

Roman attitudes towards the natural world - a comparison of Wessex and Provence

David Roberts

PhD

University of York

Archaeology

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## **Abstract**

Interactions with the natural world are a fundamental part of human life. The Roman Empire has had very significant effects on later European and world societies. This study examines interactions with landscape and nature during the Roman period in south-west Wiltshire and the landscape of the Montagne Sainte-Victoire. Reviewing a wide range of scholarship from Roman archaeology and beyond in Britain and France demonstrates the need for a holistic, diachronic and spatially integrated approach in studies of Roman landscapes. A new research framework is constructed based on phase space theory, archaeological landscape theory and previous work in Roman archaeology. Key structuring concepts in this analysis are a tripartite division between 'wild', 'tame' and 'encountered' nature, and a fourfold consideration of sociospatial dimensions: 'territory', 'place', 'scale' and 'networks'. Extensive analysis of range of aspects of interaction with nature in the two case study areas is undertaken, demonstrating a complex array of interactions and relations embedded in landscape practices. GIS analyses are used throughout as supporting evidence, but the main analyses are focused on traditional archaeological techniques. Environmental, landscape, material, geoarchaeological, zooarchaeological and excavation datasets are used to build broad-ranging narratives of landscape interaction in the case study landscapes. The Sainte-Victoire landscape demonstrates a highly controlled landscape, dominated by the Roman state and elite groups via villas and a range of material landscape structures. Contrastingly, south-west Wiltshire displays patterns of landscape interaction and social power with their locus in the practices of pre-Roman communities, and selective engagement with structures of the Roman state and wider elite networks. This comparison sheds light on wider debates regarding Roman society, landscape use and social change.

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## **List of accompanying material**

CD-ROM 1 – Contains two Microsoft Excel Spreadsheets of the base data for this thesis, entitled 'Montagne Sainte-Victoire data' and 'South-west Wiltshire data', saved in .xlsx format. Enclosed in back pocket of thesis.

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## **Author's Declaration**

This thesis contains information from a wide range of published sources, listed in the bibliography. A range of unpublished data is also used, full references for which are also included in the bibliography. A range of topographic and archaeological data is used and reproduced with permission, and this is detailed in Appendix 1 for south-west Wiltshire, and in Chapter 5 for the Montagne Sainte-Victoire. Archaeological preservation potential data was kindly supplied by Dr Tim Farewell of the NSRI, and used with permission. This work has not previously been presented for an award at this, or any other, university.

## **Chapter 1 – Introduction**

Any study of the human past must be fundamentally relevant to the present if it is to affect the future. Current social and political preoccupations are many and varied, as the modern world goes through a period of dramatic change. Key changes in the modern world are increasing connectedness and technological change, changes in climate and weather, the complexities surrounding the exploitation, conservation or management of natural resources, inequality and social, political and military power struggles between nations, groups and communities. Archaeology has a key role to play in shaping modern society through producing narratives of past societies from considered and holistic scientific and social research. Archaeology is uniquely placed at the interface between the sciences, social sciences, arts and humanities, and focuses on understanding the material remains of past human societies. This allows archaeologists to take a fundamentally interdisciplinary and holistic approach to research, drawing on a wide range of methods and data to build academic syntheses of the human past. With these principles at its core, this thesis will explore an aspect of society which is at the root of many such modern concerns; human interaction with landscape. In order to maximise relevance to modern concerns this thesis will focus on a past society that, perhaps more than any other, bears striking thematic similarities to the modern world.

The Roman Empire covered most of modern day Europe, and for most of the period between 50 BC and AD400, it could be convincingly argued that the Empire shared a common government and certain socio-cultural commonalities across its entirety. This was predominantly due to military power and the active participation (collaboration?) of many European elites into the Roman system. The Empire also had mobile and highly connected middle and, particularly, upper classes. Common laws governed the vast majority of daily life across the Empire, and many across the Empire were able to communicate in Greek or Latin, particularly around its Mediterranean core. Resources were extracted on a large scale, and traded widely across the Empire, although most economic activity was still based around agriculture (Mattingly and Salmon 2001). There was gross inequality of income,

education and mobility (Roskams 2006). The Roman Empire was thus the closest parallel in pre-industrial recorded history to modern society in terms of its connectedness, common social institutions and social tensions.

Like modern Europe, the Roman Empire's demands for food, energy and trade resources of all kinds placed great strain on the natural world, and the productivity of the landscape. Major landscape transformation projects were undertaken, and natural resources exploited at a European scale as never before. As in today's society, there were major tensions between governing elites, local communities, individuals and public and private institutions regarding landscape use, climate change and social power and resistance. The colonial context of the Roman Empire is also key, and highly relevant to the modern world, as tensions and exploitation continue between wealthy and powerful states and the communities and populations of colonised territories, and the process of decolonisation is complex, dangerous and uneven. Attitudes to nature and landscape provide a window into much wider social issues in the present, and the same is true of the past.

This thesis is driven by the necessity of learning lessons from past society, and researching and defining narratives of the past that can be used to shape the future. By focusing on interactions with landscape in the Roman Empire, it is possible to create new understandings relevant to the changing landscape interactions of today's society. This work seeks to draw out the enormous complexity of such interactions, and attempts to place previously compartmentalised issues such as resource exploitation, climate change, socio-economic power and connectedness into a more integrated, holistic interpretation. Such an analysis will make a valuable contribution to the corpus of archaeological research and synthesis on particular geographic areas selected as case studies, and to a range of debates within Roman archaeology. As with all effective archaeological syntheses, a multi-disciplinary approach will be taken, drawing on theory, method and data from disciplines including Classics, History, Human Geography, Physical Geography, Philosophy and Environmental Science.

The key research question derived from such concerns is as follows:

How did people interact with nature and landscape in the western Roman Empire, and why?

This question is deliberately broad in order to meet the drivers of this research, and to contribute towards a range of narratives relevant to the modern world. It is important that this is not at the expense of scientific rigor or attention to detail, so two case study areas will be chosen as foci for the analyses.

The following chapters seek to answer this major research question through archaeological research, taking a theoretically aware holistic approach as outlined in principle above. This introduction has laid out the broad motivating principles behind this thesis. Chapter 2 discusses the context of the research question of this thesis in depth in the context of archaeological theory and research and outlines a research framework for the study, before finally selecting two case studies based on criteria drawn from the research framework. Chapter 3 explores the case studies, discussing their suitability and prior research in their landscapes, with a focus on interactions with landscape. This chapter includes an extensive review of existing literature regarding these landscapes. Chapters 4 and 5 comprise the analysis of each case study. Chapter 6 compares the case study results, providing a discussion and synthesis, evaluating the research framework and concluding with recommendations for further work.

## **Chapter 2 – Research Context**

### **Introduction**

This thesis aims to provide a better understanding of interactions with landscape during the Roman period. The Roman Empire was a very diverse entity, and its modern successor states have extremely variable research histories and datasets. In order to facilitate a comparison with sufficiently extensive previous study and sufficient similarities to provide meaningful comparisons, this thesis will focus on north-west Europe and the north-west Mediterranean during the Roman period. Interactions with landscape have been chosen as the prism through which to investigate broader issues, and this chapter will fulfil the highly important role of discussing the overall research framework within which the proposed analysis will take place. This will take the form of an exploration of current theoretical approaches to understanding the landscapes of the Roman Empire, and the development of theory and method to meet the requirements of this thesis.

It is essential to consider aspects of landscape that can be assessed quantitatively and those that cannot. Of course, this is not a simple dichotomy, and every landscape process and component is linked, whether directly or indirectly. Some processes, however, such as climate change over time, are more suitable for quantitative assessment than others, such as the spiritual significance assigned to specific locales or natural features by people at a particular time. Although most forms of landscape study can involve the process of comparison of selected areas of interest, the complexity of the data and research questions of this study renders an absolutely quantitative model less useful than a holistic discussion. This thesis will take the view that data is best understood contextually, using statistical and quantitative assessments of the evidence where appropriate alongside more humanistic understandings.

This chapter has several tasks to perform. Firstly, it must discuss historical and contemporary landscape studies of the Roman period, and their academic, political and social contexts. This discussion will also by necessity deal with ideas drawn from landscape



archaeologies of other periods, as well as from other academic disciplines. After this assessment of the current state of the study area as a whole, certain theoretical or interpretive lacunae will emerge, often highlighted by comparison with work in other periods or disciplines. The second stage of this chapter will therefore be to draw out particularly relevant strata of thought from the literature, and work these together into a theoretically coherent and consistent research framework. This will include a major reconsideration of archaeological approaches to space, drawing on theory from human geography.

Having established the essential framework of this research, the particular landscape processes and relationships to be investigated must be discussed. This will require a review of the key concepts of 'nature', 'landscape' and how humankind interacts with its physical and perceptual contexts. These concepts have swathes of literature surrounding them and a total review is somewhat beyond the compass of this, or indeed any, study. Instead a critique will be made of how they have been understood in landscape archaeology and closely related disciplines in recent decades, with particular focus on how these concepts have been understood in studies of the Roman Empire in north-west Europe (Leveau 2005). In this discussion certain themes will become apparent that have been widely agreed upon to merit major investigation, and once again it is anticipated that lacunae will emerge. These will of course vary internationally and depending on the theoretical or disciplinary school of thought to which scholars belong (Leveau 2000, 272; 2005, 13). The significance of these themes will be discussed and a final selection made of key issues to investigate further.

Such a structure does, of course, risk the unhelpful division of the landscape into a series of separate and distinct processes or actors (Walsh 2008), when of course these themes are interconnected constituents of a complex landscape area. It will be reiterated then throughout this discussion and indeed the thesis as a whole, that these processes do not provide valuable insights into the past unless we can understand their contexts; this will be elucidated at greater length in the following theoretical discussion. The use of two extended

case studies, rather than dispersed examples from across a national or international region will assist in preventing such fragmentation. Every effort will be made to bring together the disparate elements of these discussions, just as this thesis tries to bring together disparate aspects of the landscapes of study.

## 2.1 – Theoretical Context – Roman landscape archaeology in Britain and France

Studies of Roman landscapes in north-western Europe and the western Mediterranean have developed in a somewhat idiosyncratic manner due the continuing political and cultural prejudices and associations regarding the Roman Empire, and the differing archaeological and historical traditions and trajectories of thought in various countries (Hingley 2000, Keay and Terranato 2001). Such considerations have resulted in an uneven patchwork of interpretations of myriad strands of evidence regarding attitudes to landscape in north-west Europe and the western Mediterranean at the time of Rome, and only limited wider comparisons and syntheses have been attempted (Barker and Lloyd 1991, Leveau et al 1999, Horden and Purcell 2000). As with many areas of study in archaeology, national schools of thought have developed to some extent along differing trajectories (e.g. Leveau 2000, 274-275, Lenssen-Erz and Linstädler 2009, 159-164).

For example, the French school of landscape archaeology, as exemplified by the work of Leveau, has been greatly influenced by the work of the *Annales* school and its emphasis on the importance of the *longue durée* (Braudel 1972). This has in particular led to a stronger focus on geomorphologic and climatic processes than has generally been seen in British archaeology (e.g. papers in Leveau and Provansal (eds) 1993, Provansal 1995), although there has been cross fertilization of ideas through some projects such as the POPULUS project (Barker and Mattingly 1999), and collaborative relationships between particular researchers (e.g. Touflan *et al* 2010).

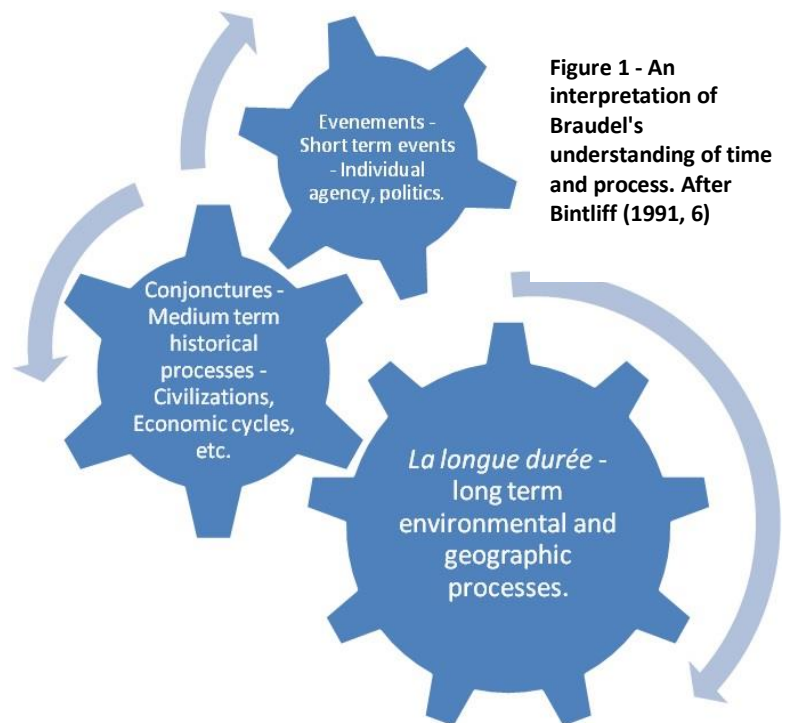
The principles of the *Annales* school have been explored in the Anglo-American literature (e.g. Bintliff 1991, Knapp 1992), and are occasionally referenced, but have made comparatively little impact. This is perhaps unfortunate, given that the model of change proposed by Braudel (1972), and taken on implicitly by Leveau (2005) amongst others, is elegant, and makes allowances for individual events, medium term historical processes, and long term dynamics (Figure 1). Sherratt (1992, 140) has suggested that an *Annales*-based approach allows a richness of narrative and breadth of thought sometimes lacking in

archaeological work. In landscape archaeology especially, *Annaliste* scholars have perhaps tended to slightly over-emphasise environmental processes of the *longue durée* (Knapp 1992), and the diverse and interdisciplinary nature of the paradigm has led some to suggest that its lack of a systemic model (until Wallerstein 1974) has been the cause of its lack of uptake by ‘model –lead’ Anglo-American archaeologists (Sherratt 1992, 137). These need not be fundamental barriers to archaeologists seeking stimulating explanatory schema from beyond their own discipline (Bulleit 1992, 133), and the suggestion of environmental determinism especially seems rather a fault of proportion, rather than an unchangeable pillar of the *Annales* approach.

Two further criticisms of the *Annales* approach that are particularly relevant to this study may be made, both of which perhaps can be made as a result of the impression that some proponents of the *Annales* framework give of the course of history being essentially controlled by processes of the

*longue durée* (cf. Himmelfarb 1987, Sherratt 1995). These are especially relevant given the emphasis on the *physical* in the *longue durée*, and the *human* in the *évènement*, in more modern work influenced by the *Annalistes* (e.g. Leveau 1984, 2005). The conjuncture has by contrast received much less explicit attention in the literature, which is surprising

considering its focus on medium-term societal processes in the past, a key concern of much modern archaeology. Although Sherratt (1992, 138) suggests that modern French archaeology has ignored *Annalisme*, he seems to be looking for an explicit adoption of the *Annales* scheme.



**Figure 1 - An interpretation of Braudel's understanding of time and process. After Bintliff (1991, 6)**

This has not occurred, but the emphasis on long-term process, people in their environment, interdisciplinary research and integrating the scientific with the historical text in modern French landscape archaeology (e.g. Andrieu-Ponel *et al* 2000, Leveau 2004a, 2004b, 2005, Leveau and Palet-Martinez 2010) are undoubtedly at least partly due to *Annaliste* influence, whether conscious or otherwise.

The first of these further criticisms is that studies influenced by the *Annales* school tend to neglect the role of chance and natural disasters in shaping change in the past, due to the continuing historically derived emphasis on human factors in discussions of *evenements*, and the wider problem of maintaining an appropriate balance between the elements of Braudel's tripartite schema (Knapp 1992). Such natural events can have very significant effects not only on their own immediate landscape and its inhabitants, but a very wide area indeed, often with consequences contributing to long term change. For example, the eruption of Thera, now dated after much controversy to 1628 BC (Manning 1999), had wide reaching consequences for the eastern Mediterranean, dramatically and directly effecting political and cultural change in Egypt, the Aegean (especially Crete), and west Asia (Manning 1988, 1999). Whilst the physical shock waves of Thera were short-lived on an archaeological time scale, its geopolitical repercussions were much longer lasting (Manning 1999). Such an event, with its longer term consequences, does not easily fit into Braudel's structural scheme (Figure 1)

Secondly, the grand scale of narrative to which the *Annales* model lends itself (Sherratt 1995) may be said to have diverted attention from assessment of local complexity as the result of local, small-to-medium scale processes, rather than as the result of wider regional or continental processes of ecological, political, geological, technological or climatic change (Barker 1995a, 3). Barker (1995a, 3) suggests that the interdisciplinary techniques of landscape archaeology are particularly suited for studies to resolve this problem, and the Biferno valley project certainly makes progress towards this aim (Barker 1995b, 308-315).

The Biferno valley project (Barker 1995b) also begins to make progress towards resolving the final major criticism to be made here of Braudel's tripartite division of processes, that

the links between the three elements of the scheme are difficult to make in practice, and that the model often tends to produce three parallel processes, where each element is used to explain change depending on its relevance to the research question, rather than being fully integrated into a total history. The Biferno valley links the temporal resolutions of *conjuncture* and *longue durée* effectively through analysis of geomorphology and archaeological landscape survey (Barker 1995b), but is less successful in linking this scheme with *evenements*, individual agents and events, although attempts are made to integrate textual sources where they are available. This is perhaps partially a function of the landscape resolution at which the Biferno valley project took place. The focus of the archaeological survey was predominantly on larger scale field-walking studies, rather than excavation in detail of individual sites, or finer scale interpretations. This rendered fine-grain interpretations more difficult, and so reduced the effectiveness of the study's application of the *Annaliste* model. This example once again illustrates the problematic nature of the use of *evenements* in Braudel's explanatory scheme.

Despite these difficulties, the *Annales* school does offer a conceptualisation of the interaction of historical processes at different temporal scales that is of fundamental relevance to landscape archaeology. Although significant problems with the paradigm are present, and have been discussed, few of these seem insurmountable with the application appropriate critical thought. It has also been contended that landscape archaeology has the methodologies at its disposal to build on the thought structure proposed by Braudel by using the detailed archaeological understandings it can provide to demonstrate and explain the interactions between the elements of Braudel's scheme (Barker 1995a), perhaps with the ultimate aim of articulating the temporal continuum behind the three distinct categories (Knapp 1992). Some recent historical scholarship has implicitly begun this process, emphasising the importance of the new data and understandings brought to Mediterranean study by landscape archaeology in recent decades (Horden and Purcell 2000). French scholarship of the landscape school led by Philippe Leveau (1984, 2004a, 2005, Andrieu-Ponel *et al* 2000, Leveau and Palet-Martinez 2010) has been influenced by *Annaliste* understandings, but still suffers from some of the weaknesses attributed to that

paradigm, such as a slight over-emphasis on the *longue durée*, and the environmental processes with which it is often associated.

By contrast British landscape archaeology, particularly that of English scholars, has historically proceeded in essentially two approaches to Roman landscapes, drawn from two distinct social and political traditions. The first of these is an approach focused upon the 'Imperial' elements of the landscape, especially military structures, roads, civil structures and villas. Landscapes were considered in the light of such criteria as the strategic significance of "bridgeheads", or "good-harbouring" (Hunter-Blair 1963, 49), or "ancient gods taking refuge in the wilderness as Christianity spread in towns" (Richmond 1963, 142). Whilst some scholars have suggested that Anglo-American landscape study has historically held primacy over European landscape scholarship (e.g. Johnson 2007), such unsophisticated understandings as those just quoted compare poorly to Braudel's original edition of 'The Mediterranean and the Mediterranean world' (Braudel 1949), published some fourteen years before Hunter-Blair (1963) and Richmond (1963)'s volumes on Roman Britain.

This culture-historic approach to Roman archaeology in Britain was of course greatly derived from imperialist associations with later empires, predominantly that of the British (Mattingly 2006), although such links are also acknowledged in French scholarship (Leveau 1984), albeit not in so great a depth. Early Romanists such as Haverfield (1923) articulated concepts such as Romanisation and cultural interaction that are still in circulation today (James 2001, Curchin 2004). Early scholars of Roman Britain essentially proposed a model of unilateral cultural transfer from Rome to the *barbaroi*. Even as late as 1974, Sheppard Frere was able to write that:

"With the Roman conquest the whole basis of society and its aspirations changed almost overnight, and they became more civilised"

Frere (1974, 316)

Such simplistic and colonial understandings are now nearly universally acknowledged to be

out-dated, but at the time formed powerful narratives which resonated with the British elite establishment of the early and mid 20<sup>th</sup> century (Hingley 2000). The excavation record in general seems to bear this out, with a major reduction in the proportion of villa sites being excavated, and reductions in the numbers of military and small town site excavations (Figure 2).

Table 10.3 Numbers and proportions of archaeological sites of differing types excavated by 5-year period from 1921 to 1995

Year	Military	Major town	Villa	Small town	Non-villa
1921–25	51 (38%)	16 (12%)	34 (25%)	24 (18%)	10 ( 7%)
1926–30	69 (44%)	27 (17%)	28 (18%)	28 (18%)	6 ( 4%)
1931–35	65 (48%)	30 (22%)	18 (13%)	13 (10%)	9 ( 7%)
1936–40	53 (36%)	31 (21%)	27 (18%)	20 (14%)	15 (10%)
1941–45	15 (33%)	14 (30%)	14 (30%)	1 ( 2%)	2 ( 4%)
1946–50	52 (39%)	28 (21%)	31 (23%)	15 (11%)	6 ( 5%)
1951–55	86 (51%)	33 (19%)	22 (13%)	15 ( 9%)	12 ( 7%)
1956–60	103 (43%)	39 (16%)	46 (19%)	36 (15%)	18 ( 7%)
1961–65	92 (33%)	43 (15%)	70 (25%)	51 (18%)	20 ( 7%)
1966–70	143 (32%)	52 (12%)	107 (24%)	85 (19%)	62 (14%)
1971–75	148 (26%)	61 (11%)	132 (25%)	95 (18%)	102 (19%)
1976–80	177 (35%)	64 (13%)	91 (18%)	86 (17%)	90 (18%)
1981–85	161 (38%)	80 (18%)	76 (17%)	70 (16%)	57 (13%)
1986–90	179 (34%)	137 (26%)	88 (17%)	61 (12%)	64 (12%)
1991–95	154 (36%)	92 (22%)	42 (10%)	40 ( 9%)	96 (23%)

Notes: Military = all military sites.  
 Large town = London, *colonia*, *civitas* capitals, provincial centres.  
 Villas = villa buildings and associated structures.  
 Small towns = small town sites with walls and without.  
 Non-villa = non-villa settlements – various ‘villages’, ‘farmsteads’, hillforts with Roman-period domestic occupation, etc.

Figure 2 - Numbers and proportions of archaeological sites of differing types excavated by 5 year period from 1921 to 1995. Hingley 2000.

and of rural areas. Alternatively we might suggest that this is a function of the advent of rescue archaeology in the U.K and the excavation of many rural sites in advance of development schemes such as the motorway network (Mudd 2007), or military installations (Ellis and Powell 2008). Either way, excavations of military sites continue to be common, and international projects on Roman military systems continue to attract funding and support from the political establishment (Breeze 2008). Although not legitimising European colonial empires, powerful imagery and interpretations of Roman military heritage are still being used to shape today’s political realities and alter public and academic perceptions of European identity (Sorensen 2008, 55).

It is interesting, though, to note that although the number of non-villa rural sites being excavated has increased over time, especially since the mid 1960s, the proportions of military sites being excavated has in general only slightly decreased. This may represent the slow trickle-down effect of change in academic circles regarding the comparative importance of the poor,



We can see then that the political concerns of elites have contributed greatly to the archaeology of Roman landscapes in Britain, and continue to do so, albeit from different sources of influence. The second main root of landscape studies in Britain comes, perhaps, from a very different political movement, that of localism, born as it was from the local history tradition in England. This school was brought to prominence largely through the pioneering work of W G Hoskins (1955), although some earlier work shows similar interests (e.g. Fox 1923), and focused on the bringing together of documentary evidence, historical narratives and simple archaeological survey methodologies. Although Roman archaeology perhaps was less focused on by the Hoskinian school as a whole than was the medieval period, Hoskins' approach has greatly influenced the work of scholars in regional contexts (e.g. Taylor 1982, Upex 2008). Such standpoints also provided additional impetus to the wider theoretical move towards acknowledging the functional complexity and social importance of rural landscape development (Aston 1985, Dark and Dark 1997), especially in terms of agricultural production and land divisions (Thomas 1966, Hingley 1982).

This interest in socio-economic aspects of the past as shown by landscape development often found an obvious outlet in study of the seemingly hierarchical distribution and form of settlement in Roman Britain (e.g. Leech 1982). The apparent structuring elements of villas, roads and urban centres were often uncritically assessed, especially earlier in this period of study (e.g. Frere 1974). Even later studies, fully conscious of the 'data explosion' (Taylor 1982, 1) due to the advent of rescue archaeology, often failed to provide convincing accounts for the increasingly wide diversity of settlement forms and their landscape contexts, if the latter was considered at all (e.g. Rudling 1982, Corney 2001).

Such interpretations often drew a great deal on traditional text-based studies of the Roman world, and it is particularly interesting to note certain changes in language which betray the textual (and perhaps unconsciously imperial) origin of some aspects of interpretations. Branigan (1982) ends his discussion of rural settlement forms by suggesting that:

“Certainly the laying out of thousands of acres of new fields, droveways, and enclosures represents a far more profound change in the British landscape than did

the thinly-spread building of a thousand or two fashionable, Romanised, *bungalows*”

(Branigan 1982, 95; my italics)

The term *bungalow* appears nowhere in the primary literature of the Roman period, and was widely used to describe the rural residences of British administrators in India during the period of the British occupation of that country (Pott 1977, 9). Branigan’s personal context, and his experience of living in Britain during the British Empire’s rule of India, and then India’s independence, is thus betrayed through his language as influencing his thinking. It is important to note, however, that Branigan’s (1982) interpretation emphasises complexity of settlement form, and whilst the majority of his argument focuses on the influence of ‘Romanised’ (*ibid*, 81-94) villas and estates, he also acknowledges the evidence to the contrary (*ibid*, 95). Despite this, however, little other explanation is offered for landscape development other than the transformative effect of villas and estates on ‘native’ (*ibid*, 83) settlement patterns.

