Celtic and Roman food and feasting practices

A multiproxy study across Europe and Britain

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Vt 2014
Examensarbete
Environmental Archaeology, 15 hp

Abstract

This research investigates common food and feasting practices in both Celtic/Iron Age and Roman Europe and Britain. It is based on previous studies that employ a variety of materials and methods to study issues such as diet, feasting, and luxury/exotic foods. Materials involved in this study include archaeobotanical assemblages, ceramic assemblages, historical texts and records, and skeletal materials used for stable isotope analysis, assessment of dental health, and osteological analysis. The results of previous studies were then assessed for evidence of the following: common diet and food practices amongst both Celtic and Roman cultures; luxury or exotic foods consumed at feasts; communal consumption at feasting events; and possible sociopolitical motivations or effects of such events. The results demonstrated that although exotic, imported plant foods were present in both Celtic and Roman feasting contexts, luxury foods in Celtic feasts were more often likely represented by an abundance of staple foods rather than imported foods, though alcoholic drinks, particularly wine, was the exception. While Celtic feasts and exotic foods were apparently used as venues for maintaining or changing power and political relations, in Roman Europe feasts and foods were more so means of expressing, maintaining, or even changing social class, thus representing a shift from communal to individual elite dining from the Iron Age to the Roman period in Europe and Britain.

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1. Introduction

1.1 Aims and scope

The aim of this thesis is to discuss the food traditions and practices of the ancient Celtic and Roman societies, primarily by comparing the two societies in terms of their feasting practices. While in general food studies can cover any of the various stages of interaction with food, including its production/acquisition, processing, consumption, and discard, this thesis will focus primarily on the consumption stage, and will address the other stages when appropriate and relevant. It will also touch upon some of the main themes in the archaeology of food, in particular social stratification, politics, and differential access, especially to luxury foods. The research questions for this study are as follows: What were the commonly consumed foods of the Celtic/Iron Age and the Roman period? What evidence is there of luxury or exotic foods consumed at Celtic and Roman feasting events? Is there any evidence of communal consumption at such feasts? What were the sociopolitical motivations and effects of feasts in these cultures, and are these visible archaeologically? Materials used for this study come from previous studies of Celtic, Iron Age, and Roman age sites across Europe, and include archaeobotanical remains, stable isotope analyses, findings from traditional archaeological excavations, and contemporary historical sources. While plant macrofossils and stable isotope signatures will illuminate some of the details about common food sources and differences in diet across age, gender, or class, material artifacts and historical documents will provide the background contexts on feasting events and practices, which will allow for further interpretation of the environmental archaeological results.

Fig. 1 Location of various sites of research included in this study. Not pictured: site data from Livarda (2011); Livarda and Van der Veen (2008); Van der Veen, Livarda, and Hill (2008).

1.2 Past research and theoretical framework

Early food studies focused on dietary nutrition, rather than social meaning and use, viewing food through a behavioral-ecological perspective and relying on methods such as quantitative studies of nutrition and its evaluation (e.g. Jochim 1976; Keene 1983, 1985; Winterhalder 1981, 1987, cited in Twiss 2012, p. 359). Over time, studies became less focused on the nutritional value and adaptive significance of ancient diets. Earlier research focusing on nutritional definitions of food was criticized for being reductive and for obscuring cultural associations, effect, activities, and meanings (Gumerman; Hamilakis, cited in Twiss 2012, p. 359). Today, the subject of food and foodways in past cultures is characterized by theoretical diversity (Twiss 2012). Some of the themes that are important to the subject today include economic differentiation, social stratification and competition/politics, race, ethnicity, and culture contact, gender, food and beliefs.

Feasting is a specialized form of consumption that has been practiced most likely since the Upper Paleolithic, and exists in some form or another in most cultures, including contemporary cultures today (Conkey, cited in Hayden 2001, p. 24). A useful definition in the context of this thesis is Hayden’s (2001, p. 28) definition of a feast as “any sharing between two or more people of special foods (i.e. foods not generally served at daily meals) in a meal for a special purpose or occasion”. While the definition of feasting may vary depending from culture to culture in both details and phrasing, a central theme is the aspect of communal consumption, as well as the differentiation from everyday meals (Dietler & Hayden 2001, p.3). It is widely recognized that feasts may also be associated with ritual activity (Twiss 2012), though in some cases this ritualized content is minimal (Hayden 2001) and that even in cases where it is strong, it may be difficult to discern in the archaeological record (Dietler & Hayden 2001, p. 4). In fact, feasts in general are difficult to study from an archaeological perspective, and the lack of precise information on the subject is one of the greatest obstacles faced by archaeologists wishing to investigate feasting practices (*ibid.*, p.5). However, as Dietler & Hayden (2001, p. 5) state, the ritual aspect of feasts may in fact increase their chances of visibility, as feasts commonly accompany non-quotidian “life-crisis” ceremonies that are likely to be preserved as single-event archaeological sites. Other archaeological phenomena that allow for the study of feasting are its associations with spatial differentiation and architectonic elaboration, and in very special cases, evidence in domestic contexts through faunal and artifactual analysis (*ibid.*, p. 10). Dietler & Hayden (2001) contend that in order to better understand feasting and develop theories and methods for studying the subject, further primary ethnographic research focusing on feasting should be undertaken, specifically by scholars already familiar with the problems of discerning feasting in archaeological contexts.

Why study feasts in the first place? The study of consumption practices and food preferences in general can tell us much about a culture. Diet is often largely culturally informed, and generally does not change drastically over one's lifetime. Even in cases where food availability is limited, cultures have adopted specific consumption taboos (of a particular animal, for example) that impose further constraints on consumption and survival (Hayden 2001). Indeed, food is an aspect of daily life that is critical to survival, but that is also linked to relations of production and exchange, and to domestic and political economies (Van der Veen 2008, p. 83). As Hayden (2001, p. 24) explains, "[F]easting is emerging as one of the most powerful cross-cultural explanatory concepts for understanding an entire range of cultural processes and dynamics ranging from the generation and transformation of surpluses, to the emergence of social and political inequalities, to the creation of prestige technologies including specialized domesticated foods, and to the underwriting of elites in complex societies".

A highly important theme in the study of feasts and key function in such events is power and social relations. Hayden (2001) suggests nine types of practical benefits of feasting: 1) mobilization of labor; 2) creation of cooperative relationships within groups or the exclusion of different groups; 3) creation of cooperative alliances between social groups; 4) investment of surpluses and generation of profits; 5) attraction of desirable mates, labor, allies, or wealth exchanges by advertising the success of the group; 6) creation of political power (control over resources and labor) through the creation of a network of reciprocal debts; 7) extraction of surplus produce from the general populace for elite use; 8) solicitation of favors; 9) compensation for transgressions (*ibid.*, pp. 9-30). Whether or not these motivations are visible archaeologically or even within the historical texts of the period remains to be seen, and will be assessed in this work. Hayden (2001, p.30) states that the function of the majority of feasts revolves around the creation or maintenance of important social relationships. On a third point, the practical benefits of feasts, researchers are in disagreement. While some state that, due to the enormous cost and ubiquity of organizing and holding feasts, they must in some way be a form of "adaptive behavior", others counter this notion with contemporary examples to support the idea that not all human behavior is rational, or even beneficial to survival (Dietler & Hayden 2001, p. 14).

As demonstrated, feasting is a practice linked with important social, political, and economic functions and clearly deserves attention from archaeologists. Nevertheless, until recently it has been largely ignored by both archaeologists and anthropologists, either because it is difficult to study or perceive archaeologically or because it is viewed as a "sybaritic self-indulgent aspect of human nature that is unworthy of serious attention" (Hayden 2001, p. 24). However, as Dietler (2001) argues, it is crucial to understand the manners in which power and authority are created, maintained, and contested during on-the-ground interactions and events within a culture if we aim to be able to understand and meaningfully discuss these complex political and social structures.

Generally, of course, studies of a particular culture should ideally be representative of all groups within said culture; feasting, for example, is not necessarily limited to a specific social class, and can occur in multiple contexts with varied purposes. Nevertheless, little is known about possible feasting events – or even the eating habits and quotidian life – of the common people of the Roman Empire, including the lower classes and slaves, though these groups constituted more than 98% of Roman society (Killgrove & Tykot 2013). Until recently, many studies on food in Roman society have largely ignored this important group, thus skewing perceptions of consumption practices at that time.

Before embarking on the task of attempting to study feasting using a combination of materials and methods from environmental archaeology, traditional archaeology, and historical sources, one must assess whether or not it is even possible. Just as it is generally difficult to perceive ritual aspects in archaeological contexts, it is a challenge to distinguish feasting events from quotidian consumption data, particularly smaller-scale feasts occurring in prehistoric contexts (Twiss 2012, p. 380). Dietler and Hayden (2001) also address the question of whether it is possible to study the subject of feasting in archaeological contexts without being able to identify specific feasts. They contend that, just as archaeologists study trade or agriculture, where it is again difficult and often impossible to identify specific events, it is similarly possible to study feasting. What is required, they say, is a good theoretical understanding of the social roles of feasting and their permutations, knowledge of diagnostic criteria, and how to look for them in archaeological data (*ibid.*, pp. 7-8). In fact, Hayden (2001) argues with conviction that not only is it possible to identify feasting events within the archaeological record, but it is also possible to identify the level of involvement of specific households in feasting and to distinguish meaningful types of feasts. It may not be possible to identify feasting events, level of individual involvement, and specific types of feasts in all archaeological excavations and studies, but there are certainly many cases where it has been done (e.g. Clarke, Blitz 1993, cited in Hayden 2001, p. 47).

1.3 Definition and applications of environmental archaeology

Environmental archaeology is a subset of archaeology, the study of human life in the past. Environmental archaeology aims to study past humans and their environments and particularly the interactions between these two through the use of various theories and practices from biological, chemical, physical, and social sciences (Reitz & Shackley 2012, p. 1). Though there are numerous different definitions of the subject, most stress the complexity of said relationships and interactions between past human communities and their environmental contexts, often through the attempt to reconstruct these past environments (Shackley 1985, p. 14; Butzer 1982, p. 6; Branch *et al.* 2005, p. 8; Evans 2003, p. 1; Wilkinson & Stevens 2003, p. 15). Indeed, one of the underlying theories of environmental archaeology is the notion than a relationship between people and the environment exists – that people may influence the environment, and vice versa, and that changes in one may accompany changes in the other (Reitz & Shackley, p. 4). The question of where environmental archaeology belongs in relation to archaeology is part of the subject's "long-standing identity crisis" (Reitz & Shackley 2012, p. 3). While the subject shares many of the same goals of traditional archaeology, it approaches the issue of human history from a combination of scientific fields as well as traditional archaeology, and also shares interests with other sciences as well (Reitz & Shackley 2012, p. 3).

Included among the various methods employed by environmental archaeology are the study of sediments and soils, geomorphology and quaternary studies, plant macrofossil analysis and archaeobotanical studies, analysis of phytoliths, pollen, insects, and stable isotopes, though many other methods and subfields may be employed depending on the archaeological context and aims of the study. In general, environmental archaeology has been applied to food studies to specifically examine diet, nutrition, and subsistence of historic and prehistoric people. The most commonly employed methods are stable isotope analysis using osteological remains (of both humans and animals, the latter of which are often used as a proxy for humans or as reference material) and archaeobotanical analysis, the study of preserved plant remains, often in waterlogged contexts or carbonized states. However, while these may be excellent tools in studying diet and nutrition, additional materials and methods are often necessary in order to move beyond a discussion of simply what was available, what was eaten, and how much nutrition was provided by consumed foods. In the case of feasting, environmental archaeology should be understood within a context provided by historical texts and the results of archaeological excavations.

2. Materials and Methods

2.1 Feasting: terminology, key themes, and archaeological visibility

In studying what is in many ways an abstract subject such as feasting it is very important to use clearly defined terms – not only of material criteria used to identify behaviors, but also of the social structures reflected by these behaviors (Twiss 2012). Both technical and more abstract terms and their use within this paper will be outlined below. To begin, it is necessary to examine the most basic vocabulary required for discussing food consumption; here I will rely upon Dennell's (1979) definitions. 'Subsistence' can be defined as "the procurement of those materials that are necessary for the physiological well-being of a community" (*ibid.*, p. 122). Dennell (1979) notes that subsistence studies should include both the commodities (food and fuel) and the technologies or facilities needed for procurement. 'Diet' is simply defined as what is actually consumed, but it may not be as simple to study; it involves accounting for what is being eaten, the amount, each food's value in terms of fat, protein, carbohydrate, minerals, and vitamins, how diet is affected by factors such as age, sex, and status, and how it varies throughout the year (*ibid.*, p. 122). Finally, 'nutrition' is the measure of the diet's ability to maintain and repair the body, which can be studied either by looking for indicators of malnutrition, or by balancing energy obtained by food against that needed by the body, which is also often a difficult task (*ibid.*, p. 122).

