Doninck 2002.
283 Martens/Hanut et al. 2003.
286 pers. comm. Frédéric Hanut.
287 Many thanks to Frédéric Hanut who commented on this version of the typology.
BEAKER

table ware

BE1

TIEFR

TIETN

BE2

TIEFR

TIEFOX

TIETN
BEAKER

table ware

BE3

BE4

TIECC

TIEFOX

TIEFSM

TIEPR

TIEFOX

TIEFR

TIEFSM

TIETN

TIETN

TIETR
BEAKER

table ware

BE5
TIECC
TIEFOX
TIEFR

BE6
TIECC
TIEFOX
TIEFR

BE7
TIEFOX
TIEFR
BEAKER

table ware

BE8
BE9
BE10

TIEFOX
TIEFR
TIEFSM
TIETN
BEAKER

table ware

BE14

TIEFOX

TIEFR

TIEFSM
DISH/PLATE

table ware

B1

TIEFOX
TIEFR
TIEPR
TIETN

TIEFOX
TIEFSM
TIEETN

B2

TIEFOX
TIEFSM

B3

TIECOOX
TIECOR
TIEFSM
BOTTLE

table ware

F1
TIEFN
TIEFR
TIEFOX
TIECC

F2
TIEFN
TIEFR
TIEFOX

F3
TIEFOX

F4
JUG

table ware

KR7  KR8  KR9
TIECOOX  TIECOOX  TIECOOX

TIECOOX  TIECOOX  TIECOOX
POT

kitchen ware

P1
TIECOR
TIECOOX
TIECOSM

P2

TIECOR
TIECOOX
TIECOSM

P3
TIECOR
TIECOOX
TIECOSM

113
POT

kitchen ware

P4

TIECOR

TIECOOX

TIECOSM

P5

TIECOOX

TIECOSM

P6

TIECOOX

TIECOSM
POT

kitchen ware

TIECOR
TIECOOX
TIECOSM
MORTARIUM

kitchen ware

M1
M2
M3
M4
M5
M6
M6a

TIEFOX
TIEFOX
TIEFOX
TIEFOX
TIEFOX
TIEFOX
TIEFOX
INCENSE BURNER

cultic ware

W1

W2

W2a

TIEFOX

TIEFOX

TIEFOX
CRATER

cultic ware

KNT

TIEFOX

TIEGL
CULT CERAMIC

cultic ware

KN1

V1

TP1

TIECOSM

TIECOOX

TIECOOX
SAUCEPAN

cultic ware

SP1

TIECOSM

TIEFOX
TWO-HANDED JUG

storage/transport ware

KRA7

KRA8

KRA9

TIECOOX

TIECOOX

TIECOOX
AMPHORAE

storage/transport ware

TIECOOX

TIECOOX
Table 2.37 Typology of the Tienen ware.
2.2.6 CHRONOLOGY AND PHASING: THE ROLE OF LOCAL POTTERY

From the beginning of the excavation it was clear that few of the features of the Grijpenveld site intersected and that relative dating of the contexts based on their stratigraphical position would be impossible. This pattern of discrete (separated) contexts is a characteristic of many rural sites and smaller civil centres of the Roman period in north-west Europe and is one of the reasons for the difficulties in establishing sequences at sites of this kind. The possibility to compare data of broadly contemporary deposits, however, is considered crucial for the research of consumption practices and deposition practices and their evolution through time. Therefore it was decided that maximum information had to be gained from the dates of the pottery and the other finds to date the features. A special effort was made to establish a timeframe for all the identified types that occurred on the Grijpenveld site, for the local pottery as well as for the regional and supra-regional ceramics (see table 2.6).

For the regional and supra-regional ceramics existing type-series with their chronological information were used. For the locally produced pottery a large effort was made to establish a type-series including a timespan for each type in collaboration with Frederic Hanut. After all the pottery recovered from the site had been studied, a timespan was attributed to each type registered at the site. These data were included in the database; so for each context a table could be created by a simple query, representing the timespan of each type present. For each context the table was analysed to establish the most likely date range in which the deposition of the objects took place. This analysis required expert judgement giving relatively more consideration to the dates that are likely to be more accurate than others. In my opinion such dating cannot be calculated by a statistical program because knowledge of ceramics is certainly required. The time spans of the dated pottery items within a group could be evaluated, taking into account that certain types are more relevant for establishing a context date than other types. It is a well known fact that certain categories of ceramic vessels, especially imported table ware like samian, could often circulate or stay in use for a long period before they were finally deposited, while for example locally produced pottery is likely to have a shorter life span. Taking this into account, quite surprisingly, the comparison of all the dates of all the ceramics in a context most often delivered an acceptable and quite straightforward time span to date archaeological contexts. This analysis made it very clear that often the most useful dates were provided by locally produced pottery. Where it was considered useful also the dates of other find categories were taken into account. Most often, however, the ceramics delivered the closest time span for dating features. After a time span was established for each datable context it was necessary to group the contexts in phases to make comparison between the compositions of contemporary deposits as well as between deposits from other phases possible. To create consistent groups of broadly contemporary features their time spans were sorted chronologically in a table. Analysis of this table showed that the features could be grouped most consistently in 4 phases (table 2.38). A division into smaller groups was not possible because of the risk of

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288 Declercq recently also acknowledges the importance of a typo-chrono logical framework of local pottery to study transformation processes of the local communities in the northern part of the civitas Menapiorum. De Clercq 2009, 398.
creating too much overlap between different phases, making the results of comparisons of datasets within the phases as well as between different phases less distinctive. In other words the groups were chosen in order that the variation in composition of the assemblages between the different phases would show cultural differences in availability of products as well as in general cultural practice. For the grouping of these features in phases, therefore, historical dates or events were not taken into account. Again these groups were not created by statistical calculations but by judgement of ceramic specialists that have knowledge of the background of how the dates of the context came about.

*Following this methodology the contexts were classified into the following phases:*

<table>
<thead>
<tr>
<th>Phase</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>AD 1-70</td>
</tr>
<tr>
<td>Phase 2</td>
<td>AD 70-140</td>
</tr>
<tr>
<td>Phase 3</td>
<td>AD 140-200</td>
</tr>
<tr>
<td>Phase 4</td>
<td>AD 200-300</td>
</tr>
</tbody>
</table>

Table 2.39. Occupation phases established for the *vicus* of Tienen.

These phases are in essence based on changes in pottery assemblages. We can assume, however, that these changes were triggered by evolutions in fashion, in socio-political and economical situations. The characteristics of each phase and their possible geopolitical background will be elaborated on extensively in section 4.
3. THE DISTINCTION BETWEEN RITUAL AND THE RUBBISH CONTEXTS IN ROMAN TIENEN

3.1 INTRODUCTION

The importance of studying ritual depositions in Roman Tienen is twofold. First of all it is crucial for the understanding of the culture and practices of the people who lived there. Secondly it provides an insight of major importance into the religion of the civitas that is inaccessible by other sources (see also section 1.2.2). Further interesting questions are the impact of ritual on the economy and the distinction between public and private cults in the vicus.

To be able to study ritual depositions, however, it is crucial that we recognize them. Formal ritual depositions have only sporadically and mostly only recently been recognized in Roman settlement contexts. In consequence no substantive conceptual framework or intellectual discussion existed in this sphere until recent years. In the theoretical debate taking shape from the colloquia and in articles of the last decade specialists have been looking for definitions of ritual and for ways to distinguish ritual activities from profane ones. This debate has been crucial for the development of this special topic within Roman archaeology. On the other hand it is clear that more fundamental research has to be undertaken to set and test the criteria to identify ritual deposits. Detailed research into the characteristics of all kinds of depositions within temple areas, at cemeteries and in settlements is a prerogative to gain knowledge on the subject.

In Gallo-Roman society where gods and spirits live amongst the people and assist them permanently, every person is likely to have had their own set of beliefs and performed rituals according to their choice, piety, fortune or misfortune in life and according to obligatory rules. Rituals can be performed at moments of uncertainty in life, for example, due to disease or misfortune in professional business, because of feasts for special occasions in life like birth, death, marriage, harvest or to celebrate or worship a god. Religious activities in a town, therefore, clearly consisted of many diverse processes, varied combinations of which result in quite dissimilar deposits, often (it seems) closely resembling waste deposits. A way forward in establishing the difference between ritual and rubbish is created by the development of large-scale excavations, like in the case of Tienen, which enable an informed evaluation of contexts including special deposits, by comparing them with many other features of a site. The composition of these depositions should be different from rubbish deposition, reflecting distinctive consumption practices. This difference can be explained as follows. At their most basic level, consumption needs are biological: food, drink, and clothing essential for sustaining life. The selection of items consumed, and the manner and timing of their consumption are of course subject to cultural influences. That is why material culture evolves throughout the Roman period. Consumerism, however, in the case of a ritual implies a different (and sometimes larger) scale of acquisition, whether of material goods, foodstuffs or animals, led by prescriptions, desires and wants rather than requirements and is determined by cultural factors to a higher degree.\(^\text{289}\)

In this section we will propose a set of criteria that could be indicative of the ritual nature of a deposit. For each material category a number of potential criteria are selected. In section 3.2 these criteria are defined. In section 3.3 the criteria are applied to evaluate the contexts of the Grijpenveld for the presence of ritual depositions. It goes without saying that the more criteria are applicable for a context the more likely it is that we are dealing with a ritual context. In section 3.4 different categories of ritual depositions are proposed based on the results of this analysis. In part 4 the consumer choices and deposition practices of ritual depositions are compared with those of the normal refuse contexts in the settlement and the contents of graves from the cemetery.

3.2 CRITERIA FOR IDENTIFYING RITUAL DEPOSITIONS

The selection of criteria or characteristics that could help to identify ritual depositions is based on results of research from colleagues, mostly find specialists (see also section 1.2.2.3) in combination with previous research and field experience of the author of the thesis. No set of criteria for analysing complete Roman assemblages have been established and tested before in Roman archaeology. The criteria set below have to be considered as a starting point in the research of the subject and can be tested and refined in future research at other sites. The criteria elaborated on in this section are described and where possible short reference is made to previous research. It goes without saying that the validity of one criterion does not always suffice to classify a deposit as ritual. The totality of the valid criteria has to be analysed before this kind of inference can be made. The choice of goods for executing rituals according to certain prescriptions or preferences had to be made from the available assemblage of animals, pottery, metal and glass objects and organic materials such as wood, crops and herbs.

\(^{289}\) Greene 2006, 66.
The selection of which goods or which parts of the goods had to be destroyed and/or deposited in underground features was part of the ritual process. The choices in goods as well as the practices performed before the deposition of the goods self-evidently influence the composition of ritual depositions. Therefore it is important to consider a large potential range of criteria for evaluating whether deposits are ritual or not. Within each material category a series of special items or characteristics are described below.

3.2.1. CERAMICS

Completeness
The completeness of ceramics is rarely studied in settlement contexts of Roman times. The methodology of refitting ceramic vessels per context allows for an appreciation of the completeness of each vessel as recovered from the archaeological deposits.\(^{290}\) In Tienen the ceramic assemblage of each context was refitted (see also 2.2.4.1), regardless if the context was situated in the cemetery, the settlement or the Mithras complex (fig. 3.1). The completeness of each vessel was apportioned into one of the five predetermined categories, varying from less than 25 percent to 100 percent. The completeness of the vessels from a context can be very informative on the deposition practices in Roman times. A high proportion of nearly complete pots in a context would suggest that these vessels ended up in the context closely after they stopped being used. To study the completeness of pots of a context is a principal way to provide access to the research of practices of deposition because it can be determined from the completeness of pots how fresh and coherent a ceramic assemblage is, and was at the time of deposition. A specific category of assemblages that are deposited not long after they were constituted are ritual deposits. These too can be composed of vessels that are more complete than average waste contexts, because they are deposited shortly after the successive acts in rituals (feast, ceremony, sacrifice) took place and there is not a lot of chance that many sherds were lost but maybe also because often special care was taken to collect as much as possible material for ritual deposition in an underground feature.\(^{291}\) In his research on the presence of samian in structured depositions in secular locations, Willis concluded that we might define as “ritual” those groups of material which do not appear like the waste debris and if intentional selection has seemingly determined the composition of an assemblage. In the case of his samian research this might be through the presence of whole or near complete vessels.\(^{292}\) Yet individual sherds might have been regarded as sufficiently symbolic or have been defined by past actors as ‘representative’ and so structured deposits are not limited to the incidence of whole pots or substantial parts.\(^{293}\) In this analysis, therefore, the completeness of pots is seen as one possible indicator of ritual deposits. The identification of ritual deposits allows for further research on other patterns occurring in them. Another aspect that needs further research is the idea, greatly elaborated on by Chapman, that objects in ritual contexts or graves are sometimes incomplete so that another part of it could be kept by the living, in a way to support both the continued ownership of objects and one's connection to the dead person or the gods, spirits or ancestors one sacrificed to.\(^{294}\)

Previous research of the completeness of pots of clear ritual deposits like in the case of the temple complex for Mithras, indeed, proved that this is a potentially valid criterion for the identification of ritual deposits. In the analysis presented below a selection of contexts with at least one pot with completeness of 100% and/or of at least one pot with a completeness of at least 50% was made. In the table presented in section 3.3 the number of pots that meet these criteria of completeness is given per context. The number of the pots that is needed to meet these criteria was not set higher than one because we did not want to exclude the small “individual” ritual contexts.

\(^{291}\) Chapman 2000, 49-103.
\(^{292}\) Willis 2005, chapter 12.4.
\(^{293}\) Chapman 2000.
\(^{294}\) Chapman 2000.
Fig. 3.1. Reassembled so-called honeypot (produced locally in the vicus of Tienen) from a ritual deposition excavated at Tienen, Grijpenveld.

**Cultic ware**

Under cultic ware we classified pots that were produced to serve a function in ritual activities. The most frequent forms that appear in this category in Tienen are incense burners, *kantharoi* and face pots. Incense burners are by far the most common form of cultic ware discovered in Tienen (fig. 3.2). It is worthwhile to briefly summarize the role of incense in ritual within this context. Incense was a popular and valuable product sought after by both priests and the common people in Roman times. In the Roman world it was an intrinsic feature of public and domestic religious ritual, of religious and ceremonial processions and of purificatory and funerary rites, and it was also used in celebrations such as weddings, triumphs and feasts. As well as the aromatic gums which form the usual base for incense, spices, scented woods and perfumed oils could be added, and for some rites very elaborate formulae were prescribed. The presence of incense burners in ritual depositions has been demonstrated clearly in Mithraic ritual but also in other ritual depositions. The importance of incense burners for the identification of ritual deposits can therefore not be underestimated. The link between other forms of cultic ware like *kantharoi* or face pots and ritual deposits seems obvious but has not been proven yet. Probably, however, some of these objects were ascribed a ritual or ceremonial function reserved for special occasions rather than for profane use. In the present thesis we will assess whether cultic ware was often part of ritual assemblages.

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295 Bird 2007, 122-123.
296 Miller 1998, 126.
298 Braithwaite 2007.
Fig. 3.2. Incense burner (produced locally in the *vicus* of Tienen) from a ritual pit next to the *mithraeum* of Tienen, Grijpenveld.

**Biconic pot**
The function of biconic pots (fig. 3.3) has been a point of discussion between Roman ceramic specialists. The author is convinced of its primary use as a container for perfumed liquid substances. It seems to be a locally produced variation of *balsamaria* that also contain aromatic and/or medicinal substances. In ritual contexts perfumed oils may have been used to balm the statues of the gods or may have been burned on altars as libation sacrifices. The presence of these little containers in ritual deposits has not been proven before, however Seeley has recently suggested an intentional depositions for a series of complete unguentaria, locally produced in Roman London.²⁹⁹ During the research of the ceramic assemblages per context we noticed that biconic pots occur rarely in the archaeological contexts of Tienen; where they do occur is occasionally in graves or assemblages with a special composition. Therefore the presence of this object was selected as a potential criterion to identify ritual deposits. The analysis will show if this hypothesis will stand the test.


Fig. 3.3 Biconic pot from a ritual context in the *vicus* of Tienen, Spikdorenstraat.
Decorated samian bowls
In his research on the patterns in the distribution of samian vessels, Willis concluded that decorated vessels were comparatively valued items in the Roman pottery repertoire. On the whole it has been largely taken as given that decorated vessels had a premium over plain forms at the time, and hence the decorated forms are viewed as likely to be an index of wealth, social display and identity. The patterns of occurrence of the decorated bowls Dragendorff 29 and Dragendorff 37 is doubtless a function of the comparatively higher cost, their use as symbols of cultural association and status in ‘wining and dining’. Willis believes that the form may have been employed as a communal drinking vessel. Joanna Bird, likewise, concluded from her research of the composition of a structured deposit from a well in Oakridge that the forms seem to ‘indicate some votive or ritual element in the filling of the well’. According to Willis it may be that these vessels were important on ‘special occasions’. He notes elsewhere that ‘Samian is markedly prominent among many such (ritual) deposits.’ In his research of samian and structured deposits in ‘secular’ locations he also remarked that decorated bowls often accounted for exceptional high proportions within these contexts when compared with the equivalent figures for normal refuse contexts in smaller civil centres. In Tienen the most frequent form of decorated bowl is the form Drag. 37. This form contains sceneries with gods, heroes, warriors, animals, erotic themes and stars. From the previous research it was clear, indeed, that these bowls were used in a different way than the plain samian bowls. In our analysis we take the opportunity to examine whether decorated bowls are effectively often part of ritual depositions. The table of section 3.3 shows the number of decorated bowls present in the selection of contexts fulfilling one or more criteria defined in this section.

Lighting equipment
The deposition of lamps in graves is a well-known and widespread practice in the Roman world. In ritual depositions identified outside cemeteries in recent years, however, lamps also appear regularly. The best known examples of ritual contexts in which lamps often appear are the depositions in and around mithraea. Lamps and candlesticks are also a regular feature of house altars. Light was a symbol of the good and had an apotropaic function. On important seasonal festivals, lamps were also carried in processions. The association between lighting equipment and ritual events was made very clearly by Eckhardt in her research on consumption practices of lighting equipment in different types of Roman sites, towns, military camps, rural settlements, in Britain. In this research she discovered some inexplicable anomalies in the patterns of occurrence of lighting instruments. To explain these ‘inconsistencies’ she claims that site activities are multi-layered, potentially contradictory and interwoven in ways which may be difficult to disentangle in the archaeological record. A possible explanation for the unexpected occurrence of lamps in certain contexts could be that they were selected items for ritual depositions. Willis also concluded that within the north-west provinces lamps were perhaps symbolically ‘highly charged’ manifestations of Roman imperial culture. The search for the presence of lighting equipment in potential ritual depositions enables us to establish the significance of such items and of their use. Therefore we included lighting equipment as a potential criterion to identify ritual deposits.

Amphorae
The meaning of wine in the context of drinking rites, feasts and libations became a well-studied subject in the last decades. Poux clearly demonstrated the importance of the consumption of wine amphorae in ritual depositions of independent Gaul in his publication ‘l’Âge du Vin’. This study focuses on the existence, also accounted in sources, of collective practices and rituals based on or including alcoholic beverages, of their use in meals, feasts and religious ceremonies which were a part of public life. The evidence is based on taphonomic analysis of deposits including large quantities of amphorae. Important research topics are the ritual manipulations to which amphorae were subjected (voluntary destruction, selective sorting, cremation, recycling) as well as the association with features with strong sociological connotations or symbolisms (metal objects, human remains, animal deposits and other relevant objects in the cultural or funeral domain).
consumed at feasts as described in ancient texts in great detail and attested by archaeological contexts with large amounts of *amphorae* fragments, other ceramics and accumulated bones. These depositions attest to simultaneous consumption of large quantities of food and drink. Libations of wine in honour of the divinities or to the dead represented a fundamental practice. Archaeological deposits can contain offerings of full *amphorae* or fragments dispersed or arranged on the bottom of shafts (fig. 3.4).

Fig. 3.4. Reassembled *amphora* (produced locally in the *vicus* of Tienen) from a ritual context at Tienen, Grijpenveld.

The breaking open of *amphorae* with the assistance of weapons and tools could be an explanation for the extreme state of fragmentation of certain deposits. According to Poux, this sanctified gesture focuses on consecrating remains of the feast by destruction of the collection of goods and accessories for the exclusive use of the gods. The traces of fire on *amphora* fragments may witness a form of sacrificial destruction. The burial of assemblages with *amphora* sherds constitutes the last phase of the ritual, by which the consumed goods are definitively separated from the profane world. There were different contexts and scales to perform ritual associated with the consumption or libation of wine, from large collective rituals to rituals performed in the private domain. As the principle or accessory offering, wine was valued as much for its positive effect as for its negative: the intoxication as a means to access trance states which approached man to god. Poux argues wine intervenes also in ceremonies linked to the agricultural cycle and fertility: wine poured into shafts and ditches proceeded "chtonian" rituals mixing in the same deposit of wine offerings, animals and quern stones.\(^{307}\) The summary of the research above confirms the presence of fragments of wine *amphorae* as a valid criterion for the identification of ritual deposits. In our research we also included the fragments of other *amphorae* containing oil or fish sauce. Although less studied in previous research in connection with ritual contexts we did not want to exclude these categories of *amphorae* in the analysis.

3.2.2. ANIMAL REMAINS

It seems likely that cult practices had a significant role to play in the selection of animal species for sacrifice and offering. This is not to say, of course, that social constraints and the limitations of animal husbandry did not affect the choice of species and their availability, but that religious criteria were the primary consideration in the

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establishment of rituals. The selection processes can be important in terms of the species, the age of the animal, or the parts of the carcass that are represented. Also the number of animals involved can be an indication of ritual activities. In some depositions, animals perhaps had a lesser role in the rituals, and there can be little evidence for selection. In these cases animal remains can simply represent consumed meals. As such, they may also have had a ritualistic association, but to a lesser extent than contexts where animal sacrifice was a significant component of the ritual practices.

Dog
The presence of dogs in ritual deposits has been well documented in numerous sites of the Roman era in the last decades (fig. 3.5, fig. 4.95). The role of the dog in Roman and Celtic religion has become a vast and complex subject. The lack of ancient literature on this subject for the Gallo-Roman world makes it difficult to understand the meaning of this widely spread practice. Martin-Kilcher refers to the special meaning of dog in ritual depositions in her research of the fillings of wells in Roman times. She emphasises the extraordinary place of the dog in a sacred and chthonic context since the Iron Age. Fulford pointed to the high proportion of dog associated bone groups (remains of an individual animal found still in articulation) discovered on Romano-British settlement sites. He argued that such deposits might represent a continuation of Iron Age ‘ritual’ practices and not population control as suggested by earlier zooarchaeologists. The author states that the most common Iron Age bone groups found in articulation are those of sheep/goat, whereas dogs become the most common animal for special deposits in the form of articulated bones in the Romano-British period. This means dog becomes more popular as a sacrificial animal in the Roman times. However, this change in the types of species deposited appears to be a gradual one. The associated bone group assemblages from early Romano-British ‘rural’ settlements are very similar to the ones seen from late Iron Age sites. The main difference in the early Romano-British period occurs on urban sites, which have a dog dominated pattern. By the middle Romano-British period dogs dominate in ritual deposits on both urban and rural sites. Does this represent a gradual adoption of Roman practices on ‘native’ sites? If this pattern is similar in our region this could mean that the use of dogs in ritual is a typical feature of the creation of Gallo-Roman culture.

It is therefore of major importance to study the archaeological assemblages in which dogs occur in detail. Also the chronological dimension of dog sacrifice has significant implications for studying the phenomenon and confirms the importance of dating of individual depositions. In determining whether the context is indeed the result of a ritual, it is important to study the composition of the deposit as well as its place. In Tienen dog remains are often found in association with horse remains in clearly identified ritual depositions. We argue in section 3.2.2.2 below, that the combination of these two species in one deposit necessarily increases the chance that we are dealing with a ritual deposit. We also would like to add that in case one dog is present it could be considered as a natural death. The presence of more than one dog represents a higher coincidence and makes an intentional killing of the animals more probable. From previous research it is clear that the presence of dog in a context can be accepted as a valid criterion to evaluate the ritual meaning of an archaeological deposit.

Fig. 3.5. Enamel dog fibula, Grijpenveld – Tienen.

308 King 2005.
311 Smith, 2006.
Horse
The presence of horses in Roman era ritual deposits is quite a well attested phenomenon. Burials of complete horses or parts of horses in deposits are common from the Iron Age onwards, and are increasingly so into the Roman period. King describes the relatively high representation of horse on temple sites in Roman Britain. He argues that two of these are temple-mausolea, and therefore there may be a chthonic element at these temples reflected in the faunal assemblages. A hunting motif may also be present, linked with the high status of the temple-mausolea. In both cases horse, as well as dog, are well represented in one case accompanied by a series of wild species. The deposition of the combination of horse and dog skeletons or bones may be linked to the notion of the divine hunt, regarded as a metaphor for death and rebirth. In the civitas Tungrorum multiple horse burials are known from the civitas capital, Tongeren. In the vicus of Tienen complete horse burials are identified at the cemetery (fig. 3.6) as well as on top of the burial chamber of the tumulus burial at the Grijpenveld-site. The presence of a considerable number of terracotta statues representing horses, or horsemen in the civitas could be linked to Epona or another local cult. Without understanding the exact meaning it can be concluded that the presence of horse is considered a potential valid criterion for identifying ritual depositions within the analysis shown in section 3.2.3.

Fig. 3.6. Horse burial from the southwestern cemetery of the vicus of Tienen, Grijpenveld.

Wild mammals

The presence of wild animals, especially complete or partial skeletons, was considered a potential criterion for the identification of ritual deposits in previous research on the subject.\textsuperscript{314} Indeed, the presence of animals like deer and fox is often seen in Roman ritual contexts.\textsuperscript{315} The use of wild species in ritual and structured deposits is widely recognized in the Iron Age of north-west Europe, as shown by the research of Jeremy Hill, Patrice Méniel, Miranda Aldhouse-Green, Mike Parker Pearson, and others, and so in the case of local communities therefore there may be a level of continuity from late prehistoric tradition.\textsuperscript{316} The potential symbolic role of wild animals can be due to the fact that they often represented the wilderness, marginality, and the unfamiliar as opposed to the domestic realm, the familiar.\textsuperscript{317} Wild animals probably featured in local myths and stories and some species in particular are associated with deities of the Roman pantheon.\textsuperscript{318} Due to the clear symbolic significance of wild animals in Iron Age and Roman society, this category of animal remains were accepted as a valid criterion for the evaluation of contexts as ritual depositions.

**Domesticated fowl**

There are several reasons why we included domesticated birds as a potential criterion for identifying ritual depositions. First of all there is the fact that domesticated birds are quite rare in normal household refuse and on the contrary are better represented in grave contexts. The consumption of domesticated birds in Roman cuisine is considered high-status food and can therefore be associated with special occasions.\textsuperscript{319} The presence of large numbers of domestic fowl in temple complexes confirms the potential symbolic role of this animal. Especially in the context of *mithraea* the importance of domestic fowl has been studied fairly well in the last decade. The deposits excavated next to the *mithraeum* in Tienen are a good example of this practice.\textsuperscript{320}

**Wild fowl**

Wild birds are a well known feature in Roman ritual contexts.\textsuperscript{321} Especially within cult sites, deposits containing wild birds have been regularly identified.\textsuperscript{322} There are several examples where black birds are associated with temple sites. This is the case for *mithraea*\textsuperscript{323} but also for temples dedicated to other gods.\textsuperscript{324} Fulford commented on the relative abundance of bird bone in ritual deposits identified at the fort of Portchester.\textsuperscript{325} The relative scarcity of bird bone in Gallo-Roman assemblages in combination with their relative remarkable presence in some identified ritual contexts mentioned above makes this category of finds a potential criterion for the identification of ritual depositions in our analysis.\textsuperscript{326}

**Juvenile animals**

Not much research has been conducted into the ages of animals in ritual depositions. Groot mentions the young age of several animals in ritual contexts in special deposits in her research on 'Animals in Ritual and Economy in a Roman Frontier community'.\textsuperscript{327} An interesting topic in this research is consideration of the possibility of seasonality of animal deposits. This depends on the fact that the birth of animals was limited to a certain period of the year; and second that most births occurred in spring. This is what would naturally occur, unless man would influence breeding by controlling access that male animals had to females. Although this is possible, very young animals would be unlikely to survive the winter without shelter and extra feeding, so it would be most advantageous to have animals born in spring. In her analysis of the ages of the animals Groot concludes that there does not seem to be a clear relation between deposits and time of the year. Of course, there is the possibility that the deposits that do give an indication for the time of the year represent several different kinds of rituals. The research into the seasonality of ritual deposition is an additional subject of study dependant on the

\begin{footnotes}
\footnotetext{314}{Groot 2008, 140.}
\footnotetext{315}{Cool 2006, 117.}
\footnotetext{316}{Hill 1995; Méniel 1992.}
\footnotetext{317}{Halilakis 2003, 240-241.}
\footnotetext{318}{Serjeantson 1997, 257.}
\footnotetext{319}{Cool 2006, 100-102.}
\footnotetext{320}{Martens 2004.}
\footnotetext{321}{Groot 2008, 67-68.}
\footnotetext{322}{Cool 2006, 114-116.}
\footnotetext{323}{Martens 2004.}
\footnotetext{324}{Seynen 1994, 164.}
\footnotetext{325}{Fulford 2001, 211.}
\footnotetext{326}{Parker, 1988, 197-226.}
\footnotetext{327}{Groot 2008.}
\end{footnotes}
presence of young animals in ritual depositions. King concluded from his research of ritual deposits of animal remains on Romano-British temple sites that there is often evidence of sacrifice or ritual killing at certain ages, implying seasonal offerings or specific festivals. The domination of some assemblages by young animals and the high number, indeed, often suggest communal sacrifices at certain periods of the year, mostly harvest, but sometimes also in spring.328 The same juvenile patterns are also seen at Karden in the Mosel valley.329 At this point of research, however, we are looking for criteria to identify potential ritual depositions. The presence of young animals in two contexts with a ritual meaning identified in previous research of our project makes it clear that young age can play a role in ritual contexts. The first example is the Mithras temple with deposits containing the remains of several lambs and piglets (see section 4.4.4). The second context is a large deposit on top of the funerary chamber of the tumulus burial at the Grijpenveld site that contained a number of dog foetuses and neonates (see section 4.3.4). We therefore included the presence of subadult animals, juvenile animals and foetuses as a valid criterion for the selection of potential ritual depositions that can be consulted in section 2.3.

**Foetus/neonate**

The presence of foetuses in ritual deposits remains an unstudied feature within the context of ritual depositions. The identification of several foetuses/neonates of dogs on top of the funerary chamber of the Grijpenveld tumulus burial we excavated and studied led us to believe that this could be an interesting feature of ritual deposition (fig. 4.98). Therefore it was selected as a potential criterion for the identification of ritual depositions.

**Skull**

Separate animal skulls, with or without mandibles occur as special deposits in Roman settlements.330 Although it could be argued that all skulls are butchery waste, this is not necessarily the case for all the skull deposits. According to Maaike Groot the flesh from skulls was commonly eaten during the Roman period.331 A complete skull may point to the immediate burial of a killed animal’s head, but an older skull may have been curated or displayed before being deposited.332 According to King the presence of crania and mandibles in significant numbers on some temple sites in Roman Britain can be interpreted as ritual deposition of important parts of the animal, implying that the animals were sacrificed. If the other parts of the carcass were minimally represented this can signify that they were probably consumed.333 Fulford detected an exceptional high number of animal skulls within special depositions in his research of ritual contexts of settlement sites of Roman Britain. For the older excavations he postulates whether the selection of skulls for retention was not made during the excavations, but for the more recent excavations this is certainly not the case.334 Given the possible ritual connotation of animal skulls they are considered as a criterion to evaluate if a context was created after or as a part of a ritual activity (fig. 3.7).

![Fig. 3.7. Skull of a dog in the tumulus of Tienen, Grijpenveld.](image-url)
3.2.3. METAL

**Bronze objects**

Bronze objects, like fibulae or hairpins, are often mentioned as being part of ritual deposits from Roman times. There has been some general research into the occurrence and the role of bronze objects in ritual contexts.\(^{335}\) Most often the explanation for the presence of these objects in deposits of settlements is that they were lost or broken and disposed of or no explanation is given at all. There are, however, some arguments in favour of an intentional selection of the bronze object for inclusion within ritual depositions. First of all it is remarkable that bronze objects are often found in large quantities on Roman era temple sites, suggesting they are appropriate objects for ritual deposition.\(^{336}\) The same can be argued for the presence of bronze objects in grave contexts. Another argument in favour of a ritual explanation for the intentional composition and deposition of assemblages including metal objects is that this practice has a long tradition before Roman times. Bradley studied the deposition of valuable metal objects in Iron Age cult complexes, rivers, springs, moors and settlement sites.\(^{337}\) Whereas in the Iron Age these artefacts were reserved to the elite or the whole community, mass production of objects in pottery and bronze made progressive emulation of this symbolism further down the social hierarchy possible.\(^{338}\) Therefore we have to look out for smaller numbers of bronze objects in Roman ritual contexts in and around settlement sites, because sacrifices could be made by individuals or groups. Many offerings are personal items that would not be recognized as religious if the context did not indicate it. Brooches occur in quantity in many shrines and many seem to have been deliberate votive gifts.\(^{339}\) Other jewellery items, hair pins and toilet and cosmetic items in deposits may have been gifts in the hope of acquiring favour, health and good fortune.\(^{340}\) A large number of gem stones show religious and mythological motifs and many of their owners would have associated the power of the image with personal protection, good fortune or a blessed life. Such power could even gain greater force by being made from materials perceived to have a magical and apotropaic power, such as jet. A ring in jet with the message AVE has, indeed, been found in a votive deposit, including bronze bracelets, incense burners, a candle stick, a dog statue in a bowl and a statue for Fortuna.\(^{341}\) In his research on the composition of the ritual deposits in the military complex at Newstead Clarke suggested that bronze objects were statistically significant artefacts in ritual contexts.\(^{342}\) In our analysis the presence of one or more objects in bronze is considered as a potential criterion for identifying ritual depositions (fig. 3.8). It goes without saying that the presence of bronze objects in deposits without further validity of other criteria or irrational features is not sufficient to give a ritual explanation for the composition of a deposit. Further research into the type of bronze objects selected to be used in ritual depositions in the settlement context, compared to contemporary rubbish and cemetery contexts is presented per phase in section 4.

\(^{335}\) Bird 2011 286-288.

\(^{336}\) Fauduet 1993.

\(^{337}\) Bradley 1990.

\(^{338}\) Millett 1990, 35; 112.


\(^{340}\) Bird 2011, 288.

\(^{341}\) Martens *et al.* 2007.

\(^{342}\) Clarke 2000.
Fig. 3.8. Enamel fibula from a burial of the southwestern cemetery of the vicus of Tienen, Grijpenveld.

**Coins**

Coins take in a special place within the category of metal objects because of their specific monetary and potentially also symbolic value. To study the possible meanings of coins in ritual depositions it is important to look into the history of coinage and coin use in our regions; this is a subject well studied by Nico Roymans and Joris Aarts. Coinage began in the Lower Rhine region in the 2nd century BC with imported gold coins. It was not until about the mid-1st century BC that Celtic coinage came into full swing, reaching a peak in the second half of the 1st century BC with issues of low-value coins. Within the context of ritual depositions of coins in later periods it is interesting to look for the reasons behind the minting of large quantities of low-value bronze or poor-quality silver coins in the study region in the second half of the 1st century BC. In contrast to older gold coins, the relatively late, low-value coins in Gaul and the Rhineland are generally regarded as change and associated with the monetized exchange of goods. However, there is no serious evidence in the Lower Rhine region for the existence of larger market centres in the period before the advent of Roman camps under Drusus in about 15 BC. The authors argue, therefore, that coins were probably minted in connection with public ceremonies and rituals, emphasising the central values of the community that struck the coins. Evidence for this can be found in the imagery on the coins, which refers to their sacral origin. Further evidence could be the fact that many coins have been found on the sites of central cult places. Roymans and Aarts argue that the coins were produced there during “tournaments of value” by people who were the key players of a community. They were part and parcel of the gift exchange between central figures and their followers that took place in this ceremonial context. The coins may have been offered at the cult place itself or will have been taken at the close of the ceremony to the homes of the participants. The money may then have been kept for later use within the settlements, or offered in a ritual context in the settlement itself. Coins unearthed by archaeologists excavating rural settlements will thus have been part of ‘unsuccessful’ savings, hoards or of ritual depositions. Coins from the savings hoards might then have begun a ‘secondary’ circulation through use in various kinds of payment, especially in the social-ritual sphere. In the Roman period coins are regularly discovered in pits and ditches of settlement contexts. The usual explanation for these coins is that they are lost or disposed of. There is, however, evidence of intentional incorporation of coins in assemblages especially composed for ritual deposition in Roman time settlement contexts. Joris Aarts concluded from his research of coins in the Maas-Demer-Scheldt region that distribution patterns clearly show intentional deposition practices in the Roman period. These coins are often associated with building events and deposited in floors, foundations and post holes. Coins are clearly also part of ritual depositions in pits and deep shafts.

**Iron objects**

Recently some interesting research has been done into the inclusion of iron objects in Roman era ritual depositions. Richard Bradley studied the deposition of large assemblages of metal objects including iron

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343 Aarts/Roymans 2009.  
344 Roymans/Aarts 2009.  
345 Kemmers/Myrberg 2011, 101-103.  
346 Aarts 2000.  
347 Williams 2007, 78.
weapons, tools and jewellery in Iron Age sites. Hingley suggested that much of the later prehistoric and Roman ironwork found on settlements and elsewhere was deliberately deposited for what might loosely be called ‘ritual’ or ‘religious’ motives; for much of this period the proportion of the artefacts lost accidentally was possibly quite small. Therefore he claims that when studying the deposition of iron, as with other classes of finds, the important issue is to examine each deposit in order to address its own particular meaning, since each discovery represents a unique act of deposition. Dungworth published an article to raise awareness on the research potential of nails in Roman sites. He stated that the treatment of nails in excavation reports is uneven. While some reports catalogue all of the nails present according to some typology (e.g. Lankhills) many others, however, only register the presence or make no mention at all of the nails which were found. The traditional approach of cataloguing the shape and size of nail, according to the author, seems to have reached its limit and it is necessary to include more complex configurations which include the ritual use of nails. To underpin these assumptions he discusses ethnographic evidence as well as direct evidence that in the Roman world nails could be viewed as magical artefacts. Examples of this ritual use are the clavus annalis, a practice that consists of driving a nail into the wall of a temple to ward off evil and the tabellae defixiones or curse tablets that could be ‘activated’ by piercing them with one or more nails. The author also establishes the prevailing interpretation of nails in graves as the means with which coffins, biers and other containers were held together. This purely functional interpretation has led to some simplification of the excavated evidence and it has to be taken into consideration that it is possible that nails were deliberately added to burials, perhaps as a means of ‘fixing’ the dead or warding of evil in some way. A clear example of a magical practice including nails can be found in one of the graves in the southeastern cemetery of the vicus of Tienen. In one grave a cooking pot containing the cremated remains was covered with a lid that was placed upside down on the pot. Some twenty nails were placed on top of the lid. The number of nails clearly suggests that this was an intentional act. Possible reasons for the nails to be placed on top of the lid of the urn could be to protect the cremated remains from evil or to protect the outside world from the forces within the urn. Although the exact explanation for these nails will never be found, the example shows that even these most humble artefacts could be used in magico-religious activities. William Von Andringa argues that knives used as tools in sacrifices can be present in the assemblages selected to be interred in the ground as a part of ritual depositions. It is therefore considered worthwhile to study the possible presence of iron objects in Roman period ritual depositions. Whereas in the Iron Age these artefacts were still limited available, mass production of these objects in Roman times made them very accessible for ritual deposition. Further research into the type of iron objects selected to be used in ritual depositions in the settlement context, compared to contemporary rubbish and cemetery contexts is presented per phase in section 4. Especially interesting to study are the consumption and deposition patterns of different categories and sizes of nails in the above mentioned different cultural contexts in the different phases.

3.2.4. GLASS

**Glass objects**

Glass objects were considered valuable items in Roman times. There has been little research into the role of glass in ritual deposition. Cool and Baxter compared glass assemblages from different site types with the aid of correspondence analysis. This methodology proved to be very effective in detecting recurrent patterns in the glass spectrum of, for example, urban sites but at the same time raised further questions on the need for detailed research into archaeological assemblages containing glass.