The development of functional-processualism and systems theory in archaeology perhaps reinforced the seemingly inherent tendency of such studies to focus on functionalist interpretations and subjects (e.g. Hodder 1972, Hodder and Millett 1980, Hingley 1982). Although these studies began to assert the disciplinary identity of archaeology more strongly in contrast to the traditional identification of Roman archaeology with Classical studies, the models put forward by this school of thought, like wider processual-functional thought, have since been subjected to sustained criticism (e.g. contributions to Mattingly 1997, Mattingly 2006, Hingley 2007, Mattingly 2011). Critics have especially focused on the lack of integration or acceptance of social complexity beyond the functional in functionalist models, and the uncritical application of the concept of Romanisation (e.g. contributions to Webster and Cooper 1996, and Mattingly 1997). Although functional-processualist studies did not predominantly subscribe to the culture-historical understanding of Romanisation in terms of a unilateral process of cultural transfer, the idea of Roman ‘influence’ having a transformative effect on Late Iron Age Britain, such studies still gave little or no consideration to possible transfer in the opposite direction, let alone

the possibility of multiple identities or resistance, unlike post-colonial alternatives (e.g. Fincham 2002).

Functional-processualist influence on studies of Roman archaeology did, however, encourage the application of new techniques to the evidence in response to the paradigm's focus on environmental concerns. Techniques such as palynology, detailed study of plant macrofossils and C<sup>14</sup> dating not only refined our understanding of chronologies and occupation remains, but also widened our understanding of landscape context, and together with experimental studies and spatial analysis, made significant contributions to how certain functional aspects of day to day life in Roman Britain may have gone on (e.g. Hall *et al* 1980, Dickinson 1990, Macphail *et al* 2004). In particular, detailed environmental analyses have been undertaken for deeply stratified urban sites with good organic preservation (e.g. Willcox 1977, Hall *et al* 1980), and macrofossil analyses from a wider range of sites including many rural sites (e.g. McCarthy 1995, Fitzpatrick and Crockett 1998, Murphy *et al* 2000). Although some later studies have begun to consider social explanations beyond the functional, or landscape interaction (e.g. McCarthy 1995, Murphy *et al* 2000, Sykes 2004, Van der Veen 2007) the vast majority of environmental studies of Roman Britain (e.g. Smith 1996, Stevens 2003) until recently lacked the holistic consideration of complex patterns of identity, consumption and landscape interaction for which some scholars have called (McCarthy 1995, 495). Much of the isotopic work undertaken in archaeological science in recent years has perpetuated functionalist perspectives (e.g. Redfern *et al* 2010). Some geoarchaeological work has been undertaken on Roman Britain (e.g. French 2003, 95, Brown 2009), but the impact of processes of alluvial change, erosion and other landform transformations on the landscapes has not been central to any of the major synthetic studies yet produced regarding Roman Britain (e.g. Frere 1974, Mattingly 2006).

This is a very different perspective to that of the French school outlined earlier. Although of course a generalisation, one might say that the French school see human life as within landscape processes of the *longue durée* such as climate, ecology, and geology, whereas in

traditional British Roman landscape archaeology the social or political have been prioritised and environmental processes and ecology seen as either a passive actor in an arena dominated by anthropogenic impact, or relevant predominantly due to what they can tell us about human diet, farming or social practice (Table 1). These considerations of landscape are derived from wider theoretical trends and influences of scholars working in the UK and France, reflecting respectively the dominant functionalist paradigm in Roman archaeology in Britain, and the thought structures of the *Annales* school and the influential work of Leveau in creating a strongly multi-disciplinary and synthetic paradigm of landscape study in France. Recent work in Britain has begun to diversify the dominant perspective, particularly in academic scholarship, but the bulk of those working the sector retain a broadly functionalist perspective. Having briefly reviewed the dominant theoretical discourses in British and French landscape archaeology, the following section will discuss and delineate a theoretical framework which may allow this study to move beyond the current status quo and move towards a more integrated understanding of past landscapes, drawing on the strengths of the theoretical paradigms reviewed in this section, and developments in related fields of study.

The predominance of functionalism in the under-developed field of Roman landscape archaeology in Britain until recent years (e.g. Fincham 2002, Pitts 2008, Rogers 2008, Moore 2011) is in marked contrast to British landscape archaeology of the prehistoric period, which has in the past two decades developed in a highly theorised and at times controversial manner (e.g. Thomas 1993, Bradley 2000). For example, important lessons can be drawn from work such as that of Bradley (2000), whose work on ‘the archaeology of natural places’ problematises the culture/nature dichotomy, and widens the potential understandings available to landscape archaeologists. This thesis will attempt to build on such work, and developments beyond it in recent years.

<b>Roman Landscape Archaeology – Traditional Models</b>	<b>France</b>	<b>Britain</b>
<b>Main explanatory mechanism for change in the Roman period</b>	Environment ( <i>longue durée</i> ) e.g. Alluvial/Colluvial processes, flooding, vegetation use.	Romanisation – acculturation, economic relations, military/elite impact on native landscape
<b>Secondary explanatory mechanism for change</b>	Romanisation / Imperial policy / Provincial structures of administration	Events beyond Britain / Invasions.
<b>Dominant resolution of study</b>	Landscape / Province / City	Modern county / Topographic region / Individual site

**Table 1 -Traditional models of explanation and study of Roman landscapes in France and Britain.**

Alongside new theoretical approaches, the innovative application of new technologies to archaeological problems in British landscape archaeology has provided significant insights across a range of spatial and temporal scales (e.g. Devereux *et al* 2008, Gillings *et al* 2008). Phenomenological study has been explored (e.g. Tilley 1994, Bender *et al* 2007), but has been predominantly rejected by traditional landscape archaeologists (Fleming 1999, 2005, 2006, 2007, 2009), except in terms of material phenomenology in artefact studies, although other terms are often preferred (Knappett and Malafouris 2008). Phenomenological studies have, however, resulted in a renewed awareness of the landscape context of archaeological features in perceptual terms, and this has resulted in GIS (Geographic Information System) based studies of viewsheds and movement becoming popular methods of understanding the potential interaction of a place with its surroundings (e.g. Gaffney *et al* 1996, Wheatley and Gillings 2000, Mitcham 2002, Llobera 2003, 2007). Such analyses have also begun to be undertaken in studies of Roman landscapes (e.g. Gillings and Goodrick 1996, Copeland 2009, Eckhardt 2009), but have not been widely taken up as an explanatory mechanism.

These perceptually based studies are just part of a wider shift in British landscape archaeology of the prehistoric period towards an idealist approach, drawing on post-modern and pluralist perspectives from other disciplines including anthropology and human geography (e.g. Ingold 1993). The shift of focus from materialist conceptions of place to abstract, idealist, conceptions of place, was initially portrayed by some scholars as a widespread radical – and positive – break away from the constraints of processualism (e.g. Thomas 1993, Tilley 1994). In the last decade prehistoric landscape archaeology projects have, however, more often taken an approach drawing more towards a compromise between the demands of reflexive, data-based (in both senses), critical practice, sometimes developed in partnership with rescue archaeology (e.g. Cooper and Edmonds 2007), and theorised understandings of multiple processes and perceptions of landscape change (e.g. French *et al* 2007, Gillings *et al* 2008, Walsh 2008, Gardiner and Allen 2009).

Such studies are often multi-disciplinary, and almost always involve teams of specialists working together for the entire duration of the project. Although specialist input into archaeological landscape studies is nothing new, and indeed is present both in traditional functionalist landscape studies of Roman Britain (e.g. Dark and Dark 1997), and French studies of Roman landscapes (e.g. Leveau 1984), the increasing level of integration and connectedness of palaeo-environmental studies and collaborative work with scholars from other disciplines (e.g. Leveau and Provansal 1993, Andrieu-Ponel *et al* 2000, French *et al* 2007) is encouraging for those scholars who have already explicitly called for a more ‘holistic’ approach to landscape studies (e.g. Barker 1995a, McCarthy 1995, Creighton 2000, Murphy *et al* 2000, Antrop 2005, Tress *et al* 2005, Lawson 2007, Keay *et al* 2009; see Figure 3 for a view from beyond archaeology of the development of multi-disciplinary landscape studies). The call for holistic approaches to landscapes is not just a multi-disciplinary movement, but in several disciplines (Antrop 2005) is also a movement towards the greater integration of fieldwork methods (e.g. Howard and Macklin 1999, van Leusen 2002, Gerrard and Aston 2007, Lolos *et al* 2007, Devereux *et al* 2008). Through the application of flexible combinations of techniques depending on research questions and resolutions (both temporal and spatial), a deeper and more secure interpretation of the past may be put

forward (Barker 1995a, Carey *et al* 2006, Copeland 2009, Keay *et al* 2009).

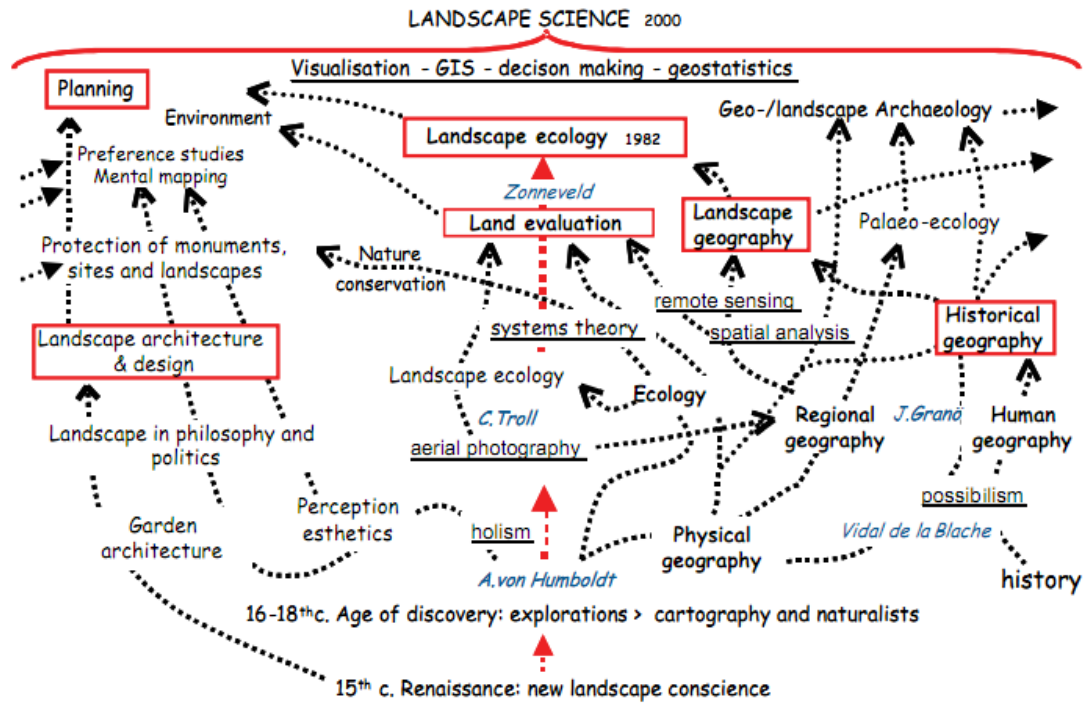


Figure 3 - A view from a landscape ecologist/architect of the development of landscape study paradigms. From Antrop 2005, 32.

The final strand of the current necessity for a holistic approach in landscape archaeology is that of explanatory and interpretative theory. As discussed in the previous chapter, the work of the *Annales* school provides a way forward in some respects, by delineating a temporal structure for landscape study, and a consciousness of the divisions drawn by Braudel (1972) will be retained in the following study. To avoid some of the weaknesses of the method greater flexibility will be employed in defining the types and duration of processes studied, and primary data gathering methods drawn from modern landscape archaeology will be employed at a variety of spatial resolutions, as well as at a variety of temporal resolutions. The work of the French school of landscape archaeology will also be drawn on to demonstrate the importance of the geoarchaeological and palaeo-environmental approach to landscape archaeology at a regional level of resolution. If this approach can be allied to the methodological strengths of the emerging holistic practices in

landscape archaeology in which British landscape archaeology has led the way, a truly integrated understanding of landscape may emerge. Such a theoretical framework for research will understand that different processes within the landscape interact, but have rhythms at differing temporal resolutions. Agency and identity will be elucidated through relations evidenced with and within landscapes, taking into account discrepant perceptions and interactions with the landscape at a range of spatial and temporal resolutions. The evidence for such interaction will be gathered and interpreted according to the particular research question to be answered, and undertaken with attention to quality and reflexivity of practice.

The eventual goal of such a framework would always be to arrive at a holistic understanding of landscape that answers a relevant and viable research question. In this thesis, that research question is to develop our understanding changes of interaction with landscapes in north-west Europe during the Roman period. In order to develop a clear methodology and research framework, the following section will discuss in detail the implications of adopting such a holistic approach.



## 2.2 – Methodological context: resolutions of study

As the previous section has discussed, much archaeological work implicitly makes the assertion that problematised empirical investigation is useful in investigating the past, and is not wholly invalidated by the criticisms of post-modern scholars when a holistic and theoretically aware approach is taken (Carver 2009, Roskams forthcoming). This can be seen through the importance attached to quality data-gathering, and attempted (and reflexive) objectivity, in most recent archaeological studies (e.g. Segard 2009a, Powell *et al* 2010, Serjeantson and Morris 2011, Redfern *et al* 2012, Brindle 2013, Smith 2014). This thesis, in common with many recent studies (e.g. Rogers 2008, Walsh 2008, Segard 2009a, 2009b, Allen and Sykes 2011, Serjeantson and Morris 2011), also attempts to integrate aspects of more socialized, qualitative interpretations. If we are investigating landscapes within such a theoretical framework, we must consider the resolutions of study at which we can make interpretations relevant to our research agendas.

Here it is important to note the difference between resolution of study, and area of study (Bevan and Connolly 2006). Resolution of study is the detail/accuracy of information studied in (usually uniform) relation to the scale. This is often articulated in archaeology through the difference between highly detailed intra-site studies (e.g. Wright *et al* 2009), landscape studies on a local scale (e.g. Fowler 2000) which retain the investigation of particular parts of the landscape in detail whilst adding wider ranging methods of study, and regional studies, in which individual sites often appear as merely dots on a distribution map in the context of wider patterns (e.g. Bevan and Connolly 2006).

The concept of research resolution is closely linked to that of research area, the spatial coverage of a study, which is almost always articulated in Euclidean space. Both of these aspects of landscape study have been somewhat neglected in archaeology in general, and this is particularly problematic for a study such as this thesis, which aims to take a holistic approach, due to the centrality of these concepts to the study area. This section will outline the current difficulties with these concepts in archaeology, and provide a methodology for resolving the particular issues these lacunae present for this study.

Landscape archaeology has not fully problematised the issues of defining research resolutions or areas of study, too often relying on current political boundaries, arbitrary distance definitions of areas such as hinterlands, or vague concepts of 'region' (Bintliff 1996, Sheratt 1996, van Dommelen and Prent 1996) to define study areas, and very seldom considering resolutions of study at all. Such approaches are outdated, and fail to take into account now well-established issues such as human (and non-human) agency, discrepant and multiple social practices, and more basic environmental factors such as topography. Even though the studies in question quite often attempt to integrate these concepts in their interpretations, the fact that their resolutions of study are unsuitable for such a research agenda generally leads them to rather vague and predictable conclusions, based more on prior assumptions than the actual archaeological evidence (e.g. James 2010).

James (2010) defined the hinterland of Sorviodunum (Stratford-sub-Castle) in south-west Wiltshire as a radius of 20km around the site. Everything within that radius was deemed part of the hinterland, everything outside was not. This is unsatisfactory as a basis for archaeological interpretation. Quite apart from the fact that the town is defined as the central place in the region by merit of its 'Romanised' buildings when there are at least three settlements in the area that are several times larger and contemporary, albeit 'native' (Crawford 1928, 175-177, James 2010, 167), the briefest review of the settlements within the area shows that in reality landscape relations were far more complex than such an approach can succeed in understanding. For example, Fulford *et al* (2006, 209) take a more sophisticated approach in their discussion of Chisenbury Warren and Coombe Down, where the resolution of study is essentially framed in terms of the social connections implied by material culture. This approach is separately adopted and developed by Moore (2007), and although far less formal and statistically assessed, has some similarities to the network analysis pioneered by Sindbaek and others (Sindbaek 2007, Isaksen 2008).

There are, however, significant difficulties with relying wholly on material relations or formal network analysis as a method of defining research areas. Firstly, there is an inherent limit to the quantity of data that can be included in such a definition due to the limitations

of time required to input such data, and an inherent bias in that by necessity sampling choices must be made in order to do so. For studies looking at broad research questions regarding issues beyond material culture this can only result in bias due to the selection of particular subsets of material culture, resulting in the introduction and over-privileging of causal factors affecting the creation and distribution of that particular set. Secondly, the use of artefactual data alone would neglect major factors in human behaviour in the landscape such as topography, climate and the distribution of natural features and resources. These must be considered when trying to define appropriate resolutions and areas of study. It is thus necessary to consider more holistic ways of defining research resolution.

To begin to consider how we may develop more advanced definitions of research resolution, it is first necessary to consider a major part of the context from which we come to our research. This is the fact that the method with which we define our resolution of study is subject to both our research question and our iteratively based understanding of past space. Resolution in archaeological study is commonly understood to be analogous with the resolution of a microscope, or ordnance survey maps, where one can simply move from one setting of magnification to another in order to adjust the particular visible data types and spatial extent of the view, whilst maintaining that each is a legitimate separate data set for study (e.g. Bevan and Connolly 2006).

Instead of this neat, compartmentalised, 'Russian doll' conception of resolution and space, we must move towards a more complex view. A large number of scholars in archaeology have argued for some time that space is socially constructed (e.g. Hood 1988, papers in Parker-Pearson and Richards 1994, Laurence 1994, Meskell 1998). Some have seen this argument as emblematic of the post-processual school of archaeology, and in some cases, this is correct (e.g. Tilley 1994). When the contention is removed from the arena of the now somewhat outdated processual/post-processual dichotomy, however, there are a wide range of theoretical perspectives in archaeology (and beyond) which acknowledge its legitimacy (Johansen 2010). For example, Swenson's (2012) work on the social and political creation of ritual places in northern Peru draws heavily on ideas of socially constructed and

mediating space. Mellor's (2005) analysis of the socially mediated and mediating space inside textile mills in West Yorkshire has a similar theoretical basis, but uses a quite different methodology to analyse space, accompanying holistic discussion with formal access analysis. These case studies are both analyses of space and place in terms of individual structures and their immediate surroundings, but landscape studies have also worked through interpretations of space as socially constructed. Johansen (2010) demonstrates a method for using surface distributions of artefacts to attempt to determine socially constructed places within a socially constructed landscape in the Indian Iron Age. Recent work at Avebury (Gillings et al 2008) combines a suite of field investigations in an analysis which is based on the conception that spatial relations were complex and socially mediated. Taking the concept further, Walsh (2008) employs the principles of Actor Network Theory (Latour 2005) to illuminate how landscape can be seen as socially constructed both by human agency and natural agency. This approach begins to resolve a potential difficulty in the argument that space is socially constructed, the existence of certain spatial structuring processes such as topology and climate.

All of the above approaches, although sharing the conception that space can be usefully seen as socially constructed, vary in their approaches to a major fundamental tension within that assertion, which becomes apparent when we return to the issue of resolution. Spatial entities (places, territories or networks, for example) could be seen to be socially constructed by human and natural agency in temporally and spatially diverse and multiple ways dependent on the resolution of study (e.g. Braudel 1972; Knapp 1992). These processes of change are likely to generate tension, and this presents a number of difficulties for the current models of archaeological investigation discussed above.

Simultaneously, a purely relational approach to spatial studies has been discredited, and is of no analytical value due to the limitations of the 'everything is connected thesis' (M Jones 2009, 495) and the 'connection problem' (Harvey 1996, 7, Dainton 2001, 143), which have been used to demonstrate that purely relational thought fails to allow for differentiation between necessary connections and contingent connections. This shows the proximity of a

purely relational view to a purely relativist view. Allowing for these two key points, how then can we study or define resolution in such a spatial context?

### **A methodology for defining resolutions**

Recent work in human geography has begun to provide a way forward. Theories of phase space outlined in geography by Jessop, Brenner and Jones (Jessop *et al* 2008, M Jones 2009), which whilst acknowledging and partly incorporating the concepts of relational space, utilise the concept of territories as coherent moments of relations, mutually constituted and relationally intertwined with places, scales and networks. The existence of forces of inertia and temporal depth in spatial relations, and the interconnectedness of places, scales, territories and networks are emphasised, providing a more substantive structure than a relational approach (Jessop *et al* 2008; Table 2- From Jessop et al (2008, Figure 1). This demonstrates the key dimensions of sociospatial relations in Jessop, Brenner and Jones' conception of phase space.

This allows the interrogation of the processes and relations which constitute the past at any given moment – i.e. a point in phase space -, whilst acknowledging and attempting to understand the changes which have led to that particular state (M Jones 2009).

Investigation of these inter-connected aspects of space can be facilitated by the framework suggested by Jessop *et al* (2008; Table 3), who assert that a form of hermeneutic spiral must be used to engage with these dimensions of socio-spatial relations (Jessop et al 2008, 394). Crucially for archaeology, Jessop *et al* (2008, 394) also emphasise that analysis in this framework must recognise pre-existing historical socio-spatial relations in order to be fully spatially situated.

Although geographers have only applied this to conceptualising present day socio-spatial relations (M Jones 2009), this structure of thought allows us to move forward substantially in studies of past socio-spatial relations. Indeed, archaeology is particularly suited to this development because of the evidence base from which it works. Because we base our studies on material culture situated in Euclidean space, yet can simultaneously locate the

same material in relational space, we can move towards a material articulation of phase space theory located in the past. Archaeological study can maintain the tension between the two conceptions of space due to the theorization of material culture that has taken place in the discipline, and the historically situated nature of our material. The 'phase space' conception of socio-spatial relations may therefore help us move beyond the current dominant 'Russian doll' approach to archaeological resolution and spatial analysis, towards a more interconnected and holistic methodology.

Dimension of sociospatial relations	Principle of sociospatial structuration	Associated patterning of sociospatial relations
Territory	Bordering, bounding, parcelisation, enclosure.	Construction of inside/outside divides; constitutive role of the 'outside'.
Place	Proximity, spatial embedding, areal differentiation.	Construction of spatial divisions of labor; differentiation of social relations horizontally among 'core' versus 'peripheral' places.
Scale	Hierarchisation, vertical differentiation.	Construction of scalar divisions of labor; differentiation of social relations vertically among 'dominant', 'nodal', and 'marginal' scales.
Networks	Interconnectivity, interdependence, transversal or 'rhizomatic' differentiation.	Building networks of nodal connectivity; differentiation of social relations among nodal points within topological networks.

**Table 2- From Jessop et al (2008, Figure 1). This demonstrates the key dimensions of sociospatial relations in Jessop, Brenner and Jones' conception of phase space.**

Jessop *et al* (2008, 396; Table 3) have presented a tabulated form of the TPSN framework as a heuristic device that should be read in three ways. Firstly, the table can be read along the top-left to bottom-right diagonal, prompting exploration of each dimension of sociospatial

relations in and of itself. Secondly, the rows of the table can be read horizontally, prompting consideration of how each dimension of sociospatial relations causally affects each of the other three. Thirdly, the columns of the table can be read vertically, prompting consideration of how each dimension of sociospatial relations is affected by the other three. Table 4 demonstrates an initial attempt at archaeological orientation of phase space theory through the TPSN framework (Jessop *et al* 2008, M Jones 2009). This representation does not easily include time, but a particular strength of archaeology is that any consideration of the factors discussed in Table 4 in an archaeological sociospatial context must inherently consider temporal resolutions.

Structuring principles	Fields of operation			
	Territory	Place	Scale	Networks
Territory	Past, present, and emergent frontiers borders, boundaries	Distinct places in a given territory	Multilevel government	Interstate system, state alliances, multi-area government
Place	Core–periphery, borderlands, empires, neomedievalism	Locales, milieux, cities, sites, regions, localities, globalities	Division of labor linked to differently scaled places	Local/urban governance, partnerships
Scale	Scalar division of political power (unitary state, federal state, etc)	Scale as area rather than level (local through to global), spatial division of labor (Russian doll)	Vertical ontology based on nested or tangled hierarchies	Parallel power networks, nongovernmental international regimes
Networks	Origin–edge, ripple effects (radiation), stretching and folding, crossborder region, interstate system	Global city networks, polynucleated cities, intermeshed sites	Flat ontology with multiple, ascalar entry points	Networks of networks, spaces of flows, rhizome

**Table 3 - From Jessop et al (2008, Figure 3). Conceptual orientation for moving towards complex treatment of space. The content of this table demonstrates the modern focus of its initial application by Jessop et al (2008). Compare with Table 4.**

If we take this approach we may define resolution for a particular research agenda by delineating the past territories, scales, places and networks which we understand as having been constituted in particular phase spaces – practically, through a relative time – and iteratively attempting to locate material remains in these sociospatial dimensions. This iterative process is undertaken by interrogating the intertwined and interconstituted

relationships between socially located material remains and past human actors and the places, scales, networks and territory relationships which they constitute and are constituted by. This process is particularly facilitated by archaeology's simultaneous location of past material remains in Euclidean and relational space, and the theorised understandings which have been and continue to be drawn from this.