Through the many varied definitions and discussions of feasting, a few key themes emerge, which will be useful in the attempt to distinguish occurrences of feasts within the archaeological contexts and environmental archaeological data. As previously explained, feasting is a complex type of food practice with many variances and definitions, often changing depending on the culture. For this reason, and because this work is a comparison of feasting practices between two distinct cultural groups, a very basic conception of feasting will be used within this paper. Feasting is often constituted, very generally, by the (i) the presence of luxury foods or mass quantities of food, (ii) the practice of communal eating, and (iiii) political or social motivations and/or effects. Luxury foods can be described as foods that offer pleasure and enjoyment, and which are desired by many but attained by few, and which are not necessary to basic survival (Van der Veen 2003, pp. 406-407), whereas 'exotics' is here used to describe plant foods that either required significant efforts for cultivation or are not native to the area, and were likely imported. The data from previous studies, along with evidence from interpretations of material culture and historical texts, will therefore be assessed on the evidence of these three qualifiers of feasting. Though many feasting events also contain a ritual component, as these are difficult to study in the most ideal conditions with traditional archaeology, it may be impossible to find traces by using environmental archaeological methods. Therefore, this aspect will not be looked for in the archaeological record in this study.

2.2 Celtic background

While the definition of the term 'Celt' is still contested, it refers in general to the numerous cultural groups living in continental Europe and the British Isles from the early Iron Age until the early Medieval period (Arnold 1999, p. 72). Though there is some debate amongst conservative and more modern scholars regarding the level of affinity and continuity between the British and Continental Celtic cultures (*ibid.*, p. 72), this thesis will consider the two as descendent groups of the early Hallstatt Celtic culture, with cultural distinctions but also common roots. For this reason research will include sites attributed to groups located on the British Isles as well as those in northwestern Europe between the Mediterranean and Baltic seas that are dated from the 7th century BC to the 1st century AD. Because many Iron Age sites within this geographical and temporal time frame are not often explicitly attributed to the Celts, and due to the limited number of known true Celtic sites, sites that are dated to the Iron Age the study scope will also be included.

The Celts are said to have been descended from the Urnfielders, Bronze Age Europeans who earned their name in archaeology from their practice of buying their dead in flat cemeteries and who eventually spread out from eastern Europe across France, Switzerland, Germany, and Italy (Laing 1979, p. 2). The Urnfielders exhibited many of the characteristics of the later Celts, including the construction of hillforts, the adoption of horsemanship, and development into a warrior society with fine armor, weapons, and shields (*ibid.*, pp. 2-3). The Hallstatt culture, named after an early cemetery site in an Austrian village, was born out of the Urnfield culture, and is generally recognized as the first stage of Celtic development (*ibid.*, p. 3). The name of the village, originating from the Celtic word for salt, reflects its importance as a salt mine, as salt and iron were typical currency of the time as well as trade exports (*ibid.*, p. 3). Nevertheless farming remained the basis of the economy and supported the social pyramid topped by chieftains and warriors (*ibid.*, p. 3). Eventually the Hallstatts began trade with Greeks, gaining Attic cups, bronze drinking vessels, and wine in exchange for salt products and iron (*ibid.*, p. 4).

A new phase of Celtic culture began during the 6th century BC, named La Tène after a site on Lake Neuchâtel in Switzerland (Laing 1979, p. 5). This phase was characterized by a change in burial ceremonies: the La Tène Celts abandoned their previous practice of rustic wagon burials and had begun interring their dead on two-wheeled chariots. As Laing (1979, p. 5) states, this represents increased achievements as well as solidification of the warrior class: “Wagons are the vehicles of fighting farmers; chariots of fighters who are maintained by farms”. From this point on, the La Tène Celts began to appear in contemporary Greek and Roman historical writings, including those of Hecataeus and Herodotus, two Greek writers whose works have been particularly useful in the attempt to chronicle Celtic expansion as well as better understand Celtic culture (*ibid.*, p. 7).

From the 5th century onwards, the Celts began to expand their empire, and conquered their way through eastern France, Germany, and Switzerland to Rome, which the Celts plundered before moving on to southern Italy (Laing 1979, p. 7). They were ultimately defeated by the Romans in 295 BC, but continued their plundering elsewhere, moving east into the Balkans, eventually being given territory near Ankara that became the kingdom of Galatia (*ibid.*, p. 8). However, after this point a series of events coincided that would shrink the Celtic world. In 244 BC, the Celts in the eastern Mediterranean were defeated by two different groups, and were attacked by Germans from north Jutland known as Cumbri; finally, in 58 BC

Julius Caesar attempted, and succeeded, in the conquest of Gaul (*ibid.*, pp. 8-9). While various Celtic groups existed elsewhere in central Europe, the culture was suppressed and overshadowed in Rome (*ibid.*, p. 9).

Meanwhile, the Celts in Britain were evolving into their own culture. They arrived in Britain as early as the 7th century BC, and brought with them many of the cultural hallmarks of the Hallstatt and La Tène cultures (Laing 1979, pp. 9-10). While the Celtic groups maintained some aspects of their homeland culture, they also adopted some of the local traditions, and around the first century BC experienced many cultural changes with the incoming of the Belgae of northern Gaul, below modern-day Belgium (*ibid.*, p. 9). Caesar attempted the conquest of the disorganized Celtic tribes in Britain in 55 and 54 BC, and by the end of the 1st century AD most of England and Wales was won by the Romans for the next few centuries (*ibid.*, p. 12).

2.3 Roman background

All Roman materials originate from sites dating from the Roman Imperial Age between approximately 0 to 400 AD, again between the Baltic and Mediterranean seas. Compared to the few studies of self-proclaimed Celtic sites, there are a relatively large number of studies relating to explicitly Roman sites and settlements. Therefore, only these are considered, and are not supplemented such as in the case of Celtic materials. However, Roman studies have been incorporated within this work that relate to sites from throughout the Roman Empire rather than simply the capital, Rome, to ensure that common populations are also represented so as to maximize comparison potential.

There is much more clarity and certainty regarding the history and events of imperial Rome. The beginning of the Roman imperial period was marked by the battle of Actium in 31 BC, the defeat of Cleopatra and Antony by Octavian (later Augustus), and his subsequent rise to power (Hekster 2006, p. 108). All of these events, along with Caesar's assassination in 44 BC, marked the end of the Roman Republic (*ibid.*, p. 108), whose history is outside the scope of this study, though as Lavan (2013, p. 65) states, Rome's empire existed long before the start of the Roman imperial period. At its start, the Roman Empire was headed by an Emperor, who was provided key powers by the Senate (Hekster 2006*., p.* 108). The 1st century AD saw the tumultuous reign of a number of different emperors after Augustus, Tiberius, Gaius (Caligula), Claudius, and finally Nero, before the empire experienced a civil war (*ibid.*, pp. 108-109). A pattern began to emerge over the next few decades: the introduction of a new dynasty, the rise of a young emperor several generations down the line who disregarded the Senate in favor of the army and the *plebs* (the common citizens of Rome), an assassination, and subsequent instability before the rise of another dynasty from local legions (*ibid.*, p. 109). A number of child emperors ascended the throne, none of whose reigns lasted long, before the accession of Diocletian in AD 284, whose twenty-one year rule introduced administrative, economic, and army reforms (*ibid.*, pp. 109-110). Diocletian appointed a co-emperor and two deputies, and decreed that the emperors would now be the only ones with the power to appoint subsequent emperors (*ibid.*, p. 110).

Though the emperors now had ultimate authority, they relied on the imperial households and local elites in provincial communities to regulate the emperor's accessibility to the public, and to provide administrative structure in villages and towns (Hekster 2006, p. 110). The new reforms had a more direct influence upon those living within the Roman Empire. A previous emperor Caracalla had granted citizenship to all free inhabitants within the empire through the *Constitutio Antoniniana*, which was considered a gift that could never be repaid, thus engaging Roman citizens in a relationship of reciprocity (*ibid.*, pp. 110-111). In exchange for this new status, the emperor was owed loyalty.

Beginning in the Neronian Age (AD 54-68) and throughout this period, the Empire was in control of vast amounts of land across Europe, extending as far as Rome's commands were obeyed; the directly administered provinces alone covered more than 30 modern states and encompassed a population of between 40 and 70 million people (Lavan 2013, p. 71). The administration of these provinces was relatively limited and was managed by fewer than 150 officials; much of the system's success was thanks to the Empire's ability to align local interests with their own, thus minimizing occurrences of threats and outbreaks (*ibid.*, pp. 65-66). The effects of Roman conquest were surprisingly not frequently mentioned in the historical texts of the period, but manifested themselves in the appearances of new cities across Gaul, Spain, and Africa and general urbanization elsewhere, the spread of villas and Roman-style public spaces, and changes in consumption and cult (*ibid.*, pp. 73-74).

2.4 Materials used

This study uses materials from past studies on Roman, Celt, and Iron Age sites throughout Europe and relate to diet, foodways, food practices, and feasting, as well as research and interpretation of contemporary historical texts. These materials include archaeobotanical assemblages, ceramic assemblages recovered from traditional archaeological excavations, ancient bones used for stable isotope and teeth used for dental analysis. Common methods and applications of each will be discussed below, as will some of their values and limitations. As with all archaeological methods, the ones applied here each analyze the remains of an incomplete record of history; what is left behind, whether it is macrofossils or human bones is but a sub-sample. Thus the initial results must be interpreted rather than taken at face value, which often provides a biased view, in order for them to offer meaningful information (Twiss 2012).

2.4.1 Archaeobotanical assemblages mention

One of the most commonly used proxies to study diet is plant macrofossils, a term usually applied to plant structures visible to the naked eye (Berglund 1986; Dimbleby 1978; Hastorf & Popper 1988 cited in O'Connor & Evans 2005, p. 164). Plant macrofossils have the potential to offer insight into past vegetation as well as cultivated crops and plants used by humans for food, animal fodder, medicine, construction, etc. In some cases plant macrofossils can even be used to study production technology (e.g. Stika 1996; Matterne-Zech 1996). Archaeobotanical materials are often preserved in waterlogged sediments, anaerobic environments, or from as the result of being charred. They may also be preserved through mineralization, a process that entails the impregnation or replacement of plant remains by a variety of minerals, preserving otherwise easily decayed plant parts (Reitz & Shackley 2012, p. 54). Waterlogged sediments inhibit the degradation of plant remains, and include contexts such as anoxic peats, lake muds, and waterlogged and therefore anoxic deposits such as pits and wells (O'Connor & Evans 2005, p. 165). Plant macrofossils can also be preserved in oxic contexts, but in this case mainly through charring (*ibid.*, pp. 164-165). Charring requires that the plant tissues become incorporated within the embers of a fire, combusting with minimal oxygen, but not burning completely (*ibid.*, p. 165). In practical terms, this is usually achieved by the often-accidental introduction of plant remains around the edges of a hearth or fire pit, rather than the center, where they would burn completely and not preserve. In rare cases, plant remains can also be preserved by desiccation; however, these contexts are rare, and require arid environments, rapid incorporation into deposits, and constant dry conditions (*ibid.*, p. 166).

Charred plant remains are particularly important among plant macrofossil assemblages from archaeological contexts as they are found at nearly all sites and are the main form of preservation in oxic deposits (O'Connors & Evans 2005, p. 165). Unlike waterlogged plant macrofossils or other plant-related indicators such as pollen, charred plant macrofossil assemblages in particular contexts (such as hearths or ovens) can be directly used to study plants that humans were interacting with, since their presence and preservation are almost always a result of human activity, whether deposited intentionally or unintentionally, rather than as a random sample of the flora (*ibid.*, p. 166).

Once the surviving archaeobotanical materials are collected and selected for study, they are identified and quantified according to plant taxon. Identification poses another problem here, as samples are often fragmented, and it is quite difficult to identify organic parts other than the seed (Livarda 2011, p. 152).

Accurate identification is furthermore highly dependent upon the experience of researchers and adequate reference collections, both of which become even more rare when dealing with plant roots and leaves (*ibid.*, p. 152). It can also be a challenge to determine whether plant species were used for food or for other purposes, or both, and then to determine which parts of the plant was used for food (Reitz & Shackley 2012, pp. 218-219).

Analysis and interpretation of plant macrofossils involves knowledge of deposition and taphonomy, and comes with its own methodological and theoretical issues. Some of these issues include matters of preservation, recovery, and representativity. Some plant species or plant parts preserve better than others, particularly robust species or parts such as seeds, fruits, nuts, and other propagules (*ibid.*, p. 165); therefore plants used for their roots or leaves or those who may not have seeds at all stand a lesser chance of preserving (Livarda 2011, p. 152). Dense and often-cooked foods preserve and appear more often in the archaeobotanical record than structurally weaker foods or those consumed raw (Twiss 2012, p. 375). Additionally, certain preparation methods (i.e. grinding) by humans may further lessen the chances of plant part preservation, such as when plant byproducts do not leave archaeobotanical traces (Livarda 2011, p. 152).