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348 Bradley 1990.
349 Hingley 2006.
352 Black 1986.
353 Millett 1990, 35; 112.
354 Cosyns/Martens/Debruyne 2006, 104.
It is imaginable that glass objects like bottles, bowls or bracelets, or their fragments were intentionally selected to be used in religious or magical practices and subsequently selected for ritual deposition. It was therefore decided that the presence of one or more glass objects can possibly be a criterion for the identification of ritual deposition. A further research objective is to identify patterns in the occurrence of different kinds of glass objects in contemporary assemblages of the cemetery and ritual and waste contexts (fig. 3.9). Following the identification of ritual contexts (assuming these are found) it will be interesting to find out which specific objects were selected for funerary purposes, for ritual purposes in settlement contexts and those which occur in daily life refuse assemblages.

**Beads**

Individual beads were regularly deposited as a gift in graves in the same way as for example a fibula or a hairpin. Beads were also present in the ritual depositions of the Newstead Military Complex.\(^\text{356}\) For these reasons we included beads in the list of potential criteria for the identification of ritual depositions. The beads could have been part of a necklace or from a piece of clothing in organic material that was not conserved in the soil of the site.

**3.2.5. SCULPTURE**

Sculptures in terracotta, stone, metal or wood are objects that often occur on ritual depositions on temple sites or sacred natural places (fig. 3.10).

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\(^{356}\) Clarke 2000.
The sculptures often represent gods, animals or objects (fig. 3.11). Some of these sculptures could have been part of shrines in the house. Others were acquired for the inclusion in ritual practices. The presence of a statue of a god helps the identification of which god the deposition was dedicated to. The statues of animals could have replaced an animal sacrifice but can also refer to a god it represents.
3.2.6. STONE

Presence of quern stone
Quern stones are a remarkable feature occasionally occurring in ritual contexts of temples, cemeteries and ritual deposits of the Iron Age and Roman times. Hill recognized quern stones as a typical feature for Iron Age structural deposits in settlement sites in Wessex; likewise Hingley noted this too in the case of Iron Age Scotland. Clarke on his turn showed that deposition was strongly patterned with quern fragments included in complex depositions in the deeper shafts of Newstead. On this site statistical analysis suggested that the most significant artefacts were specialist religious equipment, weapons and armour, tools, equestrian equipment, bronze and ceramic vessels and querns. Poux argues querns intervene also in ceremonies linked to the agricultural cycle and fertility. According to the author wine, animal remains and quern fragments were deposited together during what he refers to as ‘chttonian’ rituals. Motivated by all these arguments we considered it worthwhile to examine if quern stones are a feature of the ritual depositions of the Tienen settlement site.

Presence of whetstones
We noticed that whetstones were remarkable features of some grave contexts in the cemetery of Roman Tienen. Whetstones were also noticed to be elements of structured deposits in the Iron Age. Therefore it was an

359 Clarke 2000.
interesting research subject to test if these objects were sometimes included in the assemblages of ritual depositions in Roman Tienen. In Roman period contexts they are often of exotic (imported and traded) stone and their association with metal may be significant.

3.2.7 HUMAN REMAINS

The presence of human remains in structures within settlements has attracted much scholarly attention in the last decades.\textsuperscript{361} In the civitas Tungrorum the practice is present but not very well studied. In a well in Elewijt fragments of two human skulls were discovered.\textsuperscript{362} Human remains were also deposited in several settlement contexts in Tongeren\textsuperscript{363} and in Tienen.\textsuperscript{364} The presence of human remains can be considered a potential criterion to identify ritual depositions. The validity of this criterion will be examined by studying the combination of human remains with other criteria in depositions.

3.3 SPECIAL CONFIGURATIONS IN DEPOSITIONS

The burial of deposits in pits, deep shafts, or ditches, constitutes the last phase of the ritual, by which the consumed goods are definitively separated from the profane world. These favissae also address the chthonian gods living in the earth. The deposits sometimes had an organised character (alignments, circular or triad compositions, vessels upside down, order of deposition, an isolated object under a tile, material for closure) that shows the will to create a setting, for protection or symbolic reasons. The deposits are sometimes accompanied by heaps of material that can be interpreted as remains of feasts. A simple fragment was sometimes representing a complete object. The special configurations of ritual depositions are not taken into consideration in the analysis of the criteria in 3.4, because this information is not recorded in the database.

3.4 APPLICATION OF THE CRITERIA ON THE TIENEN CONTEXTS

All the contexts of the settlement were screened for the validity of the above mentioned criteria. The table below shows a compilation of the information provided by the different queries applied for the presence of the criteria. In this table, next to the validity of the criterion, where it makes sense, also a quantification of the number of the specific finds is given.

\textsuperscript{361} Hessing 1993.
\textsuperscript{362} Van Impe et al. 2005: 298
<table>
<thead>
<tr>
<th>Item</th>
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<th>Animal remains</th>
<th>Copper alloy</th>
<th>Glass</th>
<th>Sculpture</th>
<th>Stone</th>
<th>Human</th>
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</tr>
</tbody>
</table>

Table 3.1. Table representing features from Tienen, Griepenvelde, with a representation of valid criteria, identifying them as probable ritual depositions.
3.5 CATEGORIES OF RITUAL DEPOSITIONS REFLECTING DIFFERENT RITUAL PRACTICES

The table (3.1) with the overview of the probable ritual assemblages presents different combinations of finds or find groups that were considered as valid criteria for identifying ritual depositions. Some ritual assemblages are constituted by a large variation of different finds while others consist only of a small selection of goods. Below we will define some general categories of ritual assemblages, although countless variations are possible. While it is difficult to identify the purpose and meaning of these ritual deposits, an attempt is made to define different activities or different stages in the ritual process possibly represented by these categories of depositions. If we look at the criteria for the identification of ritual deposits we can distinguish several groups of goods that can potentially be related to different categories of activities in ritual practice. Before giving some definitions of different categories of ritual depositions, we will describe the possible meaning of some find groups.

A first distinction is the degree in which the goods are consumed in profane contexts in daily life. Some of these goods are not commonly used or consumed in daily life. Cult ceramic is probably only used in explicit ritual actions. Good examples are incense burners that were used for purification purposes or to connect the world of the gods with the world of the living. Also some of the animals are not consumed commonly. Dogs, horses, foetuses, wild mammals and wild birds belong to this category. It is imaginable that these animals were part of purely sacrificial activities. There was on the whole no motivation whatsoever for the consumption of these animals as nutrition. Decorated samian bowls were possibly used in communal drinking practices and were probably not used on a daily base in household consumption practices.

Other goods present in ritual depositions are also part of daily life and practice. These goods probably belonged to the feasting part of the ritual activities and represent cooking, serving and table ware together with the remains of the meal. To this assemblage belong the remains of the animals that are regarded as consumable and so constitute also a part of the daily diet. It is possible that these animals were partly sacrificed to the gods, while other parts were eaten. The very young (juvenile) animals cannot be considered as meat that was regularly eaten. Juvenile animals were probably selected for their relative high value or because they had special significance in the specific context of the sacrifice. This significance can be sought in relation with the gods or spirits that were involved in the ritual or in the favour that was demanded from the supra-natural. They could be part of seasonal rituals.

The metal and glass objects can be personal items that were sacrificed to the gods in return of certain favours. They could also have a more symbolic function. The apotropaic properties of sharp objects are suggestive of possible symbolic functions from time to time for these objects. The presence of whetstone can be a personal donation or contextualizes the ritual in agricultural or craft activities. Bronze objects are often personal donations. Fragments of glass table ware can be reminiscent of luxurious meals held at the occasion of a ritual ceremony.

From the table with the overview of the ritual assemblages presenting different combinations of valid criteria for identifying ritual depositions we will define some general categories of ritual assemblages. While it is difficult to identify the purpose and meaning of these ritual deposits, an attempt is made to define different activities or different stages in the ritual process represented by these categories of depositions. The categories defined below all appear more than once in the peripheral zone of the vicus we excavated on the Grijpenveld, but also have been encountered at different other Roman sites.

CATEGORY 1:

- ceramics with a completeness of 100% and/or above 50%
- *amphorae*
- fragments of decorated samian bowls
- cultic ware
- dog
- horse
- parts of juvenile animals
- animal skulls
- bronze objects
- glass objects
- whetstone (optional)
- sculpture (optional)
- human remains (optional)
This category of ritual event consists of ceremonial parts where cult ceramic is used and animals are sacrificed, communal drinking of wine is involved, a meal is shared and personal or symbolical objects are offered to the gods. At the end some objects are destroyed and a selection of material and animal parts to be deposited in an underground feature is made.

**CATEGORY 2:**

- cultic ware
- dog and or horse
- wild animals
- juvenile animals
- bronze objects
- glass
- sculpture
- whetstone
- quernstone

This category of ritual seems to involve especially the sacrifice of dog and/or horse. The cultic ware, mostly incense burners, is typical for purification practices. The bronze objects are valuable or symbolic items offered to the gods. The sculpture addresses the god the sacrifice is made to. In this sacrificial event no feast or meal was held or no remains of these activities were included in the deposition.

**CATEGORY 3:**

- complete skeletons of animals

In some rituals only the animals that were sacrificed are deposited.

**CATEGORY 4**

- bronze objects
- glass objects

Some ritual deposition consists only of the sacrifice of some valuable objects in bronze and/or glass in an underground feature. Often the bronze objects include coins.

**CATEGORY 5**

- sculpture
- whetstone (optional)
- bronze object (optional)
- ceramic object (optional)

Some ritual depositions, like foundation deposits, contain only 1 or 2 objects.
4. TRANSFORMATIONS IN CONSUMER CHOICES AND DEPOSITION PRACTICES PER PHASE

In this chapter the consumption and deposition patterns of the different material categories of the finds (ceramics, animal bone, glass, bronze, iron) are compared per phase and per cultural context. For each phase first the characteristics of the different finds assemblages of the daily life settlement waste contexts are presented in a detailed way. Second, the composition of the finds assemblages of the cemetery are elaborated on and the similarities and differences with the settlement assemblages are highlighted where relevant. Third the different material categories of the ritual contexts are characterized and a comparison with the settlement and the cemetery contexts is provided where considered meaningful. This structure is followed for each phase. Similarities and differences in patterns between different phases are emphasized where interesting. In chapter 3 we elaborated on the methodology applied and the criteria used to distinguish ritual from waste contexts. In section 2.2.6 the methods for attributing the archaeological contexts to the four phases were explained. This chapter will constitute the basis for the next chapter where we elaborate on how consumption and deposition patterns and cooking practices varied over time and between different cultural contexts.

For each phase a plan with an overview of the features attributed to the different cultural contexts is provided. The position of the features is indicated with coloured dots, because due to the small scale of the plan, the little coloured features, like graves, would be invisible. A general overview of the Roman period features is provided below (fig.4.1).

Fig. 4.1. Plan of Grijpenveld site with important features of all phases.

4.1 CONSUMPTION AND DEPOSITION PRACTICES IN PHASE 1: AD 1-70

4.1.1 SETTLEMENT

The vicus of Tienen was founded during the reign of Augustus. In this period the southwestern periphery was dominated by a square ditched enclosure with the entrance directed to a road and to the centre of the vicus (fig.
In the northeastern corner of the enclosure a wooden post building was erected. The enclosure ditch contains very few finds, except for a remarkable deposit right and left of the entrance. This deposit contained a mass of finds that give us a clear indication of the function of the complex. The structure and its finds will be discussed in more detail in section 4.2.1.4, entitled The Augusto-Tiberian ceremonial enclosure. As will be shown we have good reasons to believe that this enclosure was a ceremonial complex probably connected with the foundation of the *vicus*. It was definitely suitable for the gathering of large crowds of people.

A little over one hundred metres down the road in an eastern direction a farmhouse was erected in the Augustan period. It was a two-aisled building with double posts at the entrances that were situated in the long sites, opposite from each other. Next to the house some pits were situated. These pits contained mainly Belgic ware, Italian sigillata and so called 'cork urnes'.

![Archaeological features from phase 1 of the site of Tienen, Grijpenveld.](image)

The ceramic assemblage of the settlement contexts of the first phase mainly consists of locally produced pottery. This pottery is dominated by table ware types (52%) and storage/transport ware (39%), but also comprises cooking ware (9%) (fig. 4.3). A comparable assemblage from the pre-Flavian period from the settlement of Namur presented a similar proportion for table ware. The proportion of transport/storage ware 26.3 % is lower than in Tienen. This is without doubt at least partly due to the fact that the hand-formed ‘cork urns’, mostly Haltern 91, were considered as food containers in Tienen and as kitchen ware in Namur. Since in this area these pots are considered local cooking ware, the kitchen ware is also higher in Namur (26.7 %) than in Tienen.

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366 Hanut/Siebrand 2010.
PHASE 1 (settlement) : function and percentage MNI
N = 174

- kitchen ware: 8.62%
- storage/transport ware: 39.08%
- table ware: 52.30%

Fig. 4.3. Proportions of ceramic functions from the settlement of the site of Tienen, Grijpenveld in phase 1.

The local table ware is mainly produced in *terra rubra*, *terra nigra*, fine reduced ware, fine oxidized and colour-coated ware. The table ware consists of beakers (15%) and to a lesser degree of dishes (3%) (fig. 4.4). The locally produced beakers are of the type BE1 (biconical beaker) and the typical Belgic ware beaker BE3. For conserving and serving liquids, bottles (2%) and jugs (2%) were popular. The bottles were locally made in *terra nigra*. Their shape fits well in the general variation of bottles in *terra nigra* in this period. The jugs were locally produced with some individuals imported from the Rhine area. The locally produced jugs KR1 and KR3 are imitations from the Rhineland Hofheim 1 and 2 types. The cooking pots (9%) are produced mostly locally in coarse tempered oxidized, but mainly reduced ware. The local fine table ware assemblage is completed with colour-coated beakers imported from the Rhine area, beakers in so called soap ware (from the region of Bavay), some beakers in *terra rubra* and *terra nigra* from unknown origin and with *terra sigillata* of Italian origin as well as from the south of Gaul. Apart from the Tienen cooking ware also a small percentage of cooking pots are imported from Tongeren. A small proportion of the assemblage (3%) consisted of locally produced bowls, mostly used for preparing and serving food. Mortaria made up for less than a percent of the assemblage and did not play a big role yet in the kitchen of the inhabitants of the vicus in this period. This is consistent with their generally infrequent occurrence amongst assemblages from elsewhere in the North-West provinces at this time, especially away from Roman military sites. A relatively large part of the ceramic assemblage available in this early period is constituted by imported hand-formed ware mostly serving a function as food containers and with maybe a secondary use as cooking pots. The origin of a large part of this hand-formed ware is probably the Ardennes-Eifel area. The *amphorae* assemblage consisted of 3% of the total numbers of vessels from the phase 1 settlement contexts. A small proportion of the assemblage consists of flat bottomed wine *amphorae* imported from the south of Gaul. Several painted inscriptions from across the empire record defrutum or olives preserved in defrutum as the contents of the Haltern 70. Although this much is clear, there is some dispute about whether defrutum should be considered as wine or non-alcoholic sweet syrup. The *amphorae* assemblage also contained a small number of fragments from the Baetican olive oil *amphorae* Dressel 20. Furthermore the assemblage comprising storage and transport vessels consisted of 8% of locally produced dolia.

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Animal remains
The number of skeletal elements (24 in total) from domestic animals present in the settlement waste from the first phase is very low (fig. 4.5). This presumably reflects the nature and circumstances of preservation of bone at the site (see also section 2.2.4.5). Nevertheless we will briefly discuss their composition. The animal remains of the settlement in the first phase show a strong dominance of cattle (58%), followed by sheep/goat (25%) with smaller numbers of pig (16%). In section 5.1 these remains will be considered in a wider perspective of other assemblages of this period in the civitas.
Fig. 4.5. Proportions of the three main animal species from the settlement of the site of Tienen, Grijpenveld in phase 1.

For cattle the most frequent skeletal element was the ulna, followed by the pelvis, the metatarsal, the mandibula, horncore and calcaneus (table 4.6). The skeletal elements of the sheep are mostly teeth, followed by horncore, pelvis and metatarsal. In the remains of the pigs, the pelvis, the scapula, the tibia and the ulna are equally represented. Unfortunately no age estimations could be made based on these bone fragments.

Fig. 4.6. Number of skeletal elements per animal species from the settlement of the site of Tienen, Grijpenveld in phase 1.

**Bronze objects**

The number of bronze objects, four in total, is very low in the settlement waste contexts of this phase (fig. 4.7). The few objects present belong to the functional categories jewellery, *instrumentum domesticum* and clothing. The objects representing these categories are a fragment of a plate/sheet, two fibulae and a bracelet.
Fig. 4.7. Number and identification of bronze objects per functional category from the settlement of the site of Tienen, Grijpenveld in phase 1.

**Glass**

Only 2 fragments of glass objects were present in the settlement waste contexts of this earliest phase, belonging to the functional categories table ware and storage/transport ware. The fragments are of a bottle (Isings 50) and a bowl (Isings 3). A reason for the scarcity of glass in this phase in the refuse contexts could be that the recycling of glass was organised very thoroughly in this early period or that glass was not widely available and/or expensive.

**Iron**

Remarkably enough no iron objects were present in the settlement contexts of this phase.

### 4.1.2. CEMETERY

The location, lay out and size of the cemetery (fig. 2.11) was defined in the Augustan period, together with the foundation of the vicus. A road coming from the centre of the vicus ran parallel with the southeastern border of the cemetery. The northwestern and southeastern borders of the cemetery were materialized by ditches, to separate the world of death from the world of the living. The graves of phase 1 are concentrated in the eastern corner of the cemetery, closest to the settlement (fig. 4.8). In total 27 graves could be dated and placed in this phase. By far the largest proportion consists of graves with remains of the funerary pyre (fig. 4.9, fig. 4.10), sometimes in combination with an additional grave gift like a beaker or an object in bronze (fig. 4.14). A remarkable feature of this earliest phase of the cemetery is the relative high number (five) of inhumation burials. Three of these inhumation burials were situated in the eastern delimitation ditch (fig. 4.11). The practice of inhumation in this early phase of the Roman period is considered to be uncommon. These burials can probably be interpreted as having a special meaning. The people buried were possibly members of the community with a special status. In three cases the cremated bones were collected in a receptacle and placed in the grave. The ritual of collecting cremated bones in urns gained popularity in the next period. In one case the pyre was placed directly above the grave.

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Gerritsen 2003, 194.
Fig. 4.8. Graves from the cemetery of the site of Tienen, Grijpenveld in phase 1.

Fig. 4.9. Proportions of grave types from the cemetery of the site Tienen, Grijpenveld in phase 1.
Fig. 4.10. Grave with pyre remains from the cemetery of the site of Tienen, Grijpenveld in phase 1.

Fig. 4.11. Inhumation grave in a ditch that delimits the cemetery of the site of Tienen, Grijpenveld in phase 1.

Ceramics
Compared to the assemblage from the settlement a high proportion of table ware was present in the grave contexts (fig. 4.12), although the number of vessels overall from these contexts in this phase is modest (N=59).
PHASE 1 (cemetry) : function and percentage MNI
N = 59

- kitchen ware: 13.56%
- storage/transport ware: 20.34%
- table ware: 66.10%

Fig. 4.12. Proportions of ceramic functions from the cemetery of the site of Tienen, Grijpenveld in phase 1.

A relatively higher number of beakers and dishes in oxidized ware as well as a higher number of terra nigra beakers were consumed in funerary practices (fig. 4.13). The beakers BE1, BE2, BE3 and BE4 were the types present. One cup Drag. 27 in samian ware was deposited in one of the graves of the cemetery. From the locally produced dishes apparently only oxidized and colour coated dishes were selected for the cemetery in this phase. Apart from this also the samian dish 15/17 was employed. For serving and conserving liquids locally produced jugs KR1 and KR3 were preferred. These are imitations from the Rhineland relating to Hofheim 1 and 2 types. Although vessels were present for the serving and drinking of wine it is remarkable that there are no fragments of wine amphorae present within the grave contexts of this phase. Some fragments of the Baetican oil amphorae Dressel 20 are present. On the other hand cooking pots, bowls and dolia were not consumed and deposited as much in cemetery contexts as in settlement contexts. No fragments of mortaria were found consumed within funerary contexts in this phase.
Fig. 4.13. Proportions of ceramic forms from the cemetery of the site of Tienen, Grijpenveld in phase 1.

**Animal remains**
Unfortunately the few (30) fragments from this phase in the cemetery were unidentifiable. No further remarks can be made on the consumption and deposition practices of animals in the cemetery in phase 1.

**Bronze objects**
In this phase 30% (or seven) of the (dated) graves contain one or more bronze object(s). The 13 objects belong to the categories jewellery, clothing and coins (fig. 4.14). Some fibulae, a hairpin and some bracelet fragments ended up in the graves. Also some coins make their appearance in the graves.
Glass

In the cemetery contexts of this phase glass objects belonging to the functional categories jewellery and cosmetics are represented by four identified items (fig. 4.15). Few graves contain unguentaria (Isings 81 a) and others glass beads. The unguentaria show an early influence of the Roman culture on local customs. In total 8 graves or (35%) contained glass objects. As will be shown further in this chapter the popularity of glass objects in the graves will decrease in phase 2 and 3 and increase again in the final phase.
Iron objects
In phase 1 only a few very big nails of category 7 (9.9 cm-10.5 cm) were discovered. Less than 20% (or 4 out of 23) of the graves of this phase contained nails. In the waste of the settlement contexts of this phase no nails were present. In the ritual contexts, on the contrary, quite a lot of nails are registered. As will be shown the number of graves with nails will increase throughout the Roman period in the cemetery.

4.1.3 RITUAL CONTEXTS

The ritual contexts (see section 2.2.6) of this phase are clearly connected to the Augusto-Tiberian enclosure and a contemporary farmhouse (fig. 4.24, fig. 4.25). A large proportion of the goods consumed and deposited are part of the Augusto-Tiberian ditched enclosure that (see also 4.2.1.4) was dominating the area. In the northwest corner of this enclosure a large building was erected. This building was probably used in the context of ceremonies and feasts that were held at the spot. Right and left of the entrance to the enclosure a very rich ensemble of goods was deposited. The assemblage had a special composition of mostly imported table ware, ceramic containers and valuable objects.

The farmhouse further down the road to the east was also enclosed by ditches. The pits in front of and behind the house contain ritual deposits with the remains of feasts. Furthermore some pits with an apparent especially composed assemblage were discovered next to the road.

Ceramics
Compared with the consumed ceramic assemblage from the settlement and the cemetery in phase 1, the assemblage from the ritual context is typified by a higher proportion of kitchen/cooking ware, a relatively lower percentage of table ware and the appearance of a small proportion of cultic ware (fig. 4.16).

Fig. 4.16. Proportions of ceramic functions from the ritual contexts of the site of Tienen, Grijpenveld in phase 1.

The higher proportion of cooking ware clearly points in the direction of food preparation in the context of ritual feasting in this phase. The cooking pots show a relatively high proportion of reduced ware compared to the refuse contexts in the settlement and cemetery (fig. 4.16). An important component of the pots is in imported
hand formed ware, probably imported for their content. These food containers probably contained delicacies imported from the Ardennes-Eifel area. This rather exclusive food could be part of the feasts that seemingly were important elements of the rituals performed during this phase. The ceramics used for drinking show a high number of locally produced colour-coated ware compared to the contemporary refuse contexts in the settlement and the contexts of the cemetery. Next to the locally produced beakers, cups in samian ware (Drag. 24/25) and thin-walled coarse tempered ware from the Rhine region were used. The ritual contexts also show a high number of one-handle and two-handled jugs. A small proportion of these jugs were imported from the Rhine area. Other items that only appear in ritual contexts of this phase are the locally produced two-handled jugs. This could imply the consumption of the liquid content of these items. The *amphorae* consumed for ritual practices in this phase are wine *amphorae* of the type Gauloise 4. The question remains if in this early phase already local wine was produced or if this *amphora* had a different content. Locally produced *mortaria* (M2) appear together with *mortaria* from the Rhone area. The *mortarium* M2 is a very early type with a characteristic rounded bowl shape and a triangular rim. These items do not appear in the refuse contexts from the settlement, nor in the cemetery and can possibly be associated with a more exclusive use in food preparation that did not find its application at this time in every-day life and had no tradition yet as an item in any funerary context. In this phase, jars are only present in ritual contexts. Jars are believed to have been used to heat liquids, probably mostly water. This could imply the inclusion of warm water or other liquids in purification or libation rituals. Remarkable is the appearance of incense burners this early in the Roman period.

![Fig. 4.17. Proportions of ceramic forms from the ritual contexts of the site of Tienen, Grijpenveld in phase 1.](image)

**Animal remains**

The total number of bones (25), as in the other cultural contexts of this phase, is quite small (fig. 4.18). Nevertheless we want to discuss the patterns emerging from this assemblage. If we first look at the proportions of the three main mammals that were the major sources of meat we see the following pattern. The animals most frequently used in ritual practices of the 1st phase are cattle (76%). This was also the case in the settlement contexts. Pig is present in a much lower percentage than in the settlement (20%) and very low numbers (less than 4%) of sheep/goat appear in ritual contexts. Compared to the settlement more cattle and pig is consumed in ritual contexts, while sheep was less popular.
If we look at the total assemblage of animal remains we see that compared to the settlement, three additional species appear in this context: horse (15%), chicken (6%) and dog (3%) (fig. 4.19).

Fig. 4.18 Proportions of the three main animal species from the ritual contexts in phase 1.

Fig. 4.19. Proportions of animal species from the ritual contexts of the site of Tienen, Grijpenveld in phase 1.
From cattle only teeth are present in the ritual contexts of this phase (fig. 4.20). These can probably be interpreted as the remains of skulls that were deposited as a part of ritual practices. As Maaike Groot suggests, these can be fresh skulls of butchered or sacrificed animals or skulls that may have been curated or displayed before being deposited. From horse also only the teeth were present. Here the same interpretation as for the cattle skulls can be suggested. It should be remarked, however, that it is also possible that isolated teeth ended up in the archaeological record as what is sometimes termed ‘background noise’. The skeletal elements present from pig were teeth, axis, ulna and tibia. The tibia fragments belonged to a juvenile animal (fig. 4.21). The dog was represented by maxilla fragments. From the domestic fowl an ulna and a carpometacarpus was present. It could be determined that the animals were adult at the time of killing. The remains of sheep/goat were fragments of the axis.

Fig. 4.20 Number of skeletal elements per animal species from the ritual contexts of the site of Tienen, Grijpenveld in phase 1.

**Bronze objects**

The ritual contexts of this phase show a remarkably high number of bronze objects, compared to the contemporary contexts of refuse from the settlement and to the contexts of the cemetery. The functional categories represented are surgical and toilet instruments, *instrumentum domesticum*, clothing and coins (fig. 4.22). Most common are coins, followed by plates/sheets, *fibulae*, hairpins, strips, fragments of a jar and a *spatula*. The palmet is clearly a fragment of a valuable early Roman bronze vessel. Fragments of bronze vessels are noted to often form part of deposits that were special in some way.\(^{370}\)

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\(^{370}\) Cool 2006, 48-49.
Fig. 4.22. Number and identification of bronze objects per functional category from the ritual contexts of the site of Tienen, Grijpenveld in phase 1.

Glass
The glass objects best represented in the ritual contexts of this phase are beads and glass fragments. Apart from jewellery also some fragments of the bowls Isings 3 and Isings 3b were deposited amongst these contexts associated with ritual practices.

Iron objects
The nails present in the ritual contexts of the earliest phase belong to all the size categories: small, average, big and very big (fig. 4.23). The group of small nails is by far the best represented, followed at a distance by the group with big nails and then the average and very big nails. It is especially surprising to find so many nails within a ritual context, while in the cemetery only a couple of examples are present and in the refuse contexts they are completely absent. The overrepresentation of small nails is a consequence of the inclusion of the finds from the ditched Augusto-Tiberian enclosure (see 4.1.4) in the category of the ritual contexts. In the ditch, at both sides of the entrance, large amounts of hobnails from shoes were discovered. Possibly these shoes were highly personalised items that were elements of the ritual deposits in the ditch, together with valuable bronze and glass objects and imported pottery. In the following phases hobnails will constitute an important proportion of the nail assemblages in the cemetery.
4.1.4 THE AUGUSTO-TIBERIAN CEREMONIAL ENCLOSURE

The southwestern periphery was dominated by a square ditched enclosure of approximately 60 by 60 m with the entrance (6 m wide) orientated to a road and to the centre of the vicus (fig. 4.24, fig. 4.25). The V-shaped enclosure ditch was 3 m wide and 1.5 m deep. In the north-eastern corner of the enclosure a wooden post building approximately 25 m long and 9 m wide was erected. The pits on both ends were probably dug to extract loam for the building of the house. The rest of the enclosure was completely empty. Similar enclosures from this period are unknown in association with vici in the civitas Tungrorum. This is probably a consequence of the limited state of research in the region.

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Fig. 4.23. Number of nails per size category from the ritual context of the site of Tienen, Grijpenveld in phase 1.

Martens et al., 2002.
Fig. 4.24 Excavation plan of the site of Tienen, Grijpenveld with the enclosure and the building; the road and the farmhouse marked in red.

On the bottom of the northern ditch of the enclosure some cattle teeth were found that probably belonged to skulls. These skulls were deposited soon after the ditches were dug, possibly at the occasion of the inauguration of the complex. The enclosure ditch was otherwise almost empty, except for a remarkable deposit right and left of the entrance. The deposit consists of a very dense layer of burnt clay, charcoal, burnt bone, a mass of ceramic debris and some small finds. In order to study the deposition process of the material we have wet-sieved the complete layer per square metre, resulting in an assemblage of finds of a special composition. The finds give us a clear indication of the function of the complex. The presence of mostly imported table ware and ceramic containers seems to indicate that we are dealing with the remains of a feast. The table ware consists of samian ware from Italio-Gaulish origin, cups in thin-walled ware from workshops at Cologne or Neuss, *terra nigra* and *terra rubra* drinking ware and jugs in local ware. The 61 fragments of samian ware can be attributed to 18 vessels: 1 cup Haltern 8, 4 cups Hofheim 5, 9 cups Drag. 24/25 (of which one carries a stamp SENICIO from La Graufesenque), 1 plate Haltern 2, one decorated bowl Drag. 29. The thin-walled ware consists of 145 sherds belonging to 8 individuals of the cup Haltern 40B, originating from the Rhine area, probably from the workshops of Neuss and Cologne.372

The Gallo-Belgic ware consisted of 47 beakers, 5 cups, 2 bowls, 4 bottles and 5 plates. 14% of these vessels are fabricated in *terra rubra*. The categories of ceramic containers consist of 9 *dolia* and 38 so-called ‘corkurns’. Since the discovery of one intact ‘corkurn’ with its original content in a pit in Nijmegen it can be assumed that these pots were used to trade ready-made delicacies.373 In the case of Nijmegen the pot contained briskets of over 30 thrushes. Petrographic analysis showed that the pot from Nijmegen derived form the Ardennes or the Eifel area. Thanks to the sieving operation we have been able to collect not less than 32,862 fragments of salt containers, corresponding to a weight of 39.86 kilos. We estimated a minimum number of 40 individuals of these pots. This number was obtained by dividing the total weight by the weight of an almost complete example found in Kesteren.374 This is surprising new evidence for the distribution of salt in the Augustan period. Salt was needed in large quantities, both as a condiment and to preserve food. Among the other objects in the assemblage we have 6 fragments of La Tène bracelets and beads in glass, an intaglio in 3-coloured

373 Lauwerier 1993; Mittag 1999.
glass with traces of gold, 4 fibulae and a palmet in bronze, a total of 10 Augustan bronze coins and a large amount of iron objects, of which some 250 fragments are of shoe nails. The fragments of the La Tène bracelets could be heirlooms, reminders of certain events in the past, since their production stopped at the end of the 1st century BC. The symbolical and socio-cultural importance of these items in this context cannot, however, be underestimated. The botanical remains mainly contained cereal, chaff, weeds, some hazelnuts and seeds from elder. Emmer, spelt and bread wheat dominated the cereal spectrum. Barley, rye and Millet form only small parts of the assemblage. An important part of the vegetal remains consisted of chaff. This chaff was probably from a second threshing of the cereal that often took place on the consumption site. The question remains how these remains ended up in the layer related with the feast.

The composition of the finds assemblage shows that the consumers must have had contacts with many regions of the Roman empire: for the “corkurnes” with the civitas of the Treveri, for the salt with the reion of the Menapii or Morini, for the fine ware cups with the region of the Ubii and for the coins, the terra sigillata, the sandals and the intaglio with the Roman core area. The socio-political and/or economical power of the organizers is also clear from their ability to coordinate such labour-intensive work in constructing the enclosure. Its position at the edge of the plateau dominating the area of the vicus also emphasizes its importance for the town. So we have good reasons to propose that this enclosure was a large ceremonial complex, constructed when the vicus was founded for the gathering of large crowds of people. The ceramics seem to have been the remains of a high-status feast. The feast involved the consumption of meals composed with refined imported products that were served in and eaten and drunk from mainly imported crockery. The large building in the northeastern corner of the enclosure may have been used for the storage of goods that were needed for the ceremonies and feasts, for the gathering of people in bad weather conditions or for a combination of these reasons. The presence of the bronze palmet in the deposit, probably a part of a representative bronze vessel presumably reflects the high ranking of some members of the community taking part in the ceremony. As archaeologists have emphasized before, the feasting context is an ideal one to reaffirm or introduce new concepts, new values and to manipulate people’s emotions in ways that favour the organizers’ political interests. The inhabitants of the vicus in the Augusto-Tiberean period were certainly confronted with important socio-political and economical changes and elected for a new lifestyle within the vicus. The feasts and meetings held in this ceremonial complex could have been important to create a sense of community and a willingness to play one’s role in the socio-economical and cultural changes still ahead. The large amount of salt containers could point in the direction of redistribution of this product at the occasion of the feast. The salt could have been gifts from the organizers of the feast for the inhabitants. This could be an example of ostentation towards guests that is a typical feature of lavish feasts where gifts of valued goods give rise to reciprocal obligations for the return of favour. It is possible that this ceremonial complex was constructed at the occasion of rituals performed to found the vicus. There is evidence for this kind of ceremonies (taking the auspices and ploughing the pomerium) at a number of towns in Britain including Dorchester and Silchester. Such rituals reinforced the sanctity of the town and reified it as an entity, conceptually divorced from and elevated above the rest of the landscape. The location of the enclosure at the outskirts of the town, on the edge of the plateau, its date and the nature of the ritual deposition would plea in favour of this interpretation. This would also be a possible explanation for the fact that the surface of this enclosure remained untouched almost three centuries after its erection and for the religious connotation that this area had during the rest of the Roman period. The enclosure would also be an expression of the idea of community that was created through this kind of public rituals in which sacrifice (cf. bull skulls) and communal feasting were central. This idea of community and the self-identification through citizenship) is expressed in later phases e.g. by the development and popularity of typical local forms of pottery.

376 Dietler 2001.
377 Hayden 2009, 34.
380 Revell 2010, 47.
4.2 CONSUMPTION AND DEPOSITION PRACTICES IN PHASE 2: AD 70-140

4.2.1 SETTLEMENT

In this phase a second road was laid out from the centre of the vicus to the southwestern periphery. The road leads to a series of wells and makes a curve of 90° to the south east beyond the wells (fig.4.1). Two workshops for the production of pottery were installed (fig. 4.28 and 4.29). Judging from the large amount of wasters (fig. 4.30) these workshops were in use for several seasons. Also an oven, probably for the production of glass (fig. 4.1 and fig. 4.31), was constructed in the zone next to the new road. A large number of pits were dug, spread all over the zone (fig. 4.26). The most probable explanation for these pits is that they were dug for the extraction of loam. This loam could be used in the vicus for the construction of houses and for flooring. The pits were filled up with waste from the settlement. Next to the road passing the cemetery, a wooden water pipe for the transmission of water into the vicus was laid out in a ditch (fig. 4.27). The water was captured from a source at the other side of the valley of the Menebeek to provide water for the bath house excavated in the Zijdelingsestraat.
Fig. 4.26 Archaeological features of the site of Tienen, Grijpenveld in phase 2.
Fig. 4.27. Iron ring from the wooden waterpipe from the site at Tienen, Grijpenveld leading to the baths in the vicus of Tienen, Zijdelingestraat.

Fig. 4.28 Pottery ovens from the Flavian period of the site of Tienen, Grijpenveld.
Fig. 4.29 Pottery ovens from the Flavian period of the site of Tienen, Grijpenveld.

Fig. 4.30 Pit with waste from ceramic production from the site of Tienen, Grijpenveld.
Fig. 4.31. Glass production furnace from the Flavian period of the site of Tienen, Grijpenveld.

**Ceramic**

The assemblage of the ceramics consumed in the settlement in the second phase sees an increase in the kitchen ware of 22% compared to the assemblage of the previous phase (fig. 32). This is

![Pie chart showing the distribution of ceramic functions in Phase 2](chart.png)

Fig. 4.32. Proportions of ceramic functions from the settlement probably the combined result of the availability of a larger range of foodstuff and new ways and utensils to prepare, serve and consume food in phase 2.
probably the combined result of the availability of a larger range of foodstuff and new ways and utensils to prepare, serve and consume food.

The proportion of table ware slightly decreases, but a much larger choice of products was available. The local potters clearly multiplied their assortment of products to fulfil the needs of the customers according to new fashions or habits in eating and drinking (fig. 4.33). In the category of the table ware no less than 4 new types of locally produced beakers were introduced to the market. Some of these beaker types were imitations of popular forms imported from other regions, like the BE 6 that is an imitation of the colour-coated beakers from the Rhine area. These beakers were made in dark reduced or colour coated ware and resemble the original types very closely. The imitation of popular import products seems to be a specialty of the local potters and will remain so throughout the Roman period. Other types, like the so called ‘Tongeren’ beaker (BE 10) were typical for the Tienen region. A spectacular innovation of this phase, probably more towards the end of the phase, is the introduction of the fuming technique. The fumed ware is quite typical for the Tienen production and its proportion will increase from this phase onwards. A fumed finishing was especially popular for the beaker types BE3, BE 10 and BE 11. Next to the wide choice of locally produced drinking vessels, also a range of imported products were available on the market. The (mostly black) colour coated beakers from the Rhine region (Hees 1-4), indeed, were the most popular. The Déchelette 72 beaker in samian ware was also available on the market but seems to be relatively little consumed, probably as it was a relatively expensive item given its decorative detail.

The innovative trend is even more spectacular in the assortment of locally produced and imported fine ware bowls available on the market in this phase. Not less than eight new types of bowls were introduced by the local potters on to the market. These bowls were executed in reduced, oxidized and fumed ware. A small proportion of the local cups were still in terra nigra. Of the imported bowls and cups of this phase a large proportion consisted of samian ware. By far the most popular product in samian ware is the Drag. 27 drinking cup, followed at a distance by the Drag. 37 bowl and Drag. 33 cup. Also present in the settlement refuse assemblage are the Drag. 29, the Drag. 18/31 R, the Drag. 35 and the Drag. 40. Apart from the fact that we know that these bowls were used as table ware, it is not always clear which ones were used for drinking and which ones were used for serving or consuming food. Willis suggested that the form Drag. 37 may have been employed as a communal drinking vessel. Possibly the same types of bowls could have been used for a mix of wining and dining functions. A small minority of fine ware bowls in fumed and oxidized ware from Tongeren was also available on the market.

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381 Willis 1998.
In the locally produced assortment of plates, next to the already existing types B1 and B4, two more types were introduced: the plate with a heart shaped rim (B3) and the B7. A large proportion of the plates is still produced in reduced ware. Up to a quarter of the assemblage is produced in fumed ware, probably increasingly so towards the end of the phase. As with the bowls, in the assortment of the plates, a high proportion of imported ware was present. Especially the samian plate Drag. 18/31 was extremely common as well as the colour coated plate Niederbieber 40 imported from the Rhineland. Smaller proportions of plates were imported from Tongeren, the Bavay area and different places in the Rhine area. Some Pompeian red plates were imported from Rue-des-Vignes, a pottery production centre located in the north of Gaul. The increase of plates and bowls can be understood as indicative of an increase in different dishes and new ways of communal dining.