Structuring principles	Fields of operation			
	Territory	Place	Scale	Networks
Territory	Past, present and emergent frontiers, borders, boundaries, liminal zones.	Distinct places within a territory, e.g. sites within estates, significant natural features.	Sociospatial structures define some bounds of analysis, e.g. civitates->provinces.	Sociospatial structures construct networks & identities / relations at multiple levels.
Place	Core-periphery? Overlapping relations, e.g. tribal/imperial beliefs, tradition, 'roots'.	Locales, milieux, sites, settlements, ecological / geological zones, regions, empires.	Division of labour linked to differently scaled places.	Hierarchical society? Control or resistance?
Scale	De / Centralised society? Client/patron relations, allegiances.	Scale as area, e.g. area of a villa compound in comparison to farmstead, or viewsheds / vistas?	Vertical ontology based on nested or tangled hierarchies.	Multiple scales of power, e.g. military / civil, economic/ritual.
Networks	Migration, diffusion, acculturation, materiality, natural agency.	Intra-site spatiality, grammars of space / structure / material, places in wider network contexts e.g. mansios / forts.	Flat ontology with multiple ascalar entry points, e.g. artefact distributions.	Networks of networks, spaces of flows, rhizome.

**Table 4 – An attempt at archaeological orientation in the sociospatial principles of the 'phase space' framework, using the TPSN combination. After Jessop *et al* (2008) and M Jones (2009).**

The remaining problem, of course, is that this iterative process must begin somewhere, and must have limits in order for the study to be practically possible, whereas the multiscalar and connected nature of the TPSN framework is implicitly open-ended. Whether the dimension of territories, places, scales or networks is chosen from which to begin will depend on the research agenda of the study in question. Jessop *et al* (2008, 394) recommend that this iterative process is begun from the “abstract-simple to the concrete-complex”. The following section (2.3) aims to identify abstract-simple aspects of interaction



with landscape through highlighting key issues of this theme in wider study of the Roman West. This will allow more specific concerns to emerge which can be focused on within the case studies. Section 2.4 will summarise the theoretical approach developed in this chapter, developing a research framework for study and selecting suitable case studies.

## **2.3 – Themes in Roman Landscape Studies; Nature as a prism for understanding**

‘Nature’ is a term of many shades of meaning that is widely used across the sciences and humanities (Simmons 1993, Greider and Garkovich 1994, Clayton and Opotrow 2003). In this thesis Simmons’ (1993, 11) definition will be followed, and the term will be understood as meaning the non-human surroundings of people in the world. The balance of evidence strongly suggests that it is unlikely that people during the Roman period shared the general understanding of nature that today’s western society possesses (Simmons 1993, Clayton and Opotrow 2003) in a broadly unified concept of the ‘natural’ world, separated from the cultural world, and in many communities the subject of an unequal and exploitative relationship with humankind. Simmons’ definition allows us though to proceed towards an understanding of interactions with those parts of the world that today many would understand as nature, but would have been understood in very different ways during the Roman period.

In the modern world identity and Husserl’s concept of *lebenswelt* have been shown to intrinsically linked to cognitive landscapes. The way in which worldviews and personal identities change through socially mediated understandings of change in the world demonstrates the wider importance of studying changes in relations to landscape in order to access wider issues of identity and social change in the Roman period (Greider and Garkovich 1994, Clayton and Opotrow 2003).

The following sections will explore three key facets of landscapes during the Roman period through discussion of attitudes to nature and the landscape. These three aspects have been chosen because they encompass key elements of landscape during the period and allow us to review the chosen topic within a manageably sized framework. Beginning with these broad concepts will also allow us to drill down into more detailed issues, moving from the abstract-simple to the concrete-complex (Jessop *et al* 2008). The first section, ‘wild nature’ will discuss aspects of the natural world popularly deemed to be beyond human society or control, focusing in particular on climate, natural disasters, wildness and wilderness. The

second section, 'tame nature' will consider those parts of the landscape beyond settlements but part of human society, reviewing issues such as land management, the use of natural resources, agriculture and certain socialised human-animal interactions. Finally, the third strand of this study will be the landscape as it was lived in by its human inhabitants, and in this section concerns such as settlement, power relations and expressions of identity will be explored in terms of the overall theme of understanding past relationships with the natural world in the Roman period.

Attempting to synthesise all the information on this topic from the entirety of the study area (north-west Europe and the north-west Mediterranean) is far beyond the scope of this study. This structure has therefore been chosen because it allows a review of material from across the study area, including certain important case studies, to be made in sufficient depth to form a detailed and necessary wider context for the two case studies which are the main focus of this thesis.

### **Wild nature: Climate, Natural disasters and Wildness**

This section deals with the aspects of nature which have traditionally been thought to have been seen by Roman elites as 'other', beyond those parts of the world yet to be 'civilised', or beyond the scope of civilising influence or control (Beagon 1996, 299-308). Beagon (1996) emphasises Pliny's perspective that nature could, and should, be controlled by the Roman Empire, but that also humankind should not be 'greedy' (*ibid*, 308), and seek to exploit more of nature than necessary, perhaps echoing earlier philosophy (Furley 1989, 210). This perspective contrasts with many archaeological narratives, which assume an exploitative, industrialising attitude to nature on the part of the Romans (e.g. Hemphill 1987), accompanied by a superstitious fear of the wilderness and ocean (e.g. Frere 1974, 62). This narrative fits into a wider and older tradition of thought that viewed the Roman Empire as possessing admirable practical skills in military and engineering spheres, but being held back by paganism and superstition (e.g. Gibbon 1776). This narrative tradition may have been derived from the tensions inherent in the admiration held by Renaissance and Enlightenment scholars for Classical scholarship and civilisation, and their Christian

beliefs.

We must move beyond such assumptions if we are to reach useful conclusions regarding attitudes to wild nature in the Roman world. Some archaeologists have begun to discuss such landscapes in more nuanced terms, but mainly through discussion of their animal inhabitants (e.g. Sykes 2004, Allen and Sykes 2011, Serjeantson and Morris 2011). At first it appears possible that the lack of study of such landscapes is a reflection of a lack of such landscapes within the Roman West. Despite the quite intensively settled landscapes of much of Britannia and Gaul, however, some areas of wild landscapes remained. For example, the literary evidence and archaeological evidence combined suggest that frontier region around Hadrian's Wall and the Antonine Wall on Britannia's northern frontier were perceived as being wild (*Dio V, 76*; Breeze 1982, 35-36). Importantly, in the oft-quoted passage of Dio discussing the inhabitants of the lands beyond Hadrian's Wall, rather than describing the people as wild, the author describes the landscape as wild, specifically the mountains (*Dio V, 76*). Although this is far too flimsy a piece of evidence on which to base any wider conjecture regarding the concept of wild in the Roman period, it is an interesting point to note.

Almost all of the other uses of the word 'wild' in the standard translation of Dio refer to wild animals, usually in the arena or in a military context (e.g. *Dio XIII, VIII, 22*) and in one case, to describe a particular emotional state (*Dio V, VII, 18*). Similarly, the mention of wilderness in Dio (see below) clearly describes different responses to environment, but on a somewhat more complex basis than the traditional model of superstitious barbarians being observed by clear-minded Romans, although this is the simplest initial reading.

[48] .... Finding a sunken part of the road, between some low hills, he there stationed his army on the higher ground and awaited the enemy. When the enemy entered the sunken way, with confidence and without an advance guard (since they had suffered no injury previously and now at last were gaining safety, so that they

expected that the Romans would no longer follow them), he fell upon them in the darkness. There was no illumination from heaven and they had no kind of light.

[49] The nature of the ensuing battle I will now describe. First, all the trumpeters together at a signal sounded the attack, next the soldiers and all the multitude raised a shout, some rattling their spears against their shields, and others stones against the bronze implements. The hollowed mountains took up and gave back their din with most frightful effect, so that the barbarians, hearing them suddenly in the night and the wilderness, were terribly alarmed, thinking they had encountered some supernatural phenomenon.

(Dio II, XXXVI, 48-49).

The role assigned by Dio to the mountains in this scenario is ambiguous. One reading could be that the mountains are playing an active role, as they “[took] up gave back their din with most frightful effect” (Dio II, XXXVI, 49), possibly reflecting Dio’s desire to demonstrate the favour of the spirits of that location for the Roman forces. Alternatively, this part of the passage could be read as the Roman forces taking advantage of their environmental knowledge and the element of surprise to attack the enemy in the most advantageous manner possible. Of course, it is likely that elements of both understandings are valid, and we will never be able to access Dio’s own sources, let alone those who were actually present.

There are other ancient sources which mention the concepts of wild or wilderness (Delano-Smith 1996), and a sizeable body of literature, particularly from the later period of the Roman Empire in the West, that focus on the destruction or degradation of anthropogenic structures by natural forces (Beagon 1996, Delano-Smith 1996. Rackham 1996). Even considering these resources, however, the literary evidence is much sparser for this subject than for many other elements of life in the Roman Empire. The evidence for agricultural practice for example, which will be considered in the following section, is much more substantial.

Two aspects of interactions with the 'wild' in the Roman Empire that are well attested in literary sources are the use of wild animals in the arena, and hunting. Dio and other authors detail the use of wild animals in arena displays, gladiatorial games and even capital punishment, and the role of these animals in Roman society has been explored in depth by a number of modern scholars (Mason 2007, Shelton 2007). It is clear that the provision of animals for arenas in Rome and provincial centres was a significant commercial practice, and had negative consequences for the wild populations of certain species (Shelton 2007).

The current consensus suggests that the use of wild animals in the arena was a key element of displays of power by elites, and part of a form of social bonding through shared entertainment. The particular utility of using wild animals in these displays rested on their exotic origins, the expense of importing them, and often their unusual size or ferocity (Mason 2007, Shelton 2007). The control and destruction of these animals demonstrated the power of elites providing the displays, who actively and vociferously reminded the general population of the expense involved, and their consequent generosity. Competitive display for political reasons resulted in substantial pressure to provide novel animals or confrontations in the arena, and as a consequence a number of techniques were developed to exaggerate the characteristics of particular animals. Some of these techniques comparatively harmless, involving dressing the animals or using them in military re-enactments, but others were cruel by today's standards, including starvation or physical abuse designed to increase the aggression with which they would attack in the arena. Increasing the ferocity of wild animals in this way was a direct consequence of the social value derived from that characteristic and the pressures of competitive display. This represents a clear manipulation of perceptions of nature for social gain.

Similarly complex social implications are demonstrable in the archaeological and literary evidence for hunting, the other particularly well-attested aspect of interaction with wild animals in the Roman period. Although descriptions of hunting are known throughout the Roman period (Sykes 2004) the evidence for the practice as an aristocratic pastime increases in the West in the final centuries of Roman dominance (pers. comm. Simon

Esmonde-Cleary November 2011). There are many elaborate mosaics from across the Empire in this period depicting hunting scenes in detail, particularly from Spain (Chavaría Arnau 2004), and it has recently been suggested that the enigmatic 'weapon burials' found in Gaul, Spain, and occasionally elsewhere in the West, are lower-status individuals associated with this practice, perhaps as huntsmen (pers. comm. Simon Esmonde-Cleary November 2011).

Taken together with the literary evidence suggesting an increasingly insecure relationship with nature on the part of elites in the later Roman period, the rise in hunting display, as well as fulfilling the role of providing a replacement for the *virtus*-sustaining military activities of elites in the Republic and early Empire, may have allowed the assertion of a dominance over nature by elite groups. This display, as with many displays of dominance, may have been prompted by increasing insecurity regarding traditional mores and social structures. It will be interesting to see whether this detailed study of the archaeological evidence for two regions in the Roman west bears out this possible change.

One aspect of wild nature which the elites of the Empire could not control, however, was natural disaster. Unusual and destructive events such as volcanic eruptions, storms, flooding or other extreme weather had very substantial impacts on a society where most wealth was based on agricultural production, and most trade was maritime. Whilst the destruction of Pompeii and Herculaneum in the eruption of Mount Etna in AD79 was unparalleled in severity in the history of the Roman world, the literary evidence regarding this disaster is illuminating regarding more general Roman attitudes to nature. The determination on the part of Pliny the Elder that he would rescue those engulfed by the eruption is in marked contrast to later authors responding to natural disasters in less confident periods of Roman history (Delano-Smith 1996).

Sea voyages were also seen as hazardous, and loss rates on shipping in Mediterranean were significant (Potter 2004). If losses were at this level in the relatively sheltered Mediterranean, they are unlikely to have been lower in the Bay of Biscay, Irish Channel and North Sea areas that formed the north-western maritime routes of the Empire. Julius

Caesar's loss of a large number of his ships on his first invasion of Britain is commonly cited as evidence for the uneasy relationship between Roman elites and the Ocean (Mattingly 2006). Mattingly (2006) suggests that Caesar's losses from his fleet actually enhanced his reputation as having fought the Ocean and won.

Water was also at the centre of another natural disaster very frequently cited in both literary and epigraphic evidence, flooding. Flooding was a significant problem for many areas of the north-western provinces of the Empire, particularly for settlements located in low-lying river valleys. A great deal of research has been undertaken on the responses of Roman elites to water management, in particular by scholars working in the Rhône valley in the south of France (Leveau 2004a, 2004b). In addition to flooding necessitating flood defences of the type constructed and re-constructed at Arles and other cities (Leveau 2004a), large areas of the rural landscape regularly became inundated. A variety of responses to these events are apparent in the archaeological record, and Rippon's classification of those visible in Britain, Belgium, the Netherlands and Germany can legitimately be extended across the wider Western Empire as a means of clear characterisation of these processes (Rippon 2000). Rippon (2000) uses changing patterns of these interactions with nature as a means of characterising change in the societies, at least at a regional level. This proves a productive approach, and aligns closely with the basic argument of this thesis, that by understanding changing interactions with nature, we can understand change in society and environment.

In addition to literary evidence and evidence from particular archaeological sites, we must also consider the broad climatic evidence from the Roman period. Climate and weather were beyond the control of the human inhabitants of the landscape, and just as they do today, would have had significant effects on the landscape and human population. Western Europe, as now, encompasses a variety of climatic zones. The Mediterranean zone was significantly drier and warmer than the temperate zones in Gaul and Britain, which resulted in landscapes of radically different character. This subject has been very extensively explored by ecologists, archaeologists and historians (Horden and Purcell 2000). A



particularly important recent advance in refining our understanding of climate in the past has been the development of long term climatic simulations (Dermodoy *et al* 2011). The results of these simulations have provoked discussion, and there has been some difficulty in achieving concision between different models, particularly for proxy-based models and between different resolutions. For example, the conclusions regarding fluvial activity in Provence of Provansal (1995) using palaeoenvironmental data derived from excavation to suggest a reduction in fluvial activity through the Roman period, and Nieto-Moreno *et al* (2011) using proxy data from marine sediments to suggest that the later Roman period saw a major rise in humidity and fluvial activity, are difficult to reconcile. This is likely to be a problem of resolution of study; whilst parts of Provence may have seen a reduction in fluvial activity, the overall climatic sequence shows a contrasting trend.

When dealing with climate, as with other aspects of Roman landscapes, our conclusions are therefore dependent on resolution. In general we can say that the climate of Western Europe, including the western Mediterranean, during the Roman period was slightly drier and warmer than in the pre-Roman period or the late and post-Roman periods. The picture is sufficiently regionally complex and diverse, however, that to say more on the scale of the Western Empire as a whole would be misleading (Rackham 1996). Although climate is discussed here, like weather it would have impacted on all aspects of interactions with nature in the Roman period, and thus will be returned to throughout this chapter.

This discussion has covered the main aspects of 'wild' nature in the Roman west. Throughout it has been apparent that what was deemed wild by ancient authors was socially mediated, and that perceptions of wildness amongst ancient populations were manipulated by various groups for social or economic gain. It must also be noted, however, that some aspects of the world which were genuinely beyond the control of human populations elicited a variety of insecure responses. The important point here, though, is that those responses were still mediated by – and thus give insight into – the social complex of the time. Comparing, for example, reactions to the eruption of Vesuvius and destruction of Pompeii with the Late Roman floods and other natural disasters of far lesser magnitude

we find the opposite responses to those that we might logically expect due to the social mediation of perceptions of the wild. Pliny the Elder, reacting to the eruption of Vesuvius at the height of Roman power, is philosophical, even curious, regarding this major disaster:

“He [Pliny the Elder] called for his shoes and climbed up to a place which would give him the best view of the phenomenon... My uncle's scholarly acumen saw at once that it was important enough for a closer inspection, and he ordered a boat to be made ready”

(Pliny the Younger, *Letters*, 6.16)

In contrast Rutilius, writing around 417AD (Christie 1996, 256) about various minor natural disasters in Italy is fearful:

“roads can flood, or be littered by landslides and falling rocks; Tuscany and the Aurelian highway have already fallen to the Goths. It is best to trust the sea because the rivers are not bridged and the land has become wild again”

(Rutilius I, 35-40)

We can see therefore that the responses of these authors to nature allow us some insight into the societies of their times. Other examples in this section, such as the burials possibly associated with hunting servants, demonstrate how archaeology can begin to allow us to access the impact of perceptions of nature on the majority of society, rather than a small number of elites, and to begin to explore the structure of that society. Proceeding from such a basis it is vital in that pre-Roman understandings of wild nature are explored in the course of this thesis if we are to look at particular regions in a coherent and non-elite focused manner.

Perhaps the most important point to emerge from this discussion of wild nature is that the study of relationships with the ‘wild’ is a useful heuristic through which to begin to investigate wider aspects of ancient society. It has also been seen in many of the examples briefly discussed here, however, that we can make much more substantive interpretations if

we consider the interaction and blurring between the categories of wild, tame and lived landscape which we can use to access ancient society. From the use of animals in gladiatorial games to the importance of integrating different temporal resolutions of study for fluvial activity, it is clear that a holistic approach is necessary to access past complexity. The following section on tame nature will address interactions with nature in those places (both cognitive and physical) that were beyond human settlement, but within human society. This will provide a central contrast with this section on wildness and wild, and the final section of this chapter on the lived landscape, which will cover interactions with nature in terms of power relations, identity and experience within human society and settlements.

### **Tame nature: Agriculture, Animals and Resources**

This section will discuss interactions with nature in those places (both cognitive and physical) that were beyond human settlement, but within human society. As the overwhelming majority of the population during the Roman period lived in rural areas, this sphere is where the majority of the day-to-day lives of ordinary people would have been conducted (Rees 1987, Cartledge 1998, Mattingly and Salmon 2001). The majority of economic power in antiquity was drawn from agricultural activity (Rees 1987, 482, Jeskins 1998, 45, Potter 2004), but a variety of other significant economic activities relied on interactions with nature and environment, particularly transport, extraction of natural resources, milling, pottery production, and managed wetlands and woodlands (Rippon 2000, Mattingly and Salmon 2001, Leveau 2004b). Rural landscapes could be highly ritualised, and the importance of places of burial, worship and tradition must be borne in mind when considering human interaction with nature in the landscape (Witcher 1998, Leveau and Segard 2004, Potter 2004, Willis 2007, Rogers 2007, 2008, Copeland 2009, Eckhardt 2009). This section will deal with interactions with the natural world in each of these areas in turn for the sake of clarity, although many of these activities were naturally closely integrated in reality.

An economic history of the Roman west is neither the aim of this study nor within its scope. There are, however, several particularly salient points drawn from economic history that

must be taken into account when reviewing interactions with nature in an agricultural context. Firstly, agricultural activity varied widely over the western Empire, particularly across the division between Mediterranean and temperate climatic regions (Potter 2004). The Mediterranean agricultural economy included viticulture and oleiculture as major constituents (Brun 2001, 2004, Foxhall 2007), and these crops were not generally viable in temperate climates, although viticulture did spread into southern temperate Gaul to some extent (Woolf 2001). The focus of regional agricultural economies in the Roman west varied through the course of the Empire's existence, with oleiculture in particular having strongly regional qualities (Mattingly 1988, Brun 2004). These economic variations naturally had effects on those involved in agriculture, whether or not they were derived from the operation of a Rome-centric market economy (Hopkins 1995/1996), a primitive 'ancient' economy (Finley 1985), or any of the other proposed models (Andreau 1995).

Secondly, in addition to changing patterns of distribution of agricultural activity, this period also saw changing levels of economic activity. Academic opinion is very much divided over the very possibility of economic growth in antiquity, as scholars' views on this issue are to a great extent predicated on their more general characterisation of the Roman economy (e.g. Hitchner 1993), and the precise nature of fluctuations in supply and demand, production and monetisation are similarly debated. The classic case is the economic impact of the so-called 3<sup>rd</sup> century crisis (Christol 1996, Estiot 1996). In Provence, a rapid decline in amphorae has been suggested to represent an economic decline due to political instability, but the picture may be more complex (Christol 1996). An increase in the regionality of demand and/or the costs of wooden barrels as opposed to amphorae may have disguised the true economic changes that occurred at this time (Christol 1996). Such are the difficulties of economic history, and thus although we must accept that the economy of the Roman Empire was by no means static, a lack of reliable evidence or models suitable for resolutions at close study prevent the models presented in the literature thus far from being deeply integrated into this thesis.

A third and more firmly founded facet of economic history that must be integrated into this

work is the changing social context of agricultural production. In early Roman history and later oral and literary tradition, Rome was a land of individual free landholders, but the pattern of landholding changed rapidly during the expansion of the Empire, particularly in Italy and the other central provinces. The pattern of elite investment in land consolidating holdings into larger estates, together with an expansion of available slave labour due to prisoners of war being brought back to Rome, meant that large estates farmed by slaves and overseers became the norm in Italy, and other core provinces (Potter 2004). As the Empire's expansion slowed and eventually halted, however, the supply of slaves dwindled and free men were more commonly employed as labour (Potter 2004). Whilst this general pattern is correct for at least Italy and other central provinces, there would have been significant variation across the Empire.

The importance of these changes in how agricultural land may have been worked is twofold. Firstly, the changes in labour organisation may be reflected in the archaeological evidence, whether through structural remains, patterns of consumption or methods of land division. Secondly, recent work by Walsh (2008) has begun to unpick the complex subject of differential perception of environment by different human actors within it, using the Roman mill at Barbegal as a case study. The ideas put forward by Walsh (2008) for Barbegal have a wider applicability to agricultural and industrial landscapes in archaeology, and it may be possible to use archaeological evidence for differential organisation of labour in conjunction with Walsh's (2008) ideas to form quite sophisticated and high resolution understandings of attitudes to and interactions with nature in these contexts of tame nature.

The theme of complexity of experience is even more strongly demonstrated in a review of evidence for agricultural practice beyond the wheat/olives/wine trinity assumed by many economic histories. Transhumance and pastoralism were widespread and substantial practices during the Roman period, particularly in regions in and around wetlands, uplands or mountainous terrain (Rippon 2000, Leveau and Segard 2004; Segard 2009a, 2009b). Mass transhumance across wide distances created events and physical and social structures across its routes (Leveau and Segard 2004) linking urban populations to animals and

environments of which they may have had scant experience. This echoes Potter's (2004) thesis that elites across the empire shared aspects of a common cultural idiom with which most people would have had some contact, and perhaps even more importantly the very fact that the structures of empire facilitated such links provided a connectedness from which group identities evolved during the period. Whether or not we accept Potter's assertion that the population of the Empire was indeed culturally linked in such a way, his thesis that connectedness would have been key to social identity is borne out by substantial evidence from across the Empire (Potter 2004). Potter (2004) does not, however, take into account to any notable degree the connectedness of landscape practices such as transhumance and movement of non-elite groups.

Although mass transhumance provided some links within the Empire, if we query the literary and archaeological evidence we once again perceive a variable and socially mediated complexity to these interactions with nature. Literary sources such as Varro portray the life of a shepherd as hard yet worthy toil by hardy and self-sufficient men (*Varro* 2.10.1-3).

Our archaeological evidence demonstrates, however, both the falsity of the pastoral idyll and the economic and social control of its ultimate expression, mass transhumance. To take the example of the mass migrations between the Alpilles and the Crau plain in southern Gaul, the archaeological evidence for sheep enclosures is very substantial and indicates a mass transhumance of at least regional importance. By contrast, the literature mentions no evidence of dwellings or shelters for shepherds at or around the sheep enclosures (Leveau and Segard 2004). Perhaps the shepherds used untraceable structures such as tents, but it seems that greater care was taken of the animals during transhumance than was of the people. By contrast, the ceremonial structuring of the 'sanctuary' enclosure on the transhumance route at Glanum and the erection of an elaborate temple to Hercules in his role as protector of the flocks (Leveau and Segard 2004, 106), demonstrates attempted mediation of popular perceptions of transhumance by elites. If such relations were common between shepherds and elites, perhaps this explains the hostility between the groups

displayed in the encounter described by Marcus Aurelius (Fronto's Letters 2.12), where the future emperor deliberately startled a flock and the shepherd threw his staff at him. The connectedness of Roman society could then be the view promoted by elites through social mediation. Once again, perceptions of interactions with nature are manipulated for social gain. It is also important to note that in this example archaeological evidence has provided the means of interrogating sparse literary evidence and complexifying the apparent pattern of social relations through a landscape context.

As well as mass transhumance over long distances, transhumance is also likely to have occurred on a more local scale, with animals being moved around the lands of a particular community or estate depending on agricultural or seasonal necessity. Transhumance requires complex environmental knowledge and an intimate acquaintance with the land over which animals are to be driven. As with mass transhumance, it is through the physical remains of the supporting structures of the practice that we can identify its occurrence, and many parts of the Empire show evidence of dispersed enclosures likely to be associated with pastoralism or animal management (Potter 2004). It is likely that more localised transhumance resulted in a quite different experience of the process, and particularly that the primary economic relations of the shepherd may not have been with a distant owner of the many thousands of animals involved, but rather with an individual whom they personally knew, albeit by no means on necessarily friendly terms.

Attempting to characterise interactions with nature in the agricultural sphere has been shown to be a useful heuristic device for accessing wider concerns about social relations and human-environment interactions. Particularly productive avenues for research are the integration of multiple forms of data and the likelihood of differential experience of nature and environment. In order to move beyond this initial, theoretical exploration, archaeological evidence must be used to characterise activities and relations with nature, and this will predominantly consist of study of the character and distribution of structures supporting activity, and the refuse remains of consumption. Therefore to understand differential interactions with nature in agriculture through space and time we must

investigate remains such as field systems, enclosures, terraces and barns, as well as the age, sex, treatment and disposal of animals, and environmental samples such as pollen cores and microfossil analysis. Recently isotope analysis has begun to prove its great utility for socialised analyses of diet, and this may also provide useful data for analysis of interactions with nature if interpreted in a theoretically aware manner (Redfern *et al* 2010).