Even if archaeobotanical materials do preserve, the majority of the record consists of the inedible remains of food, so that much of the dataset consists of indirect evidence of plants foods, such as byproducts of processing, rather than the plants and foods actually being consumed (Twiss 2012, p. 376). The record can be further complicated by accidental inclusions, such as plant taxa that formed the weed community of a site or taxa arriving in bird droppings (O'Connor & Evans 2005, p. 166). Issues of representativity stem from the problems of taphonomy and preservation, and that "some plants may be important in the economy of a site, or a dominant element of the surrounding plant community, yet fail to be represented at all" (*ibid.*, p. 165). Like all archaeological materials, archaeobotanical ones only provide an incomplete picture, and so must be treated as such.

Nevertheless, archaeobotanical analysis remains an important and useful method. Though it might not always be clear taxa were used (as food, fodder, medicine, etc.) or by whom, archaeobotanical assemblages provide strong evidence that certain taxa were used or existed in a specific context, although contamination of archaeological contexts is always possible. This information can be very important in studying the use and introduction of, for example, imported plants not native to a particular area.

2.4.2 Osteological assemblages

Osteological materials include both human and animal remains that can be analyzed through stable isotope analysis as well as be examined for evidence of age, sex, health, and diet. The human modifications to animal bones may speak to methods of slaughter or preparation, as well as additional uses outside of food, such as in ritual activities, and human osteological materials similarly provide information about cause of death in certain cases. Depending on the context, animal remains may also indicate what species were consumed at a site. In studies of human diet, human teeth are also commonly used when available in addition to bones, as they may display evidence of nutritional habits and dental health as well as show signs of disease. This information can be gained through an analysis of wear patterns, the presence of lesions or caries, or through stable isotope analysis. The tooth wear, decay, and disease rates often speak to diet and dental care, which in turn can offer clues as to manner of food preparation and availability in certain social classes (e.g. Bonfiglioli, Brasili, & Belcastro 2003).

Similar taphonomic issues apply to the study of osteological material, as well as problems of identification and representativity. Like archaeobotanical materials, denser bones are more likely to be preserved, and in the case of faunal remains bias the record towards adult animals (Twiss 2012, p. 376). Taphonomic issues also affect the interpretations of slaughter patterns, hunting and herding, dietary preferences, butchery practices, and taphonomic proportions (Twiss 2012, p. 376). Identification problems also exist in studies using bone material, particularly when remains are fragmented or come from the complex skeletons of vertebrates (Driver 2011, p. 19).

2.4.3 Stable isotope analysis

Stable isotope analysis is a relatively new method to be used to study human and animal diet, along with past climate and population movements (O’Connor & Evans 2005, p. 175). In dietary applications, the most common materials for analysis are bones, though nails, hair, and muscle may also be used. Both dental and skeletal remains may be used; each different source material offers specific information. Skeletal material, which is remodeled throughout life, will provide dietary information about the last 10-30 years prior to death, while dental enamel isotopes will reflect the individual’s diet during the time of formation, in early life (*ibid.*, p. 430). On the other hand, nails and hair grow very quickly, do not remodel, and record dietary variations on shorter time scales (Schwarcz & White; White *et al.* cited in Reitz & Shackley 2012, p. 430), though these materials are much less commonly found than bones and teeth. Each type of material provides information on a specific time span, and the results have different resolutions, making them very useful for a range of types of studies. Isotopes are “different varieties of a chemical element that have the same umber of protons but different numbers of neutrons in their nuclei”, and can be either stable or unstable (Reitz & Shackley 2012, p. 424). Unstable isotopes spontaneously decay into other elements, such as ^{14}C decaying into nitrogen at a predictable rate, allowing for the method of radiocarbon dating (*ibid.*, p. 424). Stable isotopes do not decay or change, though they are subject to many biogenic and diagenic processes (*ibid.*, p. 424).

In archaeological studies of diet, stable isotopes are used in particular to study roles of specific groups of plants in diets, proportions of plants and animals in diets, uses of diverse trophic levels, and roles of nonnative domesticated plants, and may in some cases be used to distinguish between closely related domestic and wild animals (*ibid.*, p. 424) and whether consumed animals came from local or non-local areas. Carbon, nitrogen, and oxygen are the most commonly examined isotopes, particularly when studying diet, but barium, lead, strontium, and sulfur may also be studied (*ibid.*, pp. 424-425). An individual's stable isotopic signature is the result of a number of processes outside of their diet, including their geographical location, and the isotopes introduced through the area's water or air. Even isotopes deriving from diet combine nutrients from many sources, making it difficult to identify with certainty the specific origin or cause for an isotopic signature. Dietary variations can result from differences in proportions of meat to plant foods consumed, the sources of these foods (across a geographical area, freshwater or saltwater marine life), and the position of the resources in the food chain (*ibid.*, p. 425). Plant foods and animals have their own isotopic signatures, which are often evident in other animals or humans who consume them.

However, while stable isotope analysis can help illuminate some of the general types of foods being consumed, they rarely indicate specific plants, food types, or drinks (*ibid.*, p. 425). Often, the exception to this is in cases where the consumption of plants following the C_4 pathway, rather than C_3, is evident, as these plants are far less common and it is easier to identify which plant it was. C_3 and C_4 refer to two of the three total types of photosynthesis pathways available to plants, and there are a number of differences between the two. Most plants follow the C_3 pathway; while C_3 plants incorporate CO_2 into a 3-carbon compound, C_4 plants incorporate it into a 4-carbon compound. In Iron Age Britain, evidence of C_4 plant consumption would most likely point to millet, which was grown and consumed at that time. Therefore, previous knowledge regarding diet from the study's time period would aid considerably in the interpretation of an individual's isotopic signature. This information may come from historical sources or perhaps archaeobotanical studies. Reference collections are another means of determining some of the underlying factors in an individual's stable isotopic signature. These may consist of the osteological remains of contemporary animal species, or be obtained by collecting or capturing modern species under controlled conditions at regular intervals throughout one annual cycle in the area of the study (Reitz &

Shackley 2012, p. 433). These can pose another problem, as contemporary reference collections are preferred though are not always available.

2.4.4 Historical texts

The three types of historical sources that provide information about feasting behavior in the Celtic world are contemporary Greek and Roman written accounts, extensive legal tracts, especially from Ireland (such as the *Senchus Mor*, a grouping of legal tracts from varying time periods), and surviving epics and tales from Ireland and Wales, such as the Annals of Ulster, historical records from medieval Ireland (Binchy 1958, p. 115; Arnold 1999, p. 72, 80). Classical authors describing outside cultures generally usually included information on a culture's population, antiquity and ancient history, way of life, and customs (Tierney cited in Arnold 1999, p. 72). Unfortunately, descriptions of ways of life and customs usually overshadowed the more mundane aspects (Arnold 1999, p. 72). Additionally, Classical writers tended to either romanticize or demonize the 'other', and also often borrowed descriptions of one culture and included them in their descriptions of a completely different culture when they were lacking hard evidence or facts, further complicating the task of interpreting these texts to gain solid historical facts (*ibid.*, p. 72). Furthermore, many of the texts were written centuries after the fall of the cultures they were describing (*ibid.*), and even when not, they have been used to interpret finds from the Hallstatt to the Late La Tène (Loughton 2009). Many Roman sources regarding food and feasting practices are in the form of cookery books, such as that of Apicius. Such recipes can be quite useful in illuminating what food plants, spices, and meats were available to Romans at the time, but were often aimed towards an upper-class, elite audience, and were therefore commonly tailored to whatever tastes were fashionable at the time. They often speak more to what was fashionable and new rather than what was common and available to the general population.

On the other hand, historical texts can be very useful in providing background information to assist in the interpretation of the archaeological record. For example, historical sources can help illuminate which parts of plants were used in what way when the macrofossil analysis of recovered plant taxa only indicates the presence of particular plants, or may even indicate that a particular plant was known and used even when it is absent completely from the archaeobotanical record. In some cases, they are the only sources of knowledge on aspects not readily visible through archaeological records, such as behavioral or ritual aspects at feasts. In this study, historical records and texts are used in addition to other more scientific materials in order to answer the four main research questions, though are used with caution, keeping in mind their origins and purpose when including them.

2.4.5 Ceramic assemblages

There are two main types of evidence uncovered by traditional archaeology that relate to food practices and feasting: they are the structures or buildings in which food was stored, prepared, and consumed, and the ceramic assemblages used for the same purposes. While these can give important clues as to each of these stages, the difficulties lie in interpreting structures, inferring vessel function and form, distinguishing cooking traces from those produced during firing, and quantifying an assemblage. Ceramics found in archaeological contexts are often overlooked as indicators of food practices, and studies of ceramics usually focus on style or appearance alone (Bray 2001).

Methods for analyzing ceramics differ between assemblages dominated by fragments or sherds versus those with complete, unbroken vessels (Hirshman, Lovis, & Pollard 2010). With regards to the former group, diversity measures and multidimensional scaling methods are used, usually based on the basic ceramic typologies for their region, but a useful strategy is to focus instead on the sherd assemblage and its proportions, which would represent ceramics used in a variety of functions and settings (Hirshman *et al.* 2010). Prehistoric studies of ceramics in particular tend to dispense of classifications based on stylistic and decorative pottery types and the in-depth examination of paste (what material a vessel is made of) and thickness. Paste, thickness, style, and decor are useful when ceramic reference collections are available to aid in comparison and dating, but are less likely to be available for prehistoric ceramics. Researchers analyzing prehistoric ceramics often focus instead on sherd assemblages themselves in order to determine the most common and important vessel types. This is most useful in studies of food practices when vessel form and function are more important to the study than paste or temper, which may relate more to studies of trade or cultural interaction. Several pitfalls concern ceramic assemblages even when form is examined for evidence of use. Often when no reference materials are available, vessel function is inferred by factors such as form and paste (as certain types of materials or clays are preferred to others depending on their intended use). However, a number of factors may complicate this method, such as availability at the time of production. Additionally, even interpretations of ceramics are often based on information found in historical literature (Luley 2014, p. 39), which as previously stated can often prove not entirely reliable.

Aside from providing information on storage, preparation, and consumption, in some rare cases ceramics can also provide direct or indirect evidence of resources (Reitz & Shackley 2012, p. 263). This includes accidental plant imprints on the bottoms or insides of ceramics, traces of food or drink remains within vessels, and plant or animal lipids remaining on vessels used for food. Such lipid remains, especially of leafy plant foods such as vegetables may provide evidence of their use in cases where they are otherwise difficult to detect through other means (Reitz & Shackley 2012, p. 438).

2.5 Argument for multiproxy research and comparison

As each research method is well suited to particular aspects of studies of diet and food practices, a more complete picture is sure to be gained through research using a combination of these. Stable isotope analysis of skeletal remains does not often provide high-resolution information about particular food sources outside of C_4 plants and animal proteins, plant macrofossils assemblages are, by nature, incomplete records and only reflect plant foods, traditional archaeology relies too on preservation and is subject to interpretation, and historical texts are often biased or irrelevant. However, each research method also provides critical information about diet and food traditions, and when combined in one study may provide additional contexts with which the results can be further understood. For this reason, this study will draw on research based on all of the above methods, including environmental archaeological, traditional archaeological, and historical data and sources.

The main method employed in this paper is that of the comparison between Celtic and Roman cultures. The Celtic and Roman cultural groups can be considered similar along some lines, yet vastly different along others. The time periods attributed to both do, of course, overlap, and along with cultural contact between the two (both violent and relatively peaceful in different areas) came cultural exchange. It comes as no surprise then that the Celts in Romanized areas absorbed some Roman food traditions, and in some cases did so before being conquered (such was the case in pre-Roman Britain; Lodwick 2013); the foods considered to be high-status in Iron Age and Celtic Europe often held the same status in Roman times. On the other hand, both the geographic scope of each culture as well as their respective sociopolitical structures are rather incomparable and likely account for many of the differences in feasting practices (particularly the sociopolitical effects). However, precisely because of the close proximity of the two cultures both in geographical and temporal terms, it is useful and interesting to note the similarities and differences between the two regarding food and feasting practices. Specifically, the Celtic and Roman cultures will be compared along the lines of general diet and food practices, luxury/exotic foods commonly consumed at feasts, evidence of communal consumption at such events, and finally the sociopolitical motivations and effects that occurred at feasting events.