The same trend of an increase in choice of products is present in the assemblage of the locally produced jugs. The prototype (KR 8) of the so called ‘Haspengouwse kruik’ KR 9 was introduced to the market in this phase. This new K8 type became increasingly popular during this phase at the expense of the more ‘old-fashioned’ Rhineland jug types. The further developed KR 9 already surpassed in frequency the earlier form KR8 by the end of this phase. The high quality of the Tienen jugs made them very popular items for export in this phase. Probably because of the high quality of the Tienen jugs very few such types were imported from elsewhere in this phase. A few jugs from the Meuse area are present in the assemblage. In the case of the two handled jugs, mostly much more voluminous than the one handle jugs, the type KRA 6 was introduced to the market. This type will become the most popular form of 2 handled jug in the next phase and until the end of the Roman period. In contrast to the previous phase where mortaria did not appear in settlement waste contexts, in this phase an extensive assortment of mortaria are in use, with fragments deposited. A new type of mortarium (M6) is introduced to the gamut of locally produced mortaria. This type was developed towards the end of this phase and will become increasingly popular during the next phases. It is a type unique for the vicus of Tienen and will become a highly demanded export product from this phase onwards. More popular still in this phase, however, is the mortarium M5 that is a local imitation of the mass produced mortarium type from the Bavay area. The import product from Bavay is also consumed in large numbers in the vicus, although local alternatives were available. A small proportion of the mortaria in this phase was imported from the Meuse area. Next to mortaria in oxidized ware, in this phase also mortaria in samian ware are introduced to the Tienen market towards the very end of the phase. Generally it can be stated that the introduction of mortaria to the market and in the household use in this phase fits well with the general image of the profound changing of habits of preparing, serving, eating and drinking during this phase. Another important innovation in the locally produced cooking vessels is the introduction of the cooking pot with gully rim (P 6) towards the end of the phase. Remarkably this type of pot was exclusively produced in oxidized and fumed ware, while the large majority of the older types (s-shaped) cooking pots (P 1-3) are made in reduced ware. Apparently the new type also required the finishing of the new pottery production technique. Somehow surprising is the fact that an important part of the cooking pot assemblage of the settlement was imported. A small proportion of these imported pots were produced in Tongeren. Other pots originated from the Rhine and Meuse area, the Ardennes-Eifel area and the lowlands to the north and north-west. The exact function of the imported pots in handmade ware and of the ones imported from the lowlands is not known; their primary use could have been as containers for food or other goods.

Whereas in the previous phase ceramic lids were only present in the cemetery contexts, during this phase they are widely in use in the settlement contexts. Their use is easily understood in the context of the introduction of the cooking pot with gully rim. The locally produced lids are available in oxidized, reduced and fumed ware. The fabrics of the imported lids unsurprisingly correspond well with the fabrics of the imported cooking pots: Tongeren and the Rhine-area. This shows that the pots were probably purchased together with their lids. The question remains if this indicates that the pots held content on their arrival at Tienen.

In the second phase the consumption of amphorae increases and a wider choice of products were clearly available. From the amphorae that were already distributed in phase 1, the Gauloise 4 wine amphora and the Baetican Dressel 20 oil amphora are still available while the Haltern 70, containing defrutum, disappears from the market. In this phase the local amphora type A2 was introduced. The content of this amphora remains unknown, but must have been a local production of consumable goods. The amphora Dressel 7/11 was introduced to the market for the provision of fish sauce. To fulfil the demand for wine or a better quality of wine, amphorae from the region of Marseille and the Rhone valley were now available to be brought on the market in this phase. The wider availability of wine corresponds well with the elaborate choice in drinking ware. The wider availability of olive oil and garum that became clear from the fragments of their containers fits well with the changes noticeable in the assemblage of the cooking ware. In this phase also the basis was laid down by the local potters to develop their own style in pottery products that was to become very popular in the next phase, for local use, as well as for export. The ceramic assemblage reveals a community with a flourishing economy and a culture open to innovation and experiments in the domain of preparing food, eating and drinking. The presentation of food clearly gains much importance in this period. This is reflected by the effort invested in importing pottery as well as in the local production of new forms of good quality cooking and table ware.
Animal remains
If we first take a look at the proportions of the three main species that delivered meat (table 4.34) we notice that the assemblage is dominated by cattle (53%). Sheep/goat increased from 25% in the previous phase to 36% in this phase. The proportion of pig decreased from 17% to 11%.

Fig. 4.34. Proportions of the three main animal species from the settlement of the site Tienen, Grijpenveld in phase 2.

If we take into consideration the complete assemblage of animal remains we see that horse is present in the settlement waste context with a proportion of 6% (fig. 4.35). Dog is present with less than 1% of the assemblage.
Almost every part of the skeleton of cattle is present, except for the phalanges (fig. 4.36). Most skeletal elements belong to the skulls. The bones that allowed age estimation of cattle show that more adult and less subadult animals were present in the assemblage (fig. 4.37). The parts of the skeleton of sheep/goat that are best represented are the teeth and the mandibula, followed mainly by limb bones, the pelvis and lumbal vertebra. The bones that allowed age estimation belong to adult, adult/subadult and subadult animals. From horse, teeth as well as femur bones have been identified. The bones that allowed age estimation show animals were killed (or died) at adult age. The dog present in the settlement context was represented by a lumbal vertebra bone.
Fig. 4.36. Number of skeletal elements per animal species from the settlement of the site Tienen, Grijpenveld in phase 2.

Fig. 4.37 Number of skeletal elements that allow age estimation, per animal species from the settlement of the site Tienen, Grijpenveld in phase 2.
**Bronze objects**

The bronze objects present in the refuse of the settlement in the second phase belong to the functional categories *instrumentum domesticum*, clothing and coins (fig. 4.38). To the first category belong all kinds of plates, strips and *cochlearia*. The objects related to clothing are mostly *fibulae* and belt pieces. Only two coins were discovered in the waste of the settlement in this phase. The number of coins in the ritual contexts (4.2.3) in this phase is significantly higher.

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**Fig. 4.38.** Number and identification of bronze objects per functional category of the settlement of the site Tienen, Grijpenveld in phase 2.

**Glass**

The fragments of glass objects deposited in the settlement waste contexts are items used as storage/transport and table ware. In the first category belong some fragments of Isings 50 bottles. The table ware is represented by a single Isings 3 bowl.

**Iron**

The nails deposited in the settlement waste contexts belong to the categories average, big and very big. Best represented are the ‘big’ nails from category 6 (5.6 cm to 5.9 cm). Category 5 (4.7 cm to 5.1 cm) is the second best represented category. Categories 4 (3.5 cm - 4.2 cm) and 9 (9.9 cm – 10.5 cm) are present but with only a few nails of each.

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4.2.2 CEMETERY

In this phase the concentration of graves extends towards the north, east and the west (fig. 4.39). The graves of the western part of the cemetery, the most far away from the settlement, were situated mostly near the road. In this phase also a little isolated cemetery is laid out at the eastern end of the excavated zone, near the valley of the Menebeek (fig. 4.39, fig. 2.11). It is unclear to which group of people this separate cemetery belonged.

In total two hundred and eighty one graves could be dated in this phase. Almost three quarters were graves with collections of pyre remains (fig. 4.40). One quarter of the graves contained a receptacle, mostly in ceramic, with cremated bone. In total six inhumation burials and 4 bustum graves could be dated in this period. It is worth remarking that these graves are often situated in the periphery of the cemetery.
Fig. 4.39. Graves from the cemetery of the site Tienen, Grijpenveld in phase 2.

Fig. 4.40. Proportions of grave types from the cemetery of the site Tienen, Grijpenveld in phase 2.
Ceramics

The recovered assemblage from this phase of the cemetery is comparatively large (fig. 4.41). Surprisingly enough we see the same trend of an increase in the proportion of kitchen ware in the cemetery as in the settlement. The proportion of kitchen ware increases with 8 %, while the table ware decreases with 7%. Nevertheless, table ware is proportionally more consumed in graves than in the settlement.

One can assume, as a reasonable hypothesis, that the eating and drinking habits of the daily life were reflected in the meals for the dead and in the funerary feast. In the discussion on the ceramic assemblage from this phase in the settlement it was clear that the changing habits of food preparation and ways of eating and drinking are reflected in the ceramic assemblage very prominently. In this section we will examine how the ceramic assemblage from the cemetery in this phase was composed and where relevant we will make a comparison with the assemblage from the previous phase in the cemetery as well as from the contemporary settlement contexts.
The locally produced beakers from the cemetery reflect very well the assortment and the preference from the settlement (fig. 4.43). The only difference that can be remarked is the preference in the cemetery for terra nigra on the one hand and oxidized ware on the other hand. This tendency was already noticeable in the previous phase of the cemetery where the same preference could be determined. A further difference is the wider choice of imported beakers in the cemetery. Typical mica-dusted beakers were imported from the Bavay area (MD SOAP) and the workshop at Rue-des-Vignes (RUE MD). Some fine ware beakers were imported from Tongeren. Characteristic for the end of this phase are the black-slipped Niederbieber 33 beakers from Lezoux, the probable predecessors of the black-slipped beakers from Trier that were to become very popular in the next phase. It is worth mentioning that the assortment of colour coated beakers from the Rhine area remain the most preferred imported beaker source in this phase, in the settlement and even more so in the cemetery. Very remarkable is the fact that in this phase as opposed to the previous phase locally produced fine ware bowls play no role of importance anymore in the cemetery. The assortment of imported bowls/cups is amazing. On the top of the list of consumed imported bowls/cups is the cup Drag. 27, followed by the Drag. 33, Drag. 37, Drag. 35, Drag. 46, Drag. 38 and Curle 11/21. All types of jugs that were locally produced in this phase are present in the cemetery. This shows how popular the jug was in the funerary ritual. Only one type of two handled jug is present in the cemetery, probably because of the large size of these items. Another reason for their absence in this context is that they were not regarded as table ware. Remarkably enough no single imported jug is present in the cemetery, probably because of the aesthetics and high quality of the local ware. The assortment of dishes corresponds fairly well with the assortment in the settlement contexts, apart from the fact that it is slightly more elaborate. The preference of imported tableware in the cemetery is expressed by the amount of colour coated locally produced dishes on top of the imported colour coated dishes from the Rhine area. In the cemetery also more types of samian dishes are consumed, more specifically the Drag. 36 and Drag. 42. The cooking pots from the cemetery show the same variation in their proportions of local ware versus imported ware. The only marked difference is a clear preference for the type P3 in the cemetery. The peak in the numbers of lids of the type DE 2 in the cemetery seems to indicate that this type was fitting well to pot 3. A few jars are present in the cemetery, as was the case in the settlement. One was imported from Tongeren. Mortaria play a minor role in funerary ritual in this phase. In the previous phase no mortaria were present in the cemetery at all. In this phase, judging from their presence in settlement waste deposits, mortaria became quite important in the cuisine of daily life. These new habits seem not to have penetrated into the funerary cuisine yet.
or it was not a preferred item to include in graves. That is true of samian mortaria in graves in Britain – they are almost completely unknown from grave contexts. The amphorae present in the cemetery are limited to the widespread wine amphora Gauloise 4 and the oil amphora Dressel 20.

**Animal remains**

Overall not many animal remains are present in the cemetery contexts of this phase (fig. 4.43). This means that the proportions may not be representative for the assemblage of this phase. If we look only at the proportions of the three main meat delivering animals we notice that cattle and pig both take an equal proportion of 36%, while sheep is represented by 27% of the animal bone remains.

<table>
<thead>
<tr>
<th>PHASE 2 (cemetery) : species and frequency number of bones</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 11</td>
</tr>
<tr>
<td>cattle 36.36%</td>
</tr>
<tr>
<td>sheep or goat 27.27%</td>
</tr>
<tr>
<td>pig 36.36%</td>
</tr>
</tbody>
</table>

Fig. 4.43. Proportions of three main animal species from the cemetery of the site Tienen, Grijpenveld in phase 2.

If we take all (which are still few) animal species of the assemblage into consideration, the best represented species is the horse (fig. 4.44). The parts of the skeleton that are present are teeth, radius and pelvis (fig. 4.45). Cattle bones identified are some fragments of teeth and of metacarpal. Pig is represented by a tibia, radius, teeth and calcaneus. All of these animals are adult. The category sheep/goat has a mandible of an adult animal and a metapodal of a juvenile/subadult animal. This assemblage is different than the assemblage in the settlement by the species present, the proportions of the species present and the parts of the skeleton of the animals that are represented.

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382 Willis 2005, section 9.9.5.
PHASE 2 (cemetery) : species and frequency number of bones

N = 18

- Horse: 36.84%
- Pig: 21.05%
- Sheep or goat: 15.79%
- Snail: 5.26%
- Cattle: 21.05%

Fig. 4.44. Proportions of animal species from the cemetery of the site Tienen, Grijpenveld in phase 2.

Fig. 4.45. Number of skeletal elements per animal species from the cemetery of the site Tienen, Grijpenveld in phase 2.

**Bronze objects**

In the second phase only 12% (or 35 out of 281) of the burials contained at least one and maximum seven bronze objects. Due to the large number of burials dated in this phase, however, the total number of bronze objects, however, rises spectacularly. The functional categories that are represented in descending order of importance are clothing, coins, instrumentum domesticum, jewellery, vessels and toilet/surgical instruments (fig. 4.46). By far the most popular are the fibulae, followed by the coins, rings, bracelets, split pins, plates, mirrors and a miniature jug and handle. The assortment of bronze objects is the most extended in the cemetery in this phase, compared to the settlement waste context and the ritual contexts. It appears as if the gift of bronze objects played a relatively modest role in funerary ritual in this phase compared to the previous phase. As will be shown in the next phases this importance will decrease even further. It is possible therefore that the inclusion of bronze in the graves is reminiscent of late Iron Age burial practices. Unfortunately there are no burials of this period known in the region to confirm or dismiss this theory.
Fig. 4.46. Number and identification of bronze objects per functional category from the cemetery of the site Tienen, Grijpenveld in phase 2.

**Glass**
Glass objects were quite popular in funerary ritual in this phase, since 22% (or 64 out of 281) of the graves contained at least one (fragment). The most popular functional category was jewellery, followed by cosmetics and transport/storage and table ware. Many graves contain one or more beads. Almost as popular are the aryballoi and unguentaria. The storage/transport containers are also present and could have played the same role: amphoriskos and bottle (Isings 50). The table wares comprise some bowls and cups. Especially the presence of beads and cosmetic containers are characteristic for consumption in cemetery context.

**Iron**
Compared with the previous phase a much larger proportion (more than 50% or 149 out of 281) of graves contained iron objects (mostly nails). Compared to the settlement and the ritual contexts by far the most nails are deposited in the cemetery contexts. The numbers of nails in the different graves show the potential importance of this find category as a source of information on funerary practice. The majority (68%) of the graves (79 in total) that contained nails held between one and ten nails. In 26% of the graves between 10 and 50 nails were recorded and 6% of the graves contained between 51 and 147 nails. All size categories are present. The smallest sizes are the most popular followed by the average size, the big size and the very big size. The presence of all size categories is characteristic for the cemetery. The smallest category of nails is not even present in the settlement. It is probable that these small nails are remains of shoes or other leather items and nails of little boxes that were burnt on the pyre. Also the category of average sized nails is present only sporadically in ritual and settlement waste contexts. The proportion of graves containing nails will increase towards the end of the Roman period. A reflection on the possible reasons for the presence of nails, as functional and/or magical artefacts, is provided in section 4.4.2.

4.2.3 RITUAL CONTEXTS
The ritual contexts of this phase are situated next to the new road leading to the water wells. A concentration of this type of deposit is also present in the separate zone we excavated more towards the centre of the town.
**Ceramics**

In terms of basic categories a fairly close similarity can be seen between this phase and its predecessor in ritual contexts (fig. 4.47). The functional category of kitchen ware gains popularity compared to the ritual context of the previous phase, a general trend that also can be noticed in the settlement and cemetery contexts of this phase. This is partly due to the fact that the imported so-called “cork urnes” in the previous phase were strongly represented and categorized as a container rather than a cooking pot. It is important to compare in which ways the consumption of ceramics for use in ritual practices is different from the consumption for daily use in the settlement and in the funerary contexts. It is important to determine which choices were made in the selection of goods for use in ritual practices.

![PHASE 2 (ritual) : function and percentage MNI](image)

<table>
<thead>
<tr>
<th>Function</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>culnic ware</td>
<td>0.61%</td>
</tr>
<tr>
<td>kitchen ware</td>
<td>21.97%</td>
</tr>
<tr>
<td>storage/transport ware</td>
<td>17.97%</td>
</tr>
<tr>
<td>table ware</td>
<td>59.45%</td>
</tr>
</tbody>
</table>

Fig. 4.47. Proportions of ceramic functions from the ritual contexts of the site Tienen, Grijpenveld in phase 2.

The assortment of locally produced beakers is more limited in the ritual contexts than in the cemetery and the settlement (fig. 4.48), while the assortment of imported ware is relatively more extended in the ritual contexts of this phase. It is also remarkable that in the ritual contexts of the settlement there is a clear preference of *terra rubra* over *terra nigra*. In the cemetery this was clearly the other way around. Beakers in reduced ware were not preferred for ritual practice in this phase. The most popular table ware bowl/cups are Drag. 27, followed by Drag. 29, Drag. 35 and Drag. 37. Drag. 29 will be likely here to include residual and curated pieces.\(^{383}\)

\(^{383}\) Willis 2005, section 5.5.
Although the choice in plates is more limited in the ritual contexts in this phase, the amount of imported ware is relatively higher. No special remarks can be made about the choice of jugs for ritual context usage except for the important remark that the assortment lacks two handled jugs that were mostly more voluminous than the normal jugs. This pattern is almost identical in the cemetery of this phase. The settlement waste contexts contain more types and a higher number of two handled jugs. Jars play no important role in the ritual practices of this phase.

The assortment of cooking pots in this phase is the most limited for the ritual contexts compared to settlement waste and cemetery contexts. Nevertheless it can be remarked that the proportion of imported ware is relatively high. Moreover there seems to have been a preference for “old style” cooking pots in reduced ware in ritual contexts. This was clearly the opposite for the cemetery contexts in this phase. As could be expected the amount of lids is also quite low in this phase. A reason for this may be because the lids were more in use in connection with the newer type of locally produced cooking pots. The imported lids reflect the spectrum of imported cooking pots quite well.

The mortaria play a relatively important role in the ritual practice of this phase, especially when compared with the minor role the mortaria played in funerary practice. Possibly mortaria had a special importance in ritual practice, but it is hard to explain which one. Could there be a connection with the ritual use of quern stones known from the Iron Age and the Roman period?

The ensemble of amphorae consists mainly of flat bottomed wine amphorae, imported in the first place from the South of Gaul, but also from Marseille and the Rhone valley.

Animal remains
If we consider the proportion of cattle, pig and sheep/goat separately the remains from the ritual contexts show a similar consumption pattern to the remains from the settlement. The proportion of cattle (53%), pig (14%) and sheep/goat (32%) are almost identical (fig. 4.49). This similarity is remarkable since the number of bones in ritual contexts is nine times higher.
Fig. 4.49. Proportions of the three main animal species from the ritual contexts of the site Tienen, Grijpenveld in phase 2.

If we consider all the animal remains of the assemblage, however, we notice an increase in the proportion of horse (7%) and dog (9%) (fig. 4.50). As was the case in phase 1, chicken is also in this phase only present in ritual contexts. Some more rare species are present in small number exclusively in the ritual deposits: hare and domestic goose. The exclusive use of chicken in symbolic ways in funerary rituals was also determined by Maaike Groot in her analysis of the animal remains of the rural settlement and cemetery of Tiel-Passewaaij.384 The number of the animal remains from the cemetery in this phase, unfortunately, is too small to compare with the assemblage from the settlement and the ritual contexts.

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384 Groot 2008, 60.
Fig. 4.50. Proportions of animal species from the ritual contexts of the site Tienen, Grijpenveld in phase 2.

For cattle, pig and sheep/goat an important difference is noted in the representation of skeletal elements (fig. 4.51). In the ritual contexts many more fragments of the skull and the limbs of the animals are present than in the settlement. It is possible that these parts of the animals were eaten or have been sacrificed to the gods. Since also parts of the body of the animals were present it is probable that complete animals were sacrificed or killed and subsequently butchered. Some parts were given to the gods while other parts were eaten. The cattle were mostly adult, adult/subadult and subadult animals (fig. 4.52). The pigs were mainly subadult. The proportion of sheep/goat is constituted by a mix of adult, adult/subadult and subadult animals. This was also the case for the chicken, although also a juvenile animal is present. The dogs are mainly adult animals.
Fig. 4.51. Number of skeletal elements per animal species from the ritual contexts of the site of Tienen, Grijpenveld in phase 2.

Fig. 4.52. Number of skeletal elements/age per animal species from the ritual contexts of the site Tienen, Grijpenveld in phase 2.
Bronze objects
In the ritual contexts bronze objects of the functional categories clothing, coins, *instrumentum domesticum*, toilet/surgical instruments and jewellery were present. These categories correspond well with the categories present in the cemetery except for the category of vessels that is missing in the ritual contexts. Compared with the categories represented in the settlement contexts the categories toilet/surgical instruments and jewellery are additional. These last categories seem to be personal items that played a special role in funerary practice as well as in non funerary ritual practice. If we look at the objects themselves we notice that fibulae and coins are the best represented, followed by hairpins, spatula’s, rings, sheets and plates.

Glass
The glass objects that are present in the ritual contexts of phase 2 belong to the functional categories of storage/transport, table ware, jewellery and cosmetics, in this order of importance. These are the same categories that are present in the cemetery. In the settlement of this phase only storage/transport and table ware are present. The objects that are present in the highest numbers are the bottle Isings 50, followed by the bowl Isings 3. The category jewellery is represented by beads (G2; G 22). The category cosmetics is represented by *aryballoi* of the type Isings 62. Roughly the assemblages of the cemetery and the ritual contexts consist of the same objects, but the proportions are completely opposite. Much more table ware and less personal items are present in the ritual contexts. In the settlement these personal items are missing completely.

Iron objects
The size categories and the proportions of the nails in the ritual contexts of phase 2 show a strong resemblance with the nails present in the settlement.

4.2.4. A SACRIFICE FOR JUNO

The pit (S 081) has a more or less rectangular plan of 6 m by 9 m and is almost 2 m deep. The bottom of the pit has an irregular shape. The eastern side of the pit was heavily burnt. The filling of the pit can be dated, based on the ceramics, at the end of the 2nd phase, around AD 140. The filling contains 6 coins. One coin can be dated in the 1st century BC. Next we have a denarius from Augustus with a core in copper. The third coin is badly preserved, but can still be placed under the reign of Augustus or Tiberius. Fourth we have an imitation of an *as* from Claudius. The fifth coin seems to be a celtic issue, but cannot be determined more precisely due to bad preservation. The last coin is a *dupondius* from Antonius Pius, issued between AD 138 and 161. It is the only coin that corresponds with the general chronology of the finds assemblage. The other coins do not reflect the coin circulation of the middle of the 2nd century. The deposition of older coins in ritual depositions is discussed by Haselgrove in the context of Harlow temple in Essex.\(^{385}\) Next to the coins also 7 fibulae and 3 hairpins were deposited in the pit. The pit contained a statue from the workshop of Servandus in Cologne. The name SERVANDUS was written on 4 lines on the base. According to De Beenhouwer this base belonged to a statue of a female figure standing upright with a covered head (capite velato) with a little box in the left hand and a pearl or a ring in the right hand. This composition is traditionally identified as the goddess Juno.\(^{386}\) Only two parallels are found, one in Mannheim and one in the western temple of Tongeren.\(^{387}\) In total the remains of 573 vessels are deposited in this pit. The fact that the sherds between the different layers of the pit fit through cross-joins, together with the homogeneity of the assemblage, show that the pit was filled on one occasion. 63% of the vessels are cooking ware, 30% table ware and 6% storage/transport ware. This assemblage has been published in detail before.\(^{388}\) Not less than 40 of the vessels show a completeness of over 50 %.

In total a minimum number of 25 objects in glass were identified: one bead, 6 bottles of the type Isings 3, 9 bottles of the types Isings 50 and the upper part of an *aryballos* Isings 50 and some unidentifiable forms.

In total more than 2000 animal remains belonged mainly to mammals and a small part to fowl. From the collection of the fowl bones the remains of geese, ducks and chicken have been identified. A large collection of dog bones belonged to three big dogs (between 55 cm and 58 cm), two smaller dogs (between 24 cm and 33 cm) and one very small dog of 21.5 cm. The dogs were all adult. The varied composition of kinds of dogs is typical for the Roman period. It shows that, contrary to the Iron Age when the dogs had more or less the same size, the dog in Roman times fulfilled functions other than hunting and guarding and was also a companion to man. The

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\(^{385}\) Haselgrove 2007, 73-88.

\(^{386}\) Van Boekel 1986, 364.

\(^{387}\) Martens et al 2002, 74-75.

\(^{388}\) Idem, 45-73.
remains of horse consist of teeth and parts of the long legs. It is not clear whether these remains belong to the same animal. The pig remains are all of adult animals except one neonate. These bones do not belong to the same animals but resemble the waste of consumed animals. The bones of cattle and sheep/goat do not show any special characteristics.

This context has been identified as a ritual deposit because of the presence of 7 dogs, a statue of Juno, the high number of coins, fibulae and hairpins and the high average completeness of the ceramics. Without thorough and considered contextual study this pit could have been easily been identified as a waste pit. This group of finds is very large by any comparison – it represents a remarkable event. The evidence has wider implications for our perceptions of ritual activity at this time in the North West provinces. The only contexts that contain the remains of similar ‘events’ involving large groups of people, are the tumulus burial in phase 3 (see also 4.3.4) and the mithraeum in phase 4 (see also 4.4.4). This assemblage fits very well in the category 1 ritual deposits described in section 3.5.

4.3 CONSUMPTION AND DEPOSITION PRACTICES IN PHASE 3: AD 140-200

4.3.1 SETTLEMENT

In this phase a large tumulus burial was constructed at the southwestern edge of the settlement, next to the road leading to the wells (fig. 4.1). This tumulus must have dominated the area and was visible from everywhere in the vicus. Moreover the structure and the finds of this burial monument point in the direction of an important ritual event that must have had a certain impact on the community of the vicus. The position of the tumulus monument so near the centre of the vicus confirms this assumption. It also seems to indicate that the person who was buried had a special meaning for the community living in the vicus. The structure and the finds of this monument will be elaborated on in section 2.2.3.4. In this phase more pits and ditches were laid out all over the south-western periphery (fig. 4.53). These were filled up later with settlement waste. This is a closely similar pattern compared to the distribution plot for phase 2.

Fig. 4.53. Archaeological features from the site Tienen, Grijpenveld in phase 3.
Ceramics

In the third phase the proportion of the kitchen ware is still increasing at the expense of the table ware and the storage/transport ware (fig. 4.54). The sample size is very large and can therefore be considered to be representative.

**Fig. 4.54. Proportions of ceramic functions from the settlement of the site Tienen, Grijpenveld in phase 3.**

Furthermore a specialization in forms to meet new needs and fashions in preparing, serving and consuming food and drink is noticeable (fig. 4.55). The introduction of these novelties is combined with a more extensive use of “new” items with a specific function like sieves, mortaria, lids and jars. This is a trend that was already set at the end of the previous phase. Cultic ware, mostly incense burners, is now also part of the settlement waste.
New habits in cooking and eating, combined with a wider availability of vessels clearly caused a shift in the preferences for specific vessels in local and imported ware. The success of the Tienen pottery industry in exporting items clearly leads to a certain self confidence of the potters for the creation and consolidation of typical Tienen types next to more traditional forms and imitations of popular forms from elsewhere. Economical welfare is noticeable in the proportions and choices of imported ware for use in daily life. The ceramic assemblage from this phase, as we perceive it, clearly shows socio-cultural development and strong contacts with surrounding areas and with areas further away. A closer look at the different forms consumed in this phase will sustain previous remarks.

Concerning the assortment of beakers in the third phase, the local type BE 3 is still the most popular one (fig. 4.56). A difference with the previous phase is that there is a further preference for oxidized and fumed ware at the expense of reduced ware. The popularity of the so-called ‘Tongerse’ beaker (BE 10) is also on the rise. The local imitation of the Niederbieber 33 is further developed in a series of subtypes in decoration and shapes of the characteristic dents. A unique local variation in the decoration of this type was developed (BE 11 b). This type is decorated with horizontal bulbs and became very popular inside and outside the town. The imported beakers Niederbieder 33 from Lezoux and the Argonne gained popularity in this phase. Imports of this type from the Trier area do not seem available for the Tienen market yet. The colour coated beakers from the Rhine area were still gaining in popularity. The proportion of beakers in so called soap ware conserves a status quo.
Concerning the imported bowls and cups, the samian Drag. 27 still seems to be a popular form, followed by the Drag. 33 and Drag. 37. In the time period covered by this phase the general trend is that there is a marked decline in the use, circulation and deposition of the form Drag. 27 to the advantage of the cup Drag. 33. This was demonstrated clearly by Willis in his research on the geographical and chronological distribution of Samian ware.
The presence of more than thirty cups of Drag. form 27 in this phase therefore is somewhat surprising. Although the contexts are likely to include some residual pieces, as a result of reworked rubbish, it seems like the form Drag. 27 was important to the Tienen consumers who were still using it in this phase and apparently to a lesser extent also in the next phase. The same preference for Drag. 27 is discerned in the ritual contexts from this phase, while in the cemetery Drag. 33 is more popular than Drag. 27. This raises the question as to what these cups were used for. Could it be that there was a special use or at least special occasions that they were used or reserved for? Ed Biddulph has suggested that Drag. 33 was often used for hot beverages (that often needed stirring) and Drag. 27 for mixing and presenting foodstuffs. If this is the case it can be suggested that the ‘Tienen’ consumers reserved the small samian cups Drag. 27 for mixing and presenting food that was very valuable/rare or consumed only at special occasions. The inclusion of 14 Drag. 27 cups in the Grijpenveld tumulus, closely dated in the last quarter of the 2nd century, provides us at least with one good example of this special use in this phase. In Willis’ research on samian in Britain the interesting aspect emerged that samian cup forms were very strongly represented in the Essex region, especially on rural sites, to a degree not seen elsewhere. The author suggests that this may be an expression of a cultural preference of the Trinovantes for using these forms. Could the pattern that emerged in Tienen be a civitas wide phenomenon with the Tungri? It seems not, since preliminary research of the Sacramentstraat in Tongeren showed only one East-Gaulish and one Central-Gaulish Drag. 27 in late 2nd and 3rd century contexts. It rather seems to be a local aspect for the Tienen region. Given that some Argonne workshops still produced a few examples of Drag. 27 forms at the end of the 2nd century it seems that there was still demand for them. Moreover, the presence of some cups of this form in 3rd century graves means that they were in use, taken care off and curated at the end of the 2nd century.

The proportion of plates increases in comparison to the previous phase. The assortment of local plates grows as well as the choice in imported plates. The plate B1 is still by far the most popular local form but is produced mainly in fumed ware in this phase. The most consumed imported plate is the Drag. 18/31. Plates are also imported from the Rhine area, the Meuse area and furthermore from an unknown area in the north (cooxnoor; cosmoor). It is unclear which types of the locally produced ware are serving a function as cooking ware, like the Pompeian red plates, imported in this phase from the north of Gaul.

The assemblage of jugs remains more or less the same as in the previous phase. The locally produced so-called ‘Haspengouwse’ jug KR9 becomes the most popular type in this phase.

In the assortment of cooking pots the biggest change is the increasing popularity of cooking pots with gully rim. There is a clear preference for the version in fumed ware of this type of pot, while the more traditional types P1 and P3 are still mainly produced in reduced ware. The hand formed pots are still quite popular and are most probably imported for their content of delicacies from the Ardennes-Eifel area. A small proportion of the cooking pots are imported from Tongeren. The low land reduced ware was consumed more in the settlement in this phase than in the previous phase.

In the assortment of lids the type DE 2 becomes by far the most popular form and is mostly produced in fumed ware. The jars made their way into the settlement assemblage during this phase. They were mainly used to heat liquids. Also the more representative forms of jars, which were imitations of metal prototypes, were created in this phase.

The use of mortaria becomes more common in this phase (fig. 4.57). The locally produced mortarium M6 that is typical for the Tienen production becomes the most popular form in this phase. Curiously enough the mortaria imported from Bavay also gain popularity, next to some items imported from the Rhone valley, the Meuse area and from workshops situated in present day Dourges. The import of the mortarium in samian ware is also on the rise in this phase.

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389 Willis 2004, chapter 5.3.2.3.
390 pers. comm. Rien Pollack; Allard Mees.
391 Biddulph 2008, 91-100.
392 Willis 2004, chapter 8.3.
393 pers. comm. Alain Vanderhoeven.
A further increase of the wine amphorae Gauloise 4 and the olive oil amphorae Dressel 20 fits well with the development of more complex cooking, serving, eating and drinking habits in this phase. Interestingly enough the locally produced amphorae A1 and A2 also gain popularity, without doubt in connection with the consumption of their locally produced contents.

**Animal remains**
If we consider the remains of the three main meat delivering species separately (fig. 4.58) we notice an increase in the proportion of cattle bones (65%), almost a status quo for pig with 13% and a decrease of sheep/goat (26%).
Fig. 4.58. Proportions of the three main animal species from the settlement of the site Tienen, Grijpenveld in phase 3.

When the complete animal bone assemblage is taken into consideration (fig. 4.58) we notice a strong increase of the proportion of horse (30%). Chicken (2%) also makes its appearance in the settlement waste assemblage in this phase. Dog represents less than 1% of the assemblage.

Fig. 4.59. Proportions of animal species from the settlement of the site Tienen, Grijpenveld in phase 3.
The assortment of cattle bones (fig. 4.60) shows an increase in fragments of skull and horn cores, compared to the previous phase. The remains of pig and sheep/goat are mostly parts of the limbs and skulls. The horses are mostly represented by fragments of teeth.

Fig. 4.60. Number of skeletal elements per animal species from the settlement of the site Tienen, Grijpenveld in phase 3.

The age categories of all species (fig. 4.61) are a mix of mainly adult and adult/subadult animals. In the category sheep/goat also subadul animals are present.

Fig. 4.61. Number of skeletal elements/age per animal species from the settlement of the site Tienen, Grijpenveld in phase 3.

**Bronze objects**

The functional categories represented in the waste contexts of this phase are extended with surgical/toilet instruments and jewellery next to clothing items, coins and instrumentum domesticum (fig. 4.62). Fibulae, rings, bracelets and hairpins especially found their way into waste deposits.
Fig. 4.62. Number and identification of bronze objects per functional category from the settlement of the site Tienen, Grijpenveld in phase 3.

Glass
A similar trend as in the bronze assemblage is noticeable in the glass assemblage. The category jewellery is introduced to the settlement waste contexts, however only represented by beads (fig. 4.63). Furthermore the category of table ware is extended by cups (Isings 80; 85 and 85 b) and the variation of the bowls Isings 3, Isings 3 b makes its appearance. The increase in consumption of glass table ware is complementary to the increase in luxury ceramic table ware.
Iron objects
In the category nails, especially an increase in the category of big nails is registered (fig. 4.64).

Fig. 4.63 Number and identification of glass objects per functional category from the settlement in phase 2 and 3.

Fig. 4.64. Number of nails per size category from the settlement of the site Tienen, Grijpenveld in phase 2 and 3.
4.3.2 CEMETERY

The surface of the cemetery did not extend in this phase (fig. 4.65). The two hundred graves that could be dated in this period were fitted in between the already existing graves. The majority of the graves contained pyre remains (80%) (fig. 4.66). In only 16% of the cases the cremated bones were collected in a recipient vessel and placed in the grave together with grave gifts (fig. 4.67). Five inhumation burials were inserted in the peripheral zones of the cemetery. In one of these burials the coffin was placed on the bottom of a round pit that was filled up with the remains of a meal (fig. 4.69). On top of the refilled burial pit the traces of a hearth were visible. The bustum graves of this phase were all situated in the western cemetery. The large proportion of graves with pyre remains is somehow surprising for this period. Another remarkable feature of the cemetery in this phase is the presence of horse remains in the graves and in pits between the graves (fig. 4.68). This analysis excludes the tumulus of Grijpenveld-Tienen (see section 4.3.4) that was situated at the edge of the settlement.

Fig. 4.65. Graves from the cemeteries of the site Tienen, Grijpenveld in phase 3.
Fig. 4.66. Proportions of grave types from the cemeteries of the site Tienen, Grijpenveld in phase 3.

fig. 4.67. Urn grave from phase 3 of the site Tienen, Grijpenveld.
Fig. 4.68. Horse burial from phase 3 in the cemetery of the site Tienen, Grijpenveld.

Fig. 4.69. Pit with inhumation burial from phase 3 in the cemetery of the site Tienen, Grijpenveld.
Ceramics
Compared to the previous phase the amount of kitchen ware increases slightly again, at the expense of the table ware (fig. 4.70).

Fig. 4.70. Proportions of ceramic functions from the cemeteries of the site Tienen, Grijpenveld in phase 3.

The different forms consumed in mortuary rituals and deposition in the cemetery remains more or less the same as in the previous phase, apart from an increase in the proportion of mortaria and amphorae (fig. 4.71).

Fig. 4.71. Proportions of ceramic forms from the cemetery of the site Tienen, Grijpenveld in phase 3.
A more common use of *mortaria* was also noticeable in the settlement waste contexts of this phase. Within the different categories of vessels, some trends can be determined. Within the local beakers, BE 9 is still the most popular in this phase. It is remarkable however that in the cemetery the oxidized type is preferred while in daily life the fumed edition is more popular. The colour coated imported beakers from the Rhine area are still very popular, next to the upcoming Niederbieber 33 beakers imported also from Trier now. The samian cups and bowls keep their importance, with the Drag. 33 as the most frequent type. This is a remarkable phenomenon, since in the settlement and the ritual contexts of this phase the cup Drag. 27 is still present. Without doubt, however, residuality plays a bigger role in the settlement contexts than in the cemetery contexts. Also locally produced cups and bowls are used more now in grave contexts with KT 7, 8 and 9 in the leading role. In the spectrum of the locally produced and imported dishes not much change is noticeable, except for a general preference for local fumed ware. Jugs still gain importance in cemetery contexts with the locally produced KR9 the most common. They have clearly an important function in grave contexts. The jars, used to heat liquids also become more prominent in graves of this phase. It is remarkable, however, that smaller sizes are preferred in cemetery contexts. In the cooking pot assemblage it is interesting to note that the more modern types P3 and P6 are preferred for the funerary context, while in the settlement the older models are still more popular, indicating that ‘old stock’ is not being used as perhaps a cheap alternative when interring pottery with the deceased, despite the fact that it will presumably no longer be socially visible. Hand-formed-ware is hardly present in the cemetery. Low land ware is present also in the cemetery contexts, while it is virtually absent in the ritual contexts of this phase. Together with the popularity of the cooking pot P6 with rim gully, also the lid DE 3 is readily consumed. As mentioned before *mortaria* become important items in funerary contexts. Next to the local popular forms, also imports from Bavay were consumed. The samian mortarium Drag. 45 is now also introduced in grave contexts, however in small numbers (eight). Half of the burials contain one or more amphora sherds. The consumption of Baetica olive oil and wine from Gaul increases as was the case in the settlement. Curiously however it seems that proportionally more olive oil than wine was consumed in the cemetery, while the opposite is true in the settlement. The same phenomenon is noticeable in the previous phase. This raises the question of the meaning of *amphorae* sherds in cemetery contexts. The association of wine with mortuary rituals is much better known than their association with olive oil. Is there a relation with the funerary meals, with the ritual cleaning of the body or with the symbolism of eternal life? In total 29 graves contain one or more (up to five) sherdsof Dressel 20. Only four out of the total of 39 sherds were secondary burnt. This would imply that the *amphorae* were mostly not placed on the pyre. It seems as if the sherds are intentionally selected to be included in the funerary ritual.