Domesticated animals were not only used for agriculture during the Roman period. There are records of pets being kept, and treated well. One dog that resided in Pompeii was even commemorated in the famous 'Cave Canem' mosaic (Laurence 1994), and literature on the subject rarely fails to remind us of Strabo's assertion that Britain exported hunting dogs (e.g. Frere 1974, 45). Certain animals also played active roles in various religious and ritual ceremonies and traditions. A variety of animal roles are attested, including the sacred geese of the Temple of Juno who guarded Rome (Ziolkowski 1993), to the raven 'familiar' of druidic religion attested in both ritual deposits and sculpture (Serjeantson and Morris 2011). Animals were also used to help predict the future, and extensively as sacrifices to deities as varied as the motivations (stated or otherwise) for making the sacrifice). As in earlier periods (Serjeantson and Morris 2011) particular animals fulfilled roles as mediators between the human and divine worlds (Aldhouse Green 2001). Evidence of such practices is more difficult to discern archaeologically than the use of animals in agriculture. To move beyond literary evidence of such practices we must consider sculptural evidence, and particularly ritual deposits in archaeological contexts (Serjeantson and Morris 2011).

Animals would also have been necessary for many forms of transport. Although sea travel and some river travel relied on the power of wind and oars, animals would have been necessary to haul craft along the canals built by the Roman state (McWhirr 1987, Potter 2004), and perhaps for travel up-river against the current. Both of these activities would require the creation and maintenance of towpaths, which is likely to have fallen on either the trading communities involved if trade was regular or perhaps waterside communities. Horses, donkeys, oxen or other animals were also the only available source of locomotive power for land transport (Sherratt 1996). Whilst this made land transport of significant



quantities of goods expensive in comparison to river transport – some have argued prohibitively so (Sherratt 1996, J Jones 2009) – in some landscapes there would have been no river route available. It is possible that part of the explanation for the very high quality construction of the main Roman roads was in response to the need to maximise the distances over which these animals were able to function as beasts of burden.

Land transport was particularly important to processes of extracting natural resources in the Roman period. By the very nature of these natural resources, many were some distance from navigable rivers, and if they were to be moved any significant distance would require substantial transport infrastructure. The most relevant aspect of extractive processes – quarrying and mining – to interactions with nature in the Roman period, however, is the relationship with the natural world implied by these activities. Extractive industry necessarily implies a more exploitative relationship with nature due to the non-repeatable nature of the activity (Pearson 2006). Whereas agricultural practice may sometimes be seen as in harmony with the environment it is much more difficult to see extractive practices in this way, and it has been suggested that ancient extractive industries, and indeed more recent examples as well, develop a distinctive culture amongst those undertaking the activity (Bessac and Sablayrolles 2002, Edmonds 2004). When attempting to discern these industries archaeologically we are again reminded of their different nature to agriculture. Whilst the products of agriculture are usually less visible than the supporting structures for the activity such as grain driers or enclosures, the products of quarrying often survive better than the quarries themselves, which are almost always destroyed by later activity due to the nature of extractive industry (Draper 2006, Mattingly 2006, Pearson 2006).

Woodland management is similarly difficult to discern in the archaeological record. Although pollen records allow us to build a broad picture of local woodland cover and floral population, they cannot tell us how or if the woodland was managed except at the broadest of levels. Anthracology and dendrochronology can give us insights into the species of timbers used for construction or burnt in situ, and the dates of felling, but are not always undertaken on sites with charcoal remains, and comparatively rarely published (Cenzon-

Salvayre 2009, unpub., Challinor 2010). Furthermore, even pollen analysis is only possible in certain environmental conditions and the current distribution of pollen samples for the Roman period in the UK is very uneven (Dark 1999) as a result of this and other biases of the archaeological process discussed in section 2.1.

The results of water management are even more difficult to discern archaeologically than woodland management, as they can disappear very shortly after the structures of hydraulic management break down. The physical structures of some aspects of water management are still highly visible in the landscape, however, unlike those of woodland management. These tend to be elite or urban structures such as aqueducts, sewers, canals or fountains, whereas more utilitarian aspects of water management such as mills, dykes, conduits and dams were usually constructed from wood, and therefore do not survive in most environments, although examples are known (e.g. Bennett *et al* 2010).

It is only through archaeological excavations of such structures that we have been able to begin to realise how complex the use of water and hydraulic power was during the Roman period. The mills at Barbegal, in Provence, (Walsh 2008) and Ickham in Kent both demonstrate organisation of sophisticated engineering activity. At Ickham the mills were designed to take advantage of tidal patterns and changes in flow, reflecting a combination of detailed environmental knowledge and engineering knowledge (Bennett *et al* 2010). It is interesting to note, however, that after a period of use, the mill channels began to silt up due to the activity, and instead of the channels being re-dug an additional mill was constructed on a new channel (Bennett *et al* 2010). By contrast at Barbegal, the sediment record shows that the channel was being regularly cleared of sediment. Walsh (2008) uses this to suggest that the workforce clearing this – who were probably slaves – would have had a different perception of sedimentation than the mill's owners. At Ickham we might then suggest that either the workforce necessary to clear the channels of sediment was not easily available, or that the presence of potential alternative positions for a mill made this unnecessary. The decisions made that are visible in the archaeological record do begin to suggest contrasting attitudes to nature, possibly based on differential economic

circumstances. At Barbegal the availability of labour and apparent regularity of clearance suggests control by an elite separated from the day-to-day work involved in the clearance. At Ickham, by contrast, the decision to relocate the mill rather than clearing the silted up channel suggests a controlling individual or group who maintained environmental knowledge of the area, or at least meaningful contact with those who did.

Soil and sediment movement was not only a problem for those operating mills. Erosion is a key issue in Mediterranean landscape archaeology, although has received less attention in the northern European literature. This is predominantly due to the difference in rainfall and soil types between the two regions. There has been extensive debate on the extent and variability of soil erosion in the Mediterranean through antiquity (Vita-Finzi 1978, Leveau 1990, Van Andel *et al* 1990, Ayala and French 2005, Butzer 2005, Casana 2008). Whilst the dominance of the question of soil erosion in the paradigm is partly due to perceptions of a gradual degradation of the Mediterranean landscapes since antiquity derived from early modern traditions (Rackham 1996, Butzer 2005), there is little doubt that erosion was a significant problem in antiquity (Leveau 1990). The pattern and chronology of erosion is, however, much more complex and regionally dependent than has previously been suggested, and it is difficult to make generalisations across the Mediterranean region for the Roman period (Horden and Purcell 2000, Butzer 2005).

The lack of study of erosion during the Roman period in temperate areas of the western empire renders any generalisations unwise, although the work of Brown (2009) suggests a way forward. It is particularly disappointing, however, that geoarchaeological studies including the Roman period such as those by Brown (2009) and Howard (2005) are not more widely undertaken in Britain, particularly as they have been undertaken by British scholars working in other regions (Barker 1995b, 1996) and for prehistoric Britain (French *et al* 2007). Similarly to several of the other areas discussed, coverage across the Roman west is patchy in terms of the evidence base necessary for study of interactions with nature.

This section has demonstrated the complexity of interactions with 'tame' nature. A significant issue to emerge from all of the topics discussed where there is a significant body

of evidence is the importance and complexity of particular forms of environmental knowledge. It is particularly encouraging that it is primarily through archaeological evidence that we have been able to access this complexity for particular case studies. This suggests that a wider study of the distribution and character of archaeological evidence for particular interactions with landscape is likely to prove productive. Several of the examples discussed have also demonstrated the possibility of accessing economic and social issues through study of the evidence for interactions with nature. One drawback of such an approach demonstrated by this survey of the current literature is the inconsistent coverage in the Roman West of some of the categories of evidence that have been discussed. The regional case studies selected must be areas where significant archaeological study has been undertaken of most, or ideally all, of the areas discussed in this section. The following section will discuss the landscape as it was encountered, experienced and lived, completing the tripartite approach of this review.

### **Encounters in the Landscape**

This section will consider approaches to studying how the landscapes of the western Roman Empire were encountered and perceived by those living in and moving through them. Issues of perceptual and social experience are central to the study of encounters in the landscape. Key areas of study included in these issues are experiences of movement in the landscape, the ritual or religious significance of particular qualities of landscape or particular places and differential perceptions of how landscapes were connected. This section will review current approaches to these issues and the available data with which they might be further investigated.

Any account of landscape experiences of movement in the Roman period must include consideration of the iconic 'Roman road' (Copeland 2009). As the Empire developed and expanded a road network was developed by the Roman state, allowing relatively swift movements of military personnel and the Imperial post system. The Roman roads of the western empire have been extensively surveyed (e.g. Margary 1973) but the well-built and state-sponsored trunk roads form only one part of the picture of land movement in the

period.

Rural areas must by necessity have had a developed network of trackways between settlements enclosures, fields, rivers and other landscape features in order to move between them with carts in the day to day activities of farming and resource use (Chadwick 2013). Research into such routes has been stunted by the shadow of the main roads in the literature both in Britain and France (Copeland 2009). Indeed, Roman roads as an expression of Imperial dominance and power have been such a widely accepted trope that their apparent primacy in how people moved around the landscape in their daily lives is only now beginning to be questioned (Copeland 2009). This contrasts with trade, where the importance of riverine transport has long been accepted (Jones, J 2009). Although discussion of the main roads remains a key part of the discourse, the debate must be expanded to consider the other networks of travel active in the landscape.

The importance of river transport to economic activity has already been discussed, and it is likely that in some areas rivers formed part of people's habitual movement in their day to day activities. There is, however, very little archaeological evidence of the small craft or coracles which would have been used in these movements, and unfortunately any discussion of them beyond an awareness that they are likely to have occurred is beyond the scope of a synthetic study such as this. Recent work in landscape studies has also considered the existence of hidden or alternative pathways in colonised landscapes, used by indigenous populations to subvert or avoid the constrictions of movement imposed by the colonisers (Byrne 2003). Particularly in the early Roman period, this post-colonial deconstruction could be usefully allied to existing ideas, such as constructed marginality (Walsh and Mocci 2003) to develop our interpretations of differential experiences of movement in the landscapes of the Roman Empire.

The developing context of routes through the landscape would also have been a key part of how people interacted with the landscape in terms of their choices and experiences of movement. In prehistoric archaeology concepts of visibility and personal meaning within landscapes have been explored extensively (e.g. Thomas 1993, Edmonds 1999, Llobera

2007, 2011), but remain severely under-developed in Roman landscape archaeology, with a very few exceptions (e.g. Gillings and Goodrick 1996, Copeland 2009, Eckhardt 2009). Landscape features such as burial places, boundaries, places of ritual significance or elite dwellings would have had a significant influence on how people perceived the landscape, and the combination of GIS-based techniques and subjective understanding developed to study these issues in prehistory has been shown to be successful in the Roman period by Eckhardt (2009) and needs to be more widely applied.

Movement did not only take place in rural contexts. There is an extensive literature on movement through urban environments in the Roman Empire, particularly regarding ceremonial processions (Rykwert 1976, Nicolet 1988, Laurence 1994, Esmonde Cleary 2005, Perring 2005). Urban environments in the Roman period have been perceived as being structured by certain Empire-wide cultural and spatial commonalities of elite culture due to the common recurrence of particular elite building forms such as fora, amphitheatres, basilicas, mansions, insulae and temples, and the construction of buildings in stone on a grid or grid-like street pattern (Levick 1987, Potter 2004). This argument does seem to be borne out by the evidence to some extent, at least until the later Roman period in the west (Potter 2004). There is evidence, however, of pre-Roman grid-based street plans at Silchester in Britain (Mattingly 2006, 77), and at some oppida sites in France (Dietler 1997). It has been argued that ceremonial processions in urban environments re-affirmed or displayed particular social and religious bonds within communities (Leveau and Segard 2004, Esmonde Cleary 2005). Whilst this is likely to be the case, the large number and wide distribution of rural sites of religious or ritual activity in the western empire suggests that the pattern of belief and behaviour was significantly more complex, and certainly not limited to elite or urban groups.

Rural religious sites are found across the western empire. Although Christianity became a major religion in the later Roman period, for the majority of the period of study a wide variety of gods, goddesses and other spirits were venerated across the Empire. Whilst these sometimes took the form of syncretisations between native gods worshipped prior to

Roman conquest and gods and goddesses from the Roman pantheon, such as Taranis/Jupiter (Derks 1998) or Apollo Grannus (Jackson 1990), the spirits of particular places were also propitiated. In some areas pre-Roman centres of religious activity developed into large complexes to which lengthy pilgrimages were made (Jackson 1990).

This phenomenon was particularly important in Germany, Gaul and – to a lesser extent – Britain, where pre-existing veneration of gods and goddesses in watery places melded with Roman traditions of bathing and medicine (Jackson 1990, Rogers 2007, 2008). It has been very plausibly suggested that Bath, traditionally seen as a town (Frere 1974), is a very large example of such a shrine complex (Gerrard 2007). It is likely that these establishments are a fragment of a much more widely spread patchwork of religious practice developed in a wide and complex variety of directions from complex pre-Roman religious beliefs (Derks 1998, Robinson 2001, Rogers 2007, 2008). The places where these practices were focused would have been very significant in their local and perhaps regional landscapes, and their landscape contexts and characteristic features may reveal local variations in attitudes to and reverence for particular aspects of the natural world (Retallack 2008). These temples or shrines would also have had major effects on the local economy through their use of animals for sacrifice and consumption. At Uley, for example, a large flock of goats (a relatively unusual domesticate in these numbers in Roman Britain) was kept in the vicinity of the temple and fed on fodder (King 2005). Both the production of fodder and maintenance of the herd would have impacted significantly on practice in the surrounding landscape.

Religious structures are not the only category of non-functional rural establishment which can tell us a great deal about differential experience and perceptions of nature and landscape. The form of rural settlement in the Roman Empire where these differences in experience of the landscape are most clearly articulated in the archaeological record at present is the villa. The term villa has been used to describe a wide variety of rural structures, but will be used in this thesis to describe rural settlements displaying material wealth and structural elements beyond functional necessity such as the employment of

'Roman' grammars of design, mosaics, courtyards, fountains or baths. Villas have traditionally been seen as the centres of large estates or as luxury rural residences and the literary and archaeological evidence certainly substantiates this interpretation in many cases. The literary evidence has also been used to suggest a physical division in the structuring of villas between the *villa urbana*, the part of the estate that formed an elite residence, and the *villa rustica*, the part of the estate that functioned as the productive centre of an agricultural estate (Hingley 1989).

The archaeological evidence regarding this division is, however, much less clear (Percival 1987), as there are few estates where a clear cut spatial division exists, despite a few notable examples (Hingley 1989). The suggestion in literary evidence of such a division in interactions with nature being articulated in the structuration of elite rural settlements and the apparently more complex structuration attested by the archaeological evidence raises the possibility that differential interactions with nature at a quite local level may be visible in the structuration of villas. By extension, it may be possible to discern particular structural grammars as active within indigenous settlement layouts (Karl 2008), building on approaches taken in studies of earlier prehistoric periods (e.g. Parker-Pearson 1999).

Throughout this discussion the theme of complexity has once again emerged, but also the importance of regional pre-Roman traditions in shaping the development of differential encounters with the landscape through the Roman period. Although each of the landscape features discussed has been so in turn, these elements are all closely connected. It is highly unlikely, for example, particularly in the later Roman period when patronage became increasingly dominant in society (Liebeschuetz 1987), that rural religious centres did not have close relations with nearby villa settlements as well as more functionally based settlements. Populations would have experienced landscape and nature in many different ways depending on their ways of moving, social context, personal and family histories and religious beliefs, and this section has begun to explore some ways of accessing the diversity of experiences of encountering Roman landscapes. It is also important to note, however, that certain patterns of similarity in landscape experience across many areas of the western



Roman empire have been noted in this section. Just as earlier archaeologists and historians working in colonial periods overemphasised the homogenising influence of 'Romanisation' on native activities in the landscape (Hingley 2000), by accessing the complexity of Roman landscapes we risk overemphasising the variability of experience (Potter 2004).

The following research framework will bring together the themes of wild, tame and encountered nature and landscape with the theoretical issues discussed in sections 2.1 and 2.2, drawing out some of the main themes and lacunae to emerge from this review of the past and current literature and evidence, and providing a foundation from which Chapter 3 can explore the literature for each of the two case studies that will form the basis of this thesis.

## 2.4 Research Framework

The evidence and ideas explored in this chapter have demonstrated that the study of interactions with nature in the Roman period provides a potentially highly informative window on a wide variety of wider issues in Roman society. The broad aims of this thesis as stated in Chapter 1 are to provide insight into social and environmental relations in the western Roman Empire, in particular changing interactions with nature. The central difficulty with such a broad theme is integrating the myriad types of evidence and interpretations which are present in the literature into a coherent intellectual scheme. The theoretical explorations of sections 2.1 and 2.2 in this chapter have suggested a way forward. A holistic approach to both theory and evidence is necessary for such a study, which must perforce attempt to integrate a variety of resolutions, whether temporal or spatial, imposed by design or by the quality of data recorded by past researchers. Although the many active processes in the landscape interact, they are often active at quite different temporal rhythms, so assessments of consilience must be made. This process will be informed by understandings of space drawing on the TPSN framework put forward by Jessop *et al* (2008).

Despite these methodological complexities, however, it is possible to take a positive heuristic approach to this subject given the extensive evidence base available. The Roman period is in many regions amongst the most intensively studied archaeological epochs, and has been since the inception of the discipline. Whilst there are many intellectual traditions which have fed into the international study of interactions with and attitudes to nature in the western Roman Empire, and these must be taken into account when critically analysing the sometimes heavily biased evidence (Hingley 2000), with care quite sophisticated interpretations can be made in this area (e.g. Walsh 2008, Segard 2009a, 2009b, Allen and Sykes 2011, Serjeantson and Morris 2011). Although such good work has begun, this review has also highlighted a number of areas, particularly in regard to differential encounters with the landscape, where theories and methods developed in other fields of archaeology and beyond could be usefully integrated (e.g. Braudel 1972, Simmons 1993, Parker-Pearson

1999, Byrne 2003, Edmonds 2004, Butzer 2005, Redfern *et al* 2010). This inter-disciplinary approach is necessitated by the wide questions being asked, but also by the colonial nature of Roman landscapes (Webster 2001, Mattingly 2006) and the differential resolution and nature of the processes requiring inclusion (Simmons 1993, Leveau 2005, Walsh 2008).

The categories of wild, tame and encountered nature have proven to be of significant utility in exploring attitudes to nature, and will be used as a structuring principle through this thesis. Difficulties remain, however, and are generated in particular by the tensions between different resolutions of study and evidence, maintaining a comprehensibly sized study overall whilst retaining the ability to say something meaningful based on a significant data sample. This is best resolved by methods and study areas which allow both statistical interrogations of patterns of interaction with nature over a substantial area, but also detailed case studies of as many as possible of the key interactions with nature outlined in this chapter, such as agriculture, hunting, settlement structuration and ritual practice. The case studies should also be drawn from different modern states, as this chapter has shown the major differences in western European academic traditions and bringing together these schools of thought should strengthen our overall interpretations. It is only through such a combination of different approaches, locations, resolutions and analytical approaches that a study such as this can succeed given the difficulties already outlined regarding resolution, contextual variation and consilience.

Investigation of attitudes to nature as a prism through which to study Roman society more widely has been demonstrated in this chapter to have significant potential. Research in this area builds on a number of emerging themes in academic discourse, and provides an alternative intellectual framework with which to attempt analysis of the ever more complex evidence on which we can draw regarding the Roman period. The proposed structuring principles of wild, tame and encountered nature have been shown to be productive. The boundaries between the categories are of course artificially imposed, and to successfully complete this research the results from each must be re-integrated. This will be undertaken using an analytical division based on the TPSN framework outlined in section 2.2. Key issues

across the themes of wild, tame and encountered nature are highlighted below within the TPSN framework.

### **Key issues**

The following key issues have emerged from discussion in section 2.3 and will form key themes within the exploration of existing literature (Chapter 3) and analysis (Chapters 4 and 5) of the two case studies, within the overall framework of wild, tame and encountered nature. They are grouped here by sociospatial dimension, although naturally these dimensions interact (Jessop *et al* 2008).

#### Territory

Interactions with nature and sociospatial territories were clearly linked. Perceptions of wildness and wilderness articulated by Dio, Rutilius and Pliny demonstrate the close relation between interaction with nature and wider social and political perspectives. Nature, and wildness, is both a literary and literal signifier of elite understandings of social and political power. A major research issue that emerges from this is the issue of whether broader changing interactions with nature similarly reflect changing society in the empire. This can be especially usefully explored through control/structuring of landscape, wild animals, and through responses to disaster or challenges of natural events, particularly fluvial activity.

#### Place

A key aspect of the interactions with nature explored in this chapter has been the importance of place. Particular places had different significances, and were perceived differently by those using them in different social contexts, as the example of the mills at Ickham and Barbegal demonstrates. Environmental knowledge is a key factor in how people relate to landscape, and greatly alters interaction with landscape at particular places and over wider territories. The significance of places changes over time, and understanding temporal change in significance through interactions with nature should be a focus of case studies in each study area.

## Scale

Hierarchies of power are of key importance in interactions with nature, and discussions above have demonstrated that an array of different landscape activities were shaped by supra-regional, regional and local scales of power. Interactions with nature such as agriculture, relations of production in the landscape, the construction of settlements and movement through the landscape in different ways are closely linked to scale, and different hierarchies of power.

## Networks

Interaction with nature took different forms depending on access to particular networks of environmental knowledge, social power and cultural traditions. Networks take both material and non-material forms, and the issues of physical movement around the landscape, and understanding social networks through material interaction with landscape are the key issues to be investigated.

## **Choice of case studies**

Three main criteria have been used to select the case studies for this thesis:

- 1) Quality and quantity of evidence base.

The case studies selected must have substantial existing archaeological datasets in order to allow the detailed analysis necessary for the theoretical framework proposed here to be possible. These datasets must be accessible and relatively reliable, within the realistic bounds of archaeological data.

- 2) Contrasting place within the Roman Empire

The case studies selected should provide a meaningful comparison between different regions of the Roman Empire, ideally between Mediterranean provinces and north-western provinces. This will allow the comparison of differing chronologies of imperial conquest and control, and a comparison of interactions with nature within substantially different climatic

zones.

### 3) Contrasting research traditions

The discussion in section 2.1 has demonstrated how useful a combination of the differing research traditions in British and French archaeology can be in forming a theoretical approach, and the differing emphases of the two traditions. The case studies selected should enable full advantage to be taken of the strengths of these research traditions.

Based on these criteria, two case studies have been selected drawn from Britain and France. These case studies are south-west Wiltshire, and the Montagne Sainte Victoire, Provence.

#### **The Montagne Sainte Victoire**

The Montagne Sainte Victoire is a large and isolated limestone massif located in southern Provence (Figure 4). The complex formation processes of the massif have resulted in significantly varying geological contexts across the Sainte Victoire itself (Figure 5), and the wider region (Jorda and Provansal 1993; Figure 6). The topography of the immediate area is also highly varied, including the vertiginous slopes of the massif itself, the plateau of Entremont, the limestone bar of the Cengle and its associated piedmonts, and the valleys of the Durance to the north and the Arc to the south, with their associated plains (D'Anna et al 1992, Walsh and Mocci 2001; Figure 6). The area is also located to the east of the Roman city of Aquae Sextiae, the modern city of Aix-en-Provence, and north-east of Roman Massilia (Marseille) (Figure 4).

Following a major forest fire in 1989, large swathes of the previously heavily forested southern slopes of the massif were open to archaeological investigation for the first time. An extensive programme of field investigation was undertaken by the multi-disciplinary and multi-national team of the *Prospection-Inventaire et évaluation du Patrimoine Archéologique* project, and the related *Projet Collectif de Recherche sur le Massif de Sainte-Victoire* (D'Anna and Mocci 1993). This provided a wide ranging sample of the archaeology of the massif, and together with the encyclopaedic volume of the *Carte Archeologique de la*

*Gaule* series 13/4 (Mocci and Nin 2006; the acronym CAG13/4 will be used henceforth) covering the region provides extensive discussion of individual sites in the area, forming the backbone of this study.



Figure 4 - Location of the Montagne Sainte-Victoire. From Walsh and Mocci 2001, 46.

More recent research into the Roman landscapes of the area has focused strongly on the integration of geoarchaeological and palaeoenvironmental research with traditional archaeological techniques. Leveau (2008) suggests that the rise of multidisciplinary research into the Roman period in the region is due to a generation of researchers who first became prominent in the early 1990s, and who were strongly influenced by the work of Berger (Provansal *et al* 1999), Bravard (Bravard *et al* 1990, papers in Burnouf *et al* 1997) and

Leveau himself (1984, 1986). It is this tradition that forms the backbone of modern studies in the region, although international scholars studying the area have utilised other theoretical approaches (e.g. Hitchner 1999, Woolf 2002, Walsh and Richer 2008). There is little easily accessible antiquarian data for the area beyond that already included in CAG 13/4. The greatest strength of the data set and research tradition of the region is the excellent palaeoenvironmental work that has been undertaken, together with high quality understanding of settlement patterns and landscape use. This makes the region particularly suitable for a comparative study where a high quality and substantial evidence base is required.



**Figure 5 - The Montagne Sainte Victoire.** This photograph from the south west illustrates the modern landscape of the southern slopes of the Sainte-Victoire which may be grossly divided into three main vegetation zones: the highest parts of the massif, nearly bare of vegetation, the lower parts of the massif, heavily forested in places, more often thick scrub vegetation, and the base of the massif, dedicated in many areas, such as the Domaine Richeaume, to viticulture with maquis scrub on the non-cultivated areas. The northern slopes are less steep, and predominantly forested in the manner of the mid-slopes here. Photo from [http://images.forum-auto.com/mesimages/501965/Montagne Sainte Victoire vue panoramique.jpg](http://images.forum-auto.com/mesimages/501965/Montagne_Sainte_Victoire_vue_panoramique.jpg) Accessed at 14:45 on 10/10/11.