3. Results

3.1 Celtic/Iron Age studies

The majority of materials available to study Celtic food and feasting practices come from archaeobotanical assemblages recovered at Celtic and Iron Age sites, some of them known feasting sites. Ceramic assemblages recovered at similar sites may help identify feasting locales as well as speak to the most commonly consumed foods and their methods of preparation, and even size of feasting parties. The results of stable isotope analyses of Iron Age skeletons also provide additional information regarding the amounts of meat, C_3, and C_4 plants consumed, as well as differential access to such food groups. The historical sources related to food practices of the Celts primarily come from contemporary Greek and Roman authors, and are introduced in the Results section. Again, the results from known Celtic as well as simply Iron Age sites are included within this section; it is possible that some sites, if not specifically linked to feasting events, may not provide much information on this subject. However, findings from these sites are still useful as they can offer clues as to quotidian eating practices.

3.1.1 Results from archaeobotanical assemblages

Stika (1996**)** investigated the archaeobotanical remains from Eberdingen-Hochdorf, a site in southwest Germany where weakly germinated hulled barley grains were uncovered during excavation. This particular site, an early Celtic settlement dating to the late Hallstatt/early La Tène period (approximately 600-400 BC), was deemed to have been a settlement with special status, possibly the rural residence of a prince, based on the material finds from previous excavations at the site.

Stika's (1996) report focused on three U-shaped trenches which were excavated along with a number of other structures, and which each contained a unique assemblage. Eight samples were taken from these three trenches, and all plant macrofossils recovered were found to have been preserved through charring and mineralization. Within one trench, charred grains, wood charcoal, fired clay, and clay sediment were found. A cereal layer contained a small amount of chaff, primarily from spelt, a few wild plants, and mostly hulled barley grains, which showed evidence of germination and were also found in other contexts at the site. *Hordeum vulgare (*hulled barley) made up 98.4% of the total grains recovered from this trench. Only a few other species were found, and the assemblage was almost completely free of weed seeds. The recovered taxa found from one trench, in order of decreasing raw counts, were as follows: *Pisum sativum*. (pea), *Daucus carota* (carrot)., *Lens culinaris* (lentil)., *Linum usitatissimum* (flax), *Fragaria vesca* (woodland strawberry), *Vicia ervilia* (bitter vetch), *Apium graveolens* (wild celery), *Camelina sativa* (gold of pleasure), *Petroselinum crispum* (parsley), and *Corylus avellana* (hazel). Another ditch with the same proportions as the first also contained slightly germinated hulled barley, though at a much lower density. Barley was again the dominant species of grain, which consisted 80.5% of the total plant assemblage. Weed seeds accounted for 55% of the non-cultivars, and grassland taxa for 34%. The pulses found in this ditch were *Pisum sativum* (pea), *Lens culinaris* (lentil), and *Vicia ervilia* (bitter vetch), along with single finds of *Daucus carota* (Queen Anne's lace), *Camelina sativa* (gold of pleasure), and *Reseda luteola* (weld), which is used for dyeing. No germinated grains were found at the third ditch; remains were mostly non-cultivars, and the few grains and chaff recovered from this ditch were mostly of spelt.

After this initial analysis, Stika (1996) compared the assemblages with findings from the settlements of Eberdingen-Hochdorf, Freiberg a. N.-Beihingen, Heilbronn-Klingenberg, and Stuttgart-Mühlhausen, revealing that while the dominance of barley was not uncommon, the germination stage and relative cleanliness of the grains were an anomaly. Experiments were then performed in order to analyze the germination process and morphology of germinated grains. Stika (1996) concluded that accidental damp storage was not the cause of the almost pure hulled barley that was weakly but evenly germinated, and that threshing and cleaning prior to germination probably accounted for the lack of weed seeds and rachis fragments. Finally, the experiments proved that weak traces of germination on grains are enough to indicate malting, and that this stage was probably a precursor to beer production.

Lodwick (2013) presented the first evidence of imported plant foods from Late Iron Age Britain in her research and discussion of the waterlogged plant remains discovered at the Silchester settlement from two early 1st century AD wells. While the history of Silchester is known, there is a general lack of data from *oppida*, Late Iron Age settlements that emerged across areas of central and northwestern Europe from the later 2nd century BC, and between the 1st century BC to the 1st century AD in southern and eastern Britain. The plant remains recovered from wells at the Silchester *oppidum* included a pit of *Olea europaea* (olive) as well as seeds of *Apium graveolens* (wild celery), *Coriandrum sativum* (coriander), and *Anethum graveolens* (dill). These are the first records of these plants in Britain, as coriander, dill, and olives are not native to the country, and celery generally grows near the sea and was introduced to southern Britain at the time of the Claudian invasion of AD 43. These rare finds were compared with records from other Roman Britain sites, which revealed that, while coriander, dill, and celery were relatively common finds, olives appeared less frequently.

Excavations were performed at a farm site at Jaux (Oise), France, one of the first settlements to be founded during the Hallstatt period. Matterne-Zech (1996) reported on the results of an excavation of a number of different structures found at the site, including a ditch structure, a building likely to have been a granary, and an oven, as well as a pit containing a multitude of plant fragments. Ditch structure 1 contained the highest concentration of carbonized material, and was dominated by *Triticum dioccum* (emmer wheat) and *Hordeum vulgare* (hulled barley). As each was found concentrated in a small area and overlapped in the middle, Matterne-Zech (1996) stated that this probably represented two harvest stored separately on the floor of what was likely the granary. Fifty fragments of *Scirpus/carex* were also recovered which could have fallen from the thatched roof, or might have been laid on the floor to protect the grain from the damp. Another building, also believed to be a granary, contained the same range of weeds, but with lower frequencies. Pit 40 contained fragments of a dolium (storage container) and rotary quern, possibly for dehusking or grinding, along with a similar range of plants as those found at the granaries. One of the two ovens contained a small quantity of hulled barley and emmer and weed seeds, possibly as a result of storage within the ovens.

An excavation by Swidrak (1999) at a La Tène salt mining settlement in Dürrnberg, Austria uncovered a number of different taxa that spoke both to past food plants as well as past environment and vegetation in the Ramsau Valley. The settlement was known to have been established in the 5th century BC and to have survived for another 350 years, and functioned as an important manufacturing, trade, and mining center due to the exploitation of salt deposits in the area. Waterlogged samples from the La Tène period (approximately 2nd to 3rd century BC) were derived from the clay floor within the remains of five wooden houses that were excavated. While some cereal grains and pulses had survived in a carbonized state, the majority of the macroremains were preserved in an uncarbonized state. Many of the remains derived from the local environment around the settlement. There were a wide range of taxa recovered, but many had low frequencies, some as low as one or two counts recovered per taxon. The most important cereals were *Panicum miliaceum* (broomcorn millet), *Triticum dicoccum* (emmer wheat), *Hordeum vulgare* (hulled barley), *Triticum spelta* (spelt), *Hordeum vulgare* var. *nudum* (naked barley), and *Pisum sativum* (peas). Grains of barley, spelt, emmer, and millet were found inside or close to buildings, while a large number of broomcorn millet glumes were recorded from the border of a rubbish pit. Swidrak (1999) states that further diversity in diet was provided by the fruits and berries of wild plants growing nearby, such as *Rubus idaeus* (raspberry), *Rubus fruticosus* agg. (blackberry), *Corylus avellana* (hazelnut), *Sambucus nigra* (elderberry), *Fragaria* sp. (strawberry), and *Sorbus aucuparia* (rowanberry).

Huntley (1985) presented a review of the botanical remains found at eight Iron Age sites in Britain: Chester House, Northumberland; Thorpe Thewles, Cleveland; Eston Nab, Cleveland; Murton, Northumberland; Dod Law, Northumberland; Stanwick, North Yorkshire; Rock Castle, North Yorkshire; Scotch Corner, North Yorkshire. Overall, Huntley noted that barley was the most commonly used cereal grain along with emmer and spelt wheat. Huntley contended that emmer was more common in the north and spelt more so in the south, reflecting cultural differences between north and south rather than environmental factors. Much of the cereal material was found in the form of chaff, suggesting food production at the settlements.

3.1.2 Results from stable isotope analysis

Le Huray and Schutkowski (2005) employed the use of stable isotope analysis in order to study the diet of individuals from La Tène Bohemia using human skeletons from three La Tène period cemeteries. The researchers questioned the extent to which society in this period was actually homogenous and less complex than the Hallstatt period, which was suggested by the transition from large hill forts and major centers of settlement to smaller, self-sufficient communities during this period, as well as the grave assemblages unearthed by previous studies. Human skeletal remains were examined for biological data on sex, age, stature, and pathology, and comparison samples included contemporary osteological material from a cow, horse, and pig, as well as from skeletons from other Hallstatt period sites.

Mean carbon and nitrogen isotope ratios of human samples reflected an overall diet based on varying quantities of terrestrial protein and C_3 plants; however, some of the more higher carbon isotope ratios reflected some consumption of C_4 plants, most likely *Panicum miliaceum* (millet). The cow, horse, and pig sample carbon isotope signatures were consistent with a diet based on C_3 plant foods, and their nitrogen signatures reflected a predictable herbivorous diet.

3.1.3 Results from ceramic assemblages

Until recently, the results of traditional archaeological excavations provided the majority of evidence on which research on feasting was based. Murray (1995) studied feasting through an examination of several *Viereckschanzen*, archaeological monuments characterized by their steep-sided ditches, earthen walls, and single narrow gates often enclosing about one hectare. These were found across the Czech Republic through Europe to western France, and were dated to the late La Tène Iron Age during the 1st and 2nd centuries BC. Many researchers had been operating under Schwarz's (1959; 1960; 1962; 1963; 1975) theory that the *Viereckschanzen* represent Celtic sanctuaries; however, this theory was later challenged, and Murray (1995) in particular aimed to assess the presence or absence of cultic features. The study utilized data published on 32 of these structures in central Europe, though only 14 were excavated further than 5%. The results were grouped into two kinds of material evidence: special structures or features, and unusual deposits. According to Murray (1995), the unusual deposit assemblage did not form what would be considered a consistent cultic assemblage, but the lack of small finds and domestic debris also did not support the notion of the spaces as being inhabited continuously or intensely.

The assemblage proportions of six enclosures were then compared to those from contemporary settlements in northern Switzerland and southern Germany. Ceramics were sorted into three categories: graphite pottery, which contained graphite, was valued for its thermal conduction and therefore used primarily for cooking vessels; coarse wares, which consisted mostly of hand-built pots with rough incisions and crude pastes; fine wares, which were largely wheel-made vessels with refined pastes. The comparison showed that graphite wares were far less common at the *Viereckschanzen* than at the other contemporary settlements. At the *Viereckschanzen*, finely made ceramics comprised 18% of the total assemblage, with coarse wares comprising 80% of the total assemblage. At other settlements, fine wares were much more common, and coarse wares much less, their proportions being 47% and 36% respectively of the total ceramic assemblage. The assemblages were further sorted into groups of storage pots, cooking vessels, coarsely made bowls and basins (probably used for both eating and storage), and fine ware (mainly for storage and presentation). A comparison revealed that there were relatively very few or no identifiable storage vessels from the *Viereckschanzen*, very few coarse ceramics, likely used for storage, and that the cooking pots and coarse bowls and basins dominated the assemblages from all of the *Viereckschanzen*. Graphite wares comprised between 33-62% of the ceramic assemblages from each *Viereckschanze*, and coarse bowls and basins comprised 19-51%.

Luley (2014) approached the topic of changing tastes and emerging "high cuisine" in Mediterranean France through analysis of ceramic assemblages associated with cooking, focusing on the region of eastern Languedoc and three of its sites: Lattara, Castels à Nages, and Ambrussum from the late Iron Age to the Early Roman period. The cooking-related ceramics used in this study came from residential blocks at the three sites, numbered 137,770 total sherds, and included cooking pots (called *ollae*), lids, jattes, lopas/patellas, caccabuses/marmites, cooking plates/patinas, and mortars for grinding food and usually equipped with a spout for pouring. Jattes are open-mouthed bowls produced in Mediterranean France, occasionally with handles, a spout, or a beaker. Lopas and patellas are the Greek and Roman forms, respectively, of open-mouthed vessels with straight walls, a flared rim, and rounded bottom, while caccabuses (*marmites* in French) are deeper versions of the lopa/patella with more pointed bottom. After identification the ceramics were then furthered divided into categories based on the ceramic ware, its form, and the typology developed for Iron Age and Roman period Mediterranean France.