**Animal remains**

The animal remains of this phase in the cemetery show a spectacular change, compared to the settlement contexts as well as compared to the cemetery contexts of the previous phase. Horse is the most present, while pig, sheep/goat and even cattle are hardly represented. If we consider the proportions of cattle, pig and sheep/goat separately the cattle bones represent 50 % of the assemblage (fig. 4.72). This is higher than the previous phase of the cemetery, but lower than the proportions in the settlement and ritual contexts. The proportion of pig is 14% of the assemblage. This is a decrease compared to the previous phase of the cemetery and very similar to the proportions in the settlement and the ritual contexts. Sheep/goat bones account for 37% of the assemblage. This is an increase compared with the previous phase in the settlement and also compared with contemporary settlement and ritual contexts.
Fig. 4.72. Proportions of the three main animal species from the cemetery of the site Tienen, Grijpenveld in phase 3.

When all the species of the cemetery are taken into consideration (fig. 4.73) we notice a strong increase of the proportion of horse in the cemetery. Horse takes up 86% of the animal bone assemblage. Dog and chicken make their appearance for the first time in the cemetery contexts in this phase. Deer also appears for the first time.

Fig. 4.73. Proportions of animal species from the cemetery of the site Tienen, Grijpenveld in phase 3.
Remarkably enough mostly teeth and fragments of the cranium from horses are present (fig. 4.74). These were also the skeletal elements of the horse that were most represented in the settlement waste contexts.

![Graph showing number of skeletal elements per animal species from the cemetery of the site Tienen, Grijpenveld in phase 3.](image)

**Fig. 4.74.** Number of skeletal elements per animal species from the cemetery of the site Tienen, Grijpenveld in phase 3.

The proportion of subadult cattle (fig. 4.75) is higher in the cemetery than in the settlement waste contexts. More pigs were also killed at younger age in mortuary ritual than in daily life. A small amount of bones can be attributed to the age category subadult.

![Graph showing number of skeletal elements/age per animal species from the cemetery of the site Tienen, Grijpenveld in phase 3.](image)

**Fig. 4.75** Number of skeletal elements/age per animal species from the cemetery of the site Tienen, Grijpenveld in phase 3.

**Bronze objects**

In this phase the high number of bronze objects present in the grave is maintained, although they are present in less than 10% of the graves. The same functional categories are represented as in the previous phase (fig. 4.76). In descending order of importance these are clothing items, coins, instrumentum domesticum, jewellery, vessels and toilet/surgical instruments. Remarkable is the introduction of nail cleaners in the cemetery.
Glass objects remain popular in funerary ritual in this phase, with 30% of the graves containing one or more items. The most popular functional category was jewellery, followed by cosmetics and transport/storage and table ware (fig. 4.77). Many graves contain one or more beads. Almost as popular are the aryballoi and unguentaria. This category of containers for oils/ointments is absent in settlement waste contexts. Several forms of bottles, Isings 50, 51, 52/55, are present. The table ware is represented by the bowls Isings 3 and 3b, the cups Isings 85, 80 and 40 and the flask Isings 93.
Iron objects

In this phase almost 60% of the graves (or 117) contain nails. Especially small and average size nails are present in the graves (fig. 4.78). This is a pattern that was also noticeable in the 2nd phase of the cemetery and completely opposite to the settlement contexts. It is interesting to note that 65% of the graves contained between 1 and 10 nails; 28% contained between 10 and 50 nails and 8% contained between 50 and 216 nails. The graves with the highest number of nails are dated in this phase. Possible explanations, in the functional as well as in the magical domain, are provided in section 4.4.2.

Fig. 4.77. Number and identification of glass objects per functional category of the site Tienen, Grijpenveld in phase 3.

Fig. 4.78 Number of nails per size category in the cemetery, in the settlement and in the ritual contexts of the site Tienen, Grijpenveld from phase 4.
4.3.3 RITUAL CONTEXTS

The ritual depositions were situated mainly next to the second road leading from the centre of the *vicus* to the wells and making a 90° curve towards the tumulus.

**Ceramics**

The proportions of the functional categories as well as the general shapes of the ceramics in the ritual contexts and the settlement contexts are very similar. The proportion of table ware is slightly higher in the ritual contexts due to a higher number of beakers (fig. 4.79, fig. 4.80). The category cultic ware is also a little higher in the ritual contexts.

![Figure 4.79. Proportions of ceramic functions from the ritual contexts of the site Tienen, Grijpenveld in phase 3.](image)

In the locally produced range of beakers it is remarkable that the type BE 11 is the second most popular form in the ritual contexts. In the cemetery and the settlement this form comes on the 4th place. It seems this was a preferred shape for ritual or ceremonial purposes. The colour coated beakers from the Rhine area are popular, with the Hees 2 type at the top followed by Hees 4. Remarkably enough, the Hees 4 type is not so popular in the settlement waste contexts and in the cemetery. The black slipped beakers from Trier start to make their way into the assemblage of the beakers, towards the end of the period. In the category bowls and cups in table ware, the samian ware is by far the most popular, with the same top 3 forms as in the settlement waste and the cemetery: Drag. 27, 33 and 37. A discussion on the presence of Drag. 27 cups in contexts from the second half of the 2nd century is presented in section 4.3.1 on the settlement assemblage of this phase. The locally produced table ware bowls and cups show a preference for the new types KT7, KT8 and KT 9. This was also the case in the cemetery, whereas in the settlement the more traditional types were still more popular. This is probably a function of the importance of using fashionable bowl in more public contexts like the cemetery or ritual events. The plates and dishes show a similar consumption pattern as in the settlement waste contexts and in the cemetery. In the assemblage of the jugs a clear preference for the newer types can be determined compared to the settlement. This trend was also present in the cemetery contexts. The 2-handled jugs with a bigger volume are more present in ritual contexts than in the cemetery and settlement waste contexts. Without doubt this is related to the consumption of their contents. Jars were consumed more commonly in ritual contexts than in the previous phase. This wider use is a general phenomenon that is also noticeable in the settlement waste contexts. The assemblage of the cooking pots still shows a mix of more traditional forms like P1 and newer models like P6. In the cemetery contexts these more traditional forms play a smaller role. In the settlement waste contexts they are also
present. Possibly these cooking pots were not on public display during the rituals and therefore their appearance was not so important. The proportion of hand-formed containers is quite high in ritual contexts compared to settlement contexts. In the cemetery this category is virtually absent. Especially the shell tempered ware is popular. A small proportion of the cooking pots are imported from Tongeren. The low land reduced ware is virtually absent in the ritual contexts while it was very present in the settlement waste. Concerning amphorae, the proportion of Baetican oil amphorae is higher than the Gauloise 4 wine amphorae. This was also the case in the cemetery, contrary to the settlement waste contexts.

**PHASE 3 (ritual) : form and percentage MNI**

\[ N = 3922 \]

- beaker: 26.47%
- pot: 13.82%
- amphorae: 4.84%
- bowl: 10.99%
- cult ceramic: 0.06%
- jar: 7.11%
- jug: 7.52%
- lid: 5.69%
- gutter: 1.75%
- incense burner: 0.03%
- dolium: 6.05%
- dish/plate: 12.24%
- crater: 0.03%
- saucepan: 0.06%
- bottle: 2.36%
- sieve: 0.06%
- amphorae: 4.84%
- jar: 7.11%
- gutter: 1.75%
- incense burner: 0.03%
- dolium: 6.05%
- dish/plate: 12.24%
- crater: 0.03%
- saucepan: 0.06%
- bottle: 2.36%
- sieve: 0.06%
- amphorae: 4.84%

**Fig. 4.80.** Proportions of ceramics forms from the ritual contexts of the site Tienen, Grijpenveld in phase 3.

**Animal remains**

First of all it is important to note that ritual contexts contain a high number of animal remains compared to settlement waste contexts. If we consider the animals that are the main deliverers for meat (fig. 4.81) first, we notice similar proportions of cattle (65%), sheep/goat (22%) and pig (11%) as the settlement waste contexts.
PHASE 3 (ritual) : species and frequency number of bones

N = 3180

- pig: 11.42%
- cattle: 65.75%
- sheep or goat: 22.83%

![Pie chart showing the distribution of animal species in Phase 3 (ritual) contexts.](image)

Fig. 4.81. Proportions of the three main animal species from the rituals contexts of the site Tienen, Grijpenveld in phase 3.

If we consider all animal bones (fig. 4.82) we notice the low proportion of horse (3%) in the assemblage, compared to the settlement waste contexts (30%). In the ritual contexts dog (27%) plays a very important role. Domestic fowl is represented by chicken, duck and goose. In the category of wild birds, small passerine is present next to raven and jackdaw. Wild birds are absent in the settlement contexts of this phase. Fox makes its appearance in the ritual contexts in this phase.

PHASE 3 (ritual) : species and frequency number of bones
N = 4725

- cattle: 44.25%
- sheep or goat: 14.31%
- sheep or goat: 14.31%
- small passerine: 0.02%
- chicken: 0.30%
- raven: 0.04%
- fox: 0.04%
- jackdaw: 0.06%
- dog: 27.13%
- goat: 0.21%
- domestic duck: 0.06%
- domestic goose: 0.30%
- cervus: 0.02%

![Pie chart showing the distribution of all animal species in Phase 3 (ritual) contexts.](image)

Fig. 4.82. Proportions of animal species from the ritual contexts of the site Tienen, Grijpenveld in phase 3.

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If we take a look at the skeletal elements present (fig. 4.83) it is very remarkable that in the ritual contexts a much larger variation of the skull and the limbs from cattle, pig and sheep/goat are present. This can be due to the fact that animals were killed as a sacrifice and/or for the feast and more skeletal animals ended up in the ritual contexts or were deposited on purpose as a sacrifice for the gods. In other contexts the process between the killing of the animal and the final deposition of its remains after butchering, processing and consumption is much longer and the chance that different parts end up in different contexts is higher.

If we consider the age categories it is remarkable that the animals, especially the big mammals, from ritual contexts generally are killed at a younger age than in the settlement and cemetery contexts (fig. 4.84). In the cattle assemblage the categories subadult and juvenile/subadult are well represented. A few bones belonged to a foetus. Pigs were mostly killed as subadults and sometimes as juveniles. In
sheep/goat many animals were subadults, juvenile and the category in between. The horses were mainly adults and juveniles/subadults. It is remarkable that the category subadult is missing. Chicken are also killed at younger age for ritual purposes in this phase than in the previous phase. The same is true with dogs.

**Bronze objects**
In this phase the number of bronze objects present in the ritual contexts increased up to 75. The same functional categories are represented as in the previous phase. In descending order of importance these are clothing items, coins, *instrumentum domesticum*, jewellery, vessels and toilet/surgical instruments.

**Glass**
Glass objects remain popular in ritual contexts in this phase with a total of 35 objects. The most popular functional category was jewellery, followed by transport/storage, table ware and cosmetics. This category of containers for oils/ointments is absent in settlement waste contexts. The bottle, Isings 50, is the only form present. The table ware is represented by the bowls Isings 3, 42, 85 and 85b.

**Iron objects**
A total of 252 nails are present in the ritual contexts of this phase. All size categories of nails are present in the ritual contexts. In contrast the small nails are absent from the settlement waste contexts.

4.3.4 THE TUMULUS OF TIENEN-GRIJPENVELD

The large *tumulus* burial was constructed at the southwestern edge of the settlement, next to the road leading to the wells (fig. 4.1). The monument is situated on the edge of the plateau at the outskirts of the *vicus*. Coins of Antoninus Pius (138-161) and Marc Aurely (161-180) as well as the other finds place this burial in the last quarter of the 2nd century. In this phase the area was mostly used for the extraction of loess and the disposal of waste. However, also some ritual depositions were interred in the surroundings of the monument. The proximity of the cemetery may also have played a role in the choice of the location of this monument. The tumulus mound was visible from everywhere in the *vicus* and in the surrounding area and must have strongly dominated the south-western periphery. The position of the *tumulus* so near to the centre of the *vicus*, its monumental structure as well as the finds point in the direction of an important funerary event that must have had a certain impact on the community of the *vicus*. The burial mound still existed in 1469, when it was mentioned in a document proving the ownership of the land adjacent to the *tumuli*.

The burial chamber was set in a shaft 3.8 m deep from ground level (fig. 4.87). The chamber was 12 square metres with timber-planked walls founded on 10 posts (4 at the long ends and 3 at the short ends) (fig. 4.86, fig 4.88 and fig. 4.89). One of the postholes contained a foundation deposit of a statue of Dionysus/Bacchus (fig. 4. 85).
The floor of the burial chamber was covered with remains of the funeral pyre and some intact objects. Unfortunately the cremated remains are so fragmented that the ages or sex of the deceased could not be identified. On the wooden cover of the burial chamber a body of a young woman was laid next to a horse, 4 dogs (fig. 4.87) and dozens of dog foetuses (fig. 2.23 and 4.102). In between the woman and the animals a range of roof tiles, complete pots, objects in bronze and glass were laid out. The shaft above this *mise-en-scène* of grave gifts and sacrifices was filled with what seems to be the remains of funerary feasts. At the top the shaft was
closed with a mass of regional stone blocks (fig. 4.87). After this the mound itself was constructed. Some time after the burial was completed, the wooden cover of the chamber collapsed under the weight of the fill material of the shaft and the burial mound.

Fig. 4.87 Section and reconstruction of burial shaft of the tumulus of the site Tienen, Grijpenveld.

Fig. 4.88 Layer under bottom of burial chamber of tumulus of the site Tienen, Grijpenveld.
From the remains in the shaft almost 670 pieces of ceramics were identified of which not less than one fourth was imported (fig. 4.90). The location of the assemblage on top of the funerary chamber, its general composition, the high amount of imported ware, as well as the higher average completeness of the ceramics show that these were the remains of meals held at the occasion of the funerary process. The animal remains also point in that direction. The amount of imported ceramics is impressive. We will start by summarizing the table ware present. Not less than 65 plates were in samian ware, mostly Drag. 18/31, 14 plates in colour coated ware from the Rhine area and 3 Pompeian red plates from the north of Gaul. The presence of so many plates of the type Drag. 18/31 is curious since given the date the majority should have been Drag. 31 and not the other way around. Possibly a kind of selection of this shape has taken place. Complementary to the imported plates were more than 70 plates in local ware. The diameters of some of the plates are exceptionally big compared to the diameters in other contexts (fig. 4.98, see WP 20, S24) ; this presumably relates to the fact that large amounts of food had to be served for a large crowd. This was also the case in the deposits of the mithraeum (see section 4.4.4) For drinking the crowd used 30 beakers in colour coated ware from the Rhine area (fig. 4.92), 10 Drag. 33 cups, 14 Drag. 27 cups and 3 Drag. 37 bowls in samian ware (fig. 4.91). Next to these imported drinking vessels more than 130 beakers in local ware were consumed. A large amount of wine amphorae of different origins fulfilled the need for wine: 7 Gauloise 4 amphorae from the south of Gaul, 2 amphorae from the Meuse valley, 1 amphora from Dourges and 2 flat bottomed wine amphorae from Tienen (fig. 4.94). Two Baetican Dressel 20 amphorae occur, suggesting the use of their standard olive oil contents – unless they were reused vessels. Furthermore 4 amphorae from unknown origin were present. The link between funerary banquets and wine amphorae has been convincingly been made by Poux in his exemplary publication “L’Âge du vin”.

Partly for the serving of wine, but maybe also for other beverages, twenty three jugs were used. For the cooking of food more than 100 cooking pots and bowls, mostly from local origin were used. Mortaria also played an important role in the preparation of the banquet. Thirty seven mortaria were locally produced, fourteen were imported from Bavay, 4 from the Rhone valley and 3 mortaria of the type Drag. 45 in samian ware were present (fig. 4.96). The use of incense in funerary ritual that has been shown also in the cemetery contexts is confirmed by the presence of 2 incense burners, one local and one imported from Bavay, in this burial. The same is true for jars, used for heating liquids, of which 13 individuals were used (fig. 4.97).

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Poux 2004, 349-351.
Fig. 4.90. Number of ceramic forms in local and imported ware from the tumulus of the site Tienen, Grijpenveld.

Fig. 4.91. Number and type of samian ware from the tumulus of the site Tienen, Grijpenveld.
Fig. 4.92. Number and type of colour coated ware from Rhine region from the *tumulus* of the site Tienen, Grijpenveld.

Fig. 4.93 Number, types and fabrics of jugs from the *tumulus* of the site Tienen, Grijpenveld.
Fig. 4.94. Number, types and fabrics of *amphorae* from *tumulus* of the site Tienen, Grijpenveld.

Fig. 4.95. Number, types and fabrics of pots from *tumulus* of the site Tienen, Grijpenveld.
Fig. 4.96. Number, types and fabrics of mortaria from tumulus of the site Tienen, Grijpenveld.

Fig. 4.97. Number, types and fabrics of jars from the tumulus of the site Tienen, Grijpenveld.
Fig. 4.98. Diameters of dishes/plates per feature of the site Tienen, Grijpenveld.

Within the context of the tumulus a large number of bronze objects, 39 in total, have been discovered. This number largely exceeds the maximum number of bronze objects of bronze objects presents in the grave contexts from the cemetery in this period, which was seven. Due to variable preservation conditions within the tumulus context only a limited number of the objects could be identified: 10 fibulae, 3 hairpins, 2 rings, 1 bracelet, 4 buttons (Crummy 11) and 2 coins. Apart from two fibulae present in the burial chamber and one fibula and a hairpin on the cover of the burial chamber all the objects were situated in the shaft above the chamber. The latter objects can probably be identified as gifts to the deceased or the gods of the underworld. A surprisingly large minimum number of individuals of 162 glass objects have been registered of which 9% (the beads) were complete; 6% had a completeness of 25-50% and the rest was less than 25% complete. Within this set of objects 30 could be identified. The glass assemblage consists of seven bowls (Isings 3, Isings 3b and AR 16), 9 bottles (Isings 50, Isings 51, A159), four aryballoi (Isings 61), three cups (Isings 80, Isings 85b and AR 89) and a carinated beaker in black glass (Isings 36b). Generally the assemblage is very similar to the assemblage of glass of the cemetery in this phase. The carinated beaker in black glass, however, is a big exception. Black glass objects mostly appear in very rich burials of the 2nd and 3rd century.396 The association of black glass and rich burials in Northern Gaul is fascinating. The large number of glass objects, their fragmentary state and their low completeness is remarkable. Possibly the sherds represent the complete form (pars pro toto principle) of the vessels and the rest of the glass was collected for secondary glass production. We can assume that most of the glass table ware was used in the context of the ritual feast. The aryballoi can probably be situated in the context of the mortuary rituals.

Although the results of the research of the material remains are preliminary, some very interesting deductions as to the ritual and the feast at the occasion of the funeral can be made. The remains of the animals (except the horse and the dogs) were present with the ceramic remains of the feast in the shaft. The remains of sheep/goat were of two juvenile animals, one subadult and one adult. The pigs were from an adult male and at least two piglets. Some species of domestic fowl were present as well as some skeletal elements of cattle. The wild species are a roe deer, a hare and some small birds. Judging from the ceramic assemblage more than 150 people were present at the feast. The amount of meat implied by the bones recovered should have been plenty to feed such a large crowd.

396 Cosyns/Jansens/ Schalm/Van der Linden 2006.
Now that we have described the structure and the finds of this burial, how do we interpret the monument as a whole? First of all it is important to consider the amount of resources that were necessary to construct the monument: the digging of the shaft, the construction of the funerary chamber, the transport of the stone blocks to close the shaft, the collection of earth to construct the mound and the construction itself. Then there is the organisation of the extremely lavish funerary feast. Following this we need to consider the collection of the animals to be sacrificed as well as the complex rituals that were carried out in the process. Next there is need to understand the meaning of the presence of the woman laid down on top of the funerary chamber.

All this and the location of the tumulus so close to the settlement are indicative of the exceptional social status of the deceased person and the bond with the local society. It is also possible that the deceased buried in the grave chamber of the tumulus monument was a member of the family that owned a villa situated in the proximity of the vicus. Two good examples of villa’s that were situated in the periphery of a small town have recently been uncovered in the German loess area. The large villa complexes of Borg and Reinheim were located next to a vicus. If the tumulus burial of Tienen, Grijpenveld belonged to a family owning a villa in the neighbourhood that had economical interests in the vicus, for example as a patrons of craft workshops.

This funeral clearly was more than a family matter and seems to have involved an important part of the community of the vicus or of the region. The enormous amounts of time and resources spent for no apparent material benefit is enigmatic, as such funerary feasts are until now unknown for the Roman period in our region. The reason for this could be that in the past the research of tumulus burials was mainly focused on the contents of the funerary chamber and the grave gifts, while the finds in the shafts were not considered so important. For many social scientists and archaeologists, excessively lavish funerals can be explained in terms of cultural traditions and inculcated beliefs that follow non-economic logics of their own: status, ritual requirements for the dead to enter the other world, ancestral powers, or other ideological values. Other social theorists claim it is the ideological need to favourably impress the dead so that, as ancestors, they will dispense fertility, wealth and success on their living descendants.

The interpretation of the presence of the young woman on top of the funerary chamber is more enigmatic (figs. 4.87, 4.101 and 4.102). Is it possible that we are dealing with a woman who physically killed herself or volunteered to die out of grief for the loss of a husband or a family member? Or could it be the servant of the deceased person? Unfortunately, we don’t know the sex and age of the deceased because of the fragmentary condition of the cremated remains. Voluntary death, although exceptional, was a respected and accepted in the classical world. Widows who committed suicide upon the death of their husbands were greatly honoured.

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397 Roymans/Derks in press.
398 Hayden/Villeneuve 2011.
399 Pomeroy 1975, 161.
More unlikely it the hypothesis that we are dealing with human sacrifice of which evidence for the Roman period is mainly provided by the bog bodies in Europe, however, outside of the borders of the Roman empire.\textsuperscript{400} The fact that the woman is laid out in between the sacrificed animals on top of the grave chamber, seems to indicate a (self-) sacrifice. The exceptional nature of the interment, the presence of the woman, dogs, dog foetuses, birds and horse could also point in the direction of exceptional circumstances surrounding the death of the person buried in the grave chamber. Or, is it possible that this burial was not so exceptional but the circumstances of the excavation and the methodology of the post-excavation research yielded this special evidence (fig. 4.100)?

\textsuperscript{400} Van der Sanden 1996.
Fig. 4.101. Skeleton of the young woman on top of burial chamber of *tumulus* of the site Tienen, Grijpenveld.
4.4 CONSUMPTION AND DEPOSITION PRACTICES IN PHASE 4: AD 200-300

4.4.1 SETTLEMENT

In the last phase a mithraeum was built next to the road coming from the centre of the vicus leading to the tumulus (fig. 4.1). The amount of pits and ditches with settlement waste diminished in this phase (fig. 4.103).

Fig. 4.102. Reconstruction from mise-en-scène on top of burial chamber from tumulus of the site Tienen, Grijpenveld.
Fig. 4.103. Archaeological features from phase 4 of the site Tienen, Grijpenveld.

Ceramics
The steady increase of the use of kitchen (cooking) ware from the first phase onwards reached a point of return in this phase (fig. 4.104). There is also a slight decrease in the category storage/transport. Logically the table ware increases proportionally again.
Fig. 4.104. Proportions of ceramic functions from settlement the site Tienen, Grijpenveld in phase 4.

If we take a look at the proportional consumption of different forms of pottery we can notice a decrease in the use of forms with a special function that flourished in the previous phase (fig. 4.105). Remarkably enough, the consumption of the open forms, the bowls and the dishes increases during this phase. If we look in more detail at the consumption patterns of the individual forms we can determine real changes in trends.

Fig. 4.105. Proportions of ceramic forms from settlement of the site Tienen, Grijpenveld in phase 4.
The assortment of consumed beakers reduces considerably (table 116). The spectrum of locally produced beakers is reduced to the BE3, BE10, BE11 and BE9. The imported beakers are from the Rhine area, Trier and Tongeren. Other production centres do not reach the market at Tienen or ceased production (fig. 4.106).

Fig. 4.106. Number, types and fabrics of beakers from the settlement of the site Tienen, Grijpenveld in phase 4.

The assortment of locally produced and imported bowls and cups, used as table ware, is also markedly reduced in this phase (fig. 4.107). The local production is limited to 4 forms. In descending order of importance these are KT 7, KT4, KT9 and KT8. Samian ware was available with a limited number of forms: Drag. 33, Drag. 37 and Drag. 35. Surprisingly enough Drag. 27 is still occurring in, for this phase, important numbers. This is an interesting anomaly in the pattern of use of this fine ware, for this form should be present only marginally in the samian assemblage of the 3rd century as it was no longer commonly produced or distributed. The possibility of the special importance of this form to the Tienen consumers for mixing and presenting food that was very valuable/rare or consumed only at special occasions was elaborated on in section 4.3.1. The inclusion of several Drag. 27 cups in the late 2nd century Grijpenveld tumulus, provides us with at least one good example of this special use. Given that some Argonne workshops still produced Drag. 27 forms in small numbers at the end of the 2nd century it seems that there was still demand for them; perhaps this was for particular markets. Concerning the presence of the form in other centres of the 3rd century it is worth mentioning that at Liberchies the group of 3rd century contexts from different zones of the vicus (the thermae and the settlement north of the Roman road) the form Drag. 27 constitutes 10% of the samian assemblage. Still in Liberchies, in the zone of the tannery and the late-Roman sanctuary, it was established that the form Drag. 27 represented 2.9% of the samian assemblage from the workshops of the Argonne. During the last decades debates on the general life span of samian (particularly the recognition that some vessels were evidently retained in use/available for many decades after the periods we usually associate them with) and on the last Gaulish imports have been re-opened in several papers. More detailed research of the individual (fragments of the) vessels concerned is without doubt necessary.

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401 Willis 2004, chapter 5.3.2.3.
405 Walace 2006, 264.
Fig. 4.107. Number, types and fabrics of bowls from the settlement of the site Tienen, Grijpenveld in phase 4.

Although the general proportion of plates/dishes of the assemblage in this period increased, the choice in products available on the market decreased (fig. 4.108). Less local forms were produced and the import of plates in so-called soap ware and Pompeian red ware from the north of Gaul stopped.

Fig. 4.108. Number, types and fabrics of dishes/plates from the settlement of the site Tienen, Grijpenveld in phase 4.
The general proportion of jugs in the ceramic assemblage slightly increases while only a few other forms are produced, mainly the ‘Haspengouw jug’ KR9 and its predecessor KR8. Remarkably a few imports from the Bavay region and from Tongeren are present in the assemblage. This was not the case in the previous phase. In the assemblage of the cooking pots several changes are noticeable. First of all reduced ware becomes popular again at the expense of the fumed ware.

The cooking pot with gully rim looses popularity to the advantage of the pot with horizontal flat rim P7 (fig. 4.109). Fewer pots are imported in this period. The proportion of the hand-formed pots from the Ardennes-Eifel area and the Low Lands ware decreases. Importation from the Dourges area ceases completely. The locally produced bowl types used for cooking fell back to mainly four forms: K7, K10, K8 and K9 (fig. 4.107). A difference with the previous phase is the increase in the popularity of oxidized and reduced ware to the disadvantage of fumed ware. Bowls for cooking are still imported from the Rhine area, from Tongeren and from an unknown workshop (‘NOOR’). The frequency of lids decreased in this period. Remarkable is also the fact that reduced ware is most preferred in this phase.

The proportion of mortaria decreases slightly. Less imported mortaria are available on the market. Only the Drag. 45 and some imports from Bavay are present. The import of amphorae decreases, as well as the number of the areas the amphorae are imported from (fig. 4.110). The import from Marseille, the Meuse valley, the Rhone valley and Dourges ceases.

Fig. 4.109. Number, types and fabrics of pots from the settlement of the site Tienen, Grijpenveld in phase 4.
Animal remains

The sample size of the animal remains is very small. Nevertheless some general trends can be interesting. The composition of the assemblage of the animal remains changes dramatically in this phase. If we consider the main suppliers of meat first we notice that the proportion of cattle halves up to 20%, while the proportion of sheep/goat (73%) quadruples in this phase. Pig (7%) slightly diminishes (fig. 4.111).

Fig. 4.110 Number, types and fabrics of amphorae from the settlement of the site Tienen, Grijpenveld in phase 2-4.

PHASE 4 (settlement) : species and frequency number of bones

N = 103

<table>
<thead>
<tr>
<th>Species</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pig</td>
<td>6.80%</td>
</tr>
<tr>
<td>Sheep or Goat</td>
<td>72.82%</td>
</tr>
<tr>
<td>Cattle</td>
<td>20.39%</td>
</tr>
</tbody>
</table>

When we consider the animal remains from all species present (fig. 4.112), we notice other big changes in the assemblage. Horse and dog are completely absent in the settlement waste contexts. Remarkable also is the rise of the proportion of chicken from 2% to 6%. The skeletal...
PHASE 4 (settlement) : species and frequency number of bones

N = 109

- chicken: 5.50%
- sheep or goat: 68.81%
- pig: 6.42%
- cattle: 19.27%

Fig. 4.112. Proportions of animal species from the settlement of the site Tienen, Grijpenveld of the site Tienen, Grijpenveld in phase 4.

Elements (fig. 4.113) of the cattle, the sheep/goat and the pig mostly belong to the skull and the limbs of the animals.

Fig. 4.113. Number of skeletal elements per animal species from the settlement of the site Tienen, Grijpenveld in phase 4.
The cattle bones that can be aged (fig. 4.114) mostly belong to the category adult. The pig bones belong to the category juvenile/subadult. The sheep/goat were adults, subadults and juveniles/subadults.

![Graph of Fauna-Age Estimation](image)

Fig. 4.114 Number of skeletal elements/age per animal species from the settlement of the site Tienen, Grijpenveld in phase 4.

**Bronze objects**

Surprisingly enough the amount of bronze objects remains quite high in this phase. Mainly coins, fibulae and hairpins end up in the settlement waste contexts of this phase (fig. 4.115). The categories instrumentum domesticum and jewellery decrease, while the category surgery and beauty instruments is absent.

![Graph of Artefact-Identification](image)

Fig. 4.115. Number and identification of bronze objects per functional category from the settlement contexts of the site Tienen, Grijpenveld in phase 3-4.

**Glass**

The glass objects present in this phase mainly belong to the category table ware (fig. 4.116). A small amount of beads are present in these waste contexts. The categories storage/transport and cosmetics are completely absent.

239
Fig. 4.116. Number and identification of glass objects per functional category from the settlement contexts of the site Tienen, Grijpenveld in phase 4.

**Iron objects**

Nails of all size categories are present but in small numbers (fig. 4.117).

Fig. 4.117. Number of nails per size category from the settlement of the site Tienen, Grijpenveld in phase 4.
4.4.2 CEMETERY

The concentrations of graves of this period are situated more towards the settlement and next to the road (fig. 4.118). The separate cemetery was still in use in this phase. The majority of the graves contain pyre remains (fig. 4.119). In a quarter of the graves the cremated bones from the pyre were collected in a container (fig. 4.120). One bustum grave could be dated in this phase. Unfortunately some of the inhumation burials did not contain any datable finds. It is likely that they belong to the last phase of the cemetery, but this can not be stated with certainty.

![Diagram of graves from the cemeteries of the site Tienen, Grijpenveld in phase 4.](image)

Fig. 4.118. Graves from the cemeteries of the site Tienen, Grijpenveld in phase 4.
PHASE 4 (cemetery) : types of graves

N = 55

- urned grave: 21%
- bustum grave: 2%
- grave with pyre remains: 77%

Fig. 4.119. Proportions of grave types from the cemeteries of the site Tienen, Grijpenveld in phase 4.

Fig. 4.120. Grave with urn from cemetery (phase 4) of the site Tienen, Grijpenveld.
Ceramics
The functional categories of ceramics in the cemetery in phase 4 follow the same trend as in the settlement. The proportion of the kitchen ware decreases relative to table ware (fig. 4.121). The category storage/transport remains stable.

The proportion of beakers, dishes and jugs increases (fig. 4.122). The assortment of imported beakers is limited to colour-coated types from the Rhine area and colour-coated beakers from Trier (fig. 4.123). The same trend was noticeable in the settlement waste contexts. Remarkable is the fact that the most popular form of locally produced beakers in the cemetery is the BE 11. In the settlement the most popular form in this phase is the BE 3.
Fig. 4.122. Proportions of ceramic forms from the cemetery of the site Tienen, Grijpenveld in phase 4.

Fig. 4.123. Number, types and fabrics of beakers from the cemetery of the site Tienen, Grijpenveld in phase 4.

The imported bowls and cups used as table ware are limited to samian ware (fig. 4.124). The forms Drag. 33 and Drag. 37 remain the most popular. The local bowls and cups are limited to only four forms: KT7, KT8, KT9 and KT 4. In contrast to the previous period, reduced and oxidized ware gains popularity.
The consumption of plates increases in this phase, while the number of imported plates decreases (fig. 4.126). Mainly samian ware and some imports from the Rhineland and Tongeren are present. In the assortment of jugs, mainly the typical KR 9 is present. The cooking pots in the cemetery are dominated by the type P3, at the expense of the pot P6 with rim gully (fig. 4.127). Also remarkable is the fact that the cooking pots are mainly in oxidized and reduced ware, at the expense of fumed ware. The imported pots from Tongeren and the Ardennen-Eifel area, as well as the Low Lands ware play a minor role in this phase. Bowls for cooking are popular again in this phase. Reduced ware is preferred.
Jars play a minor role in the cemetery in this phase. The most popular form of mortaria becomes the imitation of the still popular Bavay mortaria, which are still imported in small numbers in this period. The typical local form M6 loses popularity.

The consumption of amphorae is limited to the Baetican oil amphora Dressel 20 and the Gaulish wine amphora Gauloise 4.

**Animal remains**

Also in the cemetery the sample size is very small, so only general trends can be deduced. If we consider the proportions of the main meat suppliers first (fig. 4.128), we notice a high proportion of cattle (83%) compared to the settlement waste contexts and to the previous phase of the cemetery. The proportion of sheep/goat (6%) diminished compared to the previous phase and also compared with the settlement. Pig (11%) decreased compared to the previous phase of the cemetery, but is almost double that of the proportion of the settlement contexts.
Fig. 4.128. Proportions of the three main animal species from the cemetery of the site Tienen, Grijpenveld in phase 4.

When considering all the species (fig. 4.129), the animal bone assemblage is consistent with the previous phase in the high proportion of horse bone (80%). No other animal species are present in the cemetery. This consumption pattern is completely different from the one of the settlement.

Fig. 4.129. Proportions of animal species from the cemetery of the site Tienen, Grijpenveld in phase 4.
Fig. 4.130. Number of skeletal elements per animal species from the cemetery of the site Tienen, Grijpenveld in phase 4.

Fig. 4.131. Number of skeletal elements/age per animal species from the cemetery of the site Tienen, Grijpenveld in phase 4.
The skeletal elements are from adult horses (fig. 4.131). The cattle are adult and subadult animals at the time they were killed. The pigs were juvenile/subadult. Most parts of the skeleton of horse are represented (fig. 4.130). From cattle mostly the parts of the limbs and skull are present.

**Bronze objects**

In this phase a further decrease in the proportion of graves (4%) compared to the previous phase contain bronze objects. All functional categories of bronze objects are still represented in this phase of the cemetery. The category surgical/toilet instruments is the least well represented. Coins, clothing, jewellery and *instrumentum domesticum* are equally important. The most popular grave goods are *fibulae* and coins.

**Glass**

Proportionally the number of graves containing (fragments of) glass items (32%) increased slightly compared to the previous phase. Objects from the category cosmetics disappeared from the assemblage of the cemetery in this phase (fig. 4.132). In the category storage/transport only bottles Isings series type 50 are present. Only a few fragments of glass table ware were consumed and ended up in grave contexts.

![Graph showing number of glass objects per functional category](image)

Fig. 4.132. Number and identification of glass objects per functional category from the cemetery of the site Tienen, Grijpenveld in phase 4.

**Iron objects**

The number of graves containing nails still increase proportionally compared to the previous phases. 68% of the graves contain nails of which 72% contained between 1 and 10 nails and 28% contained between 13 and 66 nails. All the size categories of nails are present (fig. 4.133). The best represented category, as in all other phases, is the small nails. The larger the size of nails, the less they appear in the cemetery. The composition of the assemblage of nails is completely different in the cemetery in this phase than in the other cultural contexts. This too has been the case in all previous phases of occupation. The small nails could be remains of shoes, other leather items or wooden boxes that were part of the outfit of the deceased and other gifts placed on the pyre. The presence of the other size categories of nails could be explained as being the remains of boxes, furniture or the death bed. Another possibility is that construction wood still containing nail was used as fuel for the pyre. The possibility that nails were added deliberately to burials for magico-religious reasons also has to be taken into consideration. Potential explanations could be to protect the deceased from evil or to protect the outside world from the forces within the grave or the afterworld (see also 3.2.3).
Fig. 4.133. Number of nails per size category from the cemetery, the rituals contexts and the settlement of the site Tienen, Grijpenveld in phase 4.

4.4.3 RITUAL CONTEXTS

In this phase a large amount of ritual deposits were buried next to the road to the cemetery and in the area closest to the centre of the vicus and in the vicinity of the mithraeum. One of the ritual depositions (WP1 S74) contained a statue of Fortuna (fig. 3.11) and a cooking pot filled with valuable bronze objects (fig. 4.134).

fig. 4.134. Cooking pot (P6) with bronze objects from the ritual deposition containing a Fortuna statue of the site Tienen, Grijpenveld.

Ceramics
The proportion of ceramics formed by kitchen ware increases compared to phase 3 (fig. 4.135). The category of cultic ware is also relatively well represented. The storage/transport containers and table ware lose importance compared to the previous phase ritual contexts.
Fig. 4.135. Proportions of ceramic functions of the ritual contexts of the site Tienen, Grijpenveld in phase 4.

Jugs, lids, bowls, jars and incense burners increase (fig. 4.136). This is a different pattern than is noticeable in the settlement and cemetery. Only in the cemetery do jugs increase relatively. In the settlement bowls increase. The increase of lids, jars and incense burners is exclusive for the ritual contexts of this phase. The lids and the bowls can be explained in the context of the meals that were part of ritual ceremonies. The jars were used for heating liquids and an appropriate explanation for their presence must be sought after.
The assemblage of beakers from the ritual deposits shows a variety of local types with the most popular the BE3, followed by the BE11, the BE9 and the BE10 (fig. 4.137). The assemblage is clearly dominated by fumed ware, with the exception of the more traditional form BE3 that is also widely available in oxidized ware. From the imported ware the high number of beakers imported from the Trier area is remarkable.

The range of bowls and cups used as table ware is more varied than was the case in the cemetery and the settlement waste contexts. This is so for the locally produced ware and for samian ware. In the samian ware assemblage the cup Drag. form 33 is the most frequently consumed. The second most popular form is the Drag. 37. The frequent use of the Drag. 37 is typical for the ritual contexts in this phase. The dishes within this context are strongly dominated by the locally produced type B1.

As in all cultural contexts of this phase, the most popular form of jug is the local type KR9 (fig. 4.138). Remarkable also is the presence of the larger two-handled jugs within the ritual depositions. This was also the case in the previous phase. Probably this pattern is linked with the consumption of the contents of these vessels during meals related with ritual practices.
Fig. 4.138. Number, types and fabrics of jugs from the ritual contexts of the site Tienen, Grijpenveld in phase 4.

The most popular forms of cooking pots in this phase are P3 and P6 (fig. 4.139). The higher proportion of reduced ware in this phase is remarkable. This trend is also noticeable in the bowls used for cooking. The number of imported pots is also relatively high in this context.

Fig. 4.139. Number, types and fabrics of pots from the ritual contexts of the site Tienen, Grijpenveld in phase 4.
In the assemblage of mortaria the most preferred form is the M7 (fig. 4.140). Within the settlement waste this was the type M4, while in the cemetery the type M5 was preferred. Within the ritual context also the high number of imported mortaria from the Bavay and the Maas valley in this period is remarkable. Another important observation is the popularity of the Drag. 45 mortarium in this phase in this cultural context.

The amphorae in the ritual contexts of this phase have, next to the Dressel 20 oil amphorae and the Gauloise 4 wine amphorae, also a local amphora and a Gauloise 12 (fig. 4.141). This assortment is slightly larger than is the case in the settlement waste contexts and the cemetery. Two remarkable features characterize this element of the assemblage. The first one is the dominant presence of the Dressel 20. The other is the fact that the wine amphorae are imported from the Marseille area, the Rhone valley, the Meuse valley and the south of Gaul. In the settlement and the cemetery of this phase this wide selection of amphorae is not represented.
Fig. 4.141. Number, types and fabrics of *amphorae* from the ritual contexts of the site Tienen, Grijpenveld in phase 4.