In addition to the focus on palaeoenvironmental studies in the region there has also been a significant quantity of work by scholars drawing on a background in classical studies, particularly drawing on the significant quantity of standing architectural remains in the region (Figure 7) and the classical literary sources regarding the region (e.g. Rivet 1988,



Lambert and Lavagne 1990, Leveau 2005, Vipard 2007). This tradition of research has roots stretching back to antiquarian collectors such as Rouard (Digelmann 2007), whose removal of particularly aesthetically pleasing marble architectural features from high-status Roman buildings in Aix-en-Provence was part of a wider European tradition of collecting Classical antiquities with roots in the Renaissance (Mattingly 2011). As elsewhere, this field of work developed into the practical side of the discipline of Classics, and was often seen as separate or different to the archaeological study of other periods (Courbin 1982, Morris 2004). The integration of classical texts and inscriptions with archaeological research has been a recurring theme in the work of Leveau (2000b, 2005; Leveau and Palet-Martinez 2010), and others (Christol 2005, 2010), but as with elsewhere in Europe (Mattingly 2011) this integration is a development of the last two decades. Textual and epigraphic evidence is often used in conjunction with archaeological evidence to support wider inferences regarding the structuring of provincial administration and elite society in the region (Leveau 2005, Christol 2010).

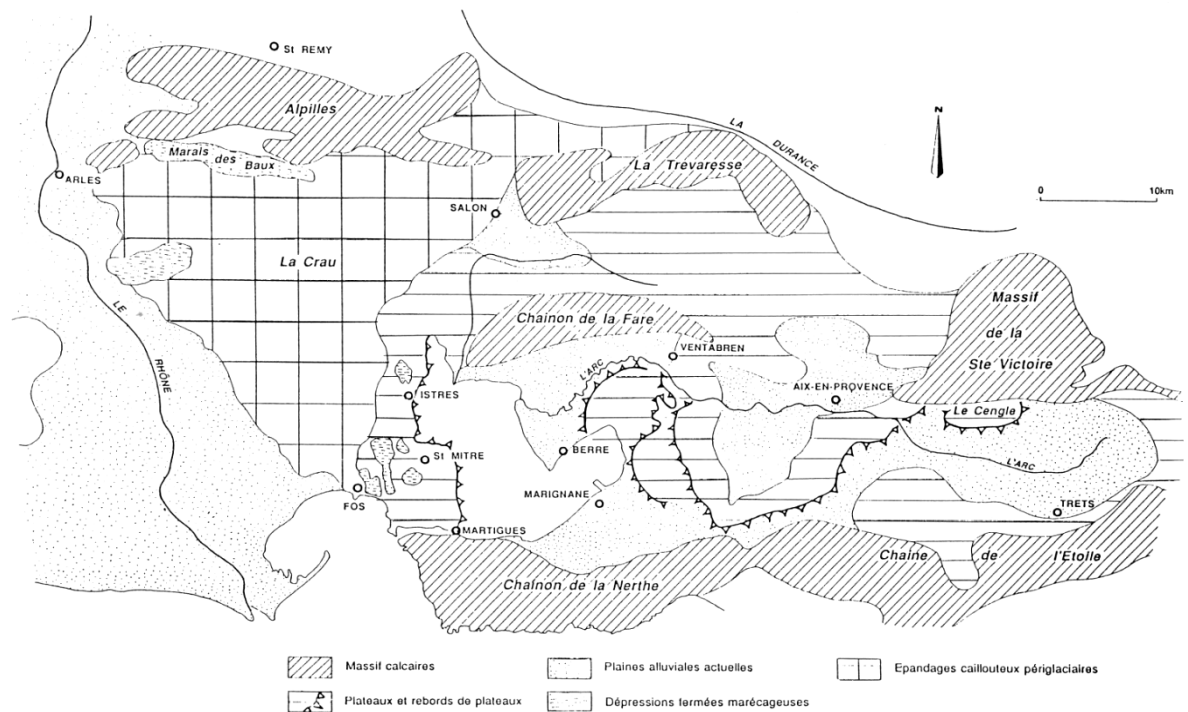


Figure 6 - The main landscape units of south-west Provence. From Jorda and Provansal 1993, 14.

Overall, the Sainte-Victoire and its hinterland have a high quality archaeological dataset that

is particularly well integrated into geoarchaeological and classical research. The second case study area selected for this thesis demonstrates similarly high quality dataset, although one derived from a contrasting research tradition.



Figure 7 - Distribution of Roman peristyle houses in Gaul and Britain as an example of the difference in preservation of architectural remains between the study regions. Note the dense concentration of these classical architectural forms in Provence, and the rarity of examples in Britain. From Vipard 2007, 231.

### South-west Wiltshire

South-west Wiltshire, our second case study, is part of Wessex, an area of southern central Britain around which many archaeological narratives have traditionally been centred,

particularly those of later prehistory (Lawson 2007). The area was part of the province of Britannia for the majority of the Roman period. During the later Roman period the province was part of the sub-divisions of Britannia Superior and Britannia Prima (Mattingly 2006; see Figure 8). Britannia Prima may have survived for some decades as a post-Roman territory beyond the secession of Britannia from the Roman Empire, possibly into the late 5<sup>th</sup> century, although this is the subject of fierce debate (Dark 2000, White 2007).

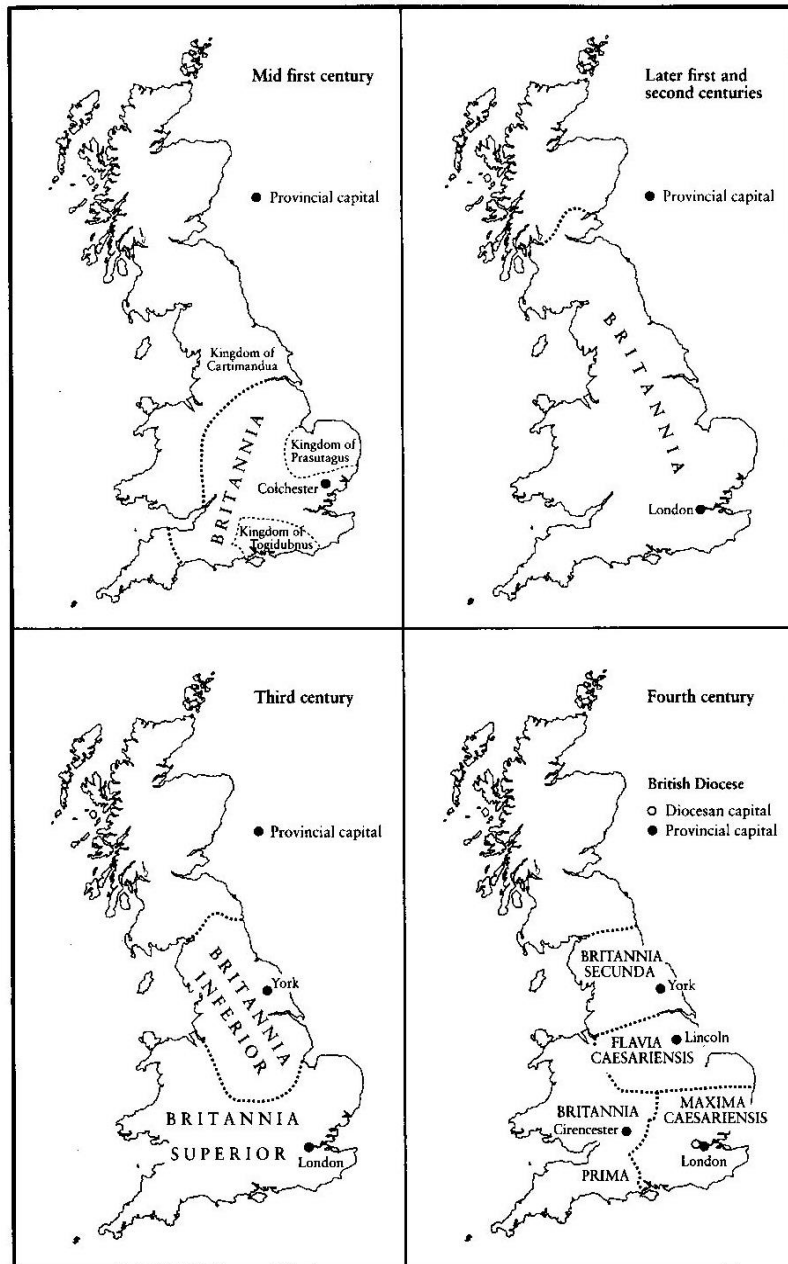
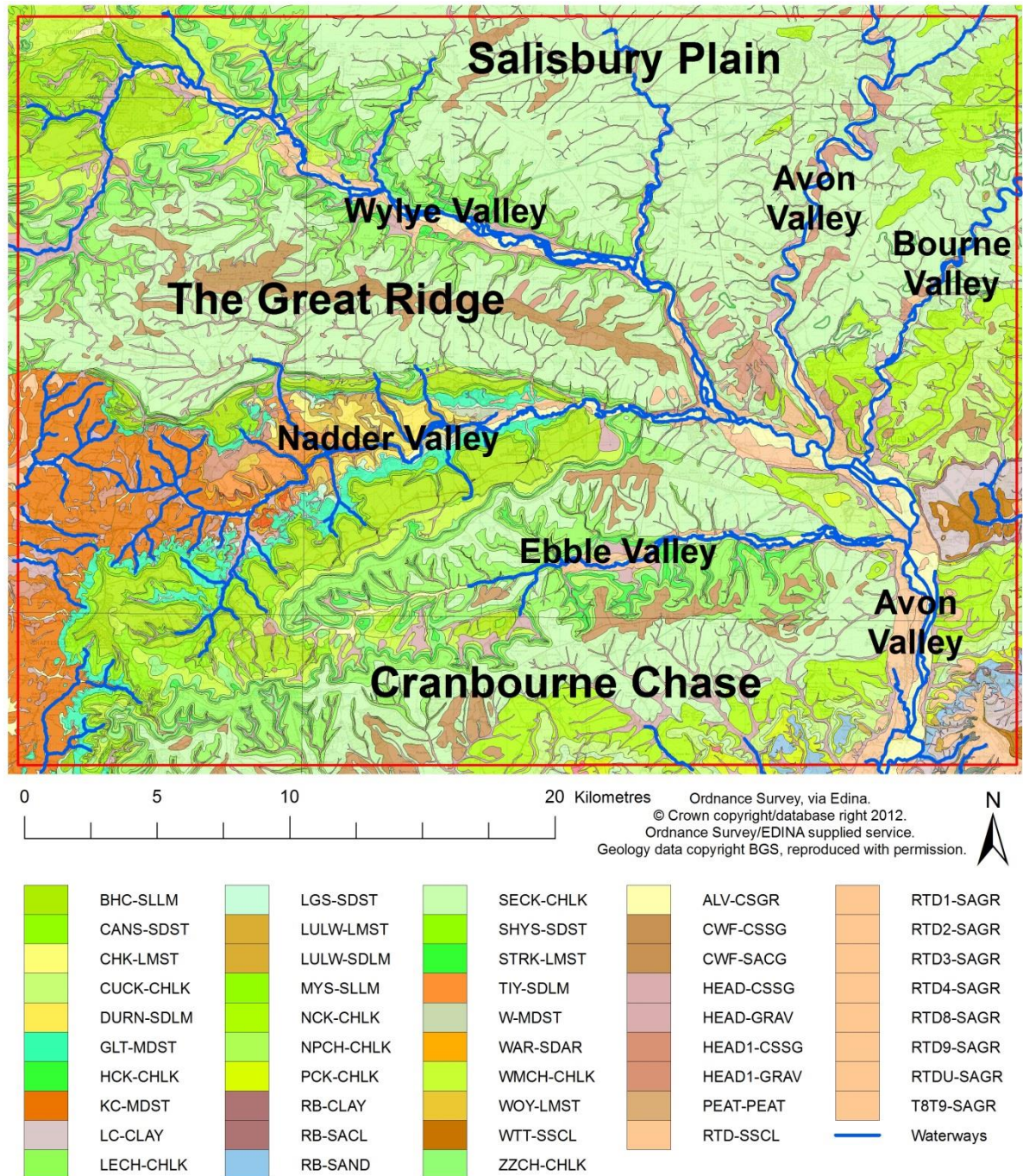


Figure 8 - The province of Britannia, and its subdivisions. From Mattingly 2006, 229.





**Figure 9 - Overview of study area showing main landscape features, geology and waterways. geology can be broadly summarised as chalk in green, clay/mudstone in orange, clay with flint ridge caps in dark brown, alluvium, gravels and river sediments in cream through pale brown to light pink. For geology details, see <http://www.bgs.ac.uk/Lexicon/>**

The region is bounded to the north and south respectively by two major landscape areas; Salisbury Plain and Cranbourne Chase (Figure 9). The area includes two markedly different geological and topographic zones, the chalk and the ‘cheese’ (Figure 9; Draper 2006; the

'cheese' essentially covers everything that is not chalk geology). Settlement patterns on these geologies have been compared (Draper 2006, 1) to the 'planned' and 'ancient' landscapes that Rackham (1986, 5, 17) suggests dominate central and southern England. The most extensive of these is comprised of Cretaceous chalk, commonly divided into three layers. The lower chalk, the oldest, least pure and thinnest layer is overlain by the middle chalk, a purer layer, which is in turn overlain by the upper chalk, a very pure and thick deposit, up to 250m deep in places (Land Use Consultants 2003, 6). In addition to the chalk, there is a major Jurassic inlier in which the River Nadder runs. This in turn is broadly comprised of two geological zones. The western zone is comprised predominantly of Kimmeridge clay formation, whereas the eastern zone is comprised of Wardour and Portland Stone Formations. The transition between the two main zones is marked by bands of greensand, exposed by tectonic and geomorphological processes long before human occupation of the region. The study area also includes areas of alluvial deposition in river valleys and around streams. Figure 9 also shows the contrast between the Nadder valley (cheese) and the Wylde and Ebbel valleys (chalk) to the north and south, which are classic chalk downland valleys, where tectonic activity has had a less dramatic effect than in the Nadder valley and produced a very different landscape form (Land Use Consultants 2003, 6). The high chalk ridges are often capped by deposits of clay with flints (Land Use Consultants 2003, 6).

The modern landscape of the region is overwhelmingly rural, with little major development or industrial activity, and farming remains a major industry. This has reduced the quantity of developer funded archaeological investigation, which elsewhere in the UK in recent decades has produced a deluge of new data regarding rural settlement (Smith 2014). In the study area there are particular landscapes that have seen extensive developer-funded work (e.g. Boscombe Down; WILTS HER# SU13NE301) but these are exceptions to the overall pattern. The dominance of later prehistory in research in Wessex has also been detrimental to research into Roman archaeology in the region in recent decades. Antiquarian research and early professional archaeological work has formed the backbone of the dataset for the region, through the work of scholars such as Pitt-Rivers, Colt-Hoare and Sumner, and

professional pioneers such as O G S Crawford. Recent work by colleges and universities, English Heritage, amateur archaeology societies and particularly metal-detectorists reporting to the Portable Antiquities Scheme has also greatly added to the dataset. Thus although the region has a strong overall dataset, there is no overall unifying synthesis analogous to CAG13/4, although the Wiltshire HER acts as a central archaeological record depository.

Unlike in southern Provence there are no major Roman towns in south-west Wiltshire, although there are several in the surrounding region (Figure 10). From limited investigation the small town based around the River Avon at Stratford-sub-Castle and the Iron Age hillfort at Old Sarum (*Sorviodunum*) is presently thought to have been a focal point in south-west Wiltshire due to its fairly large size, the apparent presence of 'Romanised' features and position at a major road junction (Corney 2001, Draper 2006, James 2010). The area demonstrates extensive rural settlement evidence (Draper 2006, James 2010), although few villas in comparison to other areas of southern Roman Britain. Rural settlement comprises a mix of individual farmsteads, nucleated villages and a range of more unusual occupation sites, including several shrines (Draper 2006). Discussions of the Roman archaeology of the region still predominantly focus on concerns of settlement pattern and economy (Draper 2006, James 2010), and thematic discussions of 'Romanisation' (Corney 2001), reflecting broader problems of regional archaeology in Roman Britain, which has tended to lag behind wider disciplinary theoretical developments.

## **Summary**

These case studies thus provide a contrast between research traditions and place in empire, and complementary high quality archaeological datasets. South-west Wiltshire has a long tradition of study and a strong emphasis in existing scholarship on cultural change and settlement evidence. Study of the Sainte-Victoire has also focused on the discovery and mapping of occupation or activity sites, but within a paradigm focused on geoarchaeological and palaeoenvironmental change, combined with a strong influence from Classical textual scholarship. Both study areas, at least superficially, appear to have high quality



archaeological datasets. The following chapter will explore the existing literature for each case study within the research framework outlined above, focusing on the interaction of people with wild, tame and encountered nature and landscape through the prism of changing sociospatial territories, places, scales and networks.

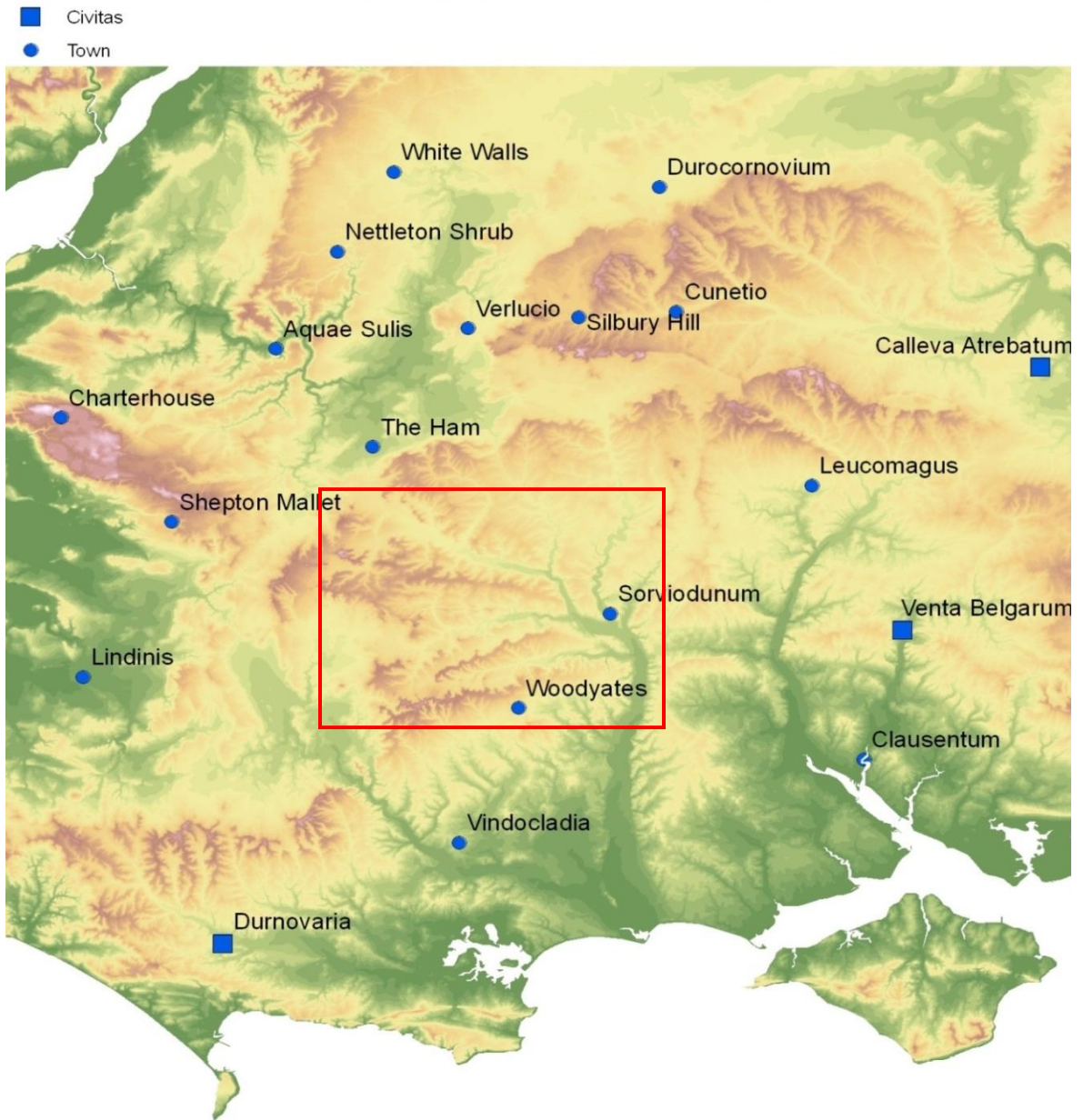


Figure 10 - Roman Civitas capitals and towns around Sorviodunum in south-west central Britain, on a DTM basemap produced from OS Edina map data, reproduced with permission. Case study area in red. Crown Copyright.

## **Chapter 3 – Wessex and Provence**

### **Introduction**

This chapter will undertake extensive literature reviews of existing scholarship in the two case study areas, focusing on the major research themes and framework established in chapter 2. The provincial structure, urban settlement and rural settlement background for each case study will be discussed, followed by the themes of wild, tame and encountered nature and landscape. This exploration will provide the basis for the analysis of the two case study areas in chapters 4 and 5.

### **3.1 – The Roman Archaeology of south-west Wiltshire**

#### **Provincial Structure and Urban Settlement**

Sorviodunum is the only candidate for an urban settlement in the south-west Wiltshire study area, although it has not yet been thoroughly investigated (James 2010). Corney (2001, 18-23) suggests that Sorviodunum was planned and incorporated administrative buildings including a mansio. Whilst this is a plausible interpretation given current evidence (James 2010), the relationship between the Iron Age occupation of the area and the possible planned town needs clarification, especially regarding the relative chronologies of the Iron Age hillfort, early Roman road network, early Roman settlement and planned settlement. This is likely to be difficult, however, due to the slow and piecemeal nature of development in the area, which is now predominantly urbanised (James 2010). Woodyates, in the south of the study area, has also been discussed as a small town, but relatively little investigation has been undertaken there and no features diagnostic of urban settlement have been discovered (James 2010).

There are other towns beyond the study area between twenty-five and thirty-five km from Sorviodunum (Verlucio, Venta Belgarum, Vindocladia, Leucomagus, Clausentum and Cunetio), and other major towns within fifty miles, at Aquae Sulis (Bath), Durnovaria (Dorchester), Durocornovium (Wanborough), Lindinis (Ilchester) and Calleva Atrebatum



(Silchester) (Figure 10). These towns are almost all connected directly to Sorviodunum by the Roman road network, and have each been assigned by various scholars the status of being a 'town' (Corney 2001, James 2010). Of these, literary evidence suggests Calleva Atrebatum and Venta Belgarum as the *civitas* capitals of the Atrebates and Belgae respectively, and Durovaria almost certainly fulfilled the same function for the Durotriges *civitas* (Wacher 1974, 22).

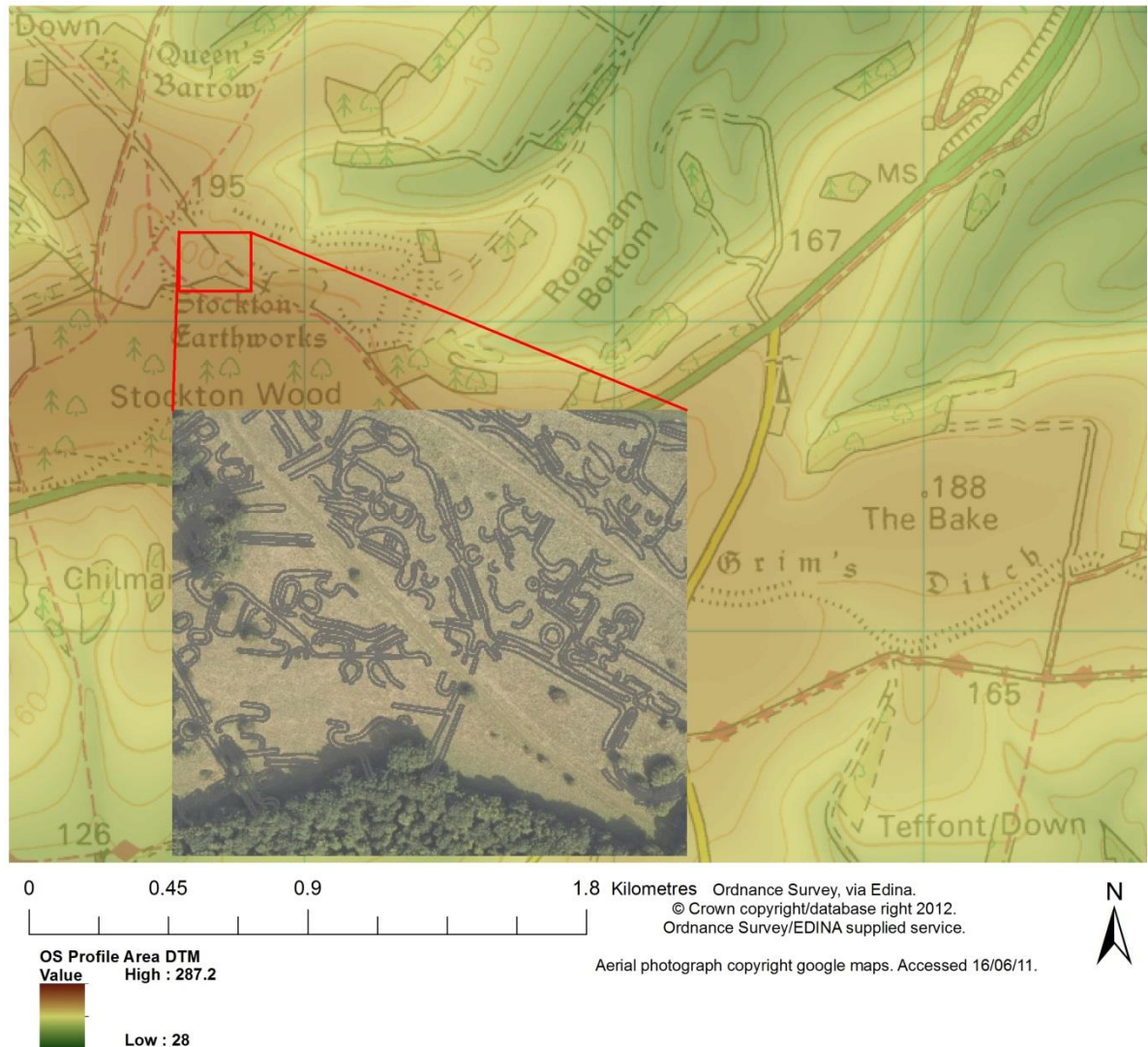
The most recent synthesis of the evidence for nucleated Roman settlements in Wiltshire (Corney 2001) deals effectively with those settlements displaying more 'Roman' structural aspects, or strongly associated with the Roman road network, but does not deal with the major nucleated settlements on the Great Ridge in south-west Wiltshire. The volume 'Roman Wiltshire and After' (Ellis 2001) in which Corney's paper was published has been more generally criticised (Booth 2003, 385) for failing to deal with settlement that does not fall into the categories of villas or towns (i.e. nucleated settlements displaying 'Romanised' features). This is another example of an enduring difficulty in studies of Roman Britain (see Chapter 2), and occurs despite the existence of a substantial and high quality dataset for rural settlement in Wiltshire (Bradley *et al* 1994, McOmish *et al* 2002, Fulford *et al* 2006, Draper 2006, Cunliffe 2008, James 2010). In the following section we will begin our consideration of rural settlement by discussing the settlements on the Great Ridge, and develop the argument against this current dichotomy between urban and rural 'types' of settlement, arguing instead for a more complex and flexible understanding of settlement through landscape context.