The cooking pot was deemed the most important vessel during the Iron Age period of the sites based on its high proportion in the assemblage, and probably was multifunctional, used for cooking, drawing and carrying water, and storage, though cooking was evidently its most important function based on evidence of exposure to fire. This type of vessel accounted for 60-75% of the cooking assemblages recovered from the three sites between ca. 300-25 BC, which compared similarly to other Celtic Iron Age sites in Mediterranean France. Lids for the cooking pots, ceramic mortars, and various jattes each accounted for less than 20% of the assemblages. The jatte category was made up of large bowls, flat-bottomed plates, and bowls with rounded or slightly rounded bottoms, sometimes with spouts or beaks for pouring liquid. The large bowls may have been used for preparing or serving large dishes to a number of people, the flat-bottomed plates for cooking around a fire or baking in ovens, and the round-bottomed bowls for simmering foods and sauces over a fire and for pouring liquids. The very limited number of imported Greek and Roman vessels indicated that their culinary practices had little influence on the cooking traditions at the three sites in question. However, new condiments and sauces such as olive oil and garum (fermented fish sauce, commonly used in Roman cuisine) appeared at Lattara and Ambrussum at the end of the 1st century BC, evidenced by the proportions of amphora sherds from the producing town of Baetica found at Lattara.

3.2 Roman studies

Similarly, there are many archaeobotanical records relating to the Roman period. Like those of the Iron Age, Roman archaeobotanical materials speak to produced and consumed plants as well as those that may have been imported from other areas. Stable isotope analyses of Roman period skeletons are very common, and attempt to rectify the fact that Roman lower classes and slaves are often underrepresented in most Roman studies, as do some studies of osteological materials (namely teeth). Other osteological studies, such as those of faunal remains, address the question of what animals were specifically consumed. The historical records considered within this study relating to the Roman period are mainly period cookery books, and are also addressed within the Results section. With the exception of research performed by Livarda (2011), Livarda and Van der Veen (2008), and Van der Veen, Livarda, and Hill (2008), which take into account all available Roman archaeobotanical records from across Europe and Britain, many of the Roman period studies included here are based on sites along the borders of the Roman Empire, often military sites. This may bias some of the results; however, the work by Livarda (2011), Livarda and Van der Veen (2008), and Van der Veen, Livarda, and Hill (2008) consider all other type sites as well. Thus the inclusions of these studies will hopefully lessen the effect of this bias within the results.

3.2.1 Results from archaeobotanical assemblages

Livarda (2011) aimed to trace the introduction and trade of exotic food plants across northwestern Europe during both the Roman and medieval periods by collecting data on archaeobotanical records of non-local taxa or those that require considerable effort for cultivation. This information, along with accompanying archaeological information, was then analyzed in terms of social, spatial, and temporal occurrence. Data was collected by Livarda (2011) from archaeological reports and databases from sites in northwest Europe, including Belgium, Britain, Denmark, France, Germany, Liechtenstein, Luxembourg, Switzerland, and The Netherlands, and notes were also made of taxa that were mentioned in historical texts or found in trade ports outside of the study area during the Roman or medieval periods, but were not found in archaeological contexts.

True imports and taxa that are not easily cultivated in northwestern Europe included *Piper nigrum* (black pepper), *Aframomum melegueta* (melegueta pepper), *Elettaria cardamomum* (cardamom), *Cuminum cyminum* (cumin), *Nigella sativa* (black cumin), *Myristica fragrans* (nutmeg), *Phoenix dactylifera* (date), *Sesamum indicum* (sesame), *Oryza sativa* (rice), and *Sorghum bicolor* (sorghum). Plants that were not readily ecologically adapted to northwestern Europe that were also recovered included *Prunus armeniaca* (apricot), *Prunus persica* (peach), *Lagenaria siceraria* (bottle-gourd), *Cucumis sativus* (cucumber), and *C. melo* (melon). Taxa encountered in more than one preservation mode were recorded as separate occurrences.

Thirty-two taxa that were known to have been used during the study period were completely absent from the archaeological data. *Prunus persica* was the most common taxon of plant actually present, with *Cucumis sativus* and *Phoenix dactylifera* following. The rest of the taxa were less commonly recovered, with *Myristica fragrans, Sesamum indicum, Cucminum cyminum, Sorghum bicolor, Elettaria cardamomum, Nigella sativa,* and *Prunus armeniaca* being particularly scarce.

Plants found mainly or exclusively in Roman contexts were *Phoenix dactylifera, Cucumis melo, Lagenaria siceraria, Sesamum indicum,* and *Cuminum cyminum*; *Prunus persica* was recorded mostly in Roman sites but also at a few medieval ones, and *Cucumis sativus* was roughly distributed between sites from both time periods. Roman occurrences were found in a number of site types: military, urban, rural, and ceremonial. While *Prunus persica* was found in the first three contexts, date was found mostly in burials, temples, and shrines. Roman period peach were all found within the borders of the Roman Empire; date was also found within the same borders, but most records were concentrated in Mediterranean France and along the *limes* (Roman boundaries) of continental Europe.

Livarda and Van der Veen (2008) explored the introduction and dispersal of eight common condiments in northwest Europe through the Roman and medieval periods, again through the application of archaeobotanical analysis. Data was collected from archaeobotanical reports from the study area on *Apium graveolens* (celery), *Anethum graveolens* (dill), *Coriandrum sativum* (coriander), *Brassica nigra* (black mustard), *Foeniculum vulgare* (fennel), *Satureja hortensis* (summer savory), *Carum carvi* (caraway), and *Petroselinum crispum* (parsley), which were the most common condiments recovered archaeobotanically from study sites within the temporal and geographical scope of the study, and were considered by the authors to have exotic or luxury status. Records used for this study came from site excavations in Belgium, Britain, Denmark, France, Germany, Luxembourg, Switzerland, and The Netherlands, and only included data on waterlogged samples, since this was the main mode of preservation. In total, the dataset comprised 854 sites, with 331 of them classified as Roman.

In the Roman period, all condiments were present within a variety of site types (military intramural and extramural, town major and minor, rural elite, lesser, and non-elite, village, burial, temple/shrine, and other), though stronger associations with military and major town contexts were observed, apart from black mustard. Spatial distributions were found to be different for all species, but three trends emerged for taxa in the Roman period. Coriander, dill, and celery were widespread across the Rhine frontier zone in various site types close to the military forts, and are also scattered on Roman territory with a substantial presence in Britain. Summer savory, fennel, caraway, and parsley were found almost exclusively across the Rhone frontier. Interestingly, black mustard was unique in that it was not strongly associated with the *limes* and the only contextual pattern evident was its recovery at military sites.

The study by Van der Veen, Livarda, and Hill (2008) reviewed all archaeobotanical records from Roman Britain, and analyzed the 50 some new plant foods that were introduced during the Roman period along the lines of geographical, chronological, and social dispersal. Though some of the plant taxa discussed in the study were consumed during the late Iron Age, most were probably first consumed in Britain during the Roman period. Information regarding the presence of food plants, location, site type, chronology, sample numbers, and preservation mode was collected from sites and studies across Britain.

The majority of the new plant foods occurred only rarely. The most common of the new plant foods was fig, which was found in 14% of all the records, and was followed by coriander (12%), poppy (11%), and grape (10%). The new foods were found across most of the country. Fig, grape, olive, lentil mulberry, cucumber, almond, peach, pomegranate, marjoram, bitter vetch, and einkorn, all of which were consumed during the Roman period in the Mediterranean, were found mainly in major towns and military sites, while imports from more remote areas such as date, black pepper, and sesame were much more rare but recovered at towns and military sites. Surprisingly pine nut was common in towns and also found at rural elite sites and on temple/shrine sites. Common finds from rural contexts were mint, carrot, poppy, coriander, plum, damson, apple, cherry, celery, parsnip, and turnip. Only a few records came from ceremonial contexts, and these included date, almond, pine nut, lentil, mulberry, and grape.

The researchers classified records for each taxon by phase of occupation (Early, Middle, and Late Roman) in order to assess the changes over time in abundance of foods. Through this, it was noted that foods followed one of three paths: either they declined over time and never became established, increased in frequency but then went into decline, or increased over time and became established. Waterlogged fig, grape, mulberry, and fennel as well as carbonized lentil and fig fell into the first category. Coriander, celery, dill, summer savory, poppy, mint, parsnip, apple/pear, turnip, pine nut, and olive belong in the second group. The Late Roman value of most of these was between +2 and -2% of their starting Early Roman value, with dill (ending 8% lower), celery (ending 4% higher) and olive (ending 4% lower) being the exceptions. Coriander was the most abundant taxon of this second category. Finally, carrot, cherry, plum, black mustard, damson *(Prunus domestica* ssp. *insititia)*, walnut, boxwood *(Buxus sempervirens)*, hemp, beet *(Beta vulgaris)*, and cabbage *(Brassica oleracea)* belonged to the third group, as they increased in occurrence over the Roman period. Box experienced the steepest increase in occurrence over the period.

The results of correspondence analysis demonstrated the following: that the military intramural sites formed a tight group, with the military extramural sites being more similar to the intramural ones than to the rural sites; that the rural site types did not form distinct categories in terms of access to new food; that London records dominated the major town category; that while most of the classifications to one of three paths mentioned above were correct, olive and pine nut were demonstrated by the correspondence analysis to be more closely associated with the first group rather than the second; and finally, that the plant remains at Bath and Neatham may be more representative of religious use of food, rather than domestic.

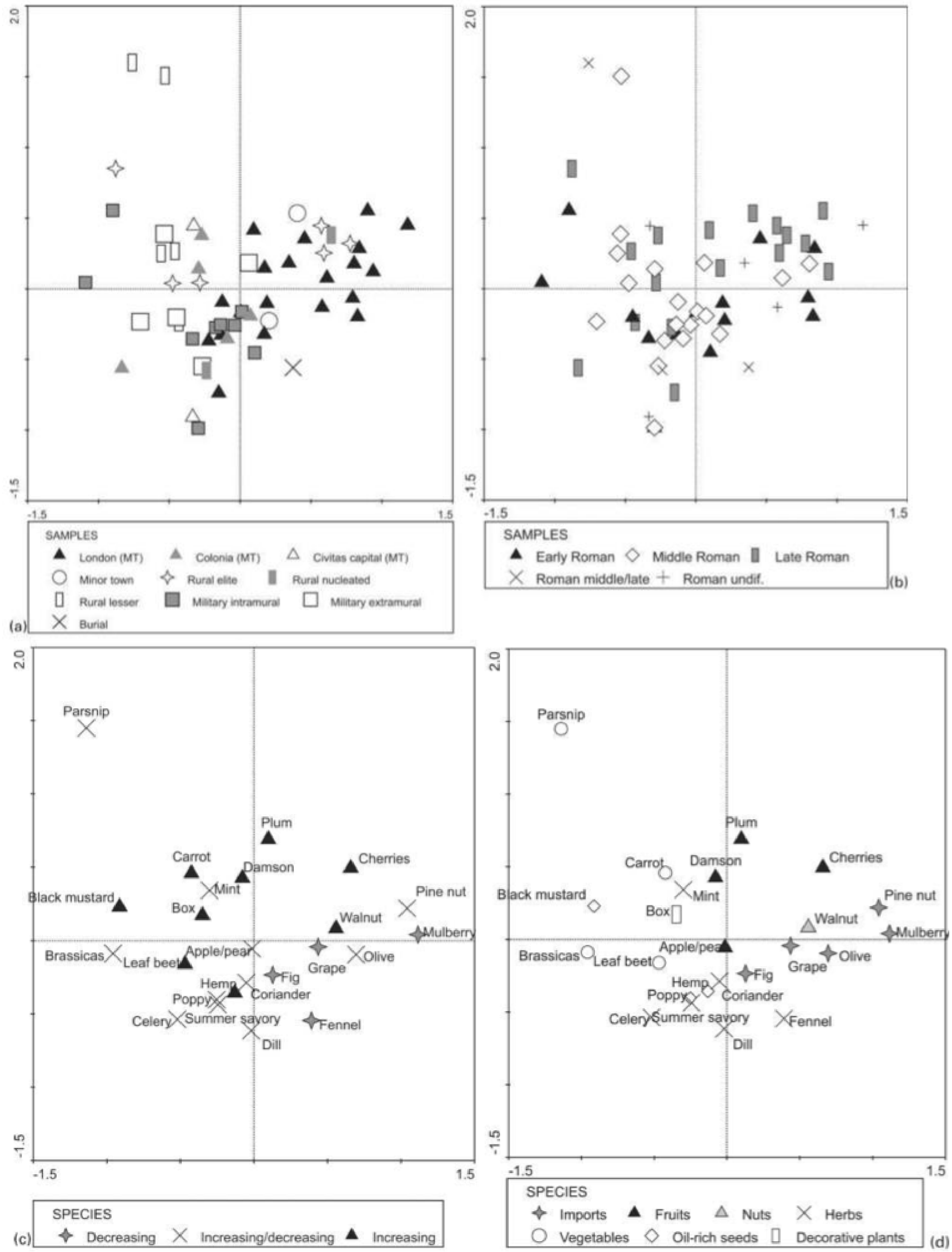

Fig. 2 Correspondence analysis of all waterlogged records: (a) records plot by detailed site type; (b) records plot by phase of occupation; (c) foods plot by increasing/decreasgin pattern; (d) foods plot by cateogry of food. MT = major town. (Van der Veen, Livarda, & Hill 2008, p. 22)