**Animal remains**

A general remark that can be made is that ritual contexts contain a high number of animal remains compared to settlement waste contexts and to the cemetery. If we consider the proportions of the animals that are the main sources of meat separately (fig. 4.142), we notice that the ritual contexts contain a higher proportion of cattle (42%), than in the contemporary settlement contexts and a lower proportion when compared to the ritual contexts of the previous phase. The category sheep/goat (41%) doubled compared to the previous phase in the ritual contexts, but is lower than the contemporary settlement waste contexts. The deposition of pig (16%) increased with only a few percent compared to the previous phase but is more than double the proportion of the contemporary settlement waste contexts.
Fig. 4.142. Proportions of the three main animal species from the ritual contexts of the site Tienen, Grijpenveld of phase 4.

When all species are taken into consideration (fig. 4.143), the proportion of horse remains the same as in the previous phase. In the contemporary settlement waste, horse is not present. In the ritual contexts of this phase dog seems to play a smaller role in ritual than in the previous phase. Its proportion is divided by four, to 7%. Dog has not been deposited in settlement waste contexts of this phase. Domestic fowl collected from ritual deposits is represented by chicken, duck and goose. In the category of wild birds small passerine and jackdaw are present. The high proportion of chicken is also present in the settlement contexts.

Fig. 4.143. Proportions of animal species from the ritual contexts of the site Tienen, Grijpenveld in phase 4.
The skeletal analysis of cattle, pig and sheep/horse (fig. 4.144) shows that most bones belong to the skull and the limbs of the animals. The horse bone assemblage also contains skeletal elements from the body. From the category fowl (fig. 4.145) the skeletal elements represented seem to indicate that complete skeletons of goose, but mainly of domestic fowl were interred (fig. 4.146).

Fig. 4.144. Number of skeletal elements per animal species from the ritual contexts of the site Tienen, Grijpenveld in phase 4.

Fig. 4.145. Number of skeletal elements from fowl from the ritual contexts of the site Tienen, Grijpenveld of phase 4.
The cattle (fig. 4.147) are mainly adult animals and to a lesser degree subadults and juvenile/subadults. Only a few bones could be determined as from juvenile animals. The horse bones are from adult and from juvenile/subadult animals. The pig bones are from juvenile animals, subadults and adults. The sheep/goat are mostly juvenile/subadult, with some adult animals as well as subadults. Chicken were also killed mostly as adult animals or subadults. The category juvenile/subadult is also quite important. A few bones of juvenile animals could be determined. The domestic goose and duck are adult animals. This was also the case for the jackdaw. For dogs the category juvenile/subadult was the most important. The rest of the bones consist of adult and subadult animals. A few bones are from juvenile animals and from foetuses.
As a conclusion we can state that dog, pig and sheep/goat had a high proportion of juvenile animals.

**Bronze objects**

All categories of bronze objects are represented in ritual contexts in this period (table 156). The best represented categories are *instrumentum domesticum* and coins. The most popular objects are coins, plates, fibulae, bracelets and hairpins.

Fig. 4.148. Number and identification of bronze objects per functional category from the cemetery and the ritual and settlement contexts of the site Tienen, Grijpenveld in phase 4.
Glass
All the functional categories of glass objects are represented (fig. 4.149). The most popular categories are
storage/transport ware and table ware. The most popular objects are the bottle Isings 50, the cup Isings 3, the cup
Isings 42 and the cup Isings 85b.

Fig. 4.149. Number and identification of glass objects per functional category from the ritual contexts of the site
Tienen, Grijpenveld in phase 4.

Iron objects
In the iron nail assemblage the best represented size category are the big nails (fig. 4.150). The small nails are
not present.

Fig. 4.150. Number of nails per size category from the ritual contexts of the site Tienen, Grijpenveld in phase 4.
4.4.4 THE MITHRAEUM

In 1998 the enigmatic remains of an unidentified building together with a number of pits containing very rich deposits were excavated in the southwestern periphery of the vicus of Tienen (fig. 4.1).\textsuperscript{406} Only after a preliminary examination of the finds could the small timber framed building be identified as a mithraeum. The discovery of such a building in the vicus of Tienen was totally unexpected. Virtually no mithraic remains are known from Gallia Belgica/Germania Inferior, and certainly none so far to the West (fig. 4.153). But it is a further confirmation of a pattern that had already begun to emerge in NW Europe, of the presence of the cult of Mithras in rural contexts away from large urban and military environments.\textsuperscript{407} The mithraeum was built by the side of a road coming from the centre of the town, leading to a series of water pits and the tumulus erected one century earlier. The Augusto-Tiberian ceremonial enclosure that was without doubt still visible and clearly an area that still had significance to the inhabitants of the town is also situated immediately to the southwest of the mithraeum.

Fig. 4.151. Known mithraea in the Roman Empire with the location of the Tienen mithraeum. After Ulansey 1991.

Fig. 4.152. Tienen, Grijpenveld. Mithraeum with floor at northwestern end, at the time of excavation of the site.

\textsuperscript{406} Martens 2004a.
\textsuperscript{407} Martens 2004b.
Fig. 4.153 Tienen, Grijpenveld. *Mithraeum* on parcel of land with palisade next to a road of the site (red line = Roman road route).

**The mithraeum complex**

Of the *mithraeum* itself, only the aisle of the *cella*, which had been excavated into the sub-soil, has survived the effects of erosion (fig. 4.154). This central passageway is about 12m long and 2m wide. Of the lateral podia (side benches), only a few post-holes were found (fig. 4.154). The temple’s focal point (the cult-niche) was situated at the northwestern end of the nave directly opposite the entrance. Here, where the bull-killing relief will have been located, a small floor, 2 by 2m, had been constructed of square hypocaust- and roof-tiles (fig. 4.154 and fig. 4.155). This floor probably served to support one or more votive altars or even the cult relief itself. A similar platform, made of stone slabs, was discovered in the cult niche of the *mithraeum* at Carrawburgh on Hadrian’s Wall. The tiles of the platform at Tienen had sunk at the centre (fig. 4.155) because they had been laid over a pit that contained a dagger, some fragments of table- and coarse wares, and some animal bones. The presence of part of a sword in this pit must have a ritual significance, since it was buried in the most sacred part of the temple. The deposit itself is evidently commemorative: certain items (whose precise significance is not always clear) are buried as a reminder of the consecration or renovation of a temple, or of some other important event. Such deposits are not uncommon in *mithraea*. For example, beneath the three altars erected in the early 3rd century by the cohort prefects in the *mithraeum* at Carrawburgh, a ritual deposit was found in a pit filled up with rubble: a Castor beaker containing the skull and vertebrae of domestic fowl, and pine-cone fuel, had been deliberately interred, together with a small tin cup. In the middle of the aisle at Tienen, a small roughly rectangular receptacle was constructed of tiles sunk vertically into the floor (fig. 4.156). When excavated, it was

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409 Richmond and Gillam, 1951, 6, fig. 2.
410 Richmond/Gillam, 1951, 35-36, fig 8, Pl. XXIIa.
covered with a tile and filled with carbonised material, possibly spent fuel from incense burners. This receptacle was itself sunk into an earlier pit. It cannot be interpreted as a hearth, because neither the tiles nor the surrounding loam show traces of fire. Similar receptacles were found in the same position at Carrawburgh and at the Walbrook in London. Two shallow gullies with a U-shaped profile were dug into the floor of the northwestern area of the Tienen mithraeum (fig. 4.154). One of these ran along the base of the northeastern podium (side-bench), the other being dug perpendicular to it, and cutting through an older pit. The markedly right-angled profile of these gullies supports the assumption that they were originally lined with boards, but that the wood has not been preserved in the relatively acid loam. They were no doubt intended to contain water. A similar wooden channel, 20 cm wide and 30 cm deep, running along the foot of a podium, was discovered in the Walbrook mithraeum.\textsuperscript{411} Features for managing water, both in the form of wells and of channels or gullies, are often present in mithraea, and evidently had a number of functions, both utilitarian and sacral/symbolic. On both sides of the aisle we found evidence of the holes for the posts that simultaneously supported the roof structure and the fascias of the podia (side-benches). The mithraeae at Krefeld-Gellep and Künzing were likewise timber-framed buildings, whose dimensions and construction methods closely resemble those at Tienen.\textsuperscript{412}

\begin{itemize}
  \item pit with dagger, ceramic, animal bone (Carrawburgh)
  \item U-shaped gullies cfr Walbrook
  \item receptable carbonised material cfr Carrawburgh, Walbrook, Mundelsheim, Rome, Dura Europos
\end{itemize}

Fig. 154. Tienen, Grijpenveld. Plan of mithraeum.

\textsuperscript{411} Shepherd 1998, 75 with figs. 97-99.
Fig. 4.155. Tienen, Grijpenveld. Floor of mithraeum.

Fig. 4.156. Tienen, Grijpenveld. Hearth of mithraeum.
Parallel to, and outside the SW wall of the *mithraeum* was found a large (13.5 x 2.5 m), almost rectangular, dark brown/greyish structure (fig. 4.152, fig. 4.154). After the top layer had been removed, this feature could be separated into two structures, namely a single cruciform pit and a group of three pits with a common upper layer. It was in the cruciform pit, which had steps leading down to the bottom, that by far the greatest quantity of our material was found (fig. 4.157, fig. 4.158). Taphonomic examination indicates that all four were dug at the same time and then filled up together not long afterwards. The most plausible explanation for their existence is that loam was required for the renovation of the temple. One was cut into an earlier pit containing the almost-intact skeleton of a horse; it seems clear that work on the pits was stopped on encountering this skeleton. It is unclear if this burial is to be connected with the temple of Mithras.

Fig. 4.157. Tienen, Grijpenveld. Section of pits from *mithraeum*.

Fig. 4.158. Tienen, Grijpenveld. Section of pit from *mithraeum*.
The complex was evidently surrounded by a palisade; due to erosion however not all posts were preserved (fig. 4.153). The palisade probably indicated the extent of the property that belonged to the organiser(s) of the cult. A similar palisade is known to have surrounded the *mithraeum* at Martigny in the Valais.\(^{413}\) On the pebbled road running past the *mithraeum* (fig. 4.153) we found a small bronze plaque (fig. 4.159) with the following inscription: D(eo) I(nvicto) M(ithrae) | Tullio Spuri (f. or s.) | vslm . To the invincible god Mithras, Tullio (son or slave of) Spurius has gladly fulfilled his vow with good cause.\(^{414}\) The plaque may have been attached to a votive object, say a portable picture on a wooden panel, in the *mithraeum*.

![Image of a bronze plaque](image)

**Fig. 4.159.** Tienen, Grijpenveld. Bronze plate with text found on pebbled road in front of *mithraeum*.

### The ceramic finds in the pits

The external pits mainly contained charcoal, pottery and animal bones. The pits were dry-sieved (5 mm), so a maximum recovery of finds is ensured. The largest single group of vessels, a minimum total of 119 jars, consists of the locally-produced ‘fumed ware’. Recent research has shown that this type of jar was used for heating liquids on an open fire.\(^{415}\) Residue analysis has revealed the presence inside the jars of certain fatty acids derived from vegetable products. Similar inferences can be made from the 105 cooking pots, mostly in locally produced wares: residue-analysis showed the presence of derivatives of mutton- and domestic fowl-fats inside samples of these pots, together with some vegetable fats. The diameters of the 89 lids reveal the same variation as the cooking vessels, indicating that they belonged together. A grand total of 107 plates correspond to the number of cooking pots. We also found fragments of at least 103 locally-produced incense burners, all heavily blackened from use. Although censers do of course occur in other, mainly ritual, contexts both in the *vicus* itself and in *mithraea*, such a large quantity was completely unexpected and demands special attention. Less unexpected were twelve oil lamps, mostly in colour-coated ware imported from the Rhineland. As for drinking-vessels, we found 94 black-slipped beakers (including 85 Niederbieber 33; 3 Niederbieber 29), mainly imports from Trier, though some are from the Argonne. Three beakers, probably to be interpreted as mixing vessels, are larger than the others; one of them carries decoration and the Latin motto: *propino tibi*, “I drink to you”, all in barbotine technique. Most of the beakers can be ascribed either to Künzl’s group II, or to Symonds’ Trier group I, which indicates a date in the third quarter of the 3rd century.\(^{416}\) These beakers thus provide the most secure dating criteria for the context of the pits.

It is worthwhile to describe the specially-commissioned vessels made for ritual use in more detail. All are original variations on known Mithraic themes; together they suggest something of the relative wealth and self-confidence of the worshippers of Mithras in late 3rd century Tienen. The first is a fragmentary crater in lead-glazed ware with an appliqué medallion representing a bust of Mithras or a torchbearer, with curls peeping out from beneath a Phrygian cap (fig. 4.161). Whilst the production-centres of lead-glazed ware in the 1st and 2nd centuries AD are relatively well known, such ware becomes uncommon in the 3rd and 4th centuries, and seems to be have been produced exclusively in local workshops for cult purposes.\(^{417}\) This makes the relatively frequent occurrence of glazed ware in Mithraic contexts in northwestern Europe at this period much more interesting than has generally been recognised.

Likewise from a local workshop is a lid with a clearly ritual function (fig. 4.160). It presents three figures: an appliqué snake with a head carrying a comb, an incised crater, and an appliqué lion’s head with the face of a

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\(^{413}\) Wiblé 1995, 4 with fig. 4; Wiblé 2004, 135, fig.2.

\(^{414}\) Deman/Raepsaet-Charlier 2002, 159 ter, Pl. LIV.

\(^{415}\) Vilvorder 1995, 213-216.


\(^{417}\) Martens/Vilvorder 2002.
man. The lid was originally painted: the rim was red, and there are traces of black paint in the snake’s comb. The underside of the lid is heavily blackened by smoke. On the same side is an as yet undeciphered graffito. Like the lead-glazed crater, this lid was clearly produced expressly for the cult of Mithras - possibly even for a specific event. Perhaps the most strikingly original of these items is a large locally-produced snake-vessel with an interior clay tube which begins at the bottom of the vessel, ascends the side wall, penetrates the wall just near the rim, then curves towards the outside (fig. 4.162). Unfortunately the snakes head is missing. As one would expect, the tube is better finished outside than inside. Residue-analysis revealed that there are no residues of fats inside the vessel, implying that it was used for wine or wine/water. The extensive charring of the bottom proves that the liquid was heated over an open fire. This vessel undoubtedly played an important role in certain ceremonial activities and was designed and produced for this purpose in a local workshop. This is the only snake-vessel, of the hundreds that are known, in which the snake has a practical, as opposed to a purely symbolic, function.

Finally, another large snake-vessel, this time made at Rheinzabern, has a lion on one handle and a snake on the other (fig. 4.163). In itself this would not be remarkable; what is surprising is that only the handles with the snake and the lion, together with some small fragments from the foot, seem to have been selected for deposition in the pits. The remainder is simply missing.

From the ceramic remains, therefore, we can infer that the feast involved cooking, serving, eating, drinking, and the performance of rituals whose precise scope and intention cannot be recovered but which evidently included the ceremonial serving of wine and the burning of very considerable quantities of incense.

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418 Smith/Craig 2001.
Fig. 4.160. Tienen, Grijpenveld. Lid with lion, krater and snake from mithraeum.
Fig. 4.161. Tienen, Grijpenveld. Reconstruction drawing and photos of fragments of krater in lead-glazed ware from mithraeum.

Fig. 4.162. Tienen, Grijpenveld. Reconstruction drawing and photos of fragments of snake vessel from mithraeum.
The creation of the deposit

The stratigraphy of the pits and the composition of the ceramic assemblage clearly show that the pits were re-filled with primary refuse over a short period of time.\(^{419}\) Indeed, the most plausible scenario is that they were filled after a single large-scale feast. All four pits shared the same final dump of material, proving that they were sealed at the same time. The black layers found at the bottom of the cruciform pit and in different layers of the other pits are composed almost entirely of primary refuse, in this case charcoal mingled with ceramic sherds and animal bones. The technique of sorting the ceramics by individual items revealed that sherds from different layers and different pits in many cases belonged together, with the result that individual vessels could often be reconstituted from sherds from different pits. This clearly implies that the pottery was broken up beforehand and deposited indiscriminately into the pits (mainly into the cruciform one) on the same occasion. The archaeozoological evidence is consistent with this. The fowl-bones were very well preserved and revealed an even incidence from all parts of the skeleton, which would not be the case if we were dealing with waste of several occasions that was somehow collected and deposited on a single occasion. Furthermore, as we shall see later, the lambs and piglets whose bones were found in the pit were all killed at the same time of the year.

If we look at the minimum numbers of individuals in the different form-categories of each ceramic group, we find that plates, cooking pots, lids, beakers and incense burners are best represented and more or less in equal numbers. In order to obtain a more detailed analysis of the ceramics in these contexts, the database can be interrogated. This reveals that the number of individual items of the previously mentioned categories decreases in direct relation to their completeness, that is, most of the individual items represent less than 25% of the original vessel and only a few of them are 100% complete. This means that from most of the pots only a few sherds have been deposited. With this knowledge it becomes surprising that we have almost equal numbers of cooking pots, jars, lids and incense burners. It cannot be a coincidence that there are almost the same numbers of individual items in each of these groups. But we can perhaps go further. The fact that the almost equal numbers of plates, cooking pots, beakers, jugs, lids and incense burners were represented by less than 25% complete individuals may suggest a deliberate deposition strategy, such that at least part of the table-service of every person present ended up in the pits. The same data support the hypothesis that a concluding procession was organised, in the course of which the participants threw their personal plate, beaker, jar and incense burner, or at any rate fragments of them, into the pits, together with some specially-commissioned non-personal items, for example the snake-vessel, which had been used earlier during the performance of certain rituals. Evidence for the practice of processions in Roman Gaul is present.\(^{420}\) In the Santa Prisca Mithraeum, a sacrificial procession is depicted with a row of members holding objects like a crater, a cock, a plate and so on. It is clear that within the context of a city like Ostia, the burial of sacrifices after a ceremony would be limited for practical reasons. Another possibility would be that they took place outside of the densely built area of the town or possibly on a more personal basis at the houses of the participants.

The feast

Next to the ceramics, in total, nearly 14,000 animal remains were hand-collected from the pits.\(^{421}\) A detailed study of the bones, together with the preceding observations and interpretations, permits a tentative reconstruction of the events that took place shortly before the filling of the pits. The food remains found must

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\(^{420}\) Fauduet 1993, 133.

\(^{421}\) Lentacker et al. 2004, 57-76; Cooremans 2004, 49-50.
have resulted from one enormous feast or banquet (table 4.1). The reconstruction of the minimum number of individuals indicates that, apart from the *garum* and *salsamenta*, at least 3 fish, 285 chickens, a number of wild birds, a hare, 10 piglets, 14 lambs and a quantity of beef were served. This total suggests that at least 285 persons were present at the meal; indeed, if everybody restricted himself to half a chicken, this total could be doubled. This estimate of the number of guests on the basis of the food remains is significantly higher than that based on the pottery, which were rather more than 100 people. To resolve this discrepancy, we may suppose that guests may have shared plates and cooking pots. On the other hand, it is also possible that we are not dealing with a single meal but with a series of meals over a short period, for example during a festival lasting several days. In that case, the number of participants may have been considerably lower - perhaps the hundred estimated on the basis of the ceramics. On the other hand, we can exclude the idea that the refuse dumped in the pit was the result of festivities stretching out over weeks or months.

<table>
<thead>
<tr>
<th>Animal remains (14 000)</th>
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</thead>
<tbody>
<tr>
<td><strong>Spanish mackerel</strong></td>
</tr>
<tr>
<td>Eel</td>
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<tr>
<td>Herring</td>
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<td>Chicken</td>
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<td>Jackdaw</td>
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<td>Hare</td>
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<td>Pig</td>
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<td>Sheep</td>
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<tr>
<td>Cattle</td>
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</table>

Table 4.1. Tienen, Grijpenveld. Number of animal species from the *mithraeum*.

Some species present in the pits may be interpreted in a more symbolic way. The jackdaw, being a black bird, represents another case. The raven that figures in the Mithraic bull-killing scene, is the symbol for one of the initiation stages, and plays a part in a catasterism myth about drought and water, in which Apollo (the sun god), *Corvus*, *Crater* and *Hydra* play a role. Could it be that the jackdaw found at Tienen’s *mithraeum* served as an Ersatz for the raven? In any case, there are comparable finds from other *mithraea*. Within the *mithraeum* at Wiesloch the bones of a raven (*Corvus corax*) were found under the sherds of an oil amphora. A raven bone was also found at the *mithraeum* of London, while remains of a carrion crow (*Corvus corone*) were found at Martigny. A further intriguing find from the *mithraeum* at Tienen is formed by the remains of two large eels. On the tauroctony, a snake is depicted which refers to the constellation of *Hydra*. *Hydra*, however, is the water snake, an animal thus easily replaced by an eel, especially in a part of the world where water snakes are absent, and where taxonomical biological knowledge had not yet reached its present standards. The symbolic meaning of the eels within the context from Tienen is perhaps further corroborated by the fact that large freshwater fish are rarely documented from Gallo-Roman sites in Flanders, suggesting that these fish may have been gastronomically uninteresting for the people of that time and must thus have been present at the banquet for other reasons.

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Many of the participants presumably brought one or more food items with them to eat at the feast, as they did with some of the crockery.\(^{426}\) It is impossible to establish whether this food was prepared beforehand elsewhere, at home or in bakers’ ovens, or was cooked/roasted during the course of the feast. On the one hand, the charcoal found in the pit suggests that there was at least one (large) fire on the site;\(^{427}\) while the cooking pots showed clear traces of fire and in some cases had been used several times. Moreover, some of the organic remains in the pit are domestic fowl offal. On the other hand, nothing proves that the cooking pots acquired their fire-marks \textit{in situ}, and the pit contains too little offal in proportion to the bones found. While that might be explained by supposing that most of the detritus from the slaughtering was deposited above ground, and has thus disappeared, no secondary rooms have been discovered in the \textit{mithraeum}, and within the temple area there is hardly space for an additional building which may have served as a kitchen and where the animals may have been slaughtered. If the food was prepared mainly on site, it must have been in the open air.

Dry archaeozoological interpretation can give us no very satisfying idea of the variety of culinary practices hidden behind the table-leftovers found in the pit. The meal served at the \textit{mithraeum} was probably multifarious, produced by a wide variety of culinary techniques, boiling, frying, baking, broiling on the spit, and perhaps serving raw. The possibility of vegetable or fruit ingredients, and the use of a variety of herbs and spices, must not be forgotten, even though they almost completely escape us,\(^{428}\) the same is true for flesh which leaves no trace in the archaeological record, such as meat (internal organs) or meat-products (stews, pies) lacking bones, or fish with a cartilaginous skeleton. The banquet served at the \textit{mithraeum} may have been much more interesting gastronomically than archaeology reveals.

The general importance of collective eating in the cult of Mithras is well-known. The \textit{mithraeum} itself, with its lateral podia, resembles Hellenistic rooms designed for sacred banqueting. The presence of animal bones in virtually all excavated \textit{mithraea}, as well as the (occasional) cooking-hearth, confirms that sacrificial meals were regularly eaten within the temples. Nevertheless, the remains at Tienen point to something rather different from this usual or regular cult-meal. There is first the sheer scale of the event, which meant that there were far too many participants for the \textit{mithraeum} itself to house. Then there is the destruction and deposition not only of the crockery but of more than 100 incense burners, as well as of the specially-commissioned objects with a clear ritual function, such as the snake vessel, the lid with the three images, and the lead-glazed crater. In all, about 700 ceramic vessels were destroyed and completely or partially discarded. There is finally the fact that only male animals seem to have been killed and eaten. This brings us to the question of the organisation of the event, which must have involved extensive planning. The time of year can be determined by the pattern of the molar wear stage (MWS) of the jaws of the lambs and piglets found in the pits. These indicate that the animals were slaughtered towards the end of June or the beginning of July, that is, the period of the summer solstice (table 4.2). To the scale of the feast, and its prodigality, we can surely add the idea that it was deliberately held to coincide with the summer solstice. There is some evidence from other \textit{mithraea} that this date was of great significance in the Mithraic calendar, although no other celebration on this scale is known. The only comparable feast is for the occasion of the funeral of the tumulus burial in phase 3 (see section 4.2.3.4).

An important question is why the pottery, the animal remains and the other objects were deposited in this manner. It is of course not the religious events themselves that produced the waste that is visible in the archaeological record, but the ‘waste deposition strategy’. To answer this question, we must appeal to the wider context of deposition strategies in the northwestern part of the Empire (see also section 3.3). In this region, the practice of burying the remains of feasts is not at all uncommon, and in fact clearly goes back to Iron Age or

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\begin{array}{c|cccccccccc|c}
\hline
\text{Fg} & - & - & - & - & - & B & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 6 \\
\text{Sheep} & - & - & - & - & - & B & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 12 \\
\end{array}
\]

Table 4.2. Tienen, Grijpenveld, \textit{mithraeum}. Age at death of piglets and lambs.

occasion of the funeral of the tumulus burial in phase 3 (see section 4.2.3.4).

426 Martens 2004, 45.
even older customs. Sacrificial deposits including the remains of meals are found on temple sites, as well as in urban, military and rural settlements. In the vicus of Tienen itself we have indeed several examples of pits filled with the remains of meals, sometimes in combination with ritual objects such as incense burners, valuable metal objects and statues (see section 3.2).

The question remains whether this kind of feast with such a large number of participants was organised only once in the period that the mithraeum was in use. It is possible that such feasts were organised yearly or at least more than once, but that the remains of the other feasts were not deposited near the mithraeum. The fact that the remains of this feast were deposited near the mithraeum as a commemorative act could signify that this was a ceremony of high importance for the community. The deposition of wallplaster together with the other finds could be a reference to the renovation of the building for this important event. There are few indications for an estimation of the period of use of the mithraeum and it is not clear if the renovation was undertaken because the building was in a bad state or simply in function of the importance of the event. Who were the people present at the feast. It is possible that the participants were inhabitants of the vicus and the surroundings, who were sympathising with the cult without being initiated. Another possibility is that the cult communities of several mithraea gathered for this important event in the vicus due to the fact that the different cult communities were organizing the main feasts by turns. One assembly of the member of a cult community of Virunum was recorded on a bronze plaque. On the 26th of June AD 184 the members met to commemorate their deceased colleagues. According to Beck mithraic doctrine held that souls entered and left the world through the solstices. Possibly this could have been the reason also for the special assembly of the cult community in the vicus of Tienen. The location of the mithraeum may have been carefully chosen for symbolic reasons at the periphery of the town, next to and parallel with the early 1st century enclosure and only ca. 100 m to the south of the 2nd century tumulus burial and 100 meters to the west of the cemetery.

5. LIFE, CULTURE AND SOCIAL PRACTICE PER PHASE IN ROMAN TIENEN: CHANGING IDENTITIES IN A VICUS COMMUNITY IN RELATION TO ITS WIDER REGION

In this chapter the patterns in consumption and deposition practices that were analysed and described in detail for each phase in the previous chapter are interpreted and placed within a broader framework. This bigger framework is constituted by geo-political developments on the scale of the Empire that had impact on our region, as well as by specific developments noticeable in the archaeological record from the region. The similarities and differences in choices of goods for use in daily life, for ritual practices and for use related to funerals are highlighted and evaluated within the wider context of the development of culture and society in the vicus and its region. The creation of the culture of the vicus of Tienen and the social identities of its inhabitants is conceived as a continuous process that is influenced by internal and external developments but has a very strong factor of agency at its basis. The community in Roman Tienen created their culture by making choices in everyday life, by actively shaping the practices necessary to communicate with the gods and by orchestrating the successive actions taken when somebody died. The division in phases was possible because of the methodology that was applied to group contemporary assemblages. The phases are based on detailed knowledge of the date ranges of the individual archaeological contexts that were established by a chronological framework of all the finds. The typo-chronology of the local pottery proved to be crucial in the set up of this chronological framework, as shown in 2.2.6. The theoretical baseline of this chapter on social practice is that materiality reflected in the transformation of consumption patterns is simultaneously shaping and being shaped by human behaviour. Indeed, as will be shown for the vicus of Tienen, material culture was sufficiently diverse to play many roles, from indicating identity and wealth to functioning as a component of ritual power. Recent research of the social, economic and cultural function of villas within their landscape and the consumption practices of the higher and lower classes of the rural elite by Roymans and Derks provide an ideal comparative framework for this research. For characterizing the nature of these consumption processes, Hingley speaks of Roman consumer culture, while Woolf and Dietler make frequent use of ‘consumer revolution’ related to a wider cultural revolution that affected everyone and everything in the Roman empire. Martins describes the transformations in culture as a burgeoning drive for experiences associated with innovation. These are exactly the processes we want to grasp and clarify in this chapter.

5.1 RESTRUCTURING LANDSCAPE AND SOCIETY (1-70 AD)

This phase in the vicus of Tienen corresponds to a period of change and reorganisation of the countryside of the civitas Tungrorum. These changes are described briefly in order to place the foundation and the developments in the vicus of Tienen in a wider perspective. The road system that connects Cologne to Boulogne was established at latest in the Augustan period. The city of Tongeren was founded on this road at a place excellently situated for interregional communication: this centre became the civitas capital. The urban grid system of Tongeren was introduced in the Augustan period by Roman authorities, and probably carried out with the input of the army. The capitals’ layout incorporated a spatial concept so far unknown in the region. In the late Augustan period a series of vici emerged on this main road Cologne-Boulogne: Tienen, Elewijt, Asse and Velzeke. On the Cologne-Bavay road the vicus of Liberchies developed in the same period. The contemporary vicus of Namur also arose, without doubt because of its excellent position on the confluence of the Meuse and Sambre. The early flourishing of these smaller centres is probably linked with the increasing need and growing opportunities for trade and production; it is possible that some of them developed out of traditional meeting and exchange points.

From the same period there is also evidence, however scarce, of a gradual reorganisation of the landscape with the emergence of a series of farms of ‘indigenous tradition’ on places that would soon be transformed into Roman-style villas. These newly founded farms can be seen in the light of new needs for agricultural production. The early introduction of bread wheat in the area, indeed, is confirmed by its presence in the late-Augustan enclosure of the vicus of Tienen. The above described developments imply that a new system...
of settlements emerged in the fertile loess area of the civitas Tungrorum within a few decades. Indeed, parts of native groups of the Germani cis-Rhenani who lived in this region clearly felt themselves attracted to the capital, the vicus and by the Flavian period also the new style of farms. The people who inhabited these new settlements were native groups who shared a common identity as Tungri; this is very likely to have been with the encouragement of Rome (as was the case some decades later with the emergence of the civitates in Britain, at least according to Tacitus and the attitude and role of the local elites will have been significant in this process.

The ethnogenesis of the Tungri in the final decades BC may be seen in relation with the production of ANNAROVECI and class I AVAVCIA coins. The low-value coins are generally regarded as small change and are associated with emerging markets and the monetized exchange of goods, primarily targeting the camps and camp villages, but they were also distributed on the markets of the countryside. The position of this fertile loess area so near to the limes, indeed also forces us to think about the ways the necessary supplies for the troops present on the Rhine were organised. This will have involved the taxation system, but also inter-regional trade and supply systems must have played an important role. Moreover, Roman authority taxed the Tungri, like the Batavi, in manpower. In the pre-Flavian period, the civitas Tungrorum supplied no less than three or four cohorts and one ala to the Roman army.

The army, however, should not be seen as the sole driver of economic and cultural growth of the region because many other factors shaped the Gallo-Roman economy and the development of a specific Gallo-Roman culture. Together with the tax system also infra-structural and small-scale innovations, seem to have encouraged economic development of the area from the Augustan period onwards. An important factor in this development was probably that private ownership of land rapidly gained importance at the cost of traditional collective claims to land of kin groups. New power relationships arose here following the introduction of the Augustan administrative reforms. According to Roymans and Derks land ownership that constituted the basis of political power rested with an urban-based decurial elite, which probably comprised on average one hundred or so families per civitas. The expansion of private landownership (as presumed, following the post-caesarean organization of the region) and the likely subsequent control over labour by the landowners, together with the intensification of agrarian production through the systematic application of new techniques resulted in the creation of important surplus for the market. A relatively well studied technological innovation introduced in agriculture is the Gallic harvesting machine, which Pliny and Palladius called a vallus which harvests o

The need for commodities to create and support this new society, constituted by a variety of “classes” of people with different purchasing power, without doubt stimulated the growth of centres for the production and trade of goods like the vicus of Tienen or the vicus of Namur. These new societies also sought (and perhaps felt the need) to profile themselves as an “ethnic” entities and wanted to confirm their common identity in various

441 Raepsaet-Charlier 1994.
442 Tacitus, Agricola, 21.
444 Roymans 1996, 58-60.
445 Roymans 2009, 89.
446 Vanderhoeven 1996, 223.
447 Roymans 1996, 60.
449 Roymans/Derks 2011, 9-12; Daloz 2009, 69.
ways amongst others by the production of coins and by the creation of common cultural elements, of which the most striking surviving material statement are the *tumuli* that appear towards the end of the 1st century AD. The need of communities to cultivate local and regional identities was also noticeable in the considerable regional variation of villa landscapes and in the design of the urban domus. ⁴⁵⁰

Within this bigger framework we will examine the ways people reacted and adapted to their new situation when they first moved into the *vicus* of Tienen. By looking at the material culture and the consumption patterns we will attempt to reveal the materialised ideas and the practices of these first generations of inhabitants of the small town. The *vicus* of Tienen was founded in the late Augustan period. Unfortunately we do not have information on the structures of occupation in the centre of the small town. There is no evidence that the Roman army was based at Tienen in this formative period (as they had been at Tongeren before the town was established there), nor evidence that the army or Roman officials were involved in establishing the layout of the settlement. However, the elements encountered at the Grijpenveld site indicate the likelihood that at least parts of the built landscape were planned out for specific functions on a large scale. This is significant as that is something more often recognized with larger centres, such as Verulamium, London, Amiens and Reims. It remains difficult, however, to identify the driving force, surpassing the local one, behind the organisation of the smaller centres.

In the south western periphery a large ditched ceremonial enclosure was constructed probably for the occasion of the foundation of the *vicus*. The area lacks habitation and domestic items and was clearly designed for the gathering of large crowds. The ditches next to the entrance of the enclosure contained a ‘find rich’ layer of objects associated with feasts next to valuable metal objects, glass objects and coins. The origin of the objects shows that the authorities or the community who organised the feast were ultimately connected with many regions of the Roman Empire. The socio-political and/or economical power of the organizers is also clear from their ability to organise such a labour-intensive work of constructing the enclosure. Its position at the edge of the plateau dominating the area of the *vicus* and orientated towards its centre emphasizes its importance for the town. The ceramic finds show that we are dealing with the remains of a lavish, high-status feast. The feast involved the consumption of meals composed with refined imported products that were served mainly in imported crockery. The feasting probably presented an ideal context to reaffirm and introduce the new concepts and values of the developing politico-cultural order. The inhabitants of the *vicus* in the Augusto-Tibetian period were confronted with important socio-cultural and economical changes when they chose a new lifestyle within the *vicus*. The feasts and meetings held in this ceremonial complex would have been important to create a sense of community and enthusiasm towards the societal changes still ahead. The feast itself and the important amounts of salt that were redistributed at the occasion of the feast could have been presented as gifts to the guests to constitute reciprocal obligations in return. ⁴⁵¹ It is possible that a large landowner was involved in the construction of the enclosure and the organisation of the feast. Indications of intensive relations between villa and *vici*, however of a later period, have been established in the Trier region. The large villa complexes of Borg and Reinheim were located right next to a *vicus*. In the *vicus* of Bliesbruck, situated several hundred metres from the villa of Reinheim, a large block of strip houses appears to have been built all at once; Sărățeau-Müller suspects that the local villa owner was directly involved here in providing accommodation for tenants or day labourers. ⁴⁵² The ceremonial enclosure of the *vicus* of Tienen is possibly a concrete example of the involvement of the rural elite in the foundation of *vici*. This could imply that craft production in *vici* was at least partly organised by rural elite. A further significant characteristic of the enclosure seems to be the way in which it was kept clear of unrelated features throughout the Roman period, possibly as a monument for the commemoration of the foundation of the *vicus*.

Not far from this enclosure, down the road, a late Augustan farmhouse was situated. This farmhouse was built in native tradition. The material culture associated with it, however, was spectacularly different from Late Iron Age assemblages. It was composed of Italian terra sigillata, locally produced terra rubra and terra nigra beakers, and the earliest locally produced jugs. The inhabitants of the farm clearly were convinced of the benefits of settling at the outskirts of a newly founded small town. An interesting comparison can be made with the people moving into the *civitas* capital of Tongeren, at the same time. These people also still lived in native stable houses but had a completely new set of household goods. ⁴⁵³

At the moment of the foundation of the *vicus*, the borders of the south western cemetery were defined and laid out. It is noteworthy that the concept and the size of this cemetery of approximately 4 ha, were decided upon right from the beginning. This implies that a certain vision for the future and a long-term planning for the growth of the *vicus* was conceptualized at the moment of the foundation. It is interesting to imagine where the inspiration of the size and the lay-out of such a cemetery came from. The least we can say is that the idea of burying the dead of the newly founded settlement in a predefined place was inherent to the concept. This implies

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⁴⁵⁰ Roymans/Derks 2011, 35.
⁴⁵¹ Hayden 2009, 34.
⁴⁵² Roymans/Derks 2011, 29.
⁴⁵³ Vanderhoeven 2007.
a strong sense of community as well as a will to dedicate an important part of the settlementscape of the vicus to
the dead. Hiddink refers to the reintroduction of a long-term use of cemeteries in the Late Iron Age in the Meuse-
Demer-Scheldt area. According to the author this is related with the more permanent status of the settlements on
fertile soils and the fact that cemeteries are used to express the collective identities of local communities. A
The need for creating new identities can be seen in the light of the small-scale migrations of tribes or sub tribes after
the period of the Gallic wars that certainly had its consequences on the local communities. A similar
predefined laid out space of a cemetery has been suggested for the roadside settlement at Westhawk farm in
which a subsequent contrast was determined between the density of the graves and the space available. A
The layout of a large cemetery next to a Roman road clearly marked the landscape. This large cemetery formed an
integral part of the concept of the vicus, but was also clearly separated from it with early Roman boundary
ditches. Since the Late Iron Age burial practices in the region are poorly known it is difficult to determine if this
concept was also based on ideological changes. The division and ownership of land may also have played a role
in the concept and planning of this cemetery. The first generation graves are spread out, but a concentration is
situated at the centre of the cemetery. There are essentially Brandgrubengräber with the remains of the funerary
pyre. Interestingly, the surrounding ditches of the cemetery contain a row of three inhumations. The early date of
these inhumations, their location in the boundary ditch of the cemetery and the fact that these were formal burials
in coffins and with grave gifts, suggest that the graves were from people who had a special meaning for the
community. The bodies were laid in peculiar positions in their wooden coffins. Evidence of early inhumation
graves remains unusual, but the Tienen site adds to an expanding list.