## **Rural Settlement**

The largest Roman period rural settlements in south-west Wiltshire are located on the Great Ridge, between the Nadder and Wylve valleys. These substantial sites are Ebsbury, Hamshill Ditches and Stockton Earthworks (James 2010). Two villa sites are also located on the ridge (James 2010, 148), one of which is close to the north-east of the settlement at Stockton Earthworks (Draper 2006, 12). These sites cover large areas (Ebsbury c.40ha, Hamshill c. 16ha and Stockton Earthworks c.70ha; sizes from James 2010). By contrast, the two

occupation areas identified by Corney (2001, 12-13) at the small town of Cunetio are 18ha and 11ha respectively, suggesting that there may be difficulties of terminology in current interpretations. A variety of activities took place at these rural sites. Stockton Earthworks has been suggested (James 2010, 171) to have functioned as a market centre, with streets visible on aerial photographs (James 2010) and all five sites display considerable and prosperous artefactual assemblages considering their relative lack of investigation. Indeed, unusually for Wiltshire both Stockton Earthworks and Bilbury Rings (a smaller site on the Great Ridge) have produced early evidence of Roman military material, indicating early military activity in the area. Although the Great Ridge settlements do not display the 'Romanised' features that traditional scholars have used to define a town, they are significantly larger and at least as materially wealthy as Sorviodunum. The density of settlement has not been extensively investigated, but appears to be quite high (Figure 11). Furthermore, the lack of such features may be a bias of investigation considering the lack of work at these sites, compounded by their being predominantly covered by woodland and therefore unable to be investigated through aerial photography.

It is interesting to note that all of these settlements have Iron Age antecedents, yet in two cases there was also significant change between the Iron Age and Roman periods. Hamshill Ditches has produced Iron Age pottery from surface finds (SMR), but seems to be significantly larger in the Roman period, and possibly associated with a villa site c.200m to the south (James 2010, 167). Ebsbury developed around the site of an Iron Age trivallate hillfort (WILTS HER). The hillfort was, however, levelled during the Roman period and covered by a field system (James 2010). Similarly, at Stockton Earthworks, a settled area of approximately 70ha, there are two distinct areas of Iron Age and Roman settlement, demonstrating a shift in focus of activity (WILTS HER). This suggests that the pattern of development into the Roman period is not necessarily consistent or simplistic in the area, even across relatively similar rural settlements. Despite the comparatively large size of the settlements on the Great Ridge, like many smaller settlements they are associated with field systems of the 'Celtic' type (WILTS HER).



**Figure 11 - Aerial photography transcription by Wiltshire HER staff of features at part of the site of Stockton Earthworks. Note the subdivision of the site and large number of roundhouses.**

The pattern of semi-nucleated 'village' settlement surrounded by 'Celtic' field systems displayed by these settlements is paralleled across the chalk downlands in the study area. Particularly good examples have been investigated on Salisbury Plain, at Chisenbury Warren, Charlton Down (Figure 12) and elsewhere (McOmish *et al* 2002, Fulford *et al* 2006). At Chisenbury a nucleated Roman settlement may have developed from an Iron Age origin, and the surrounding field system only developed to its fullest in the Roman period (Fulford *et al* 2006, 202). It is entirely possible after reviewing the excavation evidence, however, that there were breaks in occupation of the site not only between the Late Iron Age and

Roman periods, but also between the early and late Roman periods (Fulford *et al* 2006, 202). This must be borne in mind when constructing narratives for sites such as those on the Great Ridge which have seen little or no modern excavation.



Figure 12 - Aerial photograph from 22-JUN-1994. Romano-British settlement (at front right of image) and surrounding 'Celtic' field system on Charlton Down, Salisbury Plain. © Crown copyright. NMR. Picture from <http://www.english-heritage.org.uk/professional/research/landscapes-and-areas/national-mapping-programme/salisbury-plain-nmp/> accessed on 03/09/2011 at 14:40.

In addition to the semi-nucleated settlements already discussed, south-west Wiltshire also contained a substantial number of smaller settlements during the Roman period. These are generally defined as either villas or farms based on structural evidence and material culture. For example, Draper (2006, 13), defines the term villa as a substantial rural settlement displaying elite structural elements and high status material culture, that seems to exhibit an alternative spatial organisation to that of a nucleated village. Unlike the Cotswolds to the north-west, and to a lesser extent the upper valley of the Wiltshire Avon, south-west Wiltshire is not dominated by villas (Figure 13, Figure 14). The area lacks any especially





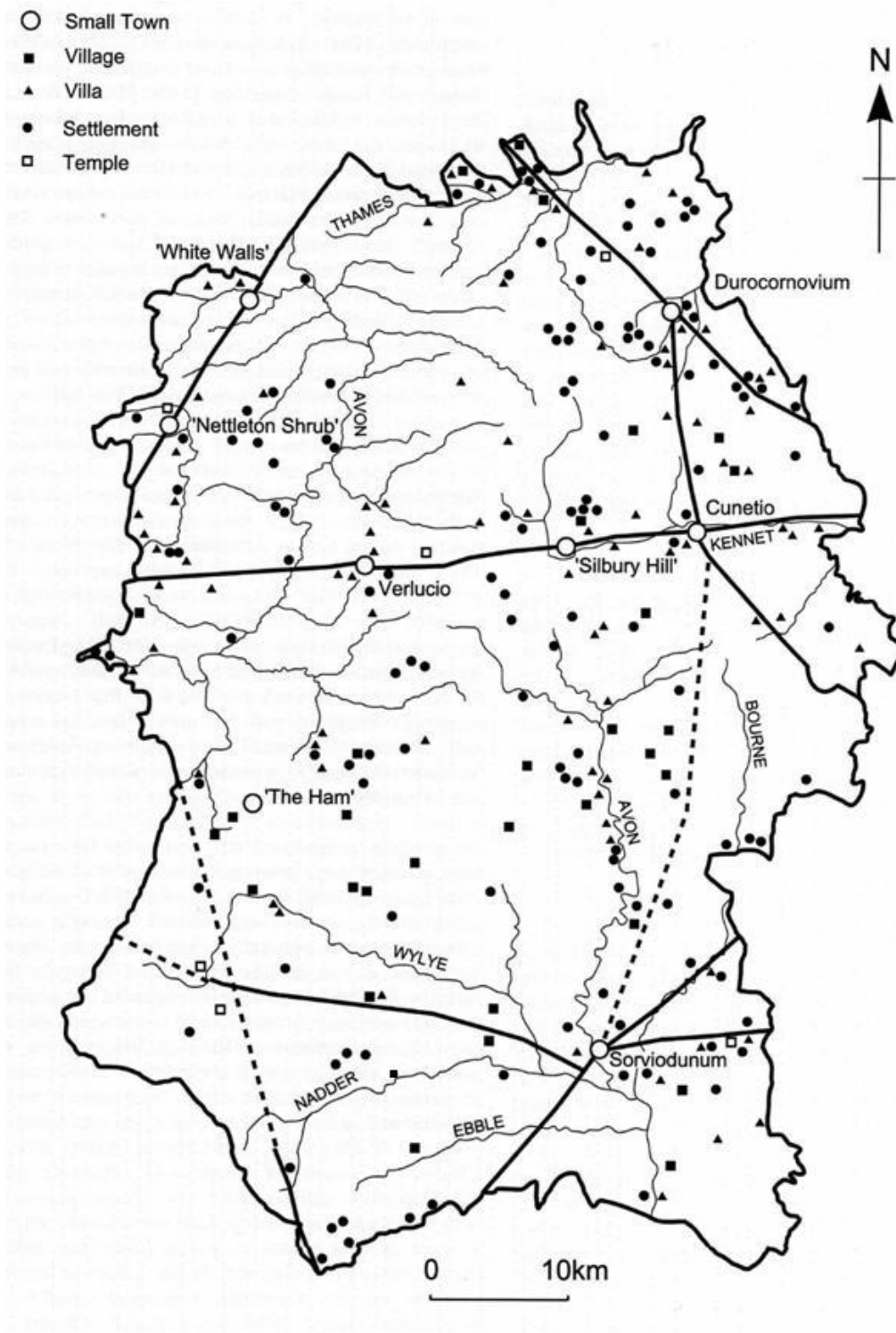


Figure 14 - Distribution of Roman sites in Wiltshire. From Draper 2006, 8.

The idea of villa estates has a long history in Wiltshire (Bonney 1973, Draper 2006, James 2010, 167), and evidence from recent work on Salisbury Plain to the north of the study area

seems to provide a strong case for villas as centres of larger land-holdings in some cases (Fulford *et al* 2006, 209). Despite these examples, the authors of recent work on Salisbury Plain suggest a far more complicated tapestry of tenurial relations (Fulford *et al* 2006, 209). For example, the sites at Chisenbury Warren and Coombe Down South are approximately two km apart, and contemporary with each other, and yet seem to be part of different socio-economic systems of relations, have developed in different trajectories and with different levels of continuity from the Iron Age, and have significantly different ceramic and faunal assemblages (Fulford *et al* 2006,201-215). These complexities, elucidated by excavation and specialist analyses, naturally lead towards a wider appreciation of the importance of understanding the complex social landscape of rural settlement, and Fulford *et al* (2006, 209) place emphasis on relations of production as a means of explaining the variation.

Chisenbury Warren, an economically poor site in terms of material culture, had access to trade goods from a significantly wider region than the economically better off nearby site of Coombe Down (Fulford *et al* 2006, 209). Fulford *et al* (2002, 209) posit that this is due to the association of Chisenbury Warren with a nearby villa site or estate centre in the Avon valley, probably Littlecott Farm. The study also suggests that Chisenbury Warren's population had access to wider exchange networks mediated through the villa, and that the village was controlled as part of a villa estate. In contrast, the more prosperous and locally connected site of Coombe Down is interpreted as an independent farmstead (Fulford *et al* 2006, 209). Although other possible explanations exist for the contrast, such as social/tribute obligations/relationships to different groups causing the predominant distance of interaction to be local or regional by each site, and the concomitant costs of maintaining relationships at the various distances accounting for the variation in material prosperity, Fulford *et al's* (2006) interpretation seems the most likely in the light of current evidence.

This comparison elucidates three important points regarding rural settlement in the Roman period in the region. Firstly, that considerable variation can be observed in both material remains and social practice within even very small areas. Secondly, that detailed analysis of

excavation results can be used to develop nuanced understandings of wider socio-economic interactions, if an effort is made to interpret the results in an integrated manner, bringing together multiple forms of evidence in a critical argument. Whilst this might seem like stating the obvious, it is too often the case that specialist reports are poorly integrated into final interpretations, and little consideration is given to inter-site comparisons and landscape relations of the type undertaken by Fulford *et al* (2006). Finally, the above comparison demonstrates the incomplete nature of prevailing understandings such as that put forward by Corney (2001) in 'Roman Wiltshire and After' (Ellis 2001), and Draper (2006) and their failure to fully address the complex nature of Roman landscape relations.

Together with the relative paucity of villas in south-west Wiltshire the results from Salisbury Plain make a land-holding system predominantly based on villa estates unlikely for the region. The only possible examples within the study area are at Hamshill Ditches (James 2010, 167), which appears unlikely due to the very large size and wealth of the rural settlement there in comparison to the little-investigated villa, or possibly at Downton, in the south-east of the study area. The sites at Pit Meads have seen insufficient modern investigation of their surrounding landscape to make any judgement on the possibility of their being a centre or centres of villa estates, whilst the Stockton Earthworks village settlement seems far too large and prosperous to be controlled by the comparatively small villa site nearby (reports on which have not been published; James 2010). This review demonstrates the problems with current interpretations such as that by Draper (2006, 7) when he asserts, perhaps surprisingly given the uneven distribution of villas in Wiltshire and the lack of convincing examples of villa estates from beyond the north Avon valley, that:

“it may be that most points within the county – perhaps with the exception of some of the more extensively wooded areas – were included within one [a villa estate].”

(Draper 2006, 25).

Given the evidence discussed above, Draper's assertion cannot be validated for south-west Wiltshire unless more villa sites are discovered and linked to wider control of the landscape



through evidence, rather than assumption or association.

Having discussed the forms of settlement in Roman Wiltshire about which we know most, it must now be stated that those settlements discussed so far, and displayed so authoritatively by archaeologists on distribution maps such as Figure 14, are unlikely to comprise even the majority of settlement in the region. A lamentable lack of well published work exists regarding small rural settlements and farmsteads such as that at Berwick Down (Wainwright 1968) in studies of south-west Wiltshire, as in wider Romano-British studies. Such sites have traditionally been interpreted as the basic economic unit in rural Roman Britain, consisting of a single, perhaps extended, family group living on the “family farm” (Fowler 1976, 164). It is widely assumed that these were the prevailing form of settlement on the downlands which form the majority of the study region, and possibly also in the river valleys (Draper 2006, 15). Some of the best-excavated examples, such as Berwick Down (Wainwright 1968), Overton Down (Fowler 2000) and Cleveland Farm (Coe *et al* 1991) show continuity from the Iron Age, and also into the 5<sup>th</sup> century. The dominant archaeological interpretation at present suggests, drawing on such examples, that the least prosperous part of rural society perhaps saw a lesser degree of change than those from elite groups or living in larger settlements, especially through the Iron Age to Roman transition.

This interpretation will be evaluated during the course of this thesis through understanding changes in attitudes to nature and landscape. It may well be that there appears to be less change in these poorer settlements because there is less material culture available to their inhabitants, and social change is expressed in different ways, or perhaps through cheaper materials less likely to be preserved, such as wood rather than stone or pottery. Placing such examples as we have in a broader landscape context, and trying to study the development of attitudes to nature and the landscape may provide additional insights into the trajectory of change at such sites. There are of course forms of settlement in south-west Wiltshire which do not fall into the categories discussed thus far, particularly the well-known ritual sites of the area, and these will be discussed in more detail in the following sections.

## Summary

The pattern of settlement in south-west Wiltshire during the Roman period was predominantly rural, with individual farmsteads occasionally interspersed with larger nucleated villages, and wide areas of land under cultivation in 'Celtic' field systems around these settlements, which would have been linked by networks of trackways (Draper 2006). Those elements of the landscape sometimes displayed considerable continuity from pre-Roman settlement, although the appearance of nucleated villages was a new development, which some have associated with villa estates. Villas, elite rural residences, are uncommon in south-west Wiltshire, and none have been the subject of large scale modern excavations. Their scarcity and the lack of any particularly sizeable examples calls into question traditional interpretations that place them at the heart of the economic system and rural landscape of the area. It seems more likely that a complex tapestry of land-holding prevailed, with very different networks of social relations operating in relatively close proximity to each other, as has been suggested on Salisbury Plain (Fulford et al 2006, 212). The Roman road network provided links between sites important to imperial policy for various reasons, and the civitas capitals of south-west Britannia. Several small towns developed alongside these roads in the region, of which Sorviodunum is the only one actually within south-west Wiltshire, although a number of others exist within approximately twenty miles of Sorviodunum. These towns are generally interpreted as being the result of economic stimulus of traffic along the new road network (although the mechanisms by which this occurs are seldom explored), and of fulfilling the role of a local market centre. Some elsewhere in Wiltshire, such as Nettleton Shrub and 'The Ham', seem to have had additional specialised roles as religious or industrial centres (Corney 2001, Draper 2006).

Current interpretations still generally focus on these economic aspects of settlement, and are still prone to bias regarding the relative importance of 'Romanised' settlement (e.g. Corney 2001 regarding the Great Ridge settlements), and research questions regarding society are still generally conceived in terms of economics, or relations of production and

power. It is clear from this review of rural settlement, however, that current interpretive models are substantially inadequate for understanding landscape and society in the region, and that an alternative approach needs to be developed. Any new approach will need to provide an explanatory mechanism for the complexity of settlement which has been discussed above, and a more plausible interpretative framing of relations within the landscape than the current dichotomies of urban-rural, complex-simple and Roman-native.

One of the primary aims of this thesis is to provide such an approach as part of a reinterpretation of the study areas focused on understanding attitudes to and interactions with nature and landscape. If we can begin to understand settlement and society through past human behaviour, rather than through a simple categorisation of structural and material remains, this may allow us to move beyond current interpretive difficulties. Whilst such an approach must of course be based on the study of material remains of the past, by taking a wider approach and attempting to understand relations with the natural world we may be able to access new patterns of behaviour and interaction and develop new interpretations. The following section will provide the background for such an approach by reviewing current interpretations of interactions with landscape and the natural world.

### **3.2 – South-west Wiltshire - Understandings through nature.**

It is worthwhile repeating at the beginning of this section the clarification of what this thesis means by aiming to investigate Roman attitudes to nature. This thesis fully accepts that the people in the Roman period did not have the same understanding of nature as a broadly unified concept encompassing a variety of biological, environmental, literary and political elements that we do today. This thesis instead hopes to elucidate how people in the Roman period interacted with the landscapes and natural world around them, and what we can learn from this regarding their society. This section will critically assess current understandings of that interaction in Roman Wessex, following the broad thematic strands which will be present throughout this thesis and were outlined in section 2.3; wild nature, tame nature and living in the landscape.

#### **Wild Nature**

This section will focus on ‘wild’ nature in Roman Wiltshire, i.e. those aspects of the environment that are either of the *longue durée*, such as climate, or beyond the control of human inhabitants of the landscape. This includes sudden changes to the environment or climate such as natural disasters or flooding events, as well as considering the concept of wilderness, interaction with wild animal populations, and trying to understand if there was any perception of certain places or environments as beyond human control or everyday life.

The climate of southern Britain during the Roman period was generally speaking similar to the climate today, although relatively little palaeoenvironmental work has been focused on climate in the Roman period specifically in Britain (Dark and Dark 1997), and that which has is somewhat contradictory; some scholars argue that the Roman period was a period of climatic amelioration, and others argue for climatic deterioration (Smith and Kenward 2011, 12). Archaeologists do not seem to believe that any climatic change in the Roman period in Britain was substantial enough to have a significant effect on the environment, although they do see a significant climatic downturn at the Bronze Age to Iron Age transition (Fyfe *et al* 2004, Dark 2006). Fyfe *et al* (2004) suggest that in the south-west of Britain at least there

is no climatically distinct Romano-British period, whereas others argue for a significant decrease in temperature and increase in rainfall from the 3<sup>rd</sup> century onwards (Jones 1996). 'Climate' in the colloquial sense of the hospitability of regional environments to human activity, is frequently cited by texts to justify particular settlement patterns, especially the oft-repeated dichotomy between the upland and lowland patterns of settlement across Roman Britain as a whole (e.g. Hingley 1989, 124, 146).

Although the climatic dataset for south-west Wiltshire is no better than elsewhere in Britain, the area does benefit from a fairly strong dataset for other aspects of palaeoenvironment in comparison to other parts of Britain, despite certain difficulties of preservation caused by chalk geology. In British archaeology in general palaeo-environmental work on the Roman period noticeably lags behind that for other periods, especially prehistory (Dark and Dark 1997, van der Veen *et al* 2007). The relatively strong data-set for Roman Wessex is thus great testimony to the work of the environmental section at Wessex Archaeology and other scholars over the last three decades, especially Mike Allen and Rob Scaife, who have provided a substantial corpus of information regarding ancient soils, plant macrofossils, charcoal and molluscan-based environmental studies (e.g. Allen and Wyles 1993, Fitzpatrick and Crockett 1998, Allen and Scaife 2007, French *et al* 2007).

Innovative archaeological practice such as the study of land snails, pioneered in Wessex by John Evans (1972), and taken on in more recent years by Evans' students, including Mike Allen (e.g. Allen and Wyles 1993), was necessitated by the difficulty of understanding chalkland environments. Pollen, the most widely used indicator of regional palaeoenvironmental vegetation conditions, does not survive in the highly alkali conditions of the Wessex chalk downlands. Although it is possible to take samples from valley bottom locations, the upland peat bogs where most high quality pollen samples from Roman Britain have been taken (Dark and Dark 1997) do not exist in Wessex. Molluscan studies have to some extent filled the gap left by a lack of pollen data from the region, although they are a less fine grained indicator, providing a broad overview of vegetation in the local

environmental conditions, rather than a fine grained understanding of change in individual species change over time (O'Connor and Evans 2005).

The picture which this environmental evidence presents for the region of south west Wiltshire in terms of major climatic change is similar to the remainder of the south of Roman Britain, with little change through the period directly due to major climatic changes. Although some long term and widespread processes of environmental change can be discerned in the region in the Roman period, these seem to be due to anthropogenic factors or local environmental factors, rather than widespread climatic change events, and as such will be discussed in more detail in the following section on tame nature, which deals with anthropic impacts on the environment.

Another major environmental factor in shaping perceptions of nature during the Roman period in Wessex may have been natural disasters and crisis events, such as floods, or harvest failure caused by poor weather. Smith and Kenward (2011) argue strongly that the impact of such events or bad weather years has not yet been sufficiently taken into account by archaeologists studying Roman Britain. Flood events can be possible to detect in the palaeoenvironmental record through techniques such as those pioneered by Rippon (2000) for coastal marshlands, or Howard (2005) in the Trent valley. Little such work has been undertaken in the chalk valleys of Wessex, however, although substantial alluvial deposits exist in the valley bottoms, and there is some archaeological evidence for fluvial activity in the region (pers. comm. M Allen July 2011).

In order to identify crisis events that are less detectable in the sedimentary record, such as seasonal crop failure, we must take a rather different approach and attempt to identify mitigation strategies. These may include the storage of food, stockpiling of other resources, or the employment of particular risk management strategies, of which more will be discussed in the following section. The final element of the 'wild' landscape which is likely to have formed a significant factor in perceptions of nature in Roman Wessex is the conception of wilderness, and the related but not necessarily associated concept of wildness. As discussed in Chapter 2, perceptions of wilderness in the Roman period were very different

to those of today (Wiman 1990, Delano Smith 1996, Hollenhorst and Jones 2001, Sykes 2004).

The landscape of Wessex during the Roman period would not have contained large tracts of wilderness, given the extensively cleared agricultural landscapes of the region. There would, however, have been wooded areas within some river valleys, scattered copses and scrub, and a significant population of wild fauna, especially given the apparent Late Iron Age and Roman dietary avoidance or differential treatment of certain wild terrestrial species and fish (Dobney and Ervynck 2007). Due to the reasonably strong faunal evidence from the region, we can claim at least a limited understanding of wild fauna populations during the Roman period. Wild species identified from Romano-British sites in the region include aurochs, brown bear, red deer, roe deer, red fox, hare, a variety of small mammals including various voles, mole and woodmouse, a variety of birds including game birds such as partridge and woodcock, as well as red kite, thrush, water rail and corvids, frogs and toads and possible semi-feral horses (Cunliffe 2008, 75). It is important to note that the aurochs identification is based on a specimen that may have been curated over a long period, and thus must be treated with caution (Cunliffe 2008, 88). Such a list is in effect the total sum of current research into understanding interaction between wild animals and human populations in the study region at present.

There are two related reasons for this. Firstly, many faunal assemblages are dealt with on a site by site basis, and most sites have low numbers of identified fragments for these species. Secondly, no study has yet been undertaken that synthesises the data for these species across the region, although the recent brief discussion by Hammon (Cunliffe 2008, 88-89) attempts this for sites in the Danebury Environs Roman Programme, albeit focusing predominantly on aurochs and brown bear. It is only when the data is synthesised that the numbers of identified fragments become significant enough to draw any meaningful conclusions from the data. This will be attempted as part of this study, as the way in which human populations interact with wild animals can significantly affect their wider relations with and conceptions of landscape (Allen and Sykes 2011).

There are three important spheres of interaction between wild animals and human populations in the Roman period. The first of these is as predators, scavengers or pests towards domesticated herds and crops, or perhaps in particular cases towards the human population itself. We can surmise that brown bear, fox, deer and some smaller mammals may have been active in this way in the region. Aurochs, although unlikely to have been a frequent pest toward crops, particularly given their limited numbers (if they survived at all into the Roman period), would surely have inspired a certain amount of increased wariness on the part of those entering woodland where populations were known to the human inhabitants of the area, as would brown bears and wild boars. We can therefore envisage a situation existing where certain wild species were seen as pests, and where others were possibly considered a more direct danger, and may have altered human perception of risk regarding certain areas of the landscape.