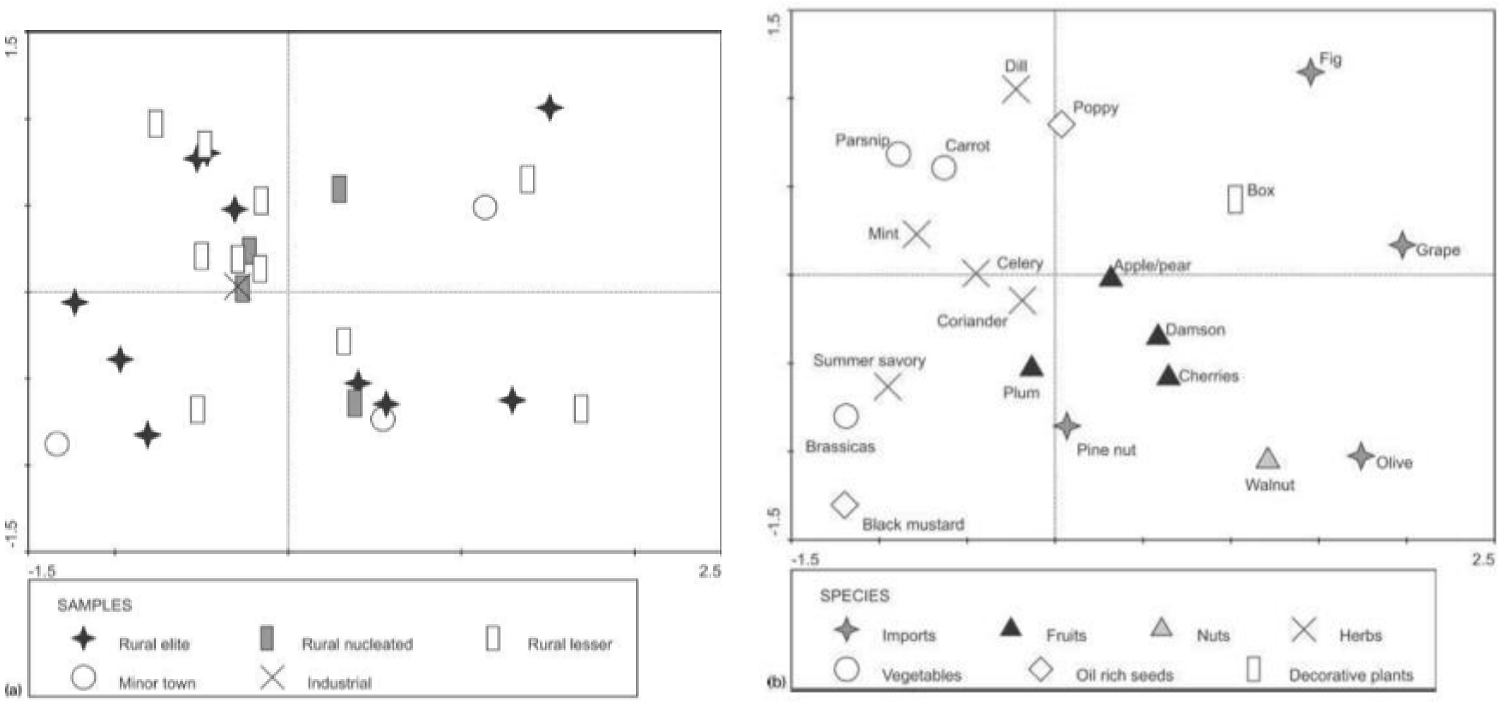

Fig. 3 Correspondence analysis of the rural, minor town, and industrial waterlogged records only: (a) records plot by detailed site type; (b) foods plot by category of foods (Van der Veen, Livarda, and Hill 2008, p. 24)

Plant taxa were then categorized into further groups: imports, fruits and nuts, herbs, vegetables, and oil-rich seeds. The first group included fig, mulberry, grape, olive, pine nuts, and lentil. Most of these, besides pine nut, were consumed in major towns and military sites. These were introduced in Britain at the start of the Roman period but gained more popularity during the later Roman period. Some of the herbs (coriander, celery, dill, fennel, summer savory, and marjoram) were very commonly found in major town and military sites, but also occurred on rural sites. Coriander, celery, and dill were very common on military sites, and fennel, summer savory, and marjoram were common in major town contexts. Fruits and nuts (apple, pear, cherry, plum, damson, and walnut) were less commonly found than the herbs, but consumption appeared to be spread across various site types, particularly rural sites. Their frequency also increased over time. The vegetable group, comprised of carrot, cabbage, turnip, parsnip, and leaf beet, was spread across all sites but especially rural ones, with cabbage being the exception, and with parsnip and leaf beet only being found at Middle Roman sites. Their occurrence increased over time, from the Iron Age to the Roman period. Finally, oil-rich seeds (comprising of poppy, black mustard, gold of pleasure, and hemp) were mainly found in major towns and military sites, except for poppy, which was common at all sites.

3.2.2 Results from osteological studies

Lauwerier (1986) studied the role of meat in the Roman diet through the examination of faunal osteological remains from various Roman sites in and near Nijmegen, which was a densely populated region on the border of the Roman empire between AD 0 and 400. The majority of the recovered bones were the remains of butchering and food waste, and was find primarily in waste pits. These were then cleaned, numbered, and dated based mainly on the pottery found within the same context, and finally analyzed. The animal remains were categorized into three groups: domestic animals that were consumed (including cattle, sheep, goats, and pigs); wild animals that were consumed (including aurochs, elk, red deer, roe deer, wild boar, and hare); and finally, domestic animals that were not intended for consumption (horses and dogs).

A comparison between the first two groups indicated that hunting of larger game did not play a very significant role as far as meat consumption was concerned. Poultry was generally represented by chicken; at some sites, geese, ducks, and pigeon remains were also uncovered, but it was unclear whether these were farm animals or wild equivalents. The remains of crane, cormorant, long-eared owl, and thrush were found among butchering and food waste, indicating with some certainly that they too were among the species being consumed. At the legion encampment site in Nijmegen in particular, soldiers apparently consumed a large amount of pork based on the remains. At 'Hunerberg' in Nijmegen, a military garrison was housed in the period of AD 70-175, and remains have been found around the encampment of the canabae legionis, the camp village, which was inhabited by civilians. At the legion encampment site in Nijmegen in particular, soldiers apparently consumed a large amount of pork based on the remains.

In some places in the camp village, pits were found containing a large number of largely intact cattle shoulder blades, which were hardly found at all in the rest of the settlement. Many of the shoulder blade bones have a hole in the thinnest part of the blade, probably from a hook with which they were hung to be smoked. This impression is supported by the presence of many thin cutting marks on the blade made from cutting the meat off after it was smoked. Other cattle remains were found elsewhere in the eastern part of the canabae legionis – many pits were discovered which contained skull and jaw fragments. Apparently, the different cattle parts were collected and processed separately. One possible explanation for this spatial differentiation is that the heads of the cattle were used to make brawn, which used the boiled head of a pig or ox.

Bonfiglioli, Brasili, and Belcastro (2003) analyzed the dental lesions of pathological, non-pathological, and linear enamel hypoplasia and tooth wear of adult skeletons from a Roman necropolis in Molise, Italy.

The teeth of 67 adults who lived during the Roman Imperial Age (between the 1st and 4th centuries AD) were analyzed, and later compared with data from necropolises from Isola Sacra and Lucus Feroniae.

Examination revealed that the dental assemblage generally had a low frequency of heavy wear. Lower teeth were more worn than upper teeth, and the anterior teeth were considerably more worn than the posterior. Heavy wear increased significantly with age; the middle age class had maximum wear on molars and premolars, the teeth that are directly involved in the trituration of food. Similar levels of wear were observed in males and females. As age increased, however, females had a higher frequency of heavy wear in the maxilla than males did.

71.6% of individuals examined had caries, with 20.8% having more than five carious lesions. Males had a higher frequency than females of caries, but the difference was not significant. The presence of five or more lesions in a large number of subjects suggested than some individuals were particularly susceptible to caries attack. Cervical caries was more frequent than occlusal caries, and abscesses affected 10.3% of individuals. In terms of abscesses, again, there was no significant difference in frequency between sexes. Ante mortem tooth loss affected 60% of all individuals, and naturally increased in age. Calculus was present on at least one tooth in 83.6% of all individuals, and linear enamel hypoplasia affected 95.2%.

3.2.3 Results from stable isotope analysis

Redfern, Hamlin, and Athfield's (2010) study investigated the relationship between diet and cultural change during the Roman Age between the 1st century BC and the early 5th century AD through stable isotope analysis of human and faunal rib samples. The researchers hypothesized that the Romanization of diet would result in greater dietary variation between individuals. To test this, they performed analyses of human and animal skeletal material recovered from funerary and settlement context in Dorchester (modern-day Dorset County, England), which had likely been occupied since the early Iron Age (9th to 7th centuries BC) by the Durotriges. By the Late Iron Age, these Durotriges formed a close-knit tribal confederacy that was eventually conquered more or less peacefully by the Romans in approximately AD 43-44. The settlement survived into the Romano-British period (late 1st century to early 5th century AD).

Researchers analyzed 77 human rib samples from 40 late Iron Age and 37 Romano-British period adult individuals over 20 years old, along with 10 Late Iron Age faunal samples and 7 Romano-British samples. The faunal samples originated from horses, cows, sheep, red deer, dogs, pigs, and chickens. Data from previous British archaeological studies were also incorporated, and herbivore isotope value ranges were used as a proxy for human vegan diets.

While the results from the Late Iron Age samples generally confirmed the findings of previous British studies in terms of diet, the Romano-British isotopic data was at odds with both historical and environmental evidence for increased exploitation of fresh-water and marine resources and introduction of new foods during this time period. A lack of significant changes in the nitrogen signature between the Late Iron Age and Romano-British period samples did not support the hypothesis that freshwater or marine fish were consumed more frequently in the latter period.

Craig *et al.* (2009) performed analyses of carbon and nitrogen stable isotopes on 117 adult human skeletal samples and fauna from individuals interred near the Imperial Roman coastal site of Velia in southern Italy in order to study the general diet of the population. Velia was founded by the Greeks in the 6th century BC, and functioned as a trading center and port under Roman control since the late 3rd century BC. Though the city had territories and land, it was best known for its connection with the sea, and one would expect the stable isotopic values to reflect a local diet consisting in part of marine resources. Only adult individuals over the age of 15 were selected for isotope analysis, and individuals were interred in a variety of burial contexts: the graves were scattered over a large area, and included both inhumations and cremations. In fact, 27 types of tombs were recorded, which were then classified into 6 main types for use in this study.

The animal isotopic data proved to be variable, even within species. The pig samples had similar isotopic signatures to the sheep and horse samples, suggesting that domestic pigs from the site relied on herbivorous rather than omnivorous diets. The results from analysis performed on adult human individuals indicated a tight distribution of carbon isotope values, but a varied range of nitrogen values. Cluster analysis was used to divide the individuals into two groups. Group 1 comprised 100 individuals (52 males, 45 females, 3 of indeterminate sex) with nitrogen values at least 3.1% higher than the mean herbivore nitrogen isotope value. Group 2 (comprising 11 males, 4 females, 2 individuals of indeterminate sex) individuals had significantly higher nitrogen isotope values than the first group. Craig *et al.* (2009) inferred that Group 1 individuals derived most of their dietary protein from herbivore meat and/or dairy products as well as pigs, while Group 2 consumed mainly herbivore protein as well as some marine fish, and suggested that high cereal and legume consumption rather than herbivore consumption accounted for the isotopically depleted nitrogen values observed in Group 1, but also that there was considerable variation in amounts of plant and animal foods consumed by individuals prior to death. Based on their higher nitrogen isotope values, Group 2 individuals likely consumed much higher trophic level food sources, such as marine fish.

Prowse *et al.* (2004) applied stable isotope analysis to study the diet of individuals from Isola Sacra near Rome, and to compare the results to those of inland sites. In particular, the researchers were interested in whether fish and marine resource consumption was differential and restricted to the elite classes. 105 total femora from Isola Sacra were used to test for dietary differences between the coastal and inland populations, as were 14 adult skeletons from an inland rural cemetery known only as ANAS (after the Azienda Nazionale Autonoma delle Strada, who uncovered it). The faunal reference collection included cow, horse, donkey, goat/sheep, dog, fox, and pig samples from the Isola Sacra necropolis. Garum samples were also analyzed to determine what trophic level fish were generally used in production and its contribution to the nitrogen isotope values of Velia skeletons.