Apart from the built structures it is important to consider the material culture used within the vicus to
identify culturally specific forms of consumption and depositional practices of this early phase. The
characterisation of practices related to the preparation and consumption of food and drink, associated with the
consumption of pottery and animals is crucial for understanding the culture of the community living in the vicus.
First of all it is important to remark that the ceramic assemblage mainly consists of locally produced pottery. All
locally produced pottery was wheel-thrown. This means that the production of wheel-thrown pottery began
almost from the moment of the foundation of the vicus and fulfilled a high demand for new types of pottery that
were markedly different in form, material and production technique from the Iron Age pottery. This most
certainly also meant a substantial change in cooking and dining practices in the earliest Roman period. The
presence of excellent clay for pottery production surfacing on the edges of the plateau the vicus was situated on is
an important factor that must have stimulated this swift start of local pottery production. The high quality of
these earliest products seems to indicate that specialist potters from other regions were involved at least in the
beginning of the production of the pottery. The question remains whether these potters were attracted from
within the civitas or from further away. The choices of which pottery types were produced and indeed consumed
reflected the culture and identity of the community of the vicus in this early phase. The high proportion of table
ware is indicative of new and different ways of eating and drinking. The local drinking service consisted mainly
of Belgic beakers in terra rubra and terra nigra, next to more traditional biconical types in fine reduced ware.
The colour-coated beakers, mostly much smaller in size, from the Rhine area were popular import products.
Their popularity is confirmed by high numbers of imitations of these types in local ware. The terra sigillata table
ware was ofItalic origin as well as from the south of Gaul. Terra nigra bottles and jugs were used for conserving
and serving liquids. The jugs (KR1) (fig. 5.1) were mainly locally produced and imitated the individuals also
imported from the Rhine area (Hofheim 1 and 2 types). A proportion of the beakers and cups were certainly used
to drink imported wine of which the presence is confirmed by flat-bottomed wine amphorae from the south of
Gaul. The large Belgic beakers probably indicate that beer was also still popular in the vicus. Epigraphical as
well as archaeological evidence from Roman Britain has shown that beer was drunk by all sectors of society.
The assemblage of table ware reflects, as mentioned before, a spectacular change in the way food was presented
and consumed. If we take a look at the cooking ware this change does not appear to be so fundamental, but self-
evidently a diversity of dishes can be prepared in a limited number of different forms of cooking pots and bowls.
Apart from the cooking pots in ceramics we also have to take into account the use of metal cauldrons and the
preparation of meat on grills and on the spit. Evidence of these objects, however, was not found in this phase.

455 Roymans 1998.
456 Booth/Bingham/Lawrence 2008, 372.
457 Booth/Bingham/Lawrence 2008, 386.
458 Degryse/Martens 2003.
459 Cool 2006, 143.
The cooking pots and bowls in Roman Tienen were produced mostly locally in reduced ware (fig. 5.2 and 87), reflecting Late Iron Age forms. It is interesting to consider which heating sources were used for cooking. Although relatively little research has been done on this subject for our area, Cool has produced some interesting theories based on evidence from Roman Britain. Hearths were used throughout the Iron Age, but also continued to be used in the Roman period. This is confirmed by 2nd century hearths excavated in a house in Roman Tongeren and likewise in Roman Tienen. In some kitchens in Roman Britain hearths and ovens were present, which would have provided the possibility of a wide range of cooking practices. Kitchens where a range of heat sources have been recognised are often part of large houses which were clearly the residences of members of the upper class; and it has to be questioned to what extent oven cooking would have been practised by all ranks of society. A wood-fired oven is very versatile, providing a range of temperatures as it cools down, but it does require a considerable supply of fuel. This was not necessarily cheap or easily available, especially in towns or vicus, as a large part of the country was deforested. In Colchester, for example it has been noted that most of the ovens are early, possibly hinting of a move to braziers or hearths, which would require less fuel but of course would be more limited in their range of products. Hearths can be very versatile cooking installations.

One of the few detailed examinations of sooting on cooking pots has shown there is a significant difference between heavily sooted rims, and the much less commonly sooted and burnt bases. This would imply that the bodies and bases of the vessels were firmly bedded in the hearth, perhaps in the accumulated ash, with only the upper parts open to direct heat. This sooting pattern is also clearly recognisable on the cooking pots from this phase in Tienen. The shape of the vessels with the greatest girth towards the shoulder, and with an everted rim to allow a lid to be securely held during cooking, like the cooking pots in Tienen, would be ideal for stewing or slow baking. Experimental work comparing a stew cooked in a jar on a hearth, and in a bowl on a brazier, has shown that the texture of the latter is much drier than cooked in a jar.

A possible difference in the choice between a cooking bowl and a cooking pot could be that the former can be placed centrally amongst a group of diners who can help themselves to the contents, while such an action would not be so easy with the standard cooking pot, where the contents were probably decanted into individual bowl or plates prior to serving. This necessity and the want to serve various dishes, probably explains the increasing proportion and variety of table ware bowls and plates from this phase onwards. The possible difference between the use of plates and bowls, each representing about 6% of the assemblage in this early phase, has been pointed out by Hill. Bowls are ideal for presenting gravy-rich stews where all the ingredients are

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460 Vanderhoeven et al. 1987, 134, fig. 8.
461 Vanderhoeven et al. 2001, 16
463 Evans 1995, table 5.3.
464 Cool 2006 39.
465 Idem.
mixed in the cooking process. Plates allow different foodstuffs to be presented individually, with the possibility of saucing the individual elements differently.\footnote{Hill 2002, 149.} This sort of cooking means more work for the cook; a stew normally needs less time and attention than several different dishes that only come together as a whole at the point of serving. Plates also allow more attention to be paid to the visual presentation of the food, and the possibility of individuals picking and choosing which elements of the meal they will eat.\footnote{Cool 2006, 165-166.} Plates were apparently very useful for the community living in the vicus of Tienen that was clearly developing a differentiated cuisine in this first occupation phase.

The taste for novelties in the local cuisine is not only illustrated by the table and cooking ware, but also by the presence of containers for the long-distance transport of specific foodstuffs, used in the kitchen and at the table. Amphorae with defrutum, that was probably used as a preservative or a sweetener, is a good example of the development of new tastes and dishes.\footnote{Wilson 2009, 232.} The presence of Baetican olive oil amphorae shows the importance of oil for the cuisine of this period. Although this oil was not just used as a cooking ingredient but also as a vital part of the bathing regime and as a base for perfumes and fuel for lamps, it is assumed that it was mainly imported for culinary practices.\footnote{Cool 2006, 62.} A relatively large part of the ceramic assemblage available in this early period is constituted by imported hand-formed ware mostly serving a function as food containers for delicacies, with maybe a secondary use as cooking pots. These delicacies obviously also played an important role in the broadening of the cuisine.

Mortaria do not play an important role yet in the kitchen of the inhabitants of the vicus in this early period, with the exception, curiously, of some items in ritual contexts. For storage and transport of locally produced goods dolia were already produced and used. This ceramic assemblage shows clearly that the community had created their own repertoire of products required for their needs in daily life preparation and consumption of food. The local ware is a combination of imitations of popular Gallo-Roman forms and more traditional forms, reminiscent of the Late La Tène period. Especially the table ware has an important proportion of imported ware to serve more specific and representative functions.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{fig52.png}
\caption{Bowl (type K6) in reduced ware produced locally in the vicus of Tienen.}
\end{figure}

\footnotesize
\begin{itemize}
\item \footnote{Hill 2002, 149.} Hill 2002, 149.
\item \footnote{Cool 2006, 165-166.} Cool 2006, 165-166.
\item \footnote{Cool 2006, 62.} Cool 2006, 62.
\end{itemize}
Interestingly the cemetery assemblage is composed slightly differently than the daily waste assemblage. This is a proof of a conscious selection of items to include in the grave. As such, there was a clear preference for table ware. A relatively higher number of beakers and dishes in oxidized and colour-coated ware as well as a higher number of terra nigra beakers were consumed in funerary practices. This observation confirms the importance of colour and texture of pottery for the visuality of certain deposits, in this case in graves.

Furthermore, this could mean that certain types and colours of pots had different social meanings. Although many utensils were used in the context of serving and drinking wine, there are no fragments of wine amphorae present within the grave contexts of this phase. Some fragments of the Baetican oil amphorae Dressel 20 are present. On the other hand cooking pots, bowls and dolia were not consumed and deposited as much in cemetery context as in settlement contexts. Mortaria are absent in funerary contexts in this phase. Remarkable is the presence of incense burners in this earliest phase of the cemetery. They seem to indicate an early appropriation of Roman customs in the funerary ritual of this area. The question remains how these new ideas could influence practices of the local population so quickly? Possibly new incomers, like the ones that started up the pottery production in the vicus, played a catalysing role in the spread of new cultural ideas and customs. The spread of new ideas, however, was certainly also facilitated by the road system and the high economic potential of the loess region where new techniques, products and, indeed, new ideas were moving swiftly.

Compared with the consumed ceramic assemblage from the settlement and the cemetery in phase 1, the assemblage from the ritual contexts is typified by a higher proportion of kitchen/cooking ware, a relative lower percentage of table ware and the appearance of a small proportion of cultic ware. The higher proportion of cooking ware clearly points in the direction of food preparation in the context of ritual feasting. The cooking pots show a relative high proportion of reduced ware compared to the refuse contexts in the settlement and the cemetery. An important proportion of the pots are hand-formed ware imported for their contents of delicacies from the Ardennes-Eifel area. This rather exclusive food was probably consumed during banquets that clearly an important part of the rituals performed during this phase. The ceramics used for drinking show a high number of locally produced colour-coated ware compared to the contemporary refuse contexts in the settlement and the contexts of the cemetery. Next to the locally produced beakers also cups in samian ware (Drag. 24/25) and thin-walled coarse tempered ware from the Rhine region were used. This pattern shows the importance of high-quality drinking ware for ceremonial purposes. The ritual contexts also contain a high number of jugs, without doubt used to serve drinks. Other items that only appear in ritual contexts of this phase are the locally produced two-handed jugs. The question remains if in this early phase already local wine was produced or if these jugs had a different content, like beer. The amphorae consumed for ritual practices in this phase are the wine amphorae Gauloise 4 and the locally produced imitations. Locally produced mortaria (M2) appear in ritual contexts together with mortaria from the Rhône area. These items do not appear in the refuse contexts from the

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settlement, nor in the cemetery and can possibly be associated with a more exclusive use in food preparation that did not find its application in every daily life yet and had no tradition as an item in funerary context. In this phase jars are also only present in ritual contexts. Jars are believed to have been used to heat liquids, probably mostly water. This could imply the inclusion of warm water in rituals, possibly for purification practices.

It is remarkable that many new forms of local pottery were first introduced in special contexts and not in daily life. This is true for the two-handled jugs, the mortaria and the jars. This could be due to the fact that the new use of the object was unknown before and the directions for use were introduced via ritual prescriptions, in case of the mortaria and jars or for the exclusiveness of the content in case of the two-handled jug. In the latter case this could be the consumption of products that were recently introduced and produced in the area and were still scarce. The high number of salt containers within the ditched ceremonial enclosure is an important new proof for salt commerce from the coastal zone of the Menapii and the Morini in the Augustan period.

Although the number of animal remains present in the settlement waste from the first phase is very low, we will briefly discuss their composition. These remains show a strong dominance of cattle, followed by sheep/goat and a smaller proportion of pig. These proportions are very similar to the ones from the first occupation phase in Roman Tongeren.471 In Tongeren there was an increase in cattle bone and a decrease in pig bone compared with the previous 'military' occupation phase. This increase in cattle bone in Tongeren was explained by changes in the system of animal husbandry in the countryside around Tongeren. A variety of factors may have been involved. Ecological preconditions may have had some influence. As a result of increasing and more intensive reclamation of land for agriculture, zones developed which were suitable for cattle breeding at the cost of the biotypes more favourable for pig keeping. At the same time, the intensification of agriculture may have influenced the demand for cattle as suppliers for manure and draught power.472 The Roman army’s demand for hides for leather possibly also encouraged cattle breeding. The same interpretation should be valid for the Tienen assemblage. The emergence of farms for cattle breeding in this phase, like the ones recently excavated in Kesselt and Veldwezelt (see also 2.1.1), confirms the importance of cattle for the economy of this area.

Unfortunately the few (30) fragments from this phase in the cemetery were unidentifiable so no further remarks can be made on the consumption and deposition practices of animals in this context. In ritual contexts the most frequently used animal is cattle. Pig is also present in a higher percentage than in the settlement. Surprisingly enough very low numbers of sheep/goat appear in ritual contexts. Three new species appear in this context: horse, chicken and dog. These species are clearly related to ritual practices, as they do not appear in settlement contexts in this phase. The first sporadic evidence for domestic fowl in our region is found in Late Iron Age contexts.473 It is not surprising that it appears in this early phase of the vicus first within a ritual context. Domestic fowl is generally regarded as food with a special status, suitable for high-status meals, religious purposes and as grave goods.474 The inclusion of dog and horse exclusively in ritual contexts in this first phase of the settlement could point in the direction of a continuation of the special status of these animals in rituals of the Iron Age period. However, for our region there is no evidence to prove this. From cattle only teeth are present in the ritual contexts of this phase. These can probably be interpreted as the remains of skulls that were deposited as a part of ritual practices. As Maaike Groot suggests, these can be fresh skulls of butchered or sacrificed animals or skulls that may have been curated or displayed before being deposited.475 This was probably the case for skulls deposited in the lowest parts of the ditches from the ceremonial enclosure. From horse also only the teeth were present. Here the same interpretation as for the cattle skulls can be suggested.

The bronze objects consumed in this phase were mainly fibulae, hairpins and bracelets. They were in use in settlement contexts, but also consumed for deposition in the cemetery and in ritual depositions. Unfortunately this evidence does not enable us to develop certainties and ideas as to what the people were wearing in this period. A research of dress and cultural identity from gravestones in different areas in the Rhine-Moselle region, however, can provide useful insights. In her study, Ursula Rothe compares the composition, origins, and meanings of specific garments and ensembles worn in different areas and in different phases. Interestingly a gravestone of the 1st century shows parents with native dress and children with more Roman style of garments. Even the children wearing Roman dress have retained token elements from the pre-Roman dress: torques and disc pendants. The author claims that what we are seeing on the grave stone is the transition of this family from a pre-Roman identity to one focussed on the new order. It is interesting that, through these stones, the older generation expresses a positive attitude toward the new culture, while they themselves have retained their indigenous dress.476 Unfortunately the objects related to the clothing of the inhabitants of the vicus do not

473 pers. comm. Anton Ervynck.
475 Groot 2009.
476 Rothe 2009, 79.
allow this kind of interpretation. The presence of “Roman-style” fibulae, bracelets and shoe nails do indicate that an important change in the dress and footwear must have taken place in this period.

The glass objects in this phase are typical for the cultural context they were specifically used in. In the cemetery La Tène-type bracelets and an *unguentarium* (Isings 81a1) were present. The latter represents is the earliest registered use of glass vessels in funerary context within the *civitas Tungorum*. In the settlement, waste contexts contained only a bottle Isings 50 and a bowl Isings 3. In the ritual contexts some bracelets (H 7a) and bowls (Isings 3 and 3b) were present. The bottles were probably imported for their content, while the bowls indicate the serving of foodstuff on special occasions. The bracelets are only used in ritual or funerary contexts.

Considering the overall evidence for this phase we can develop the following summary and highlight key trends. From the analysis of the material culture it should be emphasised that the essential ingredients of the Gallo-Roman culture were present in the Roman *vicus* from the start. From the foundation of the *vicus* onwards inhabitants were open to an “urban” lifestyle be it in their own way with their traditional farmhouses and surrounding livestock. This may be due to the fact that the Tungric were included in the Augustan administrative reorganisation, which encouraged agricultural intensification, particularly when an enormous market grew up in a short time in the militarised Rhine zone. Without doubt the new skills needed to produce new types of material culture, for example to produce high quality pottery, could initially have been supplied by incomers from other regions. Flourishing economy and cultural development of commodities seemed to go hand in hand in this Early Roman period. An interesting comparison can be made with developments in the housing in Tongeren in this period. The oldest non-military constructions were Alphen-Ekeren-type farmhouses. From this we may conclude that the first permanent inhabitants came from the native society. The settlement at the Kielenastraat and Hondstraat give the impression that they were wealthy and “Romanised”. This can be seen at the Kielenastraat primarily from the pottery and to a lesser extent from the meat consumption. Already after one generation the inhabitants invested in the construction of urban residences, which, though still built in wood, were “Roman” in style. This Roman style is visible in the complex plan of the courtyard houses, the building technique (wooden foundation beams) and the decoration (painted plasterwork). The inhabitants probably belonged to the higher ranks of the Tungric society. In the periphery, traditional farmhouses continued to be built until the fire of 69/70. The evidence presented from the *vicus* of Tienen and the capital Tongeren show that the transition from lifestyle in the Late Iron Age into the Roman period was rapid and remarkable, bringing about dramatic shifts in the nature and location of the settlements, in the production and consumption of goods as well as in funerary practice and ritual activities. The fusion of old traditions and new ideas lead to a new regional culture. As Roymans and Derks have suggested recently “hybridity” offers an attractive interpretive framework for this process. According to Eriksen, “Hybridity directs attention towards individuals or cultural forms that are reflexively – self-consciously – mixed, that is, syntheses of cultural forms or fragments of diverse origins”. Individuals and groups felt a need to emphasise their local character and identity within the new context of the Roman empire. They frequently used old and new cultural expressions to arrive at new creations. Underpinning all this was the need to embed new imported cultural forms in local realities and meanings.

5.2 THE CREATION OF A NEW CULTURE (70-140 AD)

The previous phase was a period of reorganisation in which the first foundations of the Gallo-Roman culture were laid. The reorganisation of the countryside was probably largely completed at the start of the Flavian period. The road network was in place and enhanced the mobility of people, goods and ideas. The *civitas* capital was flourishing and fulfilled its function as a centre of culture, commerce and administration. Proofs are the big, luxurious courtyard houses that were built in stone from the Flavian period onwards, next to more moderate town dwellings. Also the regional centres or *vici* were in full development. The *vicus* of Tienen was connected with the *vici* of Asse, Elewijt and Velzeke to the west by the main road (Cologne-Boulogne). A network of secondary roads was in place in this period and connected Tienen to other towns like Grobbendonk to the north, Taviers to the south and Baudecet to the southwest. Like Tienen itself, these *vici* fulfilled central economical, cultural and/or religious centre functions in their regions. The transport network connecting these smaller civil centres with each other, with towns and with villas and farms is indicative of the ease of the exchange of goods and ideas that lay at the basis of the creative process of producing regional cultures. These have many aspects of material culture as well as practices in common, but also some distinctive elements that constitute their regional identities. Conceptually the creation of regional identities can be typified as organic and

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477 Hanut 2006, 15.
479 Roymans/Derks 2011, 35.
480 Eriksen 2007, 170.
481 Collart 1996.
eclectic processes. The distribution patterns of pottery from the different pottery producing vici and towns illustrate very well the cross-fertilization of ideas and fashions through material culture. Although the assemblages produced in different vici or towns have many elements in common, they show important differences as well. This is a very good example of how regionality is expressed in material culture. One element these vici have in common, indeed, is the importance of craft production and commerce for their economy. In the case of the vicus of Tienen different strands of evidence has been collected for various types of craft production in the Flavian period. Without doubt (at least on current evidence) the most important economical asset for the development of the town was the pottery production. The two workshops that were installed in the south-western periphery of the town are illustrative. Each of these workshops consisted of a paired kiln construction, so two ovens could be fired at the same time. A furnace, probably for the production of glass, was constructed in the same zone. The western periphery of the town was clearly dedicated to metal production and the processing of animal carcasses. The rubbish pits of some of the town houses contained the waste from metal production and the production of secondary animal products like marrow, marrow oil, bone fat and bone glue. In the same area a large stone building was excavated with various types of small furnaces for the production of iron and metal objects.

The habitation areas of the vici by this time were divided into long and narrow parcels of land on which in the previous phase wooden houses were constructed. While in the early 1st century the new stone building techniques represented a true innovation, by the later 1st century, specialised labour forces could be contracted in every small town and stone building was no longer exclusive for the urban and rural elite. In the Flavian period, indeed, the wooden houses were gradually replaced by the typical strip houses with stone foundations, which were clearly delineated at the vicus of Braives. This evolution could also be observed in the vicus of Tienen during excavations in the Zijdelingestraat. Here, the excavation revealed four houses dated in the Flavian period. The most eastern house appeared to have been divided in three parts. The smallest room was directed to the street-side. The next room had an entrance to a wooden cellar, as well as a hearth and the remains of a small oven. In the last room more small ovens were situated.

For our region there is little evidence for a more detailed chronological evolution of the development of the internal organisation of the vici. Not only in the capital and in the vici were the houses gradually adapted, but also in the countryside of the civitas where the wooden indigenous farms were gradually replaced by Roman-style villas in stone or new villas were founded. The typical plan of the stone buildings and their decoration (painted plasterwork) were shaped by the Flavian period. Other new features of this period are the bathhouses that were constructed near the main buildings on the villas or in the vici, as was the case with the vicus of Tienen. As will be shown later, the bathing culture, personal hygiene and the growing importance of peoples’ appearance is also noticeable in the glass and bronze assemblage of the vicus as the variation of objects and substances available was extended. The bathhouses show a willingness to integrate and explore new elements of the Roman culture. Complementary to the villas also more traditional farmsteads exploited the landscape. These farmsteads are organised in small groups around drinking pools for animals. While the villas were mainly occupied with crop production, these farmsteads probably mainly focussed on live-stock farming and some small-scale craft activities. The concept of the tumulus also took shape during the Flavian period. These burial monuments are typical for the civitas Tungrorum and will determine the landscape for two centuries. The fact that many of these tumuli were erected on or near older burial monuments indicates the past was clearly being actively evoked and people wanted to be associated with their ancestors that inhabited the land long before. In her recent research of the tumuli in the civitas Tungrorum, Laura Crowley argues that tumuli were not a simple continuation of a Late Iron Age burial tradition; she views tumulus graves as the atavistic response of a rural elite seeking to construct their own identity within the wider Roman world.

If we consider all these developments in the Flavian era, it can be typified as a period of creation of a new culture suitable to sustain and construct new lifestyles and regional identities for the different communities living in the central loess area of the civitas. New prototypes of town houses, villas, strip houses, farms and tumuli radically changed the rural and urban landscape of the region. A network of engineered roads with bridges at key river crossings linked the countryside with towns and secondary centres. The landscape was now used more intensively than ever.

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482 Vanderhoeven et al. 2001, 16-17.
483 Martens et al. 2006.
484 Brulet 2008, 98-100.
485 pers. comm. Alain Vanderhoeven.
486 Vanderhoeven et al. 2001, 16-17.
487 Habermehl 2011.
488 Helsen 2009; see also 2.1.1.
489 Crowley 2011.
The villas, the strip houses and the urban courtyard dwellings were evidently not solely typical for the civitas Tungrorum, but developed in a large region seemingly simultaneously. It is surprising, however, to note that regional variation was great in villa landscapes, despite the presence of powerful homogenising trends. Everywhere, the formation of villa landscapes went hand in hand with the cultivation of local cultural identities. Thus we see significant distribution patterns for certain villa categories. Roymans and Habermehl point out the popularity of axial villas in Northwestern France, Switzerland and the Trier area, while villas with a loose arrangement of buildings within a single enclosed courtyard (Streuhofanlagen) predominate in other parts. The tumuli, however, are typical for and distinctive to the civitas Tungrorum. It is against this background that we need to situate the developments observed in the vicus of Tienen. Not only the above mentioned built constructions shaped the culture and identity of the society; people also shaped their aspirations by the food they prepared and consumed and vessels they used for doing this. Likewise the composition of their clothing reflected their personality, status and class. The material culture and identity of the inhabitants of the vicus was not only determined by the choice and the use of common things and every-day situations but also by the goods used and the practices carried out at special occasions such as funerals and ritual events. De Clercq has recently described the same construction of regional identities in the northern part of the civitas Menapiorum throughout the Roman period.

As has been mentioned before, not much is known about the centre of the vicus of Tienen. In the Zijdelingestraat, a part of its western periphery has been explored. In the Flavian period a public bathhouse and a long narrow structure on posts, identified as a horreum, were built on both sides of a pebbled road. The precise status of this storehouse remains unclear. Was it a public horreum belonging to the Roman authorities or to the civitas, earmarked for grain purchased on the local market and/or acquired through taxation? Was it a private warehouse rented by the state or civitas? Or did they belong to a large entrepreneur? Whatever its status, the horreum attest to the flow of corn surplus from villas to urban centres. Still in the Flavian period the bathhouse was demolished to make way for the typical strip houses. The excavators identified the bathhouse as an expression of the willingness of the inhabitants of the vicus to experience new cultural elements. The building could be a donation of a wealthy and prominent member of the society, possibly a villa owner who also ran craft businesses in the vicus. The water for this bathhouse was provided by an underground wooden waterpipe that was excavated on the Grijpenveld site. It was constructed next to the road that passed the cemetery to capture water from a source at the other side of the valley of the Menebeek. In this phase a second road was laid out from the centre of the vicus to the south western periphery. The road leads to a series of wells and makes a curve of 90° to the south east beyond the wells. The increase in construction and artisan activities in this period had also consequences for this peripheral zone of the vicus. In this phase a large amount of pits were dug all over the zone. The most probable explanation for these pits is that they were created for the extraction of loess. This loess could be used for various purposes in the vicus, like for the construction and renovation of houses and floors. The vicus probably expanded in this period and a larger amount of loess would be needed for building activities. Next to workshops for craft productions, the area was also used for religious purposes. Ritual contexts were mainly situated next to the new road leading to the water wells. A concentration of structured deposits is also present in the small zone more towards the centre of the town.

In this period the nucleus of graves extended in northern, eastern and western directions within the cemetery boundaries. In total 281 graves could be dated in this phase. Almost three quarters were graves with collections of pyre remains. One quarter were graves containing a recipient container with the cremated bones. This is an increase in the number of graves with cremation urns compared with the previous phase. A concentration of graves of the cemetery was situated near the road, further away from the vicus. In total 6 inhumation burials and 4 bustum graves could be dated in this period. It is remarkable that these “special” graves are often situated in the periphery of the cemetery. A new small cemetery was laid out in an isolated position at the eastern end of the excavated zone, near the valley of the Menebeek. This cemetery possibly belonged to a villa situated in the proximity of the vicus, or to a special group of people from the vicus that were buried together for some reason.

The ceramic assemblage of this period shows a variety of patterns that typify this period very well. In the consumption pattern of the ceramic assemblage of the settlement we notice a meaningful increase in the kitchen ware compared to the assemblage of the previous phase. This is probably the combined result of the availability of a larger range of imported and locally produced foodstuff and new ways to prepare and serve food. It is also important, however, to keep in mind the fact that kitchen ware was more intensively used and had

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491 Roymans/Derks 2011.
492 Roymans/Habermehl 2011.
493 see also Crowley 2009.
494 De Clercq 2009, 507-509.
495 Roymans/Derks 2011; Dubouloz 2009.
496 Vanderhoeven 1995.
more chance to break than table ware, but this is equally valid for all the phases. The proportion of table ware slightly decreases, but a much larger choice of products is available on the market. The innovative trend is especially spectacular in the assortment of locally produced beakers, fine ware bowls, mortaria and jugs. The local potters clearly multiplied their assortment of products to fulfil the needs of the customers according to new fashions and habits in eating and drinking. The increase of mortaria in this period seems to be a clear indication for the change in cooking practices. In the classical Roman kitchen envisaged by the recipes of Apicius, mortars were needed to grind a variety of ingredients to produce either a puree or sauce that could be poured, or a solid mass which was then shaped by hand. The question is if the growth of consumption of mortaria in this and even more in the next phase can be explained by the introduction of Roman recipes? A variety of uses is suggested when size, fabric and wear characteristics are considered. The jugs were probably used as recipients to serve drinks at the table and can be seen in relation with the smaller drinking cups and beakers that become more and more popular during this period, as will be elaborated on below. These smaller cups and beakers are both of sizes suitable for each person to have an individual serving.

A typical feature of this phase is that the local potters imitated popular import products to fulfil the high demand for these vessels and to increase their profits. Without doubt for the same reasons, the potters also created original products, typical for the region. More towards the end of the phase the smoking technique was introduced to the pottery. This light to dark brown smoked finishing became highly fashionable for certain forms of Tienen ware. These original and typical forms became popular export products. Typical and original products of the Tienen production centres in this phase were the ‘Tongeren’ beaker BE10 (fig. 5.6), the ‘Haspengouw’ jug KR 9 (fig. 5.9) and the mortarium M6. These products show the confidence of the potters to create new original types and the willingness of the consumers to purchase these types typical for their small town, as a statement of an own identity.

Fig. 5.4. On the right a plate imported from the Rhineland and on the left an imitation in colour-coated ware produced locally in the vicus of Tienen.

In the category of table ware the very popular colour-coated beakers and plates from the Rhine area were imitated (fig. 5.4). These forms were made in dark reduced or colour-coated ware and resemble the original types very well. Another popular imported product that was imitated was the mass produced mortarium from the Bavay area (fig. 5.5). Pompeian red plates were also perfectly imitated by the potters of the vicus. The other Pompeian red plates of the assemblage are imported from Rues-des-Vignes, a pottery production centre located in the north of Gaul (close to Cambrai). 497

The innovative trend is even more spectacular in the assortment of locally produced and imported fine ware bowls available on the market in this phase. Not less than 8 new types of bowls were introduced by the local potters on the market. These bowls were executed in reduced, oxidized and fumed ware. The bowls may indicate that the common dining regime was communal, with everyone helping themselves from a single dish.\footnote{Cool 2006, 54.} On the other hand the increase in the assortment of fine ware bowls can also reflect a higher number of different dishes that were prepared and consumed. A combination of both explanations would be the most logical.

The creation of new types of mortaria, the introduction of the cooking pot with gully rim and an increase in the types of lids reflect the changing habits in the preparation of food. Remarkable is that the pot with

Fig. 5.5. Mortarium imported from Bavay (above) and imitation produced in the vicus of Tienen (below).

Fig. 5.6. 'Tongeren' beaker (type BE 10) produced in the vicus of Tienen.
gully rim was exclusively produced in oxidized and smoked ware (fig. 5.10), while the majority of the older types (S-shaped) cooking pots are made in reduced ware (fig. 5.2 and 5.3). Apparently the new type also required the finishing of the new fashionable firing technique. In the assemblage of the two-handled jugs, a new type (KRA 6, fig. 5.7) was introduced to the market. This type was to become the most popular form of two-handled jug until the end of the Roman period. It was probably used both for the storage of food and as a container for trading locally produced products or re-packing of imported products. The resemblance of this jug with the Gauloise 4 wine amphora may suggest that it was used to contain local wine. The presence of some pips of grapes in a water pit could confirm this assumption although these pips could be from imported grapes. The fact that it was demonstrated conclusively that vineyards were present in Roman Britain and the fact that the region was known for its wine production in the Middle Ages are arguments in favour of this theory. It goes without saying, however, that these are no conclusive proofs of wine production in the region of the vicus of Tienen.

Fig. 5.7. Two-handled jug (type KR 6) produced in the vicus of Tienen.

Next to the locally produced pottery self-evidently an important amount of items were imported. A large proportion of the imported vessels are in samian ware. By far the most popular product in samian ware was the Drag. 27 drinking cup, followed at a distance by the Drag. 37 bowl, Drag. 33 cup and the plate Drag. 18/31; this pattern is similar to that seen with the terra sigillata collections from smaller civil centres in Britain at this time. A small proportion of the imported pots were produced in Tongeren. Other pots originated from the Rhine and Meuse area. The exact function of the imported pots in hand-formed ware and of the bowls in Low Lands ware is not known. They were probably primarily used as containers for food or other goods. The important amounts of mussel shells make one wonder if these were one of the possible products transported from the coastal zone in the large bowls in Low Lands ware. The consumption of amphorae increases and a wider choice of products was clearly available. From the amphora that were already distributed in phase 1, the Gauloise 4 wine amphora and the Baetican Dressel 20 oil amphora are still available while the Haltern 70, containing defrutum, disappears from the market. In this phase the local amphorae A2 is introduced. The content of this amphora remains unknown, but it must have been used for locally produced consumable goods. The amphora Dressel 7/11 was introduced to the market for the provision of fish sauce. To fulfil the demand for wine or a better quality of wine, amphorae from the region of Marseille and the Rhône valley were brought on the market. The main provider for wine, however, remained the south Gaulish region. The wider availability of wine corresponds well with the elaborate choice in drinking ware. The wider availability of olive oil and garum that became clear from the fragments of their containers fits well with the changes noticeable in the assemblage of the cooking ware. This is quite an impressive range; whilst the large scale of the excavations gives an increased chance of recovering a wide range of types, this is counter-balanced by the fact that the area is situated in

499 Meadows 1996.
500 Willis 2005.
outskirts of the town. Would the core of the small town of Roman Tienen perhaps yield an even more impressive range?

The assemblage from the cemetery differs from the settlement assemblage in a few significant aspects. For the beakers there is a preference for terra nigra ware in the cemetery. For the cooking vessels oxidized ware is preferred over reduced ware. This tendency was already noticeable in the previous phase of the cemetery where the same preference could be determined. A further difference is the wider variety of imported tableware in the cemetery. The preference for certain colours in the cemetery could be due the importance attached to an aesthetically appealing or fitting colourful mise-en-scène of the gifts or due to less obvious values.

In the ritual contexts the category kitchen ware still gains popularity compared to the ritual contexts of the previous phase, a general trend that also can be noticed in the settlement and cemetery contexts of this phase. In the category tableware the assortment of imported ware is more important and a wider assortment is present. It is also remarkable that in the ritual contexts of the settlement there is a significant preference of oxidized ware over terra nigra. In the cemetery this was clearly the other way around. Beakers in reduced ware were not present than in the settlement. It is possible that the other parts of the animals were eaten.

In the animal remains assemblage we see an important rise in the proportion of sheep/goat in combination with a decrease of pig. Cattle remain the dominant consumed species. Horse is introduced in the settlement remains assemblage with a low proportion. Also dog is present in small numbers. The bones that allowed age estimation of cattle show that more adult and less subadult animals were present in the assemblage. The older animals suggest that cattle were mainly kept for manure and labour. This fits well with the image of an intensification of agriculture in this period. The development of richly decorated villas in stone as well as the parts that a surplus of wool was produced specifically for a market. From this we may conclude that textile industry played a significant role in the craft production of the vicus, next to the production of ceramic and glass already attested in this phase. The importance of textile industry for the Roman Empire is known from references in classical texts. Jongman also emphasized the importance of textile in antiquity. After food, clothing and housing were the main items on which money was spent. The importance of dress for the inhabitants of the vicus is also elaborated on below in relation with the strong increase in fibulae. Horses were killed at adult age. This indicates they were used for riding and light traction. The fact that only adult animals were present can suggest that there was no horse breeding in or near the vicus. The animals were probably purchased at adult age and died from old age.

The animal bone assemblage from the cemetery is very small. The most significant feature of the assemblage is the high proportion of horse and pig. This assemblage is very different from the assemblage in the settlement by the number of species present, the proportions of the species present and the parts of the skeleton of the animals that are represented. The most striking feature is the importance of horse in funerary ritual.

In the ritual contexts the proportions of cattle, pig and sheep/goat show a similar consumption pattern as the remains from the settlement. In the ritual contexts, however, much more fragments of the skull and the limbs are present than in the settlement. It is possible that the other parts of the animals were eaten while these parts were sacrificed to the gods. The age categories do not differ relevantly from the animals in the settlement. We

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902 Groot 2008, 73-75.
904 Drinkwater 1977/78, 109, 112.
905 Jongman 1988, 155.
906 Groot 2008, 81.
notice an increase in the proportion of horse and dog in the ritual contexts. As was the case in phase 1, chicken is also in this phase only present in ritual contexts. Some more rare species are present in small numbers, exclusively in the ritual deposits: hare and domestic goose. In the chicken assemblage all age categories including one juvenile animal are present. The dogs are mainly adult animals.

The massive production of the glass workshops from the Rhineland in this period provoked a democratisation of the product.\textsuperscript{507} This is clearly noticeable in the glass assemblage in the \textit{vicus}, which is dominated by the bowl Isings 3 and the bottle Isings 50. This is very typical for glass assemblages from the Flavian period in this region, when both types on average represent three-quarters of the assemblage.\textsuperscript{508} In the cemetery containers of cosmetics, the \textit{aryballos} Isings 61, the \textit{unguentaria} 82 and 83b1, are typically present. Also large assortments of beads were gifts in the graves of this period. The presence of a glass production workshop in the \textit{vicus} in this period indicates that a proportion of the products were produced locally.

The increase in the number of bronze objects compared to the previous phase also shows a larger availability and a democratisation of this category of goods. By far the largest amounts of bronze objects are present in the cemetery. \textit{Fibulae} are the most preferred bronze item in graves, followed by coins, rings and bracelets. In the settlement waste contexts and the ritual contexts also \textit{fibulae} and coins are the best represented items. The strong increase especially in the number of \textit{fibulae} in settlement contexts, but also in the cemetery and in ritual depositions is without doubt related with changes in the dress of the inhabitants of the \textit{vicus} in this phase. Unfortunately this evidence does not allow any more specifications as to what the people were wearing in this period. Some general ideas of what the outfits could have looked like can be deduced from interesting recent research of the chronological development of dress from gravestones in different areas of the Rhine-Moselle region. The research shows the emergence and subsequent popularity of the “Gallic ensemble”, and in particular of the female “Gallic ensemble” in this phase. This outfit was thoroughly Gallic in origin and character, yet newly invented under, and apparently as a result of Roman rule. According to the author the “Gallic ensemble” was a pan-regional dress that symbolized both native identity and a desire to be part of a new cultural framework.\textsuperscript{509} Given the importance of this research and the potential parallels that can be drawn for our area we will give a brief summary of how the author describes the male and female “Gallic ensemble”. The male “Gallic ensemble” consists of the Gallic tunic, Gallic cape and, sometimes, the scarf. It was a regional ensemble that represented a continuation of pre-Roman dress of those men in Gaul (and Germany) who did not wear the trouser ensemble of warriors. The development of the female ensemble is more complicated. Archaeological evidence shows that the most common dress in our area before the Roman period was one that required \textit{fibulae}. The “Gallic ensemble” seems to have evolved during the Roman period to constitute an ankle-length version of the male Gallic tunic and the ubiquitous rectangular cloak without the brooches or garments that needed them. This can be found throughout northern Gaul, the Massif Central and northern Britannia. It appears that the “Gallic ensemble” for both men and women gained a wide use in the Roman period; before that women had worn a more elaborate outfit with additional garments. It would appear, especially in the case of women, that the “Gallic ensemble” gained such wide appeal as a result of cultural processes set in motion by the incorporation into the Roman empire. It is, however, not Roman dress inasmuch as it did not originate in the geographical core of the empire and shows clear continuity with pre-Roman native dress in the region.\textsuperscript{510} The development of the Gallic female ensemble, therefore, did not result in the adoption of imported Roman dress, but the development of a new native outfit that expressed a new Gallo-Roman identity. It appears that dress is the result of a similar hybrid creation as were suggested previously for the development of house architecture, burial monuments and smaller material culture forms, like the locally produced and regionally distributed ceramic assemblage of the \textit{vicus} of Tienen. This process shows that developing a regional identity was quite important for communities of the Germanic provinces and without doubt all over the empire.

In the cemetery extremely high numbers of nails were deposited in this phase. Mostly we are dealing with small nails that probably belonged to shoes, but also some big and very big nails are present. The presence of shoes in cemetery contexts can probably be explained by the fact that the deceased was fully dressed on the funerary pyre. The highly personalized value of shoes or the complex rituals related to the journey of the dead to the after world should be considered.\textsuperscript{511} The importance of footwear can also be associated with the general development of the outfits sketched in the previous paragraph. The bigger nails could have belonged to reused construction wood utilized as fuel for the funerary pyre, for fixing the wood of the pyre itself, from the bed on which the dead was laid down, or from boxes with goods that were placed in the graves or on the pyre. Further analysis of the occurrence of different sizes of nails in different cultural contexts of other Roman sites would be useful for a better understanding of this pattern.

\textsuperscript{507} Hanut 2006, 16.
\textsuperscript{508} Idem.
\textsuperscript{509} Rothe 2009, 79.
\textsuperscript{510} Rothe 2009, 54.
\textsuperscript{511} Van-Driel-Murray 1999, 131-132.
5.3 A FLOURISHING CULTURE AND SOCIETY (AD 140-200)

The mid-2nd century i.e. the reign of Antoninus Pius (AD 138-161), witnessed the Pax Romana at its most secure. The prosperity of the empire was at its height. In an eloquent testimony to this Imperial Golden Age, Aelius Aristides wrote about the vast extent of the Empire, the extent of trade and commerce, the atmosphere of peace and happiness, and he praised the unification of the civilized world. The general idea of prosperity and cultural development of this golden age is also visible in the archaeological record of the civitas Tungrorum. In the civitas capital Tongeren, elaborate and representative city walls were erected in this phase.512 In the same period a series of large townhouses is built and rebuilt in the centre of the town. The wealth of these houses is not only noticeable from their size but also from the impressive wall paintings that only recently have been studied.513 The few examples of the villas in the region of Tienen that have a detailed chronology show that these establishments reached their maximum size in the second half of the 2nd century. The most famous example is the villa of Haccourt.514

In the western periphery of the vicus of Tienen, in this phase the strip houses next to the road to Elewijt were built with stone bases. In the pits associated with these houses waste of pyroclastic activities related with bronze and iron production was found.515

In the southwestern edge of the settlement, at the Grijpenveld site, a large tumulus monument was constructed on the highest point of the plateau next to the road leading to the wells. This tumulus dominated the area and had a high level of visibility from different places in the vicus and in the hinterland of the settlement. The elaborate structure of the monument, the sacrifices on top of the cover of the grave chamber and the remains of a lavish feast in the shaft above the burial chamber show that the funeral was an important event that must have had an impact on the vicus community. The burial possibly belonged to a local villa-owner or an important member of the vicus community. The richness and the lavishness of the funeral is maybe no surprise in this period of prosperity.