The second significant role played by wild animals was that of being hunted, whether for food or for social display. Recent research has demonstrated the existence of deer parks at Fishbourne and elsewhere (Sykes 2004, Allen and Sykes 2011), and the wider existence of hunting as an elite pastime, particularly in the later Roman period is beginning to be explored across the western empire (pers. comm. S. Esmonde-Cleary October 2011). The fact that we find red deer and roe deer remains on sites of comparatively low status in the study area, such as Chisenbury Warren and Coombe Down, as well as at the villa sites of Fullerton and Grateley, suggests that hunting may be a somewhat more widespread activity than is generally supposed. These can only be somewhat tenuous conclusions given the low numbers of identified fragments of these species, but the fact that they occur at all suggests that hunting was a less socially restricted practice than traditionally thought. It seems likely, however, that fallow deer are likely to have been more restricted in terms of hunting availability, these imported animals being managed in wild game reserves (Allen and Sykes 2011).

Wild animals were of course not only important as a potential source of food or social prestige, but in some cases played important roles in cosmologies and understandings of



the world beyond the everyday landscape (Sykes 2004, Lauwerier 2004, Serjeantson and Morris 2011). For example, ravens and crows in particular seem to have played a major role in some Late Iron Age and Romano-British belief systems. These birds were sometimes assigned powers of prophecy, kept as 'familiars' by druids or priests, or sacrificed to propitiate the gods, as well as being strongly associated with the Iron Age practice of excarnation (Serjeantson and Morris 2011, 99-103). As well as aiming to identify areas set apart from the dominant cultivated or pastured landscape, we should therefore also consider the concept of wilderness as including the cosmological world of the wild to many inhabitants of the region. Once again the understandings of certain areas of the landscape held by particular sections of human society are shown to be affected by associations made with the behaviour of certain wild animals.

The elements of wild nature identified here for south-west Wiltshire have been outlined briefly due to the lack of study of attitudes to nature in the region, but provide a useful demonstration of the potentials and limitations of our current dataset, and the opportunities presented by such study. A focus on palaeoenvironmental study at a variety of resolutions, both temporal and geographical, is vital to build up a coherent and detailed understanding of attitudes to wilderness. This palaeoenvironmental work is necessary because to improve our understanding of wilderness and the wild world in the landscapes of south-west Wiltshire, and Roman Britain more widely, we must be able to demonstrate the interaction of these conceptual (and physical) areas with the rest of the predominantly settled and controlled landscape. In the next section it is this rural landscape which formed the majority of the landscape in the region at the time that will be discussed (Draper 2006).

### **Tame nature**

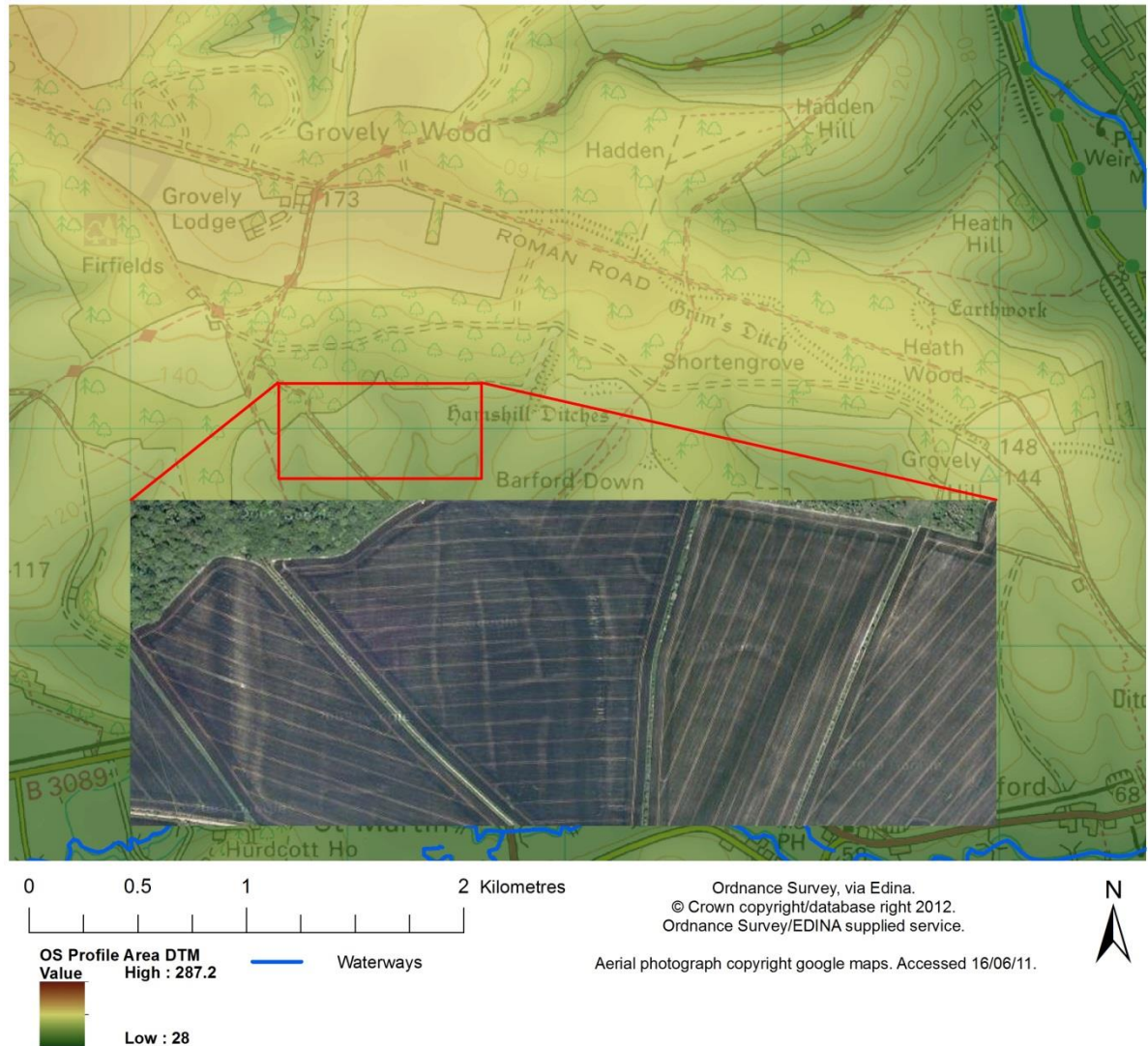
The landscape of south-west Wiltshire in the Roman period beyond settlement, but managed by the human population, undoubtedly formed the largest proportion of the three landscape types considered in this section (Draper 2006). Two forms of managed landscape dominated in the region during the Roman period: pasture and arable land. Other forms of managed landscape would also have undoubtedly been present, but are less well attested

by the archaeological data at present, although we can make reasonable assertions about some elements of these. In particular, it is important that we give due consideration to managed wetland landscapes, managed woodland and other industrial and ritual landscapes (Mattingly 2006).

The widespread distribution of 'Celtic' fields in south-west Wiltshire has already been outlined in section 3.2, but little has yet been discussed regarding their function. It is likely that these fields were used for a variety of agricultural activity, including the growing of wheat and barley, the dominant arable crops (Hingley and Miles 2002, van der Veen *et al* 2008), and the pasturing of sheep, and increasingly through the Roman period, of cattle (Fulford *et al* 2006). Most scholars agree that at a province wide level, Britain's main agricultural output during the Roman period was grain, and place significant emphasis on this, usually citing the exports of grain from Britain to the Rhine provinces during the reign of Julian (Rivet 1964, 122, Mattingly 2006, 501).

The actual mechanisms of agricultural management within 'Celtic' field systems are relatively little investigated, despite widespread knowledge of their existence and importance, although some work has been done on associated enclosures seemingly used to corral and manage cattle or sheep (McOmish *et al* 2002). There is certainly substantial evidence that these systems were not only present in the Roman period, but in many cases extended or re-modelled (Ford *et al* 1994, McOmish *et al* 2002, Fulford *et al* 2006). A detailed fieldwork based analysis of a 'Celtic' field system is unfortunately beyond the scope of this study, but work in Appendix 1 demonstrates the potential for further mapping of these features in a sample area on the western side of the Great Ridge. As well as identifying new field systems and landscape features, future work must integrate them into our understandings of associated settlements; Figure 15 demonstrates newly identified field system at the large semi-nucleated site of Hamshill ditches. The review of a wider pattern of such association may allow us to suggest whether or not there was a fairly consistent attitude to nature in terms of how the landscape was agriculturally managed, or whether such strategies were more dependent on the individual economic and power relations of

each settlement.



**Figure 15 - 'Celtic' field system and landscape features to the west of the Iron Age and Romano-British settlement at Hamshill Ditches, Wiltshire on the south-eastern part of the Great Ridge.**

Beyond arable agriculture, pastoral agricultural practice and attitudes can be explored not just through the structural traces they leave in the landscape, but also through zooarchaeological analysis, for which once again the work of Wessex Archaeology and others has provided us with a substantial dataset (e.g. Fitzpatrick and Crockett 1998, Fulford *et al* 2006, Ellis and Powell 2008). There are many strands of research on attitudes of societies towards nature that can be developed using zooarchaeological methods and data (Jones O'Day *et al* 2004). Narratives of dietary change over time can be revealing regarding

changing social custom and identity, as well as access to resources or agricultural management choices. Differential element representation, butchery marks, changes in animal sizes and age at death profiles over time can reveal very specific social practices and allow us to build up detailed understandings of changes in society over time (e.g. Albarella *et al* 2008). It is in such more detailed studies that we can understand the most detail about the complex archaeological traces of the material effects of attitudes to animals as part of tame nature. Part of this project, therefore, must be to explore the datasets available and integrate them into our landscape analyses.

Domesticated animals were not the only creatures present in the agricultural landscape. Smith and Kenward (2011, 11) argue forcefully that current interpretations of agricultural production, both in terms of strategy and social practice, significantly underestimate the impact during the Roman period of the grain pest *Sitophilus granaries*, which they assert may have destroyed up to 10% of grain produced in the lowland zone of Britain. This insect definitely first reached Britain in the early Roman period, and it is possible to detect responses to its advent in the archaeological record, particularly in grain storage structures, or in dumps of contaminated grain (Smith and Kenward 2011, 13-14). Such apparently minor changes in the ecology of Britain during the Roman period may have had significant effects on attitudes to nature and agricultural management strategies, especially in areas as apparently committed to arable agriculture as south-west Wiltshire, at a time when the field system record suggests that agricultural production intensified significantly. The presence of the insect's larvae at Grateley in Hampshire, just beyond the border with Wiltshire (Smith and Kenward 2011, 14), suggests that they are also likely to have been present in south-west Wiltshire. We must therefore be aware of this factor when charting changing attitudes to agricultural practice over the Late Iron Age to Roman transition. Insect activity is also likely to have affected the populations of both domesticated animals and humans in south-west Wiltshire through the period, although little work has been done in this area, and further development is certainly beyond the remit of this study, given the extensive skills and primary assemblages necessary for such work.

Thus far we have discussed agricultural management in terms suggesting that there were relatively few environmental constraints on such activity on the chalk downlands. This is a common difficulty with studies of south-west Wiltshire, with Fulford *et al* (2006), providing an honourable exception. One of the major difficulties with cultivation of arable crops on the chalk is the extremely good drainage which that geology provides. This means that without near-ideal rainfall at particular points in the growing season, water supply can become a significant problem. This also affects the pasturing of animals on the downs, necessitating visits by flocks to the springs which are present in various coombes and along the slopes of the downs. The soils of the chalk downlands have also been subject in many areas to significant erosion and colluvial activity (Fulford *et al* 2006, 9), leaving many areas with light, thin soils, although comparatively fertile. It is likely that a significant proportion of this erosional change took place in the Iron Age, although of course Roman intensification of agriculture is unlikely to have reduced its occurrence. Despite this, Fulford *et al* (2006, 10) assert that soil type does not seem to have been a major factor in determining the pattern of upland settlement in the area. It is indeed possible that the lighter soils of the downs suited the less robust agricultural technology of the Iron Age much better than the heavy ploughs of today, and that lighter soil was seen as something of a benefit, rather than a marginal characteristic.

The agricultural landscape in south-west Wiltshire was therefore a highly developed and very significant part of the lives of the area's inhabitants, with the majority of them spending their lives in day to day interaction with it. The patterns of behaviour associated with them are therefore complex, but as we have seen, have remained substantially under-explored, with a few notably exceptional studies (e.g. Fulford *et al* 2006). We have also seen that in order to investigate attitudes to nature and landscape interactions within such an area, we must consider a large number of different archaeological datasets, and try to access the higher levels of analysis that will allow us to build understandings of the subtleties of landscape interaction, rather than merely describing the data and placing it into pre-existing concepts such as villa estates, or subsistence agriculture.

The agricultural landscape was, despite its pre-eminence in terms of area covered, by no means the sole theatre of human-environment interaction, and several other natural resources in the area were exploited in a controlled manner. Although the landscape had been predominantly cleared of woodland for centuries by the Later Iron Age (French 2009), some areas of woodland remained, and may have been exploited on a limited basis during the Roman period. Indeed, it is almost certain that most settlements had some access at least to woodland, given the lack of alternative fuel sources nearby (although coal was used substantially in other parts of Roman Britain (Travis 2008)) and high transport costs of importing such bulky consumables. There is probably insufficient evidence to fully discuss whether there was any distinction made in the area between *silva* and *saltus*, although the faunal evidence suggests that some areas at least were not wholly 'tamed' (Cunliffe 2008, 88-89), so we may at least suggest that not all woodland was seen as a homogenous environment.

In contrast to the limited evidence for the exploitation of woodland, the area of south-west Wiltshire has significant natural stone resources, and we know that these were exploited during the Roman period (Draper 2006). The beds of Portland stone around modern Tisbury and Chilmark, and of Purbeck stone around Teffont Evias, are known to have been worked during the Roman period, and it is very likely that the majority of Roman quarrying sites in the area have been obliterated by medieval and later activity in the same areas, giving us a sample that in all likelihood significantly under-represents actual levels of activity (MacBain and Nelson 2003, Draper 2006). Stone from Tisbury, possibly extracted from Roman 'bell-pit' style quarries in the area, has been found in the villas at Rockbourne and East Grimstead (MacBain and Nelson 2003, 19), and there is evidence for the use of stone from Teffont for both building material and coffin construction in the surrounding area during the Roman period (Roberts and Morton 2010). Further afield Roman gravel extraction has been recorded at Latton in the north of the county, and there is a Roman stone quarry site in Swindon (pers. comm. R Foster Aug 2014). It seems possible from such a distribution that south-west Wiltshire was a relatively important area for the extraction of building stone during the Roman period, just as it is today.

In addition to stone extraction, the landscape of south-west Wiltshire was also (indirectly) altered significantly by the Roman imperial requirement for lead from the Mendip hills to the north-west of the area. The road along the Great Ridge discussed in section 3.2 leads from Old Sarum to the Mendip lead mines, and seems to have been one of the earliest constructed after the Roman conquest (Mattingly 2006, 506). The Mendip lead mines were probably controlled by the military from the conquest perhaps until the 2<sup>nd</sup> century, following which they were probably in private hands, under the supervision of an Imperial procurator (Mattingly 2006, 399). As well as continuing to see the transport of at least some of the lead produced by the mines, the road would surely have borne the transport of various goods in the opposite direction, from the port at Bitterne, or from Chichester. The resource extraction links of this road are especially strongly suggested by the discovery of two lead pigs of Flavian date from the Mendips at Bitterne (Grinsell 1958, 208).

Quarrying and subterranean resource extraction have a more invasive impact on landscape than agricultural practice. It is difficult to assess the difference in attitude that this reflects, whether such activity may indicate a more explicitly dominating relationship with the natural world, or was instead perceived as hazardous in terms beyond the material. Stone and mineral extraction, although known from the British Iron Age and particularly well-attested in the Wiltshire/Hampshire region (Cunliffe 1991, 454-460), definitely increases in both scope and intensity during the Roman period (Mattingly 2006). This is probably initially due to the impetus and strategic priorities of Imperial expansion (Woolf 1992), and then to more regional demand factors, particularly the construction of masonry buildings in towns and at villas. It remains to be ascertained whether stone quarrying in the region was generally undertaken on a full-time basis, or was more ad-hoc and simply undertaken whenever necessary. The likely destruction of most sites by modern quarrying activity makes this a difficult issue to clarify with confidence.

In order to understand the attitudes to nature articulated in resource extraction, we must focus on linking known extraction sites with their landscape contexts, and attempting to thereby understand the activity at those sites in terms of the social practice of the wider

landscape. This can only be undertaken for two of the known sites from the region, those at Tisbury and Teffont Evias, as the other sites known at present have all been redeveloped or destroyed. The site at Teffont Evias is particularly promising because of its proximity to several known Roman settlements, our knowledge of the destination of some of its end products, and the opportunity to investigate its highly suggestive proximity to the River Nadder in terms of elucidating wider landscape relationships (Roberts 2010).

The apparent importance of such waterways for transport, and the productive wetlands surrounding many of the rivers during this period, is well attested by the distribution maps produced by Draper (2006) for Wiltshire (Figure 14). As always, however, we must be wary of the implicit authority of such maps when based primarily on archival data of variable quality, rather than widespread modern archaeological survey. In terms of attitudes to nature, watery landscapes of south-west Wiltshire are something of an anomaly, in that we have an even lesser knowledge of their everyday use than of their ritual significance. There has been substantial debate regarding the significance of watery places in Late Iron Age and Romano-British archaeology (Hill 1995a, Fulford 2001, Hingley 2006, Rogers 2007), and some watery sites from the area display characteristics of ritual activity, such as Spring Head at Teffont Magna (MacBain and Nelson 2003, 15).

By contrast, there has been very little study of the management of wetland landscapes for agricultural purposes during the Roman period in Wessex in contrast to other regions (e.g. Rippon 2000), and this is almost certainly the product of three significant biases in the dataset. Firstly, some of these landscapes have been significantly altered by more recent activity. There has been significant alluvial and colluvial activity since the Roman period in many of the valleys of the tributary streams of the main rivers, making excavation down to Roman levels in valley bottoms a time consuming and expensive process, but little work has been done on characterising such sediments (pers. comm. J Schuster July 2011). In addition, several streams and tributaries in the higher downs have become seasonal, or entirely dry, due to the lowering of the water table and dramatically increased extraction of water for modern agriculture. Secondly, the wetland areas remaining undeveloped in Wiltshire river



valleys are very often now under some form of protection or environmental stewardship scheme which would prevent archaeological investigation, even if funding were available. Thirdly, the river valleys of Wiltshire and the valleys of their tributaries are often narrow, and many of the sites which may have previously been occupied are still under settlement. The counterbalance to these difficulties is the excellent dataset for the chalk downlands which we have acquired. It is obvious, however, that holistic investigation of the area's Roman landscapes requires engagement with the landscapes of the valleys, as well as the downlands, and some strategy, probably non-destructive survey, must be sought to develop our understanding of these areas.

The 'tame' landscape is thus comparatively well documented in the study area overall, and this will allow new interpretations to be made with some confidence. Current interpretations still focus almost exclusively on the economic aspects of the landscape, make few connections between different activities within the landscape, and rarely consider the social implications of such potential connections. There remain significant outstanding issues in study of the tame landscape, especially in understanding wetland landscapes, but the datasets regarding domestic animals, grain production and processing, and the widely documented 'Celtic' field systems provide avenues for detailed investigation of change in landscape interaction through time. Having considered both the tame and wild landscapes, the following section will consider the lived landscape, discussing settlement and social interactions in their landscape settings, and lived narratives of landscape.

### **Encounters in the landscape**

Thus far we have considered aspects of nature which the landscape's human inhabitants may have considered wild or otherwise separated from everyday life, and those parts of the landscape which they may have perceived as tamed, controlled, or at least been in common contact with. This section will consider encounters with the landscape, as defined in Chapter 2. A major component of the landscape is settlement, and the distribution and categorisation of settlements in south-west Wiltshire has been discussed at length in section 3.1. The forms of settlement in the study region vary a great deal, and include at

least one site which traditional scholars consider urban, as well as several large nucleated settlements and a myriad of smaller settlement forms. This section will not repeat the concerns of section 3.1, but will instead consider these settlements in terms of their landscape relations and contexts, and their own internal landscapes. This section will also consider places which were assigned different significance in the lived landscape, reviewing the evidence for ritually focused settlement in the study area. Finally, this section will review current interpretations of the lived narratives of landscape, considering whether we can see multiple perceptions of society articulated in attitudes to landscape and the natural world.

The settlements in south-west Wiltshire where domestic activity took place during the Roman period are rarely considered in their landscape context by current interpretations with the exception of the proximity (or otherwise) of sites to the Roman road network (e.g. Draper 2006, James 2010). The proximity of settlement to the road network is often used as a proxy for their supposed cultural proximity to the 'Romanised' world, a simplistic link given varied nature of the traffic they may have carried (Copeland 2009). Networks of communication are also thought to have been facilitated by 'trackways', a term which is traditionally used to cover both long-distance routes such as the Ridgeway, and shorter routes within the landscape, such as between neighbouring settlements, or from settlements to the surrounding fields. Some of these routes are thought to date from at least the mid-Iron Age, and very likely earlier (Gardiner and Allen 2009). Whichever term we use to discuss these routes through the landscape, it is important to include these in our interpretations without excluding other possibilities, such as movements across terrain without the use of a routeway of any kind, and water transport, which has been rather overlooked in recent syntheses of the region (e.g. Ellis 2001, Draper 2006, James 2010).

Although south west Wiltshire is quite a long distance from the coast, the role of water transport in moving around the area may be very significant. It is generally thought that waterways played a substantial, perhaps even dominant, role in the transport of goods and people within Roman Britain (Mattingly 2006, 511; Jones, J 2009). There is a widely agreed

cost advantage in water transport over road transport in the Roman period (Jones, J 2009), but the extent to which scholars have argued for the importance of water transport in everyday activity in the landscape depends essentially on the amount of movement of goods which they envisage taking place. Jones (J, 2009), for example, concludes that most water transport was probably dependent on the demand of the Roman military for supplies of food, wine, oil and other goods.

The extent to which waterways were navigable during the Roman period depends, naturally, on the size of the craft used, and would have varied in some areas depending on tides. The rivers in south-west Wiltshire were not, with the possible exception of the lower reaches of the Avon (Sherratt 1996), navigable for vessels of sea-going size due to their comparative shallowness, but it is entirely possible that small craft and barges could reach some distance into the Avon's tributary rivers of the Nadder, Wylye, Bourne and Ebble. Sherratt (1996) argues that routes through the Wiltshire Avon and its tributaries, particularly the Wylye, to the Upper (Bristol) Avon were the major structuring routes during several periods in British prehistory, and his argument is supported by the location of several major sites (Sherratt 1996). Water transport is thought likely to have played a role in the transportation of stone quarried in the Vale of Wardour to sites across the region due to the difficulty of transporting such heavy material by land (Fulford et al 2006). The transport by river of stone from Chilmark and Teffont to Salisbury in large quantities is recorded during the medieval period (MacBain and Nelson 2003, 34), and it is therefore likely that the watercourse was similarly navigable during the Roman period. If we accept Sherratt's argument regarding the importance of the Avon route a quite convincing and previously understated case emerges for the transport of lead from the Mendips along this route as well.

An interesting observation of current interpretations is that despite the relative prominence and acknowledged pre-eminence of water transport over road transport in the Roman period, sites are rarely assessed or discussed in terms of their locations relative to waterways (with the exception of Sherratt 1996). Instead, as discussed above, the proximity

of roads is given far greater weight as a factor in site location and indicator of social relations. As well as being partially attributable to the enduring biases of imperialist thought, this is also part of a wider bias towards emphasising anthropogenic landscape features over natural features in interpretations that has been extensively commented upon in prehistoric landscape archaeology (Bradley 2000).

Of course, most sites are likely to have been accessed by different routes and modes of transport depending on the context and length of the journey being made. It seems likely that longer journeys, with substantial materials to be transported would have generally been made by water where possible, whereas short unladen trips between neighbouring sites were very likely to have been made by land. This aspect of site placement certainly merits further research, as the modes by which people accessed particular places may have had significant effects on how they perceived moving around the landscape, and how particular places were understood by their inhabitants and visitors (Copeland 2009).

This discussion leads naturally to a consideration of possible structuration of settlements, and how they may have articulated certain social and landscape relations, whether through conscious or unconscious actions on the part of those controlling activity there. The various forms of rural settlement in south-west Wiltshire, as in much of Roman Britain, have been categorised and subdivided in a number of ways based on their structural form (Hingley 1989, Corney 2001, Draper 2006; see Figure 16 for a typical example). These schema are usually based upon assumptions associating particular structural elements with particular social groups. Whilst there is certainly a strong basis for suggesting some of these associations, such as continuing forms of structure from Late Iron Age settlements suggesting native settlements, there are more nuanced elements to the structuration of settlement that can be obscured by the often inflexible categories of standard interpretations. For example, there has been a significant recent debate on the grammar of 'Celtic' settlements, which has received relatively little attention from Roman archaeologists (Hill 1995b, Karl 2008). Karl (2008) proposes a grammar of settlement structuration based on

“ideological orientation, the ideological boundedness of the household, the household as the centre of production, [and] also the shared importance of both household and kinship”.

Karl (2008, 76)

There are some difficulties with simply equating any settlement which fits within this rather broad model with ‘Celtic’ or native social cosmographies, but with appropriate integration of archaeological evidence this can form part of our toolkit for understanding the structuration of settlement. The layout and orientation of non-village rural settlements in relation to the ubiquitous ‘Celtic’ field systems of the region would also be a rewarding avenue of research, considering the comparative neglect of this topic at present. It remains to be seen how Karl’s model fits with this aspect of settlement-landscape relations.