The results demonstrated that the isotopic signatures from human samples at Isola Sacra matched the range of an expected marine carnivore diet. Compared to the individuals interred at ANAS, the Isola Sacra population consumed higher trophic level foods. The isotopic signatures of the pig samples indicated that they were being fed or eating a diet similar to other grazing animals, as their signatures clustered with the other herbivore values. Analysis of the garum sample indicated that most likely low trophic level fish were used in production, and that garum consumption did not contribute significantly to the higher nitrogen values of the Isola Sacra individuals.

With many Roman studies focusing primarily on the elite and upper classes, not much is known about the lower echelons of society: the lower-class free citizens and slaves, who accounted for more than 98% of the population (Killgrove & Tykot 2013). Indeed, an entire third of the population were slaves. Merely the proportion of this lower class then merits further research. Killgrove and Tykot (2013) hypothesized that poor and enslaved Romans may have eaten whatever they could have found or afforded, resulting in a heterogeneous diet amongst these social classes, and tested their theory by analyzing the stable isotopic composition of human skeletons from two Imperial period (1^{st} to 3^{rd} century AD) cemeteries in Rome. The individuals interred at the cemeteries of Casal Bertone and Castellaccio Europarco most likely represented the lower strata of society (based on the burial style and lack of grave goods), with inconsistent access to high-quality or high-status food. The researchers also relied on the faunal data of similar past studies for comparison material, and compared the results of the stable isotope analysis of individuals from Casal Bertone and Castellaccio Europarco to the late Imperial burial site of St. Callixtus and Portus Romae.

No significant differences in carbon levels were evident between the Casal Bertone males and females, nor between subadults and adults. However, significant differences were observed between the individuals from the mausoleum of Casal Bertone, and those from the Castellaccio Europarco necropolis. The data suggested that the people of Castellaccio Europarco were consuming more C_4 resources than were the adults from Casal Bertone, which was attributed to differential consumption of millet. The adult nitrogen values of samples from Casal Bertone and Castellaccio Europarco were lower than those from Portus Romae and St. Callixtus, suggesting that the former relied more heavily on a diet composed mainly of terrestrial protein.

4. Discussion

The results of various studies using archaeobotanical analysis, stable isotope analysis, and traditional archaeological excavation techniques are outlined above. These results of studies based on historical texts traditional and environmental archaeological ventures will now be interpreted and assessed for evidence of the following: general diet and food practices, the consumption of luxury or exotic foods, communal consumption, and sociopolitical motivations or effects for both Celtic and Roman cultures.
The research questions for this study were again as follows:

1. *What were the commonly consumed foods of the Celtic/Iron Age and the Roman period?*
2. *What evidence is there of luxury or exotic foods consumed at Celtic and Roman feasting sites?*
3. *Is there any evidence of communal consumption at such feasts?*
4. *What were the sociopolitical motivations and effects of feasts in these cultures, and are these visible archaeologically?*

4.1 Celtic fare

Common foods and general diet are relatively straightforward to assess using the materials described above. Stable isotope analysis and plant macrofossil analysis are well suited to the task of investigating diet, and material evidence uncovered through archaeological excavations may further shed light on food practices and production, especially when the record included ceramic assemblages or structures involved with the process of food production. In addition to food practices, archaeobotanical and ceramic assemblages from Celtic/Iron Age sites spoke to the technology related to the production of alcoholic beverages.

The prominent role of alcoholic beverages in Celtic and Iron Age Europe, in place since at least the Bronze Age, has received much attention from scholars (Arnold 1999). Stika's (1995) results confirm, if not the importance of drink in Iron Age and Celtic cultures, that beer at least was being produced during this time in southwest Germany. The results also shed some light on the production process and some of the technology used in the production of alcoholic beverages, of which little is known (*ibid.*). The results of Stika's (1995) experiment proved that even weak traces of germination on grains were enough to indicate malting; due to the fact that the grains were relatively clean and evenly germinated, and the assemblage consisted almost entirely of hulled barley, the assemblage was thought to have been the result of an early stage of beer production. In terms of the production process, the lack of weed seeds and rachis fragments suggested that grains were threshed and cleaned prior to germination. Furthermore, the ditches found at the site were interpreted as kilns used for malting. Luley (2014), in his overview of ceramic assemblages from Celtic Mediterranean France, also considered the likely possibility that many of the ceramic pots and spouted jattes/strainer bowls could have been used during the soaking, germination, boiling, and fermentation stages of the beer-making process.

In general, evidence of beer, mead, and wine consumption has previously been recovered from burial mounds, amphorae sherds, classical bowls, and grape pip impressions on ceramics (Stika 1995). However, mead and beer were considered the primary alcoholic beverages in Celtic society, though bragget, malt, and ale were also mentioned within historical texts regarding Celtic drinking practices (Arnold 1999; Jackson 1969 cited in Arnold 1999).

The results of an excavation of a Hallstatt period granary in northern France also provide useful information on food production and technology, as well as what plant foods were being cultivated and consumed. The results of Matterne-Zech's (1996) research indicated that, at least at this particular site, grains were likely stored hulled in ovens to inhibit germination and protect against sprouting, infestation, and mold, and later de-husked (and possibly ground) using a rotary quern. Furthermore, the high concentrations of emmer wheat and hulled barley suggested that these were the dominant food crops, cultivated yearly. This dependence on emmer wheat and barley was supported also by Swidrak's (1999) research on a La Tène trade center in Austria. Swidrak (1999) found that, based on taxa frequencies, emmer wheat and hulled barley, along with broomcorn millet, spelt, and naked barley were among the most important cereals during this time period. Peas were also cultivated, and wild fruits and berries supplemented diversity in the diet. Interestingly, the site in question for this study lay in a high-altitude valley that did not support the cultivation of cereals, so they were most likely grown in and imported from the lower plains of the pre-Alpine lowlands (Swidrak 1999). In Iron Age Mediterranean France too barley, emmer wheat, and millet were consumed, along with hard and soft wheat and oats (Luley 2014). Though Britain's Iron Age communities are considered by some to be culturally distinct from their continental contemporaries, there is general continuity in terms of the most important cultivated grains. In a review of the archaeobotanical assemblages from British Iron Age sites, Huntley (1985) notes that while barley was the most commonly used cereal grain, emmer and spelt wheat were also important, though she suggests that emmer was preferred in the north and spelt more so in the south.

Though they cannot be used to determine how exactly meats and plant foods were prepared, the ceramic assemblages of the Iron Age may provide certain clues as to what kinds of dishes were commonly consumed. As Luley (2014) states, the high percentage of cooking pots sherds recovered suggest that soups and stews were common fare not only in Mediterranean France, but throughout Celtic communities during the Iron Age.

The results of stable isotope analysis on skeletal remains from human individuals from the Iron Age provide an alternate perspective on diet. Stable isotope analysis is particularly useful in determining the composition of meat in diet, which is not of course visible through archaeobotanical analysis, the importance of meat and plant foods, and finally any variation in diet on the individual level. Results from the study of La Tène period inhumations in the Czech Republic and Austria demonstrated that the individuals' isotope signatures reflected diets based on varying amounts of terrestrial animal protein and mainly C_3 plants, although some also reflected consumption of C_4 plants, which was interpreted to be millet (Le Huray & Schutkowski 2005). At one cemetery, dietary division was observed amongst male individuals: those buried with iron swords, shields, or spears, possibly markers of higher social status, had higher nitrogen isotope values than the rest, suggesting that these males had more access to meat and/or dairy products. However, it is difficult to determine whether the higher portions of meat were consumed by these individuals during feasting events or in daily life. One factor to consider in studying this question is how available meat was at the time – if it was regularly available, perhaps it would have been consumed more often than if it were not, in which case it may have been saved for special occasions, such as feasts. Another possible avenue to study this question would be by examining stable isotopic ratios from teeth, which represent different stages of growth during childhood. This could shed light on whether certain individuals or groups were enjoying special access to meat during their entire lifetimes, or at a particular stage of their lives.

Though the Roman invasion of AD 43 certainly did introduce a number of new plant foods into Britain, it would be a mistake to assume that no exotic or non-local foods had been brought to Britain and consumed up until that point. In fact, evidence provided by Lodwick (2013) challenges this very notion by presenting the first evidence of imported plant foods into Britain during the Late Iron Age, through the recovery of an olive stone, celery seeds, coriander, and dill at the Late Iron Age oppidum in Silchester, England. Though celery grows in Britain, it is commonly found close to the sea (which Silchester is not), and olive, coriander, and dill are not native to Britain; the presence of these taxa in securely dated well fills confirms that these plant food species were imported and consumed prior to the Claudian invasion. In comparing these records to other archaeobotanical assemblages in Britain, it was evident that finds of olive in Roman Britain are relatively rare, suggesting that olives were considered to be exotic foods, likely consumed only by high status society members and/or not popular or accessible to the general population. This was supported by the fact that the majority of olive pits recovered in England were found in military or urban contexts, and pits would not likely have been accidental contaminators of olive oil (Lodwick 2013; Van der Veen cited in Lodwick 2013). Though it is possible that some taphonomical factors may have affected the occurrences of olive pits in Britain (such as the fact that they are unlikely to become charred), Lodwick (2013) states that these factors do not wholly account for their rarityin waterlogged deposits. On the other hand, celery, coriander, and dill were commonly recorded finds at Roman sites in Britain. Citing the studies of other European Iron Age sites, Lodwick concluded that the 'Roman' finds at Silchester are representative of a wider phenomenon in Europe of diet diversification. However, this diversification in diet seems to have been variable. In Celtic Mediterranean France, for example, olive oil was evidently not imported or widely consumed. An absence of imported olive oil amphorae and lack of palynological and archaeobotanical evidence of the presence of olive trees suggested that, though the product may have been important in many Mediterranean diets and even imported all the way to Britain, it was not widely consumed in Celtic Gaul (Luley 2014). This is confirmed by the writings of Posidonius, a Greek writer and traveler, who after visiting the territory around the start of the 2nd century BC remarked that the Celts did not use the product due to its scarcity and the impression that it was 'unpleasant' (Luley 2014). This may be a reflection of what the Celts considered luxury; since one aspect of luxury foods is that they offer pleasure and enjoyment, it would seem that Celtic distaste for olive oil overrode its exotic status.

4.2 Roman fare

Especially in the case of the elite or those of high social standing, diet in Imperial Rome was characterized by diverse and often imported taste in meat and spices. Even in smaller town and settlement contexts across Britain and continental Europe, non-native and imported plant foods were consumed, often spread by the military. As a whole, diet during the Imperial Roman period was highly variable and dependent on a number of factors, including both geographic area as well as social standing. Similar techniques have been applied to study diet during this time period, with stable isotope analysis particularly relied upon as it can be used to distinguish dietary differences between social classes.

Craig *et al.* (2010), Prowse, *et al.* (2004), and Killgrove and Tykot (2013) addressed the diet of common people living at sites both in and near Rome as well coastal sites in southern Italy between the 1st and 3rd centuries AD through the application of stable isotope analysis. Even amongst the coastal sites there was variation in diet. Based on the results, individuals interred near the port of Velia ate much less fish overall than those from the necropolis of Portus (Craig *et al.* 2010); the individuals at Velia who consumed marine resources were mainly males. The consumption of fish and marine resources is not widely discussed by historical writers. According to Prowse *et al.* (2004), fish during the Roman period were supposedly considered expensive, which may account for differential access to it, but Craig *et al.* (2010) argued that it was widely consumed in Roman Italy and would most likely have been exploited by coastal populations who had access to it. At all three sites, terrestrial resources still appeared to form the bulk of the diet (Craig *et al.* 2010; Killgrove & Tykot 2013; Prowse *et al.* 2004), but as Craig *et al.* (2010) stated, fish, like meat, was simply a supplement to the cereal-based diet of Imperial Rome rather than a staple food.

Consumption of meat in the countryside was apparently sporadic and linked to festive occasions (Bonfiglioli *et al.* 2003). Aside from stable isotope studies on marine resources, much of what is known regarding animal protein contributions to the Roman diet has come osteological studies of the animal remains found at sites. At Nijmegen in the east of The Netherlands, a densely population border region of the Roman Empire, the faunal remains of butchering and food waste spoke to the important meat sources and preparation techniques of the time period (Lauwerier 1986). As far as meat consumption was concerned, the hunting of large game did not play a significant role. According to the osteological findings, the soldiers at the site instead consumed a large amount of pork. Chicken was the most common kind of poultry consumed. The remains of geese, ducks, and pigeons were also found, but it was unclear whether these were farm animals or wild equivalents. However, it is known that crane, cormorant, long-eared owl, and thrush were eaten, and their popularity amongst the Romans likely came and went depending on what was in fashion at the time. Cattle shoulder were likely hung and smoked, and it is possible that the heads (which were collected separately elsewhere) were used to make brawn, made of boiled pig or ox head (Lauwerier 1986). Despite the ubiquity of ox remains at Nijmegen, the cookery book written by the Roman Apicius (1st century AD) instead favors pork and chicken dishes, and includes only a few beef recipes (Lauwerier 1986). This may be a reflection of current haute tastes at the time, suggesting that beef was considered more commonplace than either chicken or pork (Lauwerier 1986).