In this phase more pits and ditches were laid out all over the southwestern periphery. The pits were in most of the cases probably dug for the extraction of loess for the construction or renovation of the walls and floors of the houses of the vicus. Some of the ditches are laid out so perfectly straight over long distances, like the ditch carrying the water pipe in the previous phase, that the possibility exists that these ditches too contained wooden water pipes for provision of water in the vicus. The pits with ritual depositions were situated mainly next to the road leading from the centre of the vicus to the tumulus. Although a large number of people were buried in this phase, the surface of the cemetery did not extend. More graves were fitted in, between the already existing ones, without overlapping. This indicates that the graves must have been marked, possibly with a heap of earth, a wooden sign or a pile of stones. Remains of stone grave monuments were not found. The majority of the graves contained pyre remains (80%). In only 16% of the cases the cremated bones were collected in a recipient and placed in the grave together with grave gifts. Five inhumation burials were inserted in the peripheral zones of the cemetery. In one of these burials the coffin was placed on the bottom of a round pit that was filled up with the remains of a meal. On top of the refilled burial pit the traces of a hearth were visible. The bustum graves of this phase were all situated in the western cemetery. The large proportion of graves with pyre remains is somehow surprising for this period, as the traditional point of view was that this grave type decreased in this period. Another remarkable feature of the cemetery in this phase is the presence of horse remains in the graves and in pits between the graves. The importance of horses in funerary ritual originates from the previous phase to gain greater prominence in this phase. We elaborate on this phenomenon in chapter 6.

The consumption patterns of material culture and the practices deduced from these patterns confirm the general image of a flourishing culture and economy in this phase. The amount of imported ceramics and luxury items in glass and bronze does not only show the large availability of these items but also a high level of prosperity and purchase power of the vicus community. In the locally produced ceramic assemblage a further specialization in forms to meet new needs and fashions in preparing, serving and consuming food and drink is noticeable. The introduction of novelties is combined with a more extensive use of “new” items from the previous period with a specific function like sieves, mortaria and jars. Cultic ware, mostly incense burners, is now also part of the settlement waste and probably reflects the rituals performed by individual families in their houses. A further shift is also noticeable in the most preferred items of local and imported ware in the process of adopting and creating new habits and following new fashions. The success of the Tienen pottery as export items, that reached a peak in this period, clearly leads to a certain self confidence of the potters for the creation and consolidation of typical Tienen types next to more traditional forms and imitations of popular forms from elsewhere. Economical welfare is noticeable in the proportions and choices of imported ware for use in daily life.

512 pers. comm. Alain Vanderhoeven.
513 Arts et al. 2008, 5-8; Laken in press.
515 Vanderhoeven et al. 2001.
The ceramic assemblage from this phase clearly shows socio-cultural development and elaborate contacts with surrounding areas and with areas further away. The availability of a broad variety of items for preparing, serving and eating food and drinks is clearly an indication that the inhabitants of the *vicus* had what has been termed a differentiated cuisine.\textsuperscript{516} It has been suggested that this develops when a society is stratified culturally as well as socially. The food and the ceramics consumed in this phase indeed show that the community of the *vicus* had, at this stage, access to the largest variety of foodstuff of the entire Roman period, not just the locally available but also produce from a wider region and longer distances. This implies that the *vicus* had a discernable and sizeable community of adventurous eaters, and a well-developed agricultural and trade system. It is clear, however, that not everyone who lived in the small town will have eaten exotic food and elaborate dishes on a daily basis; but the material evidence shows that those at the higher end of society might, from time to time at least. Funerary deposits and deposits resulting from special occasions, like ritual activities, also show a more exclusive consumption pattern that probably involved all layers of society.\textsuperscript{517}

A closer look at the different forms consumed in this phase will sustain previous remarks. Concerning the assortment of beakers in the third phase, the local type BE 3 is still the most popular one, next to the newcomer BE 9, the so-called ‘Tongeren’ beaker (BE 10) and the local imitation of the Niederbieber 33 (BE 11) (fig. 5.8). A unique local variation in the decoration of this type was developed (BE 11 b). This type is decorated with horizontal bulbs or corrugations and became very popular inside and outside the small town. The imported beaker Niederbieber 33 from Lezoux and the Argonne gained popularity in this phase. Imports of this type from the Trier area are only present in the cemetery and in ritual contexts that belong to the end of this period. The colour-coated beakers from the Rhine area still gain popularity. Concerning the imported bowls and cups, the samian Drag. 27 is still popular form, followed by the Drag. 33 and Drag. 37. Plates are also imported from the Rhine area and the Meuse area. Pompeian red plates originate from the north of Gaul. The typical locally produced so-called ‘Haspengouw’ jug KR9 becomes the most popular type in this phase (fig. 5.9). This type was also an important export product.

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\textsuperscript{516} Goody 1982, 98-99.

\textsuperscript{517} see also Cool 2006, 34-35.
The cooking pots with gully rim (P6) (fig. 5.10) gain popularity compared to the more traditional forms. There is a clear preference for the cooking pot with gully rim in smoked ware, while the more traditional types P1 and P3 are still mainly produced in reduced ware.

The hand-formed pots from the Ardennes-Eifel area are still quite popular. Import products from that area seem to have reached the *vicus* efficiently. A small proportion of the cooking pots, as in the previous phases, is imported from Tongeren. Also the consumption of the Low Lands ware increased in this phase. It remains unclear what their content could have been. The fact that these large bowls were imported from a relative long distance indicates that their content was a product not easily available from regions more nearby. Could it be *garum* or other marine products from the North Sea coast? The locally produced jars have made their way into the settlement assemblage during this phase. They were mainly used to heat liquids. Also more representative forms of jars, which were imitations of metal prototypes with an ornamented handle, were created in this phase. *Mortaria* are used more commonly in the *cuisine* of this phase. The locally produced *mortarium* M6 (fig. 5.11) is typical and exclusive for the Tienen production and becomes the most popular form. Curiously enough, the *mortaria* imported from Bavay also gain popularity, next to some items imported from the Rhône valley, the
Meuse area and from workshops situated in the area of present-day Dourges. Mortaria in samian ware are also very popular in this phase.

A further increase of the wine amphorae Gauloise 4 and the olive oil amphorae Dressel 20 fits well with the development of more complex cooking, serving, eating and drinking habits in this phase. Interestingly enough the locally produced amphorae A1 and A2 and the two-handled jugs also gain popularity, without doubt in connection with the consumption of their locally produced contents (fig. 5.12). This is another indirect proof of the increasing specialisation and the flourishing regional economies of this period. To fulfil the demand for wine or a better quality of wine, amphorae from the region of Marseille and the Rhone valley were brought on the market in this phase. The wider availability of wine corresponds well with the elaborate choice in drinking ware. The wider availability of olive oil and garum that became clear from the fragments of their containers fits well with the changes noticeable in the assemblage of the cooking ware. Furthermore the remains of fish sauce that was produced in the North Sea area stresses the importance of this product in the every day cuisine.

In the cemetery the same increase of mortaria and amphorae is asserted. Although for the rest the general proportions of the vessels remain the same as in the settlement, within the different categories of vessels some trends can be determined. Within the local beakers, BE 3 is still the most popular. It is remarkable however that in the cemetery the - more traditional - oxidized type is preferred while in daily life the smoked edition is more popular. The samian cups and bowls keep their importance with Drag. 33 at the top. In the settlement Drag. 27 was still popular. Also locally produced cups and bowls are used more now in grave contexts. Jugs still gain importance in cemetery contexts with the popular locally produced KR9 at the top. The jars, used to heat liquids also become important in graves of this phase. It is remarkable, however, that smaller sizes are preferred in cemetery contexts. The preference of smaller sizes of vessels for grave contexts is also asserted for other types of ceramics as Willis’ study of the samian in graves in Britain has shown. It is unclear whether the smaller sizes are selected to fit into the small pits of the graves or if the ‘miniature’ forms have a special ritual connotation; or, indeed this may be a matter of a cost saving in so far as smaller vessels are likely to have been cheaper. In the cooking pot assemblage (as seemingly with the samian) it is interesting to note that the more ‘modern’ types P3 and P6 are preferred for funerary contexts, while in the settlement the older models are still more popular. This could be due to the fact that the composition of the grave gifts was important and needed to be impressive for the people attending the funeral, out of respect for the deceased or for the gods and spirits in the after-world. Hand-formed ware, containing delicacies, is hardly present in the cemetery. Low Land ware on the other hand is also present in the cemetery contexts, while it is virtually absent in the ritual contexts of this phase. As mentioned before, mortaria become important items in funerary contexts from this phase onwards.

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Fig. 5.11. Mortarium (type M6) locally produced in the vicus of Tienen.
The samian *mortarium* Drag. 45 is now also introduced in grave contexts. The consumption of Baetican olive oil and wine from Gaul increases as was the case in the settlement. Curiously however it seems that proportionally more olive oil than wine was consumed in funerary contexts, while the opposite is true in the settlement. The same phenomenon was noticeable in the previous phase.

In the ritual contexts the proportions of the functional categories as well as the general shapes of the ceramics are very similar to the settlement contexts. The proportion of tableware is slightly higher in the ritual contexts mainly due to a higher number of beakers. Logically the cultic ware is also more present in the ritual contexts. In the locally produced range of beakers it is remarkable that the type BE 11 is the second most popular form in the ritual contexts. In the cemetery and the settlement this form only comes on the fourth place. It seems this was a preferred shape for ritual or ceremonial purposes. The relative large size of this beaker means that it could be used as a communal drinking vessel or as a vessel to mix water with wine. This use for big beakers was suggested by some big examples of Niederbieber 33 with variations of texts in barbotine like “mix me”. The beaker of the Hees 4 type imported from the Rhine zone was also preferred for use in the ritual contexts. The black-slipped beakers from Trier start to make their way into the assemblage of the beakers, in ritual contexts only, towards the end of the period. In the category bowls and cups of tableware, the samian ware is by far the most popular. In the assemblage of the jugs a clear preference for the newer types can be determined compared to the settlement. This trend was also noticeable in the cemetery contexts. The two-handled jugs with a bigger volume are more present in ritual contexts than in the cemetery and settlement waste contexts. Without doubt their presence is related with the consumption of their contents.

Fig. 5.12. Two-handled jug (type KRA 8) locally produced in the *vicus* of Tienen.

Jars (fig. 5.13) were consumed more commonly in ritual contexts than in the previous phase. This wider use is a general phenomenon that is also noticeable in the settlement waste contexts. The use of jars to heat water in ritual contexts is a little puzzling. Were they used to warm water for washing hands or for other purification rituals? Possibly they were used to heat water to mix with wine or to prepare libations that were poured out for a deity. The assemblage of the cooking pots still shows a mix of more traditional forms like P1 and newer models like P6. In the cemetery contexts these more traditional forms play a smaller role. In the settlement waste contexts they are also present. Possibly these cooking pots were not on public display during the rituals and therefore their appearance was not so important. This would imply that bowls and plates were used to serve the food that was prepared in the cooking pots. The proportion of hand-formed containers is quite high in ritual contexts compared to settlement contexts. In the cemetery this category is virtually absent. Concerning *amphorae*, the proportion of Baetican *oil amphorae* is higher than the Gauloise 4 *wine amphorae*. This was also the case in the cemetery, contrary to the settlement waste contexts.
The animal bone assemblage reflects an evolution in the animal husbandry system, in the consumption pattern of meat and also in the cultural meaning of animals in society. The changes in the animal husbandry system are reflected in the increase in the proportion of cattle bones and the decrease of sheep/goat. The proportion of pig remains at a status quo. The proportion of horse rises spectacularly and chicken makes its appearance in the settlement waste assemblage in this phase. Dog represents only a very small part of the assemblage.

The assortment of cattle bones shows an increase in fragments of skull and horn cores, compared to the previous phase. This increase can be explained by the fact that a proportion of the cattle bones represent the waste of butchery practices. In several pits indeed concentrations of skulls and horncores were excavated. The age categories of cattle are a mix of mainly adult and adult/subadult animals. There can be many reasons for the higher importance of cattle in this phase. First of all more cattle were needed to sustain the intensification of agriculture for draught and the production of manure. The extension and embellishment of the villas in this phase are in accordance with these developments if we connect such investment with an accumulation of wealth from the agricultural base. Cattle were probably also preferred over sheep/goat for their higher production of milk and meat to provide for the nutrition of a growing number of people in this period, probably due to higher wealth and living standards. This population would also have higher needs of leather for shoes, belts, furniture, saddles and so on. The grazing land in the valleys that was not suitable for arable based agriculture was probably used for cattle breeding. The foundation of the cattle farm complex in Veldwezelt confirms that measures were taken to fulfil the demand for cattle and cattle products in this period.\textsuperscript{521}

The increase of the proportion of horse in this period could be a consequence of a higher average living standard of the people who previously could not afford a horse and to fulfil an increased need for transport of people and light loads of goods.

The decrease in sheep/goat could be due to the fact that grass land was preferably used for the grazing of cattle and to a lesser degree also of horse. It is possible that in this period the wool was imported from regions

\textsuperscript{521} pers. comm. Alain Vanderhoeven.

Fig. 5.13. Jars (type KA 1 and KA 3) locally produced in the vicus of Tienen.
with poorer soils that were less suitable for cattle and horse breeding and therefore specialized in sheep farming. The further specialization of society and economics in this period would sustain this theory. The fact that there was without doubt a larger demand for wool for the different garments of the outfits of the inhabitants of this region in this era of material prosperity is elaborated on below in relation with the increasing number of fibulae. This, indeed, automatically would imply that wool or cloth was imported into the vicus. The area of origin can maybe be found in the non marine areas and the coastal zones of the civitas Menapiorum. Wim De Clercq has shown an intensification of sheep breeding in this region from the Flavian period onwards. Possibly the wool was spun into yarn in these areas and sold as such to regions, like the civitas Tungrorum.

The status quo of pig in this period reflects a need for a varied diet of food, but also means that the circumstances were suitable for the breeding of pigs. It is not clear if the pigs were raised in the forested areas or if they were kept within the settlements.

The presence of chicken in the settlement contexts also reflects the need for variation in the meat on the menu. The remains of pig and sheep/goat are mostly parts of the limbs and skulls, which can also be explained as the result of butchery practices, because the rest of these animals were consumed and the bone remains probably ended up in different waste contexts.

In the cemetery we notice a further change in mortuary practice that may be related to changed afterlife ideas. The evolution may be a sign of the further developed system of ideas and values that were part of the identity of the society within the vicus or a wider region of the civitas. In the cemetery we notice a strong increase of the proportion of horse. Horse amounts to almost 90% of the animal bone assemblage. Remarkably enough mostly only teeth and fragments of the cranium from horses are present. This phenomenon was also attested in the cemetery of the rural settlement of Tiel-Passewaaij in the civitas Batavorum. These were also the skeletal element of the horse that were most represented in the settlement waste contexts. The importance of horses within the contexts of cemeteries in the Dutch river area is studied by Lauwerier and Hessing. Dog, chicken and deer make their appearance for the first time in the cemetery contexts in this phase. The proportion of subadult cattle is higher in the cemetery than in the settlement waste contexts. More pigs were also killed at younger age in mortuary rituals than in daily life.

This further transformation of concepts and values is also noticeable in the contexts of the ritual deposits. Considering the ritual contexts it is remarkable that a large amount of animal bones was part of these special deposits. In the ritual contexts of this phase dog plays a very important role. Also other animal species which are rare in settlement contexts like chicken, duck, goose, small passerine, raven and jackdaw appear in ritual contexts. Fox also makes its appearance in the ritual contexts in this phase. From the main meat-deliverers we notice similar proportions of cattle, sheep/goat, and pig like in the settlement waste contexts. The presence of horse is negligible compared to the cemetery and settlement waste contexts. If we take a look at the skeletal elements of the different animals it is very remarkable that in the ritual contexts a much larger variation of the skeletal elements from cattle, pig and sheep/goat is present. This can be due to the fact that animals were killed as a sacrifice and/or for the feast and more skeletal animals ended up in the ritual contexts or were deposited on purpose as a sacrifice for the gods. In other contexts the process between the killing of the animal and the final deposition of its remains after butchering, processing and consumption is much longer and the chance that different parts end up in different contexts is therefore much higher. If we consider the age categories it is remarkable that the animals, especially the big mammals, from ritual contexts generally are killed at a younger age than in the settlement and cemetery contexts. In the cattle assemblage the categories subadult and juvenile/subadult are well represented. A few bones belonged to a foetus. Pigs were mostly killed as subadults and sometimes as juveniles. In sheep/goat many animals were subadults, juvenile and the category in between. The horses were mainly adults and juveniles/subadults. Chicken are also killed at younger age for ritual purposes in this phase than in the previous phase. The same is valid for dogs.

The ceramic assemblage and the animal bone assemblage of the ritual contexts of this phase clearly shows a well-developed system of ritual practices in which specific preferences for certain pottery types (form, fabric, decoration, colour, diameter) and animals (species, ages and parts of the animal) make them distinctive of waste assemblages. The importance of the consumption of meals in relation with more specific ritual practices is also clear from the composition of the ceramic and animal bone assemblage.

In the bronze assemblage of the settlement contexts of phase 3 we notice a higher amount and a wider diversity of functional categories of bronze objects. This wider choice was also determined for the ceramics and meat in this phase. This is without doubt a combined result of a more general availability of products and an increased daily use of these objects. The presence of bronze and iron workshops in the eastern periphery of the town shows that an important proportion of the assemblage was produced locally and more than probably also for export to the region. While fibulae and coins remain the most important items in cemetery and ritual contexts.

also other objects are more regularly deposited intentionally now. These objects could have different and more symbolic meanings in these ‘special contexts’ than they had in daily life. The diversification of objects in ritual contexts can be a consequence of a growing complexity of the rituals themselves. Apart from the large amounts of *fibulae* in the different cultural contexts of the *vicus*, we have no further indications for the development of the regional dress in this phase. Research from the Rhine-Moselle area, however, shows that there is a further increase in the popularity of the “Gallic ensemble” to the disadvantage of the Roman or mixed ensemble noticeable on the gravestones of this phase. In the Treveran area this is interpreted as a result of a high level of self-confidence as a consequence of their prosperity and entrepreneurship. In their dress as in their economy, the Treveri eventually accepted and used the advantages of inclusion in a larger cultural-political complex without abandoning their cultural identity. As shown also for the previous phases, the material culture assemblage of the *vicus* and its wider region shows a similar development with a coherent mix of typical local and imported elements.

As was the case for the metal objects, a more general use of glass objects can be noticed in this phase. The difference is especially clear in the settlement context where all functions are present, except from the cosmetic containers that are almost exclusively found in the cemetry context. This widespread variety of glass objects the *vicus* dwellers had a use for is an indication of the relative prosperity of the population. A comparison with a contemporary assemblage of Roman Tongeren, however, would be highly interesting and probably show the relative modesty of this assemblage. The same is valid for a comparison with contemporary glass assemblages from the villas in the region. But also here we suffer from a lack of availability of data.

5.4 A REGIONALLY ORIENTED COMMUNITY (AD 200-300)

During the middle years of the 3rd century, the Roman empire went through several changes. Barbarian invasions by the Goths and other German tribes threatened the empire from the outside. Also, this was a time of almost continuous civil war. Emperors were placed on the throne by the army only to be murdered and replaced by another of the army’s favourites. The changes in the Roman world’s institutions, society and economic life were profound. The most crucial changes for our region must have been the weakening of the Germanic limes by the Roman military around the middle of the 3rd century and the subsequent raids from people from the other side of the Rhine. One of the most mentioned consequences is the break down of the vast trade network. The widespread civil unrest made it no longer safe for merchants to travel as they once had, and the financial crisis made exchange of ideas and goods difficult. The consequence of the unsafe roads was that large-scale production centres of goods could no longer successfully export their goods. Large landowners were unable to trade their crops over long distances and gradually began producing food for subsistence and local barter. Rather than import manufactured goods the *civitas* capital, the *vici* and the villas of the *civitas* began to manufacture as many as possible goods locally, thus beginning a largely self-sufficient economy. Similarly, the army units were recruited more locally by this period and hence there was less reason to import Mediterranean style foodstuffs from warmer climates to cater (as before) for expectations of men and officers who may have had Mediterranean backgrounds; the army’s provisioning therefore had also become more regional and local by this time. The decrease in commerce between the provinces put them on a path towards increased insularity. This relative isolation eventually provoked a development of regional self-sufficient economies expressed in material culture as well as in socio-cultural practice. In our regions, not much is known about the events taking place in the second half of the 3rd century. The most obvious change noticeable is the abandonment of the villas towards the end of the 3rd century and the creation of a new city wall around a much reduced part of the Roman town in Tongeren and Maastricht in the early 4th century. The *vicus* of Brives became part of the Late Roman defence system with the construction of a fortification at the end of the 3rd century. Also in the *vicus* of Liberchies a small road fort was built at the end of the 3rd century. The abandonment of this fort also marked the end of the *vicus*. Recent research in the *vicus* of Tourinnes-Saint-Lambert brought to light the remains of a building with stone foundation that was destroyed by a ‘violent’ fire that has been associated with the political turbulences that caused the end of the occupation of the settlement.

In the *vicus* of Tienen these wider processes can be seen to have their impact. The strip houses in the western periphery remained occupied in the 3rd century with a continuation of the production of iron and bronze objects. The assemblage of the local pottery also proves production continued until the end of the century. In the southwestern periphery a *mithraeum* was built in the third quarter of the 3rd century, next to the road coming

525 Brulet 2008, 231.
526 Roymans/Derks 2011, 36.
527 Brulet 2008, 396-397
528 Bosquet/Hanut 2011, 19.
529 pers. comm. Alain Vanderhoeven.
from the centre of the vicus leading to the tumulus. The integration of the Mithras cult in this region in the second half of the 3rd century may indicate changes in society and definitely a need for a different kind of faith that involved concepts of the salvation of the soul. This change in religious aspiration of the community caused the popularity of the Mithras cult in the 3rd century in the Rhine area and also laid the basis of the adoption of Christianity.

Besides the mithraeum, more pits and ditches were integrated in the south western periphery. These were much fewer in number than in the previous phases, probably due to a reduced building activity in the centre of the town which necessarily diminished the need for loess extraction in this peripheral zone. Very remarkable is the large amount of ritual depositions in this area. This can either signify a higher ritual activity in this period or a more pronounced ritual vocation of this zone; hence we can look to the broader context of these site deposits. The increased need for performing rituals and sacrifices to the gods could be related with the higher feeling of insecurity in this period. The ritual deposits consisted of a large variation of compositions of assemblages that were buried in underground features. One of the ritual depositions contained a stone statue of Fortuna and a pot filled with valuable bronze objects placed on the bottom of a pit. The pit was filled up with the remains of meals. In another pit three dogs were laid in a triangular head-tail configuration together with the skull of a horse. A third example consists of the remains of a large number of complete but broken plates and 3 so-called honey pots that were buried under an ordered pile of roof tiles and stone blocks.

The cemetery was still in use during this phase with concentrations of graves towards the settlement and next to the road. In total 55 graves could be dated in this period. In this phase the graves with pyre remains are still dominant. There are seemingly no inhumation graves, but this is without doubt only due to the fact that the inhumation graves of this period did not contain datable grave gifts, while they did so in the previous phases. From the burial types no tangible evidence of changing ideas and values of the local community is determinable. The different grave types were used in more or less the same proportions throughout the Roman period, so also in this phase. A research of the Roman funerary rituals in the Meuse-Demer-Scheldt led to the same conclusions.530 In the grave gifts, however, a clear change is noticeable (see below).

What image do we get from the culture of this community in the last occupation phase of the vicus if we look at the available and consumed goods and products? Is the same inward-orientation of the community noticeable in the pottery assemblage? Before looking at the changes in the pottery assemblage in detail some general trends can be outlined. If we take a look at the proportions of the different forms of consumed local pottery, we notice a meaningful reduction in the use of forms with a special function that flourished in the previous phase on the one hand and a decrease in the general number of types available on the other hand. Another remarkable difference in the local pottery assemblage, compared with the previous phase is the increase in popularity of oxidized and reduced ware to the disadvantage of smoked ware. The impression is of a contraction and of less experimentation in potting; quality does not necessarily go down, but choice available for consumers does do in terms of the range available; yet this is not a ‘retreat’ to simple functional and utilitarian types.

530 Hiddink 2003, 41-42.
Fig. 5.14. Assortment of jugs (type KR 9 and KR 10) produced in the vicus of Tienen.

The above trend seems to indicate a return to the traditional forms of material culture that were reminders of the past. Concerning the import of pottery, a much lower proportion of imported vessels are present in the assemblage, compared to the previous period. An exception in this pattern is asserted in the assemblage of the ritual contexts as will be shown below. Another indication for the regionality of the pottery assemblage is the fact that while in the previous phases mainly only cooking pots were imported from Roman Tongeren, in this phase the assortment imported from the capital is extended by small numbers of jugs, plates and beakers. Also in the villas around Tienen we notice a decrease in the number of imported ware items in this period and an increase in the table ware from Tienen. This Tienen table ware present in these villas shows a remarkable level of quality in the finishing and the decoration that was never attained in the previous phases. This high quality table ware from Tienen possibly filled in the gap created by the lack of imported fine wares. In this phase also the pottery workshops of Roman Tienen produced some new types, more specifically imitations of glass forms. A good example is the jug KR 11 that imitates elegant glass jugs with a thin neck and ornamental handles. The Isings 103 bottle with globular body and long, narrow neck that appears in the glass assemblage after the middle of the 2nd century is also imitated in Tienen ware (F3). The imitation of glass table ware in ceramics is probably indicative of the scarcity of glass table ware in this period.

Within the vicus the spectrum of locally produced beakers, bowls and cups is reduced. The only imports are from the Rhine area, Trier and Tongeren. Other production centres did not reach the market at Tienen or ceased production. Samian ware was available with a

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531 This was determined when we looked at the assemblages of the villas from the Goudberg and the Mellenberg.
limited number of forms. Although the general proportion of plates/dishes of the assemblage in this period increased, the choice in products available on the market decreased. The import of plates in so-called soap ware and Pompeian red ware from the north of Gaul stopped completely. The proportion of jugs in the ceramic assemblage slightly increased while only a few forms were produced, mainly the forms that are typical for the region (fig. 5.14). In the assemblage of the cooking pots several changes are noticeable. First of all reduced ware becomes popular again at the expense of the smoked ware. The cooking pot with gully rim looses popularity to the advantage of the pot with horizontal flat rim P7. This is a type that is typical for the local produced assemblage from Tongeren. The hand-formed pots from the Ardennes-Eifel area and the Low Lands ware decrease. The import from the Dourges area ceases completely. The proportion of mortaria decreases slightly. Additionally to the locally produced mortaria only the Drag. 45 and some imports from Bavay are present. The imports of amphorae decreases as well as the areas the amphorae are imported from. The imported products from Marseille, the Meuse valley, the Rhone valley and Dourges ceases. This is in line with the general trend seen across the region.

The functional categories of ceramics in the cemetery in phase 4 follow the same trend as in the settlement. After a decline in the category of table ware in the previous 3 phases, this category table increases at the expense of kitchen ware. Remarkable is the fact that the most popular forms of locally produced beakers in the cemetery is the BE 11 (fig. 5.15), while in the settlement the most popular form in this phase is the BE 3. Bowls for cooking are popular again in this phase.

The ceramic assemblage in the ritual contexts of phase 4 deviates in some important aspects from the assemblage in the settlement waste contexts and the cemetery. The proportion of kitchen ware and the category of cultic ware are relatively well represented. The increased use of lids, jars and incense burners is exclusive for the ritual contexts of this phase. The presence of lids and the bowls can be explained in the context of the meals that were part of ritual ceremonies. The jars were used for heating liquids and an appropriate explanation for their presence must be sought. From the imported ware the high number of beakers imported from the Trier area is remarkable. The assemblage of the bowls and cups used as table ware is more varied than was the case in the cemetery and the settlement waste contexts. This is true for the locally produced ware as well as for samian ware. As in the previous phase, the larger two-handled jugs are included in ritual depositions. In the assemblage of mortaria the most preferred form is the type M7. Within the settlement waste this was the type M4, while in the cemetery the type M5 was preferred. Within the ritual context also the high number of imported mortaria from the Bavay and the Meuse valley in this period is remarkable. Another important observation is the popularity of the Drag. 45 mortarium in this phase in this cultural context. The amphorae in the ritual contexts of this phase have next to the Dressel 20 oil amphorae and the Gauloise 4 wine amphorae also a local amphora and a Gauloise 12 from Normandie. Two remarkable features characterize this assemblage. The first one is the dominant presence of the Dressel 20. The other is the fact that the wine amphorae were imported from the
Marseille area, the Rhone valley, the Meuse valley and the south of Gaul. In the settlement and the cemetery contexts of this phase this wide choice in amphorae is no longer available. These items apparently were reserved for special occasions. In his recent research of pottery assemblages from communities of the northern part of the civitas Menapiorum, Wim Declercq notices the same trend of regionality in the pottery with a increase of hand formed ware.\textsuperscript{533}

The composition of the animal bones assemblage from the settlement, the cemetery and the ritual contexts show a change in the animal husbandry system, in the dietary habits and in the cultural meaning of animals in this phase. Although the number of animal remains is limited in the settlement waste contexts, the same trends are recognizable in the ritual contexts with a more representative number of remains. If we consider the main suppliers of meat we notice that the proportion of cattle almost halves, while the proportion of sheep/goat almost quadruples in this phase. Pig slightly diminishes. Horse and dog are completely absent in the settlement waste contexts. Remarkable is the rise of the proportion formed by chicken, which became an important part of the diet. Chicken could easily be kept by individual households that could in this way provide their own meat, at least partly. The skeletal elements of the cattle, the sheep/goat and the pig mostly belong to the skull and the limbs of the animals. The cattle bones that can be aged mostly belong to the category adult, while in the previous period a more mixed assemblage of ages was determined. This could imply that the animals were kept mainly for labour and traction and much less for meat and milk. The pig bones belong to the category juvenile/subadult. The sheep/goat were adults, subadults and juveniles/subadults. The presence of young animals could point in the direction of local breeding of sheep/goat and also of the fact that they were kept for milk (and cheese making), next to wool. The fact that the proportion of sheep increases spectacularly in this phase could be a consequence of the fact that cattle breeding had somehow lost importance due to environmental circumstances, due to a collapse of the cattle breeding system or due to a lower demand from the army in the Rhine-area. This trend implies some significant degree of change in land use and agriculture in the hinterland of Tienen, perhaps linked to less cereal growing and/or less availability of winter fodder for cattle. At the same time sheep breeding could have gained importance in this period because the long distance trade of wool had decreased due to the insecurity of road transport or because local farmers decided sheep breeding was more profitable in this phase for milk, meat and wool. Whatever the reason for the increase of sheep in this phase, the phenomenon fits very well in the general picture of an inward orientated community that is preferably self-supporting.

The animal assemblage of the cemetery shows a completely different composition compared to the settlement. With the high proportion of horse bone (80\%) the animal bone assemblage is consistent with the previous phase in the cemetery. Most parts of the skeleton of horse are present. The skeletal elements are from adult horses. If we consider the proportions of the main meat suppliers, we notice a high proportion of cattle compared to the settlement waste contexts and to the previous phase of the cemetery. From cattle mostly the parts of the limbs and skull are present. The cattle are adult and subadult animals at the time they were killed. As was shown, subadult cattle was absent in the settlement context. This could mean that younger animals were exclusively slaughtered for funerary purposes. The proportion of sheep/goat diminished compared to the previous phase and also compared with the settlement. Pig decreased compared to the previous phase of the cemetery, but is almost double of the proportion in the settlement. With the high proportion of horse bone (80\%) the animal bone assemblage is consistent with the previous phase in the cemetery. Most parts of the skeleton of horse are present. The skeletal elements are from adult horses. If we consider the proportions of the main meat suppliers, we notice a high proportion of cattle compared to the settlement waste contexts and to the previous phase of the cemetery. From cattle mostly the parts of the limbs and skull are present. The cattle are adult and subadult animals at the time they were killed. As was shown, subadult cattle was absent in the settlement context. This could mean that younger animals were exclusively slaughtered for funerary purposes. The proportion of sheep/goat diminished compared to the previous phase and also compared with the settlement. Pig decreased compared to the previous phase of the cemetery, but is almost double of the proportion of the settlement contexts. The pigs were juvenile/subadult. No other animal species are present in the cemetery.

A general remark that can be made about the ritual contexts is that they contain a high number of animal remains compared to settlement waste contexts and to the cemetery. It is not unusual that meat was especially reserved for special events.\textsuperscript{534} In the ritual contexts of this phase dog seems to play a smaller role in ritual than in the previous phase. Its proportion is divided by four. Dog has not been deposited in settlement waste contexts of this phase. For dogs the category juvenile/subadult was the most important. The rest of the bones consist of adult and subadult animals. A few bones are from juvenile animals and from foetuses. The general decrease of dog that was so important in ritual practices of the previous phase could indicate an important change in the belief system that was in transforming since the Flavian period. Domestic fowl is represented by chicken, duck and goose. In the category of wild birds small passerine and jackdaw are present. The high proportion of chicken is also determined in the settlement contexts. The skeletal elements from fowl indicate that complete skeletons were interred. Chicken are killed mostly as adult animals or subadults, however, the category juvenile/subadult is also quite important. A few bones of juvenile animals could be determined. The domestic goose and duck are adult animals. This was also the case for the jackdaw. The proportion of horse remains the same as in the previous phase. In the contemporary settlement waste, horse is not present. The horse bones are from adult and from juvenile/subadult animals. The ritual contexts contain a higher proportion of cattle than in the contemporary settlement contexts and a lower proportion when compared to the ritual contexts of the previous phase. The cattle are mainly adult animals and to a lesser degree subadults and juvenile/subadults. Only

\textsuperscript{533} Declercq 2009, 452.
\textsuperscript{534} Garcia/Pons 2011, 230.
a few bones could be determined as from juvenile animals. The category sheep/goat doubled compared to the previous phase in the ritual contexts, but is lower than the contemporary settlement waste contexts. The sheep/goat are mostly juvenile/subadult, with some adult animals as well as subadults. The deposition of pig increased slightly compared to the previous phase but is more than double the proportion of the contemporary settlement waste contexts. The pig bones are from juvenile animals, subadults and adults. As a conclusion we can state that dog, pig and sheep/goat had a high proportion of juvenile animals, compared to the settlement waste contexts.

The amount of copper alloy objects remains quite high in this phase. Mainly coins, fibulae and hairpins end up in the settlement waste contexts. The categories *instrumentum domesticum* and jewellery decrease, while the category of surgical and toilet items is absent. In contrast, all the functional categories of copper alloy objects are still represented in this phase of the cemetery. The category surgical/toilet instruments is the least well represented. Coins, clothing, jewellery and *instrumentum domesticum* are equally important. The most popular grave goods are fibulae and coins. In the ritual contexts in this period, the best represented categories are *instrumentum domesticum* and coins. The most popular objects are coins, plates, fibulae, bracelets and hairpins (fig. 4.148).

The glass objects present in the settlement waste in this phase mainly belong to the category table ware. A small amount of beads are also present. In the cemetery assemblage glass objects from the category cosmetics disappeared in this phase for the first time in the occupation period of the *vicus*. In the category storage/transport only the bottles Isings 50 are present. Only a few fragments of glass table ware ended up in grave contexts. In contrast all the functional categories of glass objects are represented in the ritual context. The most popular categories are storage transport ware and table ware. The most popular objects are the bottle Isings 50, the cup Isings 3, the cup Isings 42 and the cup Isings 85b. These glass vessels were probably used for communal consumption of drink on special occasions. The use of the scarce glass vessels was a means to symbolically differentiate the extraordinary of a ceremonial event against the ordinary practice of daily life, where no glass vessels were used for consumption.

The iron nails in the settlement of this phase belong to all size categories. The same is true for the cemetery where the best represented category is the small nails. This was the case in all phases. Most of these nails probably belonged to shoes or other leather items. The larger the size of nails, the less they appear in the cemetery. In the iron nail assemblage of the ritual contexts the best represented size category are the big nails. The small nails are absent. This analysis of nail sizes in different cultural contexts has only scratched the surface of the story this find category has to tell. Comparison with fully quantified and tightly dated nail assemblages of other sites, using a similar categorization of size and type would certainly enlarge the interpretative potential of patterns determined in Roman Tienen.
6. GENERAL CONCLUSIONS

6.1 OVERALL TRENDS SUMMARIZED AND COMPARED

This study has examined the transformation of cultural behaviour throughout the Roman period in the Roman vicus of Tienen. Central is comparative research of consumption and deposition patterns of material culture in three different cultural contexts: the context of everyday life, the funerary context and the context of ritual practices (not involving the dead). As was hoped in the setup of this research methodology, these contexts show distinct patterns of difference and similarity and clearly demonstrate that these three cultural domains were defined by their own socio-cultural rules and practices. As such this study provides an important source of information on agency and practice within different cultural contexts.

In this section the overall trends in the processes of transformation of cultural practice throughout the Roman period are summarized for each cultural domain separately. Inherent to these cultural changes is the interdependency of the transformation of material culture and the evolution of practices, habits and fashions. This is a useful concept inspired by sociology.\textsuperscript{535} As shown in the previous chapter, the interdependence between the transformation of material culture and cultural practice in the vicus of Tienen is also expressed in the frequent use of old and new cultural expressions to arrive at ‘original’ creations. As will be shown below for the different cultural domains the patterns in the production and the use of different forms of material culture markedly show that there was a need to embed new imported cultural forms in local realities and meanings to create a regional culture. This process was clearly visible in the production of the local pottery of the vicus and its use in different contexts. This brings us to the concept of regionality. Regional variation was apparent not only in the burial practices, the architectures of the villas and urban domus but also in dress and culinary practice and without doubt also in ritual practice. The detailed research of material culture of the vicus of Tienen set within a wider framework of villa landscape of the fertile loess region around the civitas capital Tongeren has given us a first insight of how local and regional cultures were actively created by the inhabitants of the small town. Chapters 5 has shown that the comparison of patterns in funerary and ritual contexts of the settlement with daily life contexts provide an illuminating focus on foodways or choices of which food to consume, how to acquire it, how to prepare, serve, eat and drink it and even how many are at the table. In funerary and ritual contexts this consumption is less straightforward, because next to the meals for the living, also more symbolical sacrifices and meals for the dead and/or for the gods are provided for. Distinctive patterns of use of some objects or categories of objects in specific contexts sheds light on the new layers of meaning objects receive through their use in different cultural scenarios. Below, overall trends for each cultural context are summarized and compared with other sites where relevant. Due to the variable state of research of these domains different approaches are taken and a selection of aspects is highlighted and placed within a more general context where relevant.

Settlement context and daily life activities

By examining the broader implication of the detailed analysis of the settlement waste assemblage this section is concerned with highlighting the unique insights in the transformations of consumption patterns of the population of the vicus and placing this information in the bigger framework of nucleated settlements in the northwestern provinces. This analysis of the daily life settlement assemblage is backed up by the knowledge of the differential consumer behaviour established for the cemetery and ritual deposits.

The vicus of Tienen was substantial, perhaps covering up to c. 60 ha. According to the present state of vici research in the civitas Tungrorum this is the largest agglomeration, after the capital of Tongeren. A series of factors will have stimulated the growth of this regional centre, the most important of which being its location on the Cologne-Boulogne road and its central position within the fertile loess area of the civitas, accessible via a network of secondary roads. The villas and farms on the countryside and other nucleated settlements in the region of the Tienen vicus probably required centralised facilities for which the capital of Tongeren was too far away. These centralised facilities without doubt included craft production and a central market function next to religious and possibly also local administrative functions. One of the factors that explain the size of the vicus was the success of the pottery production. This success was a product of the location of suitable clay sources at the periphery of the small town, the absence of competitive pottery workshops of regional importance in the area and the central position within a large consuming market. An interesting question that comes to mind is whether the size and importance of the vicus affected the daily life of the inhabitants of the vicus compared with the daily life of the inhabitants of other vici? Apart from the common importance of craft production, too many factors are yet too poorly understood to characterize these regional centres with their different sizes and varying functions.

\textsuperscript{535} Giddens 1984.
and forms. Closely related to the economic role of the *vici* was, indeed, their importance as focus for the socio-cultural networks for a region. These socio-cultural networks were regionally variable and fluctuated in time. There was certainly an overall level of similarity between the various *vici*, but the way in which socio-cultural structures were reproduced was in each case different. This can be demonstrated by the analysis of the material culture assemblage in Tienen that reveals how the socio-cultural practices of the *vici* community developed throughout the Roman period and how this had an impact on the pottery it produced and disseminated in the area. The importance of the pottery production becomes clearer every time variable amounts of Tienen ware are discovered and reported on sites that are located dozens of kilometres in northern, eastern and southern direction.

The socio-cultural role of the *vici* as a disseminator of ideas through material culture therefore cannot be underestimated. The well-studied locally produced pottery assemblage combines the reproduction of popular forms (e.g. Pompeian red plates, jugs, *mortaria*, incense burners) from different regions with the creation of original forms (beakers, jugs, *mortaria*) that became equally popular. By supplying these high-quality goods to a large population in the region they determined to an important degree the culture of the hinterland of the *vici* through the creation of a specific material culture and *vice-versa*. The consumers of these products from the *vici* are the inhabitants of the countryside, the villas and the farms who are in turn also producers of products that can be consumed by the inhabitants of the *vici*. This dialectical relation between producers and consumers can be identified as a key factor in the creation of local culture. The complex networks of these different local cultures, formed by the *vici*, the *civitas* capital and their hinterland with villas and farms, constitute regional cultures. The same mechanisms, argued here to be valid for ceramics, are also working for objects in bronze, glass, iron, bone, leather and textile, which were produced in the *vici* for local consumption as well as for export. The large industrial quarter for metalworking at the eastern periphery of the *vici* of Tienen clearly suggests large-scale production that was destined for a local, but also a regional market. Similarly, the *vici* of Asse, Grobbendonk, Liberchies, Namur, Vervoz and Tourinnes-Saint-Lambert played important roles in the production of material culture such as pottery, metal and leather objects for local and supra-local markets and functioned as markets for regional and supra-regional trade. If we are to understand more of how the *vici* worked, therefore, we also have to study the material culture assemblages of the settlements in the countryside in more detail. Some of the vessels of the Tienen workshops that were purchased by the inhabitants of the villas in the region (as with the villa of Goudberg in Hoegaarden) show a level of quality in execution and decoration that was not observed in the products that were consumed in the *vici* itself. This proves again that the material culture of the *vici* itself reflects a society of medium class inhabitants that were probably mainly families involved in craft and/or in trade. If we consider the population of the dense villa landscape around the civitas capital of Tongeren, the *vici* dwellers, indeed, probably belong to a broad middle class situated between the magnates and a large throng of landless poor. Possibly they can be situated at the same broad social level of the owners of the large numbers of small villas and farms.

Generally, the material culture of the cemetery, the settlement and the ritual depositions, indeed, provide little evidence for socio-economic variety within the local community and are rather indicative of some basic degree of personal wealth for the average inhabitant of the *vici* with reasonable access to goods from a wide range of trading connections. An exception to this represents the tumulus burial, but this complex could have been also a joint effort of a larger group of people for a person with a special status for this community or it could be the burial monument of member of a family of villa owners. The material culture from the Grijpenveld is, indeed, likely to represent a cross-section of the *vici* inhabitants, excluding the wealthy and privileged ones. This proves the material culture of the elite is not necessary to study transformation or cultural change in the Roman period. This research also suggests the contrary to what many authors like Revell in her research on public architecture state that it is easy to write a narrative of the powerful as they are usually the most visible archaeologically. Since the bulk of the Roman material culture we excavate in *vici* does seem to represent the medium and lower classes it should be easier to write the narrative of the less powerful and the ordinary basic level population.

It is interesting to examine whether the apparent economic success of the *vici* as a centre for exchange of goods and ideas is visible in the ceramic assemblage with a relative large proportion of imported luxury table ware and food containers from far distances. When we compare these assemblages of pottery supplied to the *vici* from other regions with the well studied assemblages from the *vici* of Liberchies or Namur (in the pre-Flavian period) we notice that pottery supply seems to have operated within a general regional framework without significant quantitative differences. The successful businesses of the *vici* therefore seem not to have resulted in a rich layer of inhabitants that left their traces in the archaeological record. This could be an argument in favour of the craft activities being owned and controlled by people who did not live in the *vici*. The impact

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536 Borgers 2009.
539 Hanut/ Siebrand 2010, 641-642.
of the economic strength of the *vicus* on the presence of the monumentality of public buildings of the ‘small town’ is unclear, since its centre remains unexcavated. As suggested in this section we assume that the settlement was not entirely self-sufficient in agricultural produce and that at least a part of the inhabitants were employed full time in craft and trade business. This assumption cannot be proved from the material evidence itself, but can perhaps be deduced from the large buildings with stone foundations in a quarter for metal working that could have produced all the year round and were apparently in use for several generations. The consumption of the inhabitants of this centre might have stimulated agricultural production elsewhere in the area or even further away. This element further strengthens the idea of interdependency of the agents in the regional centres and the agents of the small and large-scale agricultural exploitations and confirms the importance of these relations in the creation of regional cultures. The patterns in the material culture of the *vicus* clearly demonstrate this close relation especially when the assemblages of the artefacts in ceramic, bronze, glass and iron are compared with the animal bone assemblage. From the late Augustan period until the end of the 2nd century we see a continuous growth in the range of products and instruments available for the inhabitants of the *vicus*, to be used in food preparation, personal hygiene, luxury and leisure, and religious activities. To sustain this consumption of the *vicus* dwellers, indeed, close commercial connections with the hinterland were necessary.

When we look at the animal products that were (presumably) purchased mostly from the region we also notice a parallel development of an increasing specialization of produce from the countryside with a peak in the second half of the 2nd century. This shows the highest proportion of cattle available, but also a good representation of pig, horse and domestic fowl. These species require a well organized system of husbandry and land use. The proportion of sheep in this period is quite low, probably because the breeding of other species was commercially more interesting. Moreover, wool was presumably obtained from regions that were less suitable for the breeding of the more profitable animal species mentioned above. In the 3rd century the collapse of the longer distance trade network seems only to have increased the need for local production of pottery and metal objects, while the exploitation of the countryside clearly changed. The quality of the Tienen pottery did not diminish in this phase, but the number of forms that were produced was cut back. The patterns in the animal assemblage of the *vicus* suggest an important change in the agrarian exploitation of the countryside. The intake of cattle dropped down to a third of the proportion in the previous phase, pig more than halved, while sheep almost tripled. Horse is only present in funerary contexts. The need for a higher degree of self-sufficiency of the inhabitants of the *vicus* is suggested by the high amount of chicken (5%) in their daily meat diet. We can assume that these chickens were raised mainly by the households on their premises. These patterns may indicate that the economy of the *vicus* suffered less than the economic system of the countryside. The reason for this could be that the *vicus* economy was based on a large variety of crafts that could easily be adapted to the demands of the customers. This could signify that these economies were not completely interdependent and that the countryside seems to have been more susceptible to the general crisis. This could be explained by the decrease of troops on the Rhine at this moment, the lower degree of security on the transport network, a decrease in population and/or the high risk of loss of livestock that made a smaller scale production for a smaller region more feasible. The increase in sheep breeding could be explained by the need for wool that could no longer be imported from further away regions, possibly the territory of the *Menapii* or the *Morini*. If this was the case a crisis in the areas where sheep were bred before may be noticeable in the archaeological record. The ability to change the system of livestock breeding on the countryside can be interpreted as a sign of flexibility and of the viability of this reform by the population of the countryside. Comparison with bone assemblages of other nucleated settlements within the *civitas* is not possible at this moment due to the lack of chronological overviews.

**Funerary context**

The borders of the southwestern cemetery (4 ha) were defined and laid out at the moment of the foundation of the *vicus* in the late Augustan period. The idea of burying the dead of the newly founded settlement in a predefined place implies a strong sense of community that was inherent to the concept of the Roman *vicus*. The long-term use of cemeteries was reintroduced in the Late Iron Age and can be seen in relation with the more permanent status of the settlements on fertile soils and the need for creating new identities as a consequence of the migrations of tribes or parts of tribes after the Gallic Wars. The layout of a large cemetery on the slope towards the valley of the Menebeek at the southwestern edge of the plateau that defines the border of the settlement clearly marked the landscape and the layout of the *vicus*. A series of early inhumations buried in the ditch that delimited the area of the cemetery can be seen as testimonies of inauguration rituals that probably took place for the foundation of the cemetery. The cemetery was in use for almost three centuries until the end of the 3rd century.

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541 Roymans 1998.
Funerary contexts of the southwestern cemetery of the vicus of Tienen are reflecting a highly sensitive status passage, the end of the life process and the beginning of a new status. This can be concluded by the patterns emerging from the material culture in the burials that deviate importantly from every-day waste and ritual depositions from the settlement area. The distinctive consumption and deposition patterns of material culture from the funerary context, moreover, transform steadily during the three centuries of use mainly due to evolving funerary practices. Throughout the Roman period there are only small fluctuations in the choice between inhumation and cremation as a factor of how the body is prepared for this passage to the after world. In the first phase there is a higher proportion of inhumation burials, possibly related to special funerary ceremonies for the foundation of the cemetery. In the third phase we determine the highest proportion of burials containing a mix of the remains of the pyre, without a specific collection of cremated bones in an urn or another container (so-called Brandgrubengrab). This is an important observation and shows that this type of burial is not confined to the Early Roman period nor is it related to status or richness, since this is the phase with the highest cultural and economical prosperity and since we are dealing with a population that probably mainly belonged to the middle class. This preference for the burial of a mix of pyre remains without selecting the cremated bones of the deceased was also shown in the Griepenfeld tumulus. The predominance of this burial type throughout the Roman period is an important, but until recently unknown phenomenon for the civitas Tungrorum and has only been documented in the cemetery of Overpelt-Kruiskiezel\textsuperscript{542} and the eastern cemetery of the vicus of Grobbendonk.\textsuperscript{543} The same phenomenon is probable for the cemeteries of the capital of Tongeren, but could not be shown in quantified data yet.\textsuperscript{544}

The composition of the burial assemblage underwent gradual but consistent changes throughout the Roman period. The assemblage of animal bone from the cemetery shows a very distinctive pattern of consumption, compared to the daily life and ritual contexts of the vicus. The overwhelming presence of horse in the unburnt bone assemblage from the Flavian period onwards is the most striking phenomenon. Since consistently mostly parts of heads and legs of horses are present it must be concluded that these are the remains from a specific stage of the funerary ritual. The presence of at least two complete horse skeletons and the inclusion of a horse in the burial chamber of the Griepenfeld-tumulus underline the importance of this animal at least in local burial practice. Does this demonstrate the prominent role of horse in the funerary ritual of the Tungri or do we have to consider other explanations? Articulated and unarticulated horse bones have, indeed, also been reported in some special burials in the cemeteries of the civitas capital of Tongeren.\textsuperscript{545} A strikingly similar high percentage of non-articulated horse bones (also mostly head and legs), however, was found at the cemetery of Tiel-Passiewaaij, a rural community in the civitas Batavorum (Dutch River Area). At this site the horse bones are interpreted as follows: they were used in post-burial rituals, when body parts, especially skulls, were probably displayed on the grave. The importance of the horse is understood as typical for the Batavian funerary practice.\textsuperscript{546} In Tienen the horse bones are integrated in the burial assemblage and therefore the horse seems to have played a role in the funerary ceremony itself. Other examples of cemeteries where horse bones are reported are numerous: the 1st-century BC cemetery of La Madelaine in Luxemburg\textsuperscript{547}, the 2nd and 3rd –century cemetery of Mediolanum Aulercorum (Evreux, France) and the cemetery of Brougham in northern England. In the last case the presence of horses was interpreted as indication of the Pannonian origin of the deceased.\textsuperscript{548} In Evreux (Eure) the inclusion of (parts of) horses in a number of burials raised the question whether these were belonging to a corporation linked with horses or a group venerating a specific divinity.\textsuperscript{549} The existence of similar patterning, for example with regard to the inclusion of horse in funerary ritual is remarkable, given the great range of variables operative or potentially operative within the milieux of human burial. On the other hand, actions around death and burial were a domain deeply influenced by social laws, cultural rules, repeated ‘norms’ and traditions within the communities of north-west Europe at this time, so some similar patterns could be understood in this way.\textsuperscript{550} Horses in burials are often associated with elite, hunting, the military or the fact that horses are close companions of people. In the case of Tienen, none of these all-encompassing explanations seems valid nor satisfactory. We would like to propose there was a more specific link between the symbolic role of the horse in the passage of the deceased to the after world through funerary rituals.

A further example of the way in which the animal bone assemblage of the cemetery differs completely from the consumption patterns of the settlement is the very low presence of sheep/goat in the cemetery.

\textsuperscript{542} Hiddink 2003,24.
\textsuperscript{543} Verbeek 2010, 37.
\textsuperscript{544} pers. comm. Alain Vanderhoeven.
\textsuperscript{545} pers. comm. Anton Eryvynck and Alain Vanderhoeven.
\textsuperscript{546} Groot 2008, 185.
\textsuperscript{547} Metzler et al. 1999, 369-370.
\textsuperscript{548} Cool 2004, 463-466.
\textsuperscript{549} Monteil/Tranoy 2008, 144.
\textsuperscript{550} Pearce 2001.
assemblage in the fourth phase, while it was quite important in daily diet in the settlement. In general also the age at death of the animals present in the cemetery assemblage is lower than those of the settlement. Funerary rites including animal sacrifice and the consumption of meat for meals show that a very specific, symbolically charged, selection of animals was made for this purpose. The introduction of deer and dog is an element funerary ritual has in common with ritual contexts of the settlement from the second half of the 2nd century onwards.

The ceramic assemblage from the cemetery at first sight seems to reflect consumption patterns of the settlement quite closely. An important shift in the functional categories of the ceramic assemblage of the funerary assemblage (but also in the settlement) is the decrease in drinking ware to the advantage of kitchenware (pots and bowls), a trend that stabilizes in the 4th phase. In the funerary context this is probably related to a lower importance of drinking in favour of dining rituals or symbolic dining. The proportions of dishes and jugs remain almost identical from the 2nd to the 4th phase. The most important shift in the ceramic assemblage of the burials can be determined in the Flavian phase when the amount of beakers almost halves, while the dishes increase with 25 %, the cooking pots double and new categories such as the saucepan, mortaria and jars are introduced to the burials. In the southwestern cemetery of the vicus of Tienen, as opposed to many other cemeteries, there are virtually no instances of using defective, worn of cheaper items rather than usable items. Quite to the contrary, for in the cemetery there is a distinctive trend for novelties which is plainly noticeable. Moreover there was a clear preference for new or hardly used vessels. For the cooking pots this is confirmed by the results of the analysis of the organic residues. The sampled cooking pots from the cemetery show a uniform spectrum of fatty acids, referring to a single use, while the pots from the waste and ritual contexts show a more complex spectrum of different fats as a result of multiple uses. Compared with contemporary waste and ritual assemblages a higher proportion of new forms of table and cooking ware is present in the cemetery. There is a clear distinction from the settlement ceramic assemblages in the nature of the ‘quality and the look’ of the cemetery assemblage. There was also clearly a taste for colourful combinations of sets of ceramics such as vessels in terra nigra, combined with a cream coloured jug or beaker and a terra sigillata cup or plate. This visual aspect was important for the vessels used in the funerary meals (that were broken later on), as well as in the complete pots integrated in the grave. It is likely that the relatives of the deceased wanted to make a good impression on the people attending the funeral and/or to show respect to the deceased and/or to the gods of the underworld. In his research on funerary expenditure in Roman Britain, Biddulph concludes that much importance was attached to new and colourfull ware, acquired specifically for burial and given by the mourners as gifts and thatsingle vessels sometimes represented group donations. It can also be the case that extraordinary objects are symbolically referring to an extra-ordinary event, like a funeral, to make it different from daily life. Another example of the will to distinguish items used in funerals from those of daily life is that the complete vessels in the graves, with the exception of the urn, are often smaller variations of the forms generally used in daily life. The larger forms that one may suspect were used in collective drinking and eating, or passing round foods and drinks, namely large dishes, bowls and beakers are only present in broken state. It seems that the complete vessels that were included in the burials relate to individual consumption for the deceased alone or are those which are appropriate for a solitary being or ‘soul’ on a solo journey to the after life. Willis came to the same conclusions from his research on the occurrence of samian in burials in Britain. He determined that mostly small samian forms are integrated in burial, and in those few cases where the larger samian forms occur they are often broken or in some way clearly exceptional. The Tienen cemetery indeed contains in complete, decorated samian bowls of which the most popular was the Drag. 37. The smaller size of the “complete” vessels in burials, however, could also be a strategy to fit several vessels in the (small) graves. Another reason for the inclusion of the smaller size pots could be the ‘magical’ aspect of miniature objects as indicated by the occurrence of miniature pots and copper alloy items in religious contexts generally in the Roman era, which were considered more suitable for a use in the after world.

A further difference with the settlement assemblage is clearly situated in differential treatment of the vessels before deposition. This is logical since the funerary assemblage is the result of a series of rituals that ended in the deposition of a selection of the objects and other remains in the grave, while the deposition of waste is the result of completely different processes. Concerning the ceramic assemblage there is a clear trend for the inclusion of more fragmentary and less complete vessels in the burials throughout the Roman period. In the first phase (AD 1 – 70) the proportion of ceramics that was less than 25% complete was 86%, while in the fourth and last phase (AD 200-300) this was 94%. The presence of fragmentary vessels in burials has often been reported by authors; but a systematic registration of the completeness of all the vessels is provided only for the cemetery

552 Kimp/Martens/Jacobs 2002.
553 Biddulph 2006; Biddulph 2012.
555 Fauduet1993, 117-120.
of Aime (Savoie, Rhône-Alpes, France). In this cemetery, as in the case of Tienen, only a small part of the fragmentary vessels include fragments that show signs of fire. This means that only a part of the vessels used in funerary ritual ended up on the pyre or another fire. Interestingly the fragments of mortaria, dolia and amphorae most frequently show signs of fire. This pattern is consistent from phase 2 until phase 4. Since the refitted vessels include sherds that were burnt as well as unburnt ones, it seems that the vessels were broken before they were burnt on the pyre or in another fire. It is difficult to envisage the successive acts that may have led to the deposition of fragmented and partly burnt vessels in the burial. These vessels probably belong to the symbolic ritual meal of the deceased, mixed with the vessels used by the living on the occasion of the funeral meal. Even when this assemblage is studied in detail it remains difficult to reconstruct different stages in funerary ritual. More detailed analysis of the Grijpenveld site by means of a set of criteria that were used as fuel for the pyre. The possibility that nails were added to the deposit of the deceased or the living) being burnt on the pyre or in another fire. It is difficult to envisage the successive acts that may have led to the deposition of fragmented and partly burnt vessels in the burial. These vessels probably belong to the symbolic ritual meal of the deceased, mixed with the vessels used by the living on the occasion of the funeral meal. Even when this assemblage is studied in detail it remains difficult to reconstruct different stages in funerary ritual. More detailed analysis of the Grijpenveld database, however, may bring more clarity in this topic.

Another remarkable and evidently meaningful trend observed in the cemetery of Tienen relates to the bronze and other small finds. There is a decrease in the number of graves that contain bronze objects over time, while the availability of objects and the diversity of functional categories increase up to the end of the 2nd century. The decrease in the inclusion of bronze objects is therefore clearly linked to a change in funerary ritual. An argument in favour of this interpretation is the increase in the number of bronze artefacts in the ritual depositions in the same period. The bronze items that were most commonly integrated in graves throughout the Roman period were coins and fibulae, which were probably regarded as especially appropriate for inclusion in burials. The other bronze items seem to be more personalized items related to specific activities and not typical for funerary ritual in the vicus. The same gradual downward trend is observed in the number of graves that include glass objects. The most distinctive functional categories for inclusion in burials are cosmetic containers and jewellery: the inclusion of balsamaria, unguentaria, flasks and pots that contained cosmetics are probably reminiscent of the preparation of the body, that is generally recognized as an important part of funerary ritual. These were present in the first phase of the cemetery and reached a peak in the second phase to diminish in the third phase and disappear completely in the 4th phase, probably due to a lack of availability. An important question that arises when considering the downward trend in the number of graves that contain bronze and glass items is how this relates to a change in funerary ritual. The decrease of glass cosmetic containers could signify that the rituals of treating the body of the deceased with perfumes and oils lost importance or that these substances were locally produced and acquired in containers that are less recognizable in phases 3 and 4. Concerning the decrease of the other glass and bronze objects in graves a hypothesis can be proposed: it is possible that animal sacrifice and funerary meals gain importance while the inclusion of personal items (of the deceased or the living) becomes less important or ’required’.

The nail assemblage from the cemetery is also consistently different from the settlement assemblage in the number of nails as well as in the variation of sizes. The best represented category is the small nails. The larger the size of nails, the less they appear in the cemetery. The small nails could be remains of shoes, other leather items or wooden boxes and other gifts placed on the pyre. The presence of hobnails is indeed recorded in various cemeteries. The presence of the other size categories of nails could be explained as being the remains of boxes, furniture or the death bed. Another possibility is that construction wood still containing iron nails was used as fuel for the pyre. The possibility that nails were added deliberately to burials for magico-religious reasons, to protect the deceased from evil or to protect the outside world from the forces within the grave or the afterworld, also has to be taken into consideration. An urn covered with an upside down lid with nails in the cemetery of Tienen and five graves of the Late Roman inhumation cemetery of Dorchester (Dorset, Britain) containing nails at special positions in contact with the body may have been taken to prove this point. In one grave a nail was positioned at the top of the neck in place of the skull, which was removed and placed beside the feet. Interpreting funerary assemblages is not straightforward and generalisations may be unwise. Indeed, the Tienen research shows that much new information on funerary practices can be deduced from detailed and well organised data collections.

### Ritual contexts

The importance of ritual in the daily life of the people from the vicus of Tienen was clearly demonstrated by a systematic screening of all the archaeological contexts of the Grijpenveld site by means of a set of criteria that are underpinned by previous research. These criteria were selected based on the knowledge that the performance of rituals required special objects and animals and the consumption of sometimes large amounts of food that did not fit in the daily routine of ordinary food consumption, but are reserved for certain specific, rather special

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557 Scheid 1984, 127-129.
558 Black 1986, 201-239.
occasions. The methodology to determine ritual contexts, indeed, proved effective and provided new insights on the vital role of ritual in various aspects of the culture of the vicus. It was demonstrated that from the moment of the foundation of the Roman vicus until the end rituals, often including communal feasting, played an essential role in the life of the inhabitants of the small town. The material culture and animal remains consumed in ritual contexts was quantified in a detailed way in the different phases and allows for estimating the relative strong impact on the economy of the region. The amounts of pottery used for preparing food and drinks for communal dining was clearly related to the number of participants, but could add up to hundreds of people in some specific contexts like the late Augustan ceremonial enclosure, the tumulus and the mithraeum.

Ritual activities also stimulated the production and consumption of specialised ritual items like incense burners and craters. The selection of specific species of animals like dog and wild and domestic fowl but also the preference for young animals was clearly essential. Moreover it was established that the performance of rituals and their specific requirements were also evolving through time. The fluctuation throughout the Roman period of the importance of dog in the rituals provides a clear example for this evolution. The consumption of animals and other foodstuff clearly impacted on agricultural production in the region. Detailed comparative research also revealed the stimulating role of ritual in the introduction of new forms of material culture. New forms of ceramics such as spouted jars or mortaria, indeed, found their way in to every-day practice in the vicus after first being used exclusively in ritual contexts. After this primary ritual use they were also produced locally and their use increased in daily life. Incense burners, that were locally produced, were first encountered in the first phase (AD 1-70) only in the funerary context, from the second phase (AD 70-150) onwards also in ritual contexts and to be used later on quite generally within the houses of the vicus as their remains ended up in settlement waste deposits.

Large public ritual events, including collective meals, clearly stimulated a sense of community between the participants of the ritual event and contributed to the creation of a local vicus culture. The late Augustan ceremonial enclosure and the tumulus monument demonstrate that the performance of rituals in specific places created a lasting meaning to these places and show how different areas within the vicus not only had various functions but also different meanings. Through these events the inhabitants associated places with memories, histories and stories, creating a sense of belonging. These specific examples of the past experience of space support the theory developed by phenomenology as developed by Bender. The results of the research of rituals performed in the southwestern periphery and the cemetery are concrete witnesses of the importance and the complexity of the relationship of the inhabitants of the vicus with the supernatural.

The importance of ritual and the consumption of significant quantities of pottery and animals is not limited to formal cult places or cemeteries, but have been shown in virtually all Roman period settlements where attention was paid to identifying and quantifying ritual assemblages. Recent research in small rural settlements like Elms Farm (Heybridge), Tiel-Passewaai, and more nearby in the vicus of Asse, Liberchies and Namur has led to similar findings. In all these places comparable patterns in the ritual assemblages were established. The most obvious parallels are the importance of dogs, the centrality of communal feasting, the use of special cult ceramic and the sacrifice of valuable metal objects. These similarities show that the construction of ritual was inscribed in a general development of culture in the northern provinces of the empire. More detailed research on the composition of ritual contexts and their evolution throughout the Roman period at the local level would provide excellent data for further comparative research between different settlement types and regions. In this way field archaeology provides invaluable information complementary to the narrative provided by epigraphic data and historical sources to provide a coherent picture of Roman provincial religion. For the identification of ritual depositions it is essential to look at the location of the deposits and the contents of the archaeological context as a whole.

6.2 REFLECTIONS ON THE CONCEPT OF ROMANISATION

Important advances in our thinking about the nature of society in the northwestern provinces have been made in recent years. The purpose of this short reflection is not to give an overview of the debate on the concept of romanisation of the last decades. This examination is focused upon the detailed case study of a single site and  

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560 Garcia/Pons 2011, 224-230.
561 Bender 1993, 1.
562 Pitts 2007a.
566 Hanut/Siebrand 2010.
567 Aldhouse-green/Aldhouse-green 2005.
so I want to come straight to the point on the theoretical position of the Tienen research methodology and its outcome in relation to this debate. The attentive reader will have remarked that the word romanisation was not used in this thesis. The reason for this is that it was not a useful concept within the interpretative framework of the transformation of the material culture of the vicus of Tienen and its wider context. It was not difficult to avoid the word; the necessity of using such a concept was not felt. The earliest concept of romanisation as a direct policy from the top of the Roman state to actively promote Roman culture in the native communities of the provinces is not applicable when detailed comparisons of transformations of material culture and practices between different phases and in different cultural contexts of a specific site are made. The alternative models of acculturation or ‘creolisation’ offered by recent scholarship were considered equally inapplicable or besides the question. The mechanisms of transformation of the culture of a community on the micro-scale of a vicus cannot be conceived in such generalist models. The research framework and the vocabulary of the ‘Romanization debate’ is not appropriate to study the complex process of the creation of a local or regional culture through the production and use of material culture because the process is too complex, ambiguous and regionally specific to be explained by general processes of acculturation or negotiation between different elements of different cultures. The argument put forward by Revell, in her volume on Roman imperialism and local identities, that archaeologists, even when dealing with an alternative subject, still use the research framework and vocabulary of the Romanization debate is therefore invalid for this research and will be increasingly so for much of the future research. The topic of Romanization has had positive and negative effects on the development of the discipline of Roman archaeology. The positive outcome is the development on methodologies and instruments to classify, analyse and compare material culture categories from small finds to house architecture. Less positive is that the concentration on the topic of Romanization has limited the discipline as a whole, leaving little space for the more recent agendas of post-processual archaeology. As Bintliff and Pearce suggest, there should be more room for reflexivity and eclecticism in a more democratic archaeological theory.

At the heart of the discussion should be the fact that material culture cannot be regarded as a straightforward non-complex source of information to study the changes in the culture of a society. As was hopefully shown in this thesis there are different cultural contexts to be considered. Not only the context of the daily life shapes the material culture of a society, but also the more complex contexts of funerary practices and ritual depositions. I want to argue that these different contexts each resulted in different consumption patterns, creating varying assemblages of material culture. The factor of agency played an important role in developments of the beliefs and values concerning every-day life, the world of the dead and the relations with gods and spirits. Our analysis showed that the native elite, but especially the common people of the civitas Tungrorum created their own dress, housing and food, depending on the goods available and the goods they created for themselves. The creation of the material world surrounding the community of the vicus co-dependent on the circulation of ideas and values in a community, the creativity and the success of the local craftspeople and their skills, the availability of resources to produce quality products and on the wealth of the consumers to purchase them. This mix of influences was determinable in the assemblage of the local potters who, in each phase, created a mix of imitated and original forms of pottery both for daily use and for the use within ritualised contexts. There are clearly external geo-political factors that influence the creation of the culture of a vicus community, but there are also bottom-up factors that are the results of how individuals and groups reacted to these external factors. It is this complex and multi-directional creative process that cannot be captured by ‘Romanisation’ as a container concept of a clear-cut process of cultural adoption. Neither can the concept be used as a theoretical tool with which to approach the material culture of communities because it does not generate relevant questions or a suitable theoretical framework to broach the potential information of material culture with almost endless sets of interconnected meanings. This study indeed provides clear examples of the complex relation between material culture and changing ideas as well as the dialectical relation between producers and consumers and how these interactions are key factors in the creation of local cultures. The concept of hybridisation as explained under section 5.1 offers an attractive interpretive framework for this process. According to Eriksen, ‘Hybridity directs attention towards individuals or cultural forms that are reflexively – self-consciously – mixed, that is, syntheses of cultural forms or fragments of diverse origins’. The complex networks formed by the vici and their hinterland, constitute regional cultures. These socio-cultural networks of the vici, villas, and farms held the civitas together and were regionally variable with differential impact in different cultural domains that fluctuated

658 Haverfield 1905; Millet 1990.
659 Webster 2001; Cooper 2007, 35-52.
660 Revell 2010, 12.
661 Laurence 1999, 388.
662 Bintliff/Pearce 2011.
663 Roymans/Derks 2011, 35.
664 Eriksen 2007, 170.
in time. Agency clearly is the driving factor of these regional and chronological variable developments. In other words, to understand the Roman empire, culture has to be studied at the local level of well-studied sites as well as on a more general level by studying regional patterns.

6.3 REFLECTIONS ON THE CONCEPT OF IDENTITY

A comprehensive overview of current approaches to identity in Roman archaeology is recently provided by Martin Pitts. Pitts examines theoretical perspectives and methodological approaches in recent publications and attempts to assess the concept as a direction for new research.\textsuperscript{575} The author states that the ambiguity of the term has fostered the spread of shallow conceptualizations of identity in Roman archaeology, promoting interchangeability with the term romanisation without any real shift in analytical mind set.\textsuperscript{576} Indeed, as with Romanisation the concept does not necessarily form the basis of an analytical research framework for understanding the complex process of social and cultural change. On the other hand the concept of identity was welcomed as a popular solution to the problem of inferring identity from material culture through emphasizing the role of material culture in expressing and communicating identities in a range of social contexts.\textsuperscript{577} This research perspective was interesting because it has been argued that previous generations of archaeologists, in describing material culture and in explaining social change, have lost sight of the 'real people' and reduced them to passive cultural pawns.\textsuperscript{578}

In this research the inhabitants of the \textit{vicus} of Tienen are studied as persons who create, use and live with a wide variety of material objects. This world of man-made things provides a material environment in which social, economic and religious interactions take place. The material culture we excavated is studied as evidence of distinctive forms of society because it was an integral part of the past society living in the \textit{vicus}. In our research methodology we attempted to overcome arbitrary classifications of finds by placing them in their context to gain information over what is actually an endless creative and hybrid world in which agency plays an important role. By studying patterns of consumption in different cultural contexts (daily life, ritual contexts and funerary contexts) we attempted to reveal social practices and behaviours of individuals and groups who produced and reproduced social structures in the four phases of occupation of the \textit{vicus}. These practices are constrained by values and norms of the society, by the availability of material and immaterial resources and therefore are transformed from one phase to the next. Within this research framework we reflect on continuity as well as on change of the different cultural contexts of a society. The continuity and the change in the material culture and the socio-cultural practices that were dependent on values and norms reflect the different group identities of communities. If we look more in detail at individual contexts within this larger framework we can approach the expressions of identities of individual groups. Good examples are the metal workers who lived and worked together in the northwestern periphery of the \textit{vicus}, or the potters that produced a common repertoire of pots and who shared a high level of craftsmanship, or the Mithras cult community that shared a common ideology and performed (secret) rituals in the \textit{mithraeum}. If we take into consideration that people can express different identities in different social and cultural contexts, like the ones mentioned above, our research can be a valuable contribution to the present research of identity and to future theoretical approaches and research frameworks to studying identity in the Roman period through material culture. The multiple aspects of any single person’s identity as well as the multiple reading of any form of material culture create multiple opportunities for the interpretation of material culture in different cultural contexts, but also hold dangers for an over-simplified or too general use of the term. The term identity remains useful if it does not form the main focal point of archaeological research and the theoretical framework to analyse the data of a site. A simple example may prove the point. Louise Revell concludes in her volume on Roman Imperialism and local identities drawing upon evidence of urban public buildings, that we should not expect to find any degree of homogeneity when comparing the cultural identities of different communities. Instead we should consider Roman-ness a discourse in which people engaged actively, producing subtly different experiences of what it meant to live within the Roman empire.\textsuperscript{579} If we look at patterns in material culture and cultural practices of the \textit{vicus} of Tienen and look for comparison with other \textit{vici} in the vicinity, with the \textit{civitas} or with nucleated settlements further away, in fact we do notice homogeneity to a certain degree. This homogeneity is part of the identity of communities as well as the characteristics that makes them different from other communities.

\textsuperscript{575} Pitts 2007b.
\textsuperscript{576} Idem, 693-695.
\textsuperscript{577} Idem, 701.
\textsuperscript{578} Gardner 2004.
\textsuperscript{579} Revell 2009.
6.4 POTENTIAL FOR FURTHER RESEARCH

The research potential of the database from Tienen has far from been exploited fully by the line of research followed in this thesis. It is not my ambition to give an exhaustive overview of all the possible research topics here. It is interesting, however, to set out some interesting paths for future research.

Some important methodological issues of studying Roman material culture can be tackled with the information in the Tienen database. In the database we combined different methods to quantify the ceramic assemblage to increase the possibilities for comparison with assemblages from other sites. The outcome of applying different methods of quantification can be tested within our ceramic assemblage. The quantification of the numbers of sherds can be placed next to the minimum number of individuals (based on rims, bottoms and handles), the quantification by weight and our own quantification method (by an exhaustive reassembly of groups of sherds per individual vessel). Further research to refine the dates of the locally produced pottery types can also be envisaged. Now that we have dated the contexts it would be possible to study the dates of occurrence for each type to see if fine tuning the dates is possible. Another interesting line of research is the comparison of the dates provided by coins for contexts dated by pottery. During our analysis to date the contexts it became clear that the coins very often would have provided a much earlier date for the contexts. Therefore it would be interesting to use our research as a basis to study the circulation periods of coins. Furthermore it would be feasible to look for similarities or differences in the coins that were lost or specifically selected for deposition in graves or ritual contexts. Likewise it would be useful to study the circulation period of specific types of samian ware in the vicus of Tienen.

There remains also some exciting analysis to do on the composition of waste assemblages. It would be interesting to see whether the characteristics of ceramics and of animal bone in the same assemblages often have the same characteristics of ‘freshness’ (fragmentation, completeness, weathering,…). If this is the case, it could indicate that the waste comes from a common source, which could be the waste deposit of one or more households. Spatial analysis could then reveal patterns in compositions of household refuse assemblages in the cases were larger surfaces of settlements were excavated. This would make an identification of different social or cultural groups within a settlement possible. The link between the contexts in the database and the features of the digital excavation plan also provides a large potential for spatial analysis of specific find categories.

It would also be interesting to study possible unexpected meaningful consumption and deposition patterns by using correspondence analysis. The well dated features and the possibility to compare all classes of material evidence per context offers great interpretative potential. Before applying this tool to our large dataset, however, it was necessary to understand the basic compositions of the assemblages in the different cultural contexts, so that it would be feasible to interpret and understand the complex patterning likely to be identified by correspondence analysis.

The results of the present research offer interesting possibilities for further research of the paleobotanical remains. It was not possible to study these remains in the thousands of sieving samples (one for each layer within each feature) of the settlement. Now we can study a selection per cultural context and per phase for further research of differences and similarities in consumption patterns. The same can be done with the charcoal to see if there were preferences for the use of certain types of wood within different cultural contexts and if there is an evolution in these practices, depending maybe on the availability of wood in the different phases.

The anthropological research of the cremation remains of the graves of the cemetery was just finished at the moment this text was ready. Due to the fact that the remains are very well burnt and also that often not many remains were present in the graves, not much could be said about the sexes and the ages of the deceased persons. The ages are all adult and sometimes without certainty the category young adult was indicated. Nevertheless it will be interesting to look at the associated consumption patterns of the material culture in the graves.

The opportunities for inter-site analysis are almost endless. The presence or absence of certain types of objects in all material culture categories can be studied for each phase and in each material culture context. The publication of this large dataset via the web to make it available for all strands of research is a logical next step. Furthermore, the comparison between assemblages of villas, the civitas capital, and other vici would be highly illuminating on the similarities and differences of consumption patterns and cultural behaviour of the different communities living in the region of the vicus or further away.

6.5 EXCAVATION STRATEGY AND POST-EXCAVATION MATERIAL CULTURE RESEARCH: A COST BENEFIT ANALYSIS

In these days of contract archaeology where the resources for excavations and the post-excavation research are scarce it is important to make a cost profit analysis of the Tienen research methodology. In this cost profit
The relative higher cost of the Tienen methodology (in terms of time taken, financial outlay and employment of expert time that might have been expended on other archaeological endeavour) has to be weighted against the research perspectives and the research potential of the site. Clearly resourcing the study of Roman material culture remains a big issue. The research potential of studying finds within their context and the research of patterns of consumption and deposition to broach the dense, complex and culturally encoded record, that contains information on the cultural and economic life of communities during the Roman era, however, cannot be overestimated. The disclosure of detailed artefact studies for finds specialists and the potential for inter-site comparison also have to be considered. The question remains if this kind of research has to be applied exclusively for certain high potential sites or can become mainstream research. In my opinion the cost effort analysis points in the direction of mainstream research for all sites with a high number of finds within a relative high number of secure and undisturbed archaeological features. The sites that contain a certain number of waste deposits as well as graves and potentially also ritual deposits can be targeted with priority. But as I have argued before, once the researchers have this methodology in the fingers, the extra effort and resources spent can be reduced to a minimum. In Flanders and in many other regions and countries of Europe the societal return of Malta-financed archaeology is increasingly becoming an issue. The two main advantages of the provision of large, well structured databases, like the one central to this dissertation are that it allows for interesting new paths of research and narrative about individual sites on the one hand and the availability of these data for many kinds of future research, synthetic or thematic. Admittedly, it is a one time (and money) consuming effort, but the alternatives seem disastrous for the discipline in the long term. Well studied individual sites are the basic building blocks and necessary condition for progressing in Roman archaeology. Roymans and Derks recently also pleaded for a more balanced view of the material culture and consumption patterns of all the groups inhabiting villa landscapes. Fulford and Holbrook recently assessed the contribution of commercial archaeology to the study of the Roman period in England, 1990–2004 and concluded that analyses of material culture and biological remains have considerable potential for wider synthesis and inter-site comparison.
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