Bonfiglioli, Brasili, and Belcastro (2003) also concentrated their research on the dietary practices of common people in their study. Their results suggested that the Imperial Romans of Quadrella consumed a high number of carbohydrates, probably in the form of soft foods, confirming the theory that the diet of the lower classes of Roman society was based on cereals. In the rural and lower classes, *puls* (a porridge-type food consisting of cereals mixed with water, salt, and oil) was often consumed as an alternative to bread (Neri cited in Bonfiglioli *et al.* 2003), and either *puls* or bread was probably supplemented with vegetables (onions, garlic, and chick peas for the lower classes; Dosi cited in Bonfiglioli *et al.* 2003).

Though many of these cases focus their studies on a relatively short time frame or one moment in time (i.e. using stable isotope analysis to determine diet in the few years prior to death), some studies have been able to trace the adoption of, if not complete diet, then some elements of diet through the Roman period (Livarda 2011; Livarda and Van der Veen 2008; Van der Veen, Livarda, and Hill 2008). The results served to reinforce the impression of Roman diet as very variable. Though the Roman military introduced a number of new plant condiments into Britain and across Europe, only some of them were taken up by the local population, and possibly even cultivated, while others retained their exotic status and were consumed mainly by soldiers and those used to a Mediterranean diet (Livarda and Van der Veen 2008). Similarly, Redfern, Hamlin, and Athfield's (2009) results demonstrate that, contrary to situations in other areas as well as to their initial hypothesis, dietary variation within populations from Late Iron Age and Romano-British Dorset, England was relatively limited, despite the introduction of food imports and migrants into the area.

4.3 Evidence of luxury/exotic foods consumed at Celtic feasts

The idea of 'luxury food' in Celtic/Iron Age Europe was likely different from that of Roman period Europe, as in Celtic cultures alcoholic drink and large quantities of common food would have constituted the luxury factor. Though not necessarily considered an exotic fare (excepting imported wines), alcoholic beverages were certainly staples at feasting events. As stated above, alcoholic drinks such as beer or mead would have been prepared locally. Wine, on the other hand, was imported from Italy or France, and would have been expensive and therefore generally accessible only by higher-class members of society. The number of imported amphorae in the archaeological records of the area, increasing with time, is testament to this. According to Athenaeus, wealthier members of society would consumed imported wine, while the lower classes would drink wheat beer sweetened with honey or plain (Tierney cited in Arnold 1999). In fact, as imported wine could be stockpiled and saved for special occasions (unlike beer or mead, which had to be consumed immediately), elites were able to use the drink to bolster their political status and influence (Arnold 1999). Drinking vessels are not found as commonly within archaeological contexts as often as food-related vessels are; this may be accounted for by the fact that, according to Poseidonius (a 2nd century Greek philosopher), the custom at feasts was to drink out of a shared cup, passing it continuously around the circle of guests (Jackson cited in Arnold 1999).

Historical sources as well as ceramic assemblages provide some clues regarding the consumption of foods at Celtic feasting events. However, while archaeobotanical assemblages may verify the presence of non-local and imported plants in the Iron Age and even suggest differential access and consumption and luxury status (Lodwick 2013), as of yet, archaeobotany has not been commonly used to determine which specific plant foods were consumed at feasting events rather than in quotidian contexts. As feasts are often characterized by the presence of exotic foods or mass quantities of food to support communal consumption, it is possible that in the case of the Celts, imported wine may have constituted the exotic factor, and foods common to the time period were simply prepared in large quantities, thus accounting for the luxury element. Indeed, the high proportion of cooking vessels and serving utensils at the *Viereckschanzen* of continental Europe suggests specialization in both the preparation and consumption of food at these sites, hence their interpretation of being used as feasting venues (Murray 1992).

4.4 Evidence of luxury/exotic foods consumed at Roman feasts

Work by Livarda (2011) highlights the types of foods imported into Roman Britain that retained their high status throughout the Roman period. Though of course the record is incomplete as many imported plant foods mentioned by historical sources of the age were not present in archaeobotanical methods and likely were not preserved, Livarda's (2011) results demonstrate that the imported plant foods that were observed generally were never fully absorbed into native foodways. It seems that the exotics status of some food types was also variable depending on geographical context, such as the case of black pepper, which was much less commonly found in Roman northwestern Europe than in Rome and Italy (Livarda 2011). However, Van der Veen (2007) states that the spatial distribution of these luxuries in town and settlement contexts strongly suggests that they were used to display social status and possible even used to gain membership into higher social classes.

Aside from imported plant foods, the consumption of elaborately prepared exotic meats was key to high-class Roman dining practices. Though it is unclear how often these dishes were eaten in reality and how accessible the ingredients were, Apicius' cookery book describes recipes calling for the following: wild sheep, wild goat, red deer, roe deer, wild boar, rabbit, hare, dormouse, ox, sheep, goat, pig, chicken, goose, duck, hazel-grouse, partridge, pheasant, peacock, crane, ostrich, parrot, pigeon, wood-pigeon, turtle dove, thrush, fig-eater, flamingo, electric ray, moray, eel, sea-eel, anchovy, bullhead, perch, sea bass, sea bream, gilt-head, dentex, red mullet, grey mullet, scad, tuna, bonito, sole, sheatfish, shrimp, crayfish, flying squid, cuttlefish, lobster, octopus, langouste, sea urchin, jellyfish, mussels, oysters, and snails (Lauwerier 1986, p. 210). The meals involving meats from this exhausting list were for elite class consumption and prepared only by the best chefs in Imperial Rome, who at that time were men (Luley 2014). While the luxury food element of Celtic feasts probably involved wine but mostly the mass quantities of staple foods, luxury foods during the Roman period were characterized by their exotic origins and probably steep price.

4.5 Evidence of communal consumption at Celtic feasts

Van der Veen (2007) argues that the hillforts found across central-southern Britain were used as venues for feasting events. This proposal is based on the fact that these seasonally used structures contain storage facilities for mass amounts of surplus grain, which was consumed during feasts, rather than seed corn to be consumed on a daily basis. The *Viereckschanzen* also provide evidence for communal consumption. According to Murray (1992), the ubiquity of coarse serving wares at these sites may imply large-scale food preparation intended for mass consumption, particularly as there were few if any identifiable storage vessels recovered. This further strengthens the impression that, though large amounts of food were supposedly prepared at the structures, the food was also being consumed there (apparently within a very short period) rather than being stored for later use. The lack of small finds or domestic debris also refutes the possibility of the structures having been used for normal habitation (Murray 1992). Food and drink assemblages at other sites are also indicative of mass consumption, such as the high concentration of sherds from large bowls found at Lattara (Luley 2014) or the large basins, serving trays, and bronze cauldron with a capacity of 500 liters from a Hochdorf burial (Arnold 1999).

4.6 Evidence of communal consumption at Roman feasts

Though archaeological indications of communal consumptions is scarcer in the case of the Romans than in that of the Celts, historical evidence is far more abundant. Coming-of-age ceremonies, religious festivals, marriages, emperors’ birthdays, and funerals were all events associated with feasts (Donahue 2003). Hundreds of inscriptions as well as a few literary sources attest specifically to funerary customs, which took on a public aspect when individuals established endowments to organize public feasts every year on the anniversary of the deceased (*ibid.*). However, unlike with contexts and material from Iron Age/Celtic Europe, archaeological evidence of communal consumption in Roman Europe is much more difficult to uncover. This may be a result of the fact that feasting accompanied so many kinds of events in the Roman period that specialized feasting areas (such as the hillforts of Roman Britain) were not as common. Additionally, luxury and exotic foods in Roman Europe were commonly consumed by the upper classes in daily meals and did not necessarily constitute a feast, so evidence of communal consumption of luxuries is even more difficult to perceive archeologically.

4.7 Evidence of sociopolitical effects at Celtic feasts

Historical sources often provide ample details with which the sociopolitical motivations and effects of feasts can be assessed. According to such sources, the feasting environment provided an ideal venue for Celtic chieftains to reestablish and maintain social and political support. A reciprocal relationship was established between chieftain and followers: while the former provided the food and drink, the latter would praise him for his generosity at the end of a feast and would owe him their support and loyalty (Arnold 1999). However, if a chieftain's followers desired a change in power, they could fast against the chieftain and any else attending, and in fact feasts were often the arenas in which changes of power also occurred, either through coup d'états or ceremonial establishments of new rulers (*ibid.*).

As in many cultures, social division is often recognizable through observed dietary differences. In Celtic cultures too, food was used to express and maintain social and class boundaries. Though society in Iron Age Europe is perceived by many to have been more or less homogenous, stable isotope analyses reveal that even in La Tène Europe, social status was variable. Le Huray and Schutkowski's (2005) results demonstrate that males buried with weaponry were also likely consumed higher proportions of meat, probably a result of differential access rather than availability. Whether these class differences were expressed during feasts is unclear, but it appears that the political motivations of Celtic feasts were stronger and more plentiful than the social ones; regardless, social exclusivity was not the main goal. On the other hand, the import foods at the end of the Iron Age probably did have social implications, perhaps the desire of some elites to emulate Roman dining practices (Lodwick 2013).

Unfortunately, this particular aspect of feasting is very difficult to observe from an archaeological perspective. However, the spatial location of many supposed feasting sites may vaguely attest to these social and political connections. For example, the proximity of many of the *Viereckschanzen* to cemeteries, funeral monuments, and burial mounds within Bohemia and southern Germany suggest they were used in hero cults and ancestor worship (Murray 1992). This may also related to inheritance strategies and transference of power upon death, also maintained through feasting (*ibid.*). In terms of social effects, the feasts may have also invited local pastoral groups to become integrated into the community (*ibid.*).

4.8 Evidence of sociopolitical effects at Roman feasts

Whereas Celtic and Iron Age feasts were often used to reinforce political power or as a venue for its negotiation, feasts during Roman age Europe accompanied a variety of private and public events, and food was largely used a means of confirming, displaying or even improving one's social status, particularly through the consumption of exotics (Donahue 2003; Livarda 2011; Van der Veen 2007). Similar to how La Tène males of high social standing may have had more access to meats (which was probably considered relatively high-status), higher-class members of Roman society were likely exposed more to haute cuisines, imports, and exotics. This is visible within the archaeological record in the spatial concentrations of luxury foods as well as in the contrast between the diet of military and high status members and that of poorer, more rural populations, reflecting differential access to such foods and also the fact that upper-class or elite members were able to afford imported foods at all. This shift of focus from communal to exclusive dining, even in the case of public feasts when communal consumption certainly occurred, was accompanied by imports of ceramics and glass intended to enhance the display of the meal and further the distance between the consumer and the observer (Van der Veen 2007).

5. Conclusion

The comparison of food and feasting practices of the Celts and Romans using mainly archaeobotanical, osteological, ceramic, and historical materials ultimately serves a number of purposes. Firstly, and very importantly, the comparison between the food practices of the Celtic and Roman cultures reveals the general trends in both cultures as well as the general changes in food and feasting practices over time in Britain and continental Europe, due to their regional proximity and similar (and overlapping) temporal scopes. In Iron Age/Celtic Europe, feasting was used as a political strategy in maintaining or changing power and power relations; though imported exotics (most often wine) were certainly consumed, feasting events were characterized more so by the sheer quantities of food available, reflecting the communal nature of the event. In the Late Iron Age, evidence points to the adoption of 'Roman' foods and dining practices in some areas even before invasion by the Romans, such as in the case of Late Iron Age Britain. This trend is of course amplified during Roman occupation, but Roman food and feasting practices similarly involve the consumption of imported luxury foods. A shift from communal consumption to individual and exclusive dining is observable from the Iron Age to the Roman period in Europe, and this is accompanied by a parallel shift from feasts used as venues for political maneuvering to being used to express and even change high social status in general, though the former type of feasts may have also been hosted during this time period. Secondly, it generally demonstrates the extent to which it may be possible to assess food and feasting practices using a combination of this material. While archaeological methods are well-suited to address some of the research questions, others are more difficult to answer without the aid of historical texts and inscriptions, and are more open to interpretation. Even if all aspects of feasting (luxury foods, communal consumption, and sociopolitical effects) were present at all feasting contexts, some are more visible archaeologically than others. As the scope of this comparison was very broad and there is no consistently used method in studying diet within Europe, it is useful and beneficial to incorporate all relevant studies in order to gain a more complete picture. Finally, this comparison highlights possible future directions for research. Though a number of studies address the subject of feasting in their discussions of past foodways, very few studies – especially archaeological studies – work with feasting as the focus. If the research question is to inform the research methods and not vice versa, then again multiproxy studies of feasting would likely be most beneficial.

6. References

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