Many other concerns and understandings of the world can be seen to be articulated in the structuration of the settlements of Roman Wiltshire. The grammar of settlement most widely discussed in Romano-British studies is that of the ‘Romanised’ town, generally based on a grid pattern with a central open space (forum) and various other public buildings

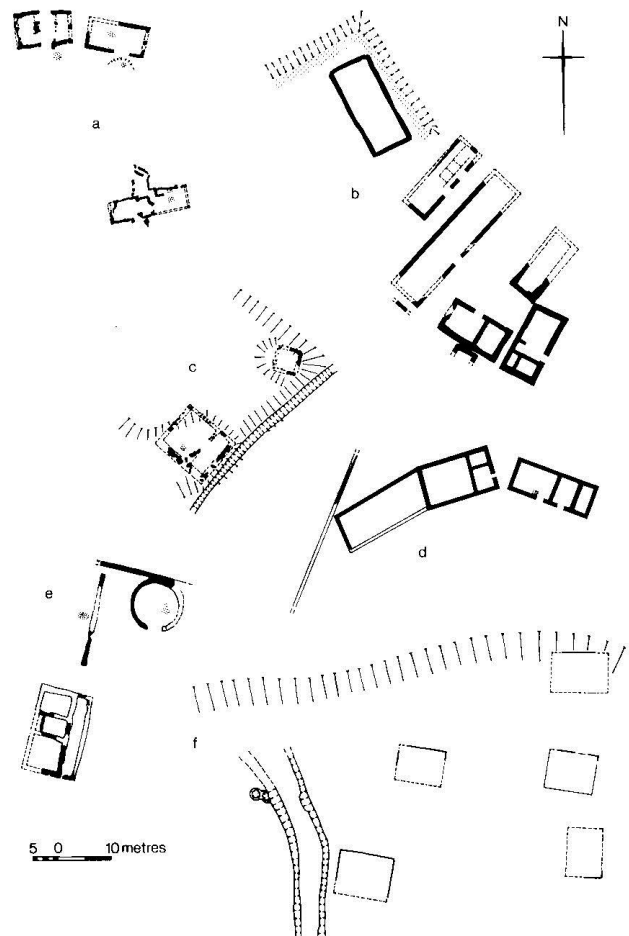


Figure 16 – ‘Compounds on non-villa sites in southern Britain’; an example of a traditional approach to categorising settlement by morphology. From Hingley 1989, 58.

(e.g. Wachter 1974, Esmonde-Cleary 2005). The town as a whole is seen as having been given spatial coherence and social identity by its inhabitants through processions and other ritual ceremonies, which are seen as having been broadly comparable across Britain (Esmonde-Cleary 2005). Evidence for this grammar of settlement is lacking in the study area, with the possible exception of Sorviodunum, which has received insufficient excavation to provide clear evidence for or against the existence of a grid plan, although seems to have had a *mansio* (James 2010).

Town houses in Roman Britain also displayed some elements of the architectural styles of the wider Empire, connected with social rituals such as the *salutatio* (Perring 2005, 20), although varying between regions in their articulation. At Silchester, for example, a long porch entrance attached to the main house by a corridor was a relatively common feature of high-status houses, yet this style is not found elsewhere in Roman Britain (Perring 2005, 20). Perring (2005, 20) suggests that this is continuance of a local tradition. This is particularly interesting because Silchester is also the only town in Roman Britain yet discovered to have a pre-Roman gridded street pattern (Mattingly 2006, 269). Although such studies give us a strong indication that the development of urban settlements in the particular forms that they took in Roman Britain was not wholly due to the imposition or naïve adoption of a 'Roman' grammar of settlement, we do not yet have sufficient evidence to develop an alternative explanation. In the study area there is little evidence of this grammar, or urban settlement, with the exception of limited evidence from Sorviodunum, and some possible "streets" identified on aerial photography on the Great Ridge (James 2010).

The one particular form of settlement in the study area which does seem to display a consistent grammar and seems to generally occupy prominent places in the landscape is that of the rural temple or shrine. Very little work has been undertaken on these sites in the region, and only one attempt at synthesis has been made (Robinson 2001). The best known of these sites, Cold Kitchen Hill, is located in the west of Wiltshire, on the edge of this project's study area. The site is also located on the eastern edge of a cluster of high status

and ritual sites in the Cotswolds (Figure 13). Comprising a temple enclosure of standard plan for the region, the site has a circular internal building within a square compound, itself surrounded by other boundary ditches. Poorly excavated in the early 20<sup>th</sup> century, and with little work done since, Cold Kitchen Hill nonetheless provides some indications of the type of ritual behaviour which took place at the site (Robinson 2001). The complex consists of a large enclosure, towards the rear of which a rectangular shrine is set opposite the entrance. There are two associated separate enclosures, one of which contained a large mound. The complex is believed to originate in the Iron Age, and continue until sometime in the mid 4<sup>th</sup> century AD (Robinson 2001). This arrangement, particularly the rectangular shrine within a *temenos* enclosure, is closely paralleled within the study area at Teffont Evias (Upper Holt Wood) (Roberts in prep. a) and Kingston Deverill (Keysley Farm) (Draper 2006; WILTS HER#MWI262). Further afield there are similar examples at Rushall (Church Ditches; Figure 17) and elsewhere.



**Figure 17 - Shrine enclosure within temenos enclosure at Church Ditches, Rushall. Image from Google Earth, accessed 30/1/12.**

These religious sites, and other findspots within the study area, show a variety of deities being worshipped, predominantly classical gods such as Apollo, Hercules, Jupiter, Mars, Mercury, Minerva, Silvanus, Venus and Vulcan, usually strongly associated or wholly syncretised with 'Celtic' deities, as in the case of Apollo-Cunomaglos, although some 'Celtic' deities continue being worshipped without a classical equivalent, such as Epona, Rosmerta and Cernunnos (Robinson 2001, 153). There does not seem to have been a correlation between the landscape locations of shrines or single votive deposits and the particular deities or groups of deities with which the sites are associated, although the dataset is probably too small for this to be properly investigated. The landscape context of these sites may however allow us to draw some conclusions about the nature of their role in society (Retallack 2008, Kamash *et al* 2010). All of the shrine sites in the study area display close relations to local societies, articulated through trackways leading to nearby settlements, ancillary structures and settlements, and lengthy occupation histories which suggest their enduring significance. A more detailed landscape analysis of these relations may prove substantially beneficial to our understanding of landscape relations in Roman Wiltshire.

Having considered various aspects of the lived landscape, it has become clear that there is no current coherent synthesis or model for understanding this aspect of human-landscape interaction in the study area in this period, in contrast to earlier periods such as the Neolithic and Bronze Age (e.g. Field 2008). The basis for such an understanding may, however, be possible from the evidence that already exists, although the lack of consciousness of the possibility of such investigation has restricted primary investigation with such research aims. There is still, however, a substantial body of evidence regarding movement in the landscape, the morphology of settlement, and the different roles that particular places in the landscape seem to have played in Romano-British society. All of these categories of evidence can be integrated and when used in concert, rather than divided as they are in current interpretations (e.g. papers in Ellis 2001), may allow us to begin to generalise about social relations within the landscape.

There is less evidence for differential conceptions and perspectives of the lived landscape,



but this may be due to it simply not having been looked for or recognised. Differing grammars of settlement, ways of moving through the landscape and religious foci may allow us to produce more subtle interpretations, including aspects of identity and change over time. Another possible avenue through which this question could be productively explored is through the recognition of differing patterns of social interaction with landscape as articulated through structural remains relating to landscape scale processes, such as grain driers, terraces, water management structures and animal enclosures. Allen and Sykes (2011, 19) provide an intriguing additional avenue of research in this vein with their suggestion that the remains of particular introduced animal populations such as fallow deer and the brown hare may be used, together with other evidence, as proxy indicators for landscape features such as *vivaria*, *leporaria* and *piscinae*. The existence, or otherwise, of such features has significant implications for the relations between society and landscape, and also within society. The topographic and geological complexity of the region should also give rise to opportunities to explore the exploitation of different niches in the landscape, and this has been underexplored in current interpretations. The discussion of wild and tame landscapes of the region has provided a way into this question by drawing out the evidence for differential interaction with landscape. The extent to which topographic and geological complexities have contributed to this variety is an area that has been little discussed in current models, and needs to be developed.

Throughout this section the limitations and opportunities provided by current and emerging interpretations have been discussed, and the theme throughout has been one of complexity and interaction, based around the three structuring domains of the wild, the tame and the lived landscapes created for the purposes of this thesis. Although the landscapes of the study area have been shown to be very complex, this structuring artifice has been useful in drawing out different strands of evidence necessary for this review of current knowledge and interpretation, and providing indications of productive avenues for analysis and development of more nuanced interpretations. The conclusions of this section will be discussed further in section 3.5, where current understandings of the two study areas, south-west Wiltshire and the Montagne Sainte Victoire, will be brought together.

### **3.3 – The Roman Archaeology of the Montagne Sainte-Victoire**

#### **Provincial Structure and Urban Settlement**

The Montagne Sainte-Victoire was located within the province of Gallia Narbonensis during the Roman occupation of the region, which lasted between approximately the late 2<sup>nd</sup> century BC and the ending of centralised Imperial administration in the west in the late 5<sup>th</sup> century AD. Unlike our British case study, the Montagne Sainte Victoire remained in the same administrative province throughout its Roman occupation, although the extent to which this apparently greater stability had any effect whatsoever is debateable. There were several substantial urban settlements in Gallia Narbonensis during the Roman period, of which the cities of Aquae Sextiae (modern Aix-en-Provence) and Massilia (modern Marseille) are within relatively close proximity of the Sainte-Victoire massif.

The current consensus amongst scholars of the region is that the province and its urban centres were primarily connected by the Roman road system, the main route of which through the province was the Via Aurelia, the main phase of which was begun under Augustus around 12 BC (Boissinot 2006, 110). The Via Aurelia connected the region to Italy, and other routes, including the Via Agrippa and Via Domitia, connected the region to the Alps, central Gaul and Spain. The major transport route through the province, and a very significant factor in current interpretations of the province, is the Rhone, particularly in its role as the main transport route from the Mediterranean to the large legionary garrisons of the Rhine frontier, and inland Gaul (Christol 1996). The seaboard of the region also played a prominent role in trade between Italy and Spain, located as it was midway along the coastal shipping route (Christol 1996).

This current interpretation of the province's history emphasises the influence of wider economic and political shifts in the Empire's centre of gravity. For example Christol (1996, 24) suggests that by the 2<sup>nd</sup> century AD, the shift of economic influence to Spain and then North Africa had weakened the economy of Gallia Narbonensis, and life in its urban settlements. In addition, it is generally accepted that the increased economic development

of the inland Gallic provinces had by the 2<sup>nd</sup> century AD reduced the prosperity of Narbonensis by comparison (Christol 1996, Woolf 2001). The economic evidence for this argument is fairly strong, but may be based on longer term trends which have been less commonly articulated (Woolf 2001, 51). Woolf's argument, based on earlier discussion by Weber, is that antiquity saw the rise of temperate Europe's economic power in comparison to Mediterranean Europe based on the less 'marginal' and more productive environmental and agricultural conditions of the temperate zone, which the social and political stability of the Roman Empire allowed to be accessed. Although Woolf (2001) clarifies this argument by reducing the extent to which it is dependent on marginality and acknowledging that this process began in the Iron Age, there remains a strong sense of environmental determinism. Recent work has argued successfully that environments around the Mediterranean can be highly productive (Horden and Purcell 2000, Dermody et al 2011), and it is likely that social factors were at least somewhat more important than Woolf (2001, 2002) acknowledges.

Current models of the province of Gallia Narbonensis during the Roman period are therefore very often defined by their perception of how wider economic and political changes have affected the region. This is certainly somewhat justified, as there is strong evidence for certain movements of economic production, the best researched of which is the change in production sites of samian ware, or terra sigillata (Woolf 2001). Such macro-scale economic changes over the *longue durée* are emphasised by many scholars, and the other main narrative of the province through the Roman period also emphasises the *longue durée*, albeit concentrating on environmental change. It is this school of thought though that has made the most significant progress in developing more complex understandings of the region, through detailed palaeoenvironmental study and the building of wider scale narratives of environmental management (e.g. D'Anna *et al* 1993, Leveau 2004a, 2005, 2008). It is primarily scholars of this latter school, together with French commercial archaeologists, who have conducted the fieldwork which this study utilises.

There are two major events, or conditions, which have especially enabled the development of such detailed narratives of the archaeology of the region. The first of these is the

extensive urban archaeology which has taken place in Aix-en-Provence, and particularly Marseille, in advance of development, providing strong overviews of the development of these urban settlements (Mocci and Nin 2006). The second, and most relevant to this study, is the forest fire that in 1989 removed a great deal of vegetation from the Montagne Sainte Victoire, especially on the southern side (Walsh and Mocci 2003, 46). This fire had the side effect of greatly increasing the visibility and accessibility of archaeological remains on the mountain, spurring the inception of a major programme of landscape archaeology, and in turn a number of subsequent research projects in the surrounding landscape (Leveau *et al* 1992, D'Anna *et al* 1993, Leveau and Provansal 1993, Jorda and Mocci 1997, Walsh and Mocci 2003, Mocci *et al* 2004, Marty *et al* 2005). These events, and the highly active research community in the region, have ensured that there is a substantial body of work to interrogate regarding this case study.

Despite this extensive dataset, there has not been a substantial amount of literature regarding the relationship between the urban settlements of Aquae Sextiae and Massilia, and the Montagne Sainte Victoire. Studies of each area have tended to focus on that area as a separate entity, or interpret the relationship between the two as one of conflicting interests and demands (Dietler 1997). The relationship between urban and rural sites in the region has also been extensively described in terms of opposing population pressures. For example, Leveau (1990, 22), suggests that population pressure from the inhabitants of Marseille was responsible for pushing 'native' populations into mountainous regions, and the acceleration of degradation of the alluvial plain of the Etang de Berre at the same time. This is especially interesting because earlier in the same article Leveau (1990, 14-15) criticises the French colonial era model of anthropogenic degradation and population pressure as an explanatory model for the Maghreb, whilst advocating a very similar model for the Etang de Berre.

Population pressure is not only used as an explanatory mechanism for urban-rural relationships during the Roman period in Provence, but also in the pre-Roman Iron Age (Mocci *et al* 2004). The foundation of Massilia as a Greek colony and associated instability in

the region is used as an explanation for the early Iron Age phase of settlement of high sites in the region (Garcia 2002, Mocci *et al* 2004). Again the same explanation of population pressure from Massilia is used to explain the expansion of settlement on the Montagne Sainte Victoire towards the end of the Iron Age (Mocci *et al* 2004, 88). It is interesting to note that the alternative explanation rejected in favour of this is the proposition that change in the region at this time is due to an influx of 'Celtic' peoples (Mocci *et al* 2004, 88). The settlement distribution changes across the Late Iron Age to Roman transition in the region seem to bear out this argument (Walsh and Mocci 2003, Mocci *et al* 2004), but this interpretation does raise the question of whether any other processes were active in contributing to the changing pattern of activity (Dietler 1997).

Beyond these discussions of population movement, there has been comparatively little exploration of the urban-rural relationship in the study region in terms of the major Roman period urban settlements. It is highly important to note, however, that Roman towns were not the only major nucleated settlements in the region. They in fact supplanted a quite highly developed and complex series of oppida settlements, nucleated and elaborated population centres of the Iron Age (Table 5). In comparison to the oppida of central France, the oppida of Provence were smaller, denser centres of settlement. There is excellent excavation evidence in the wider region from oppida sites (Dietler 1997), and several oppida sites on the Montagne Sainte-Victoire have been well-excavated (e.g. Mocci *et al* 1998; see also Jorda and Mocci 1997, Walsh and Mocci 2003, Marty *et al* 2005).

Leveau (2000c) discusses the continued existence of oppida into the Roman period within the territories of Roman cities, but there has been little synthetic consideration of the social implications of this, or of the relatively swift decline of these settlements in the Roman period with the exception of the work of Dietler (1997) and Arcelin (2004). Arcelin (2004) discusses oppida as proto-towns, but interprets them as having a predominantly rural character, viewing the emergence of Greek colonies as the first true urban settlement in the region. Leveau (2000c) only views discussion of territories and settlements within them as worth undertaking from political and economic perspectives, and gives little consideration

to the social relationships in this period of change in the region, in contrast with the work of Walsh and Mocci (2003) for the Roman period.

Oppida	Early Phase	Late Phase	Size (ha.)	Height a.s.l	Location
Bramefan	525-400 BC	125-50 BC		510-620	MSV (SE)
Tonneau	6th century BC - 5 <sup>th</sup> century BC	-	2.9	420	Regagnas (W)
Olympe		2nd century BC	2.6	819	Regagnas (C)
Bayon		125 – 50 BC	4.5 + 1 on 2 <sup>nd</sup> platform	560	MSV (SW)
Roque Vaoutade		130/125- 75/50 BC	0.67+0.06 on 2 <sup>nd</sup> platform	640	MSV (S)
Pas du Magnan		Late 2nd century BC – 1st century BC	2	470	MSV (Cengle)
Mitronet	6 <sup>th</sup> century BC – 2 <sup>nd</sup> century BC (4 phases)		0.103+0.166 on lower terrace	485-510	Puyloubier
Ayaux	4th century BC – 3rd century BC		0.184	385	Puyloubier (E)
Baou de l'Agache	6th century BC – 5th century BC		0.4375	456	Regagnas (W)
Pas de la Couelle	5th century BC		0.13	540	Regagnas (S)
Pain de Munition		2nd century BC – 1st century BC	0.867 but only 0.063 habitable.	612	Puyloubier (NE)
Col des Portes	5 <sup>th</sup> century BC – 3rd century BC			650	MSV (N)
Richeaume III	600-530 BC			320	MSV (SE)

**Table 5 - Oppida Sites around the Montagne Sainte Victoire. From Marty, Mocci and Walsh (2005).**

There are hints of regional variation in rural-urban relations in the study area in the Roman period. For example, Leguilloux's (1997) discussion of butchery practice in Aquae Sextiae provides some social context to this important element of the regional economy, but still

does not move towards articulating the interaction of the town and the countryside that produces the animals to be butchered, other than a repetition of traditional thought regarding *negotiatores*. She does, however, assert that some local variation from generally observed Roman butchery practices can be seen in the city, which she interprets as demonstrating local influence on social practice (Leguilloux 1997, 258). This at least moves towards placing urban settlement and its economy in a wider context, but this isolated example based on a single assemblage does not provide a full picture.

The recent dedicated volume of Gallia on aqueducts in Gallia Narbonensis has also provided much-needed further discussion on urban-rural relations, as any modern discussion of these uniquely connecting engineering works must do in order to place them in context (Farbe *et al* 2005, Mocci *et al* 2005). Farbe *et al* (2005, 5) see aqueducts and roads as the major manifestations of the control of the town of the rural environment during the Roman period. Other contributors to the volume, however, suggest that hydrological management, and the display of that management, were not only due to urban/Imperial control of the rural landscape, but a central part of rural society, demonstrating control and domination of the environment by rural elites. Perhaps both perspectives are legitimate, considering the overlap between urban and rural elites during the Roman period (Perceval 1987). We must build on such work in order to begin to move towards more complex understandings of the interactions between the societies of our study area and the nearby urban settlements of Aquae Sextiae and Massilia, using social interactions articulated in the form of landscape features to frame the debate. Fortunately, the archaeological record for rural settlement in the study area has a number of strengths on which we may build our understandings, and these will be outlined below.

### **Rural Settlement**

As discussed previously, the major forest fire of 1989 provided the opportunity for extensive research on the archaeological record of the Montagne Sainte-Victoire (D'Anna *et al* 1992, D'Anna and Mocci 1993, D'Anna *et al* 1993, Leveau and Provansal 1993, Jorda and Mocci 1997, Walsh and Mocci 2003, Mocci *et al* 2004, Marty *et al* 2005). A programme of field-

walking survey over several years allowed the mapping of a large number of sites from all periods, but most studies have focused on the Iron Age and Roman archaeology of the area. Given the research interests of the French landscape archaeologists of the region, as discussed in Chapter 2, and the early characterisation of the Montagne Sainte-Victoire as a marginal landscape (D'Anna *et al* 1993, 446), it is unsurprising that the ensuing research projects placed significant emphasis on the role of erosion in shaping human-environment interactions and changes in settlement patterns (Jorda and Mocci 1997, Walsh and Mocci 2003, Walsh 2004). The results of these studies have been well integrated with the field-walking and excavation evidence to produce detailed narratives of landscape and settlement change (e.g. Walsh and Mocci 2003).

The extensive dataset produced by research over the last twenty years on the landscape of the Sainte-Victoire and its surroundings has allowed a number of wider issues regarding Roman attitudes to landscape to be addressed. These include the effect of 'Romanisation' on rural settlement and society, Roman attempts to control landscapes, both in terms of managing processes of environmental change, and in terms of power relations, and the relationship between urban centres and the landscapes surrounding them, as discussed earlier in this section (Fabre *et al* 2005). These research issues are important in Roman studies across Europe, and the existence of modern interpretations of them from the Sainte Victoire area adds to the excellent potential of the landscape for comparative study.

As one might expect for a landscape project where the backbone of the data is provided by a field-walking campaign over several years, current interpretations of the changing settlement patterns in the immediate vicinity of the Sainte-Victoire itself are based on a series of distribution maps of sites divided into particular categories (Mocci *et al* 2004). Changes in the distribution of these sites over time, and the appearance of new categories of site, such as the Roman villa, have been used to develop a basic narrative, which is then elaborated through the integration of palaeoenvironmental evidence and the results of other multi-disciplinary work. For the Sainte-Victoire it is as follows.

During the Late Iron Age, the previously sparse settlement on the Sainte-Victoire increased



significantly in terms of the number of occupied sites (Mocci et al 2004, 88; see Figure 18 and Figure 19). This is suggested (Mocci et al 2004, 88) to be due to the indigenous population of the region being pushed away from the environs of Massilia by the expansion of the Greek colony founded there, rather than by an influx of 'Celtic' peoples from the east, as was previously suggested (Mocci *et al* 2004, 88). As has been discussed earlier, the nature of this argument has significant implications for understandings of urban-rural relations. Another increase in population is seen at the very cusp of the transition from the Late Iron Age to the Roman period in the region, when several upland oppida sites are re-occupied and extended significantly, including Bramefan (see Table 5 - Oppida Sites around the Montagne Sainte Victoire. From Marty, Mocci and Walsh (2005).

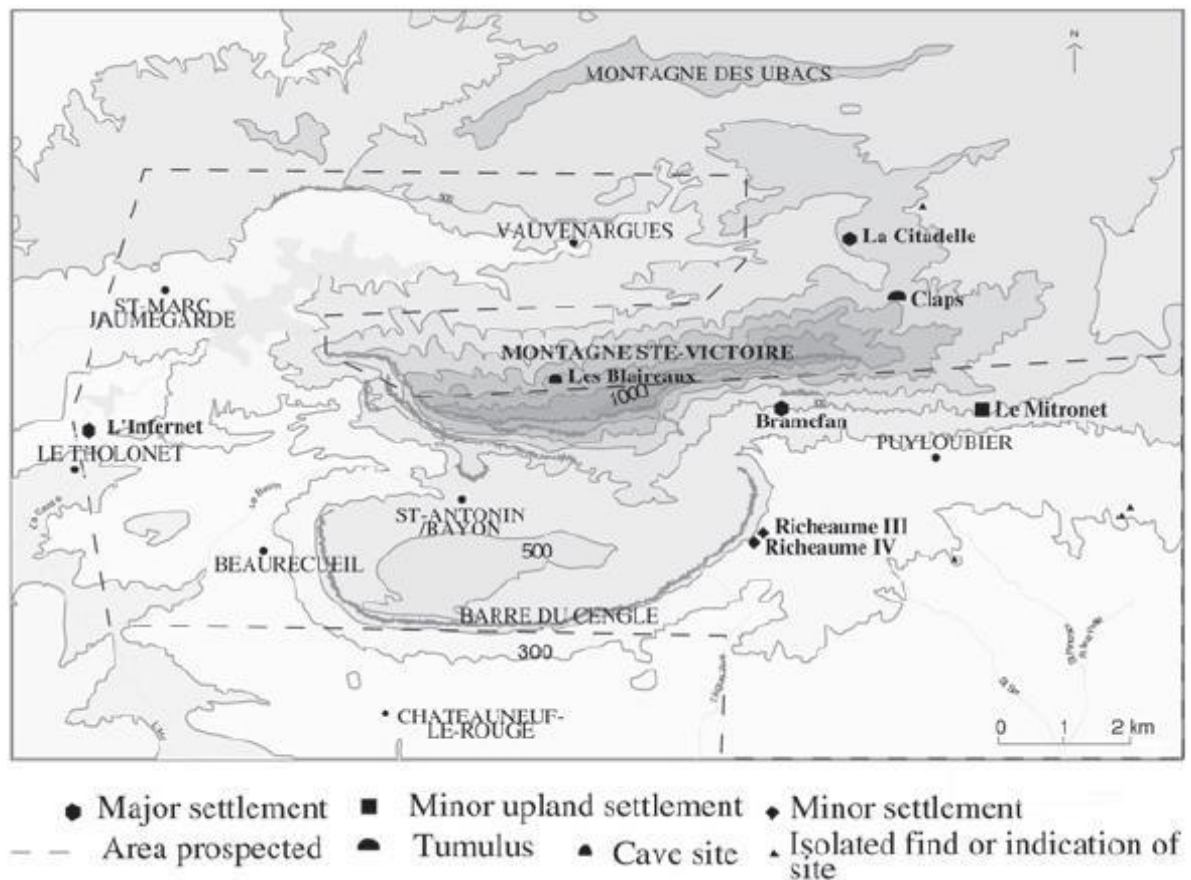


Figure 18 - Distribution of Early Iron Age Settlement on and around the Montagne Sainte-Victoire. From Walsh and Mocci 2003, 51.

This is apparently due to local population seeking refuge on the Sainte-Victoire after the

defeat of the local Salyenne confederation of Gallic tribal groups by Caius Sextius Calvinus in 124/123BC, and the fall of the confederation's heavily urbanised oppida at Entremont, 15km west of the Sainte-Victoire (Mocci *et al* 2004, 88). Whatever its cause, the substantial increase in settlement of the Sainte Victoire landscape through the Late Iron Age was followed by another increase in the early Roman period (Jorda and Mocci 1997, Walsh and Mocci 2003, Mocci *et al* 2004). Although the settlement pattern remained predominantly the same as in the Late Iron Age, a number of new settlements were established. These generally took the form of small settlements at the base of slopes or on low plateaus, and early villas on the edge of the alluvial terraces to the south of the ridge (Walsh and Mocci 2003; see Figure 20). This is associated with the abandonment of the highest sites on the massif in the second half of the 1<sup>st</sup> century BC (Mocci *et al* 2004; see Table 5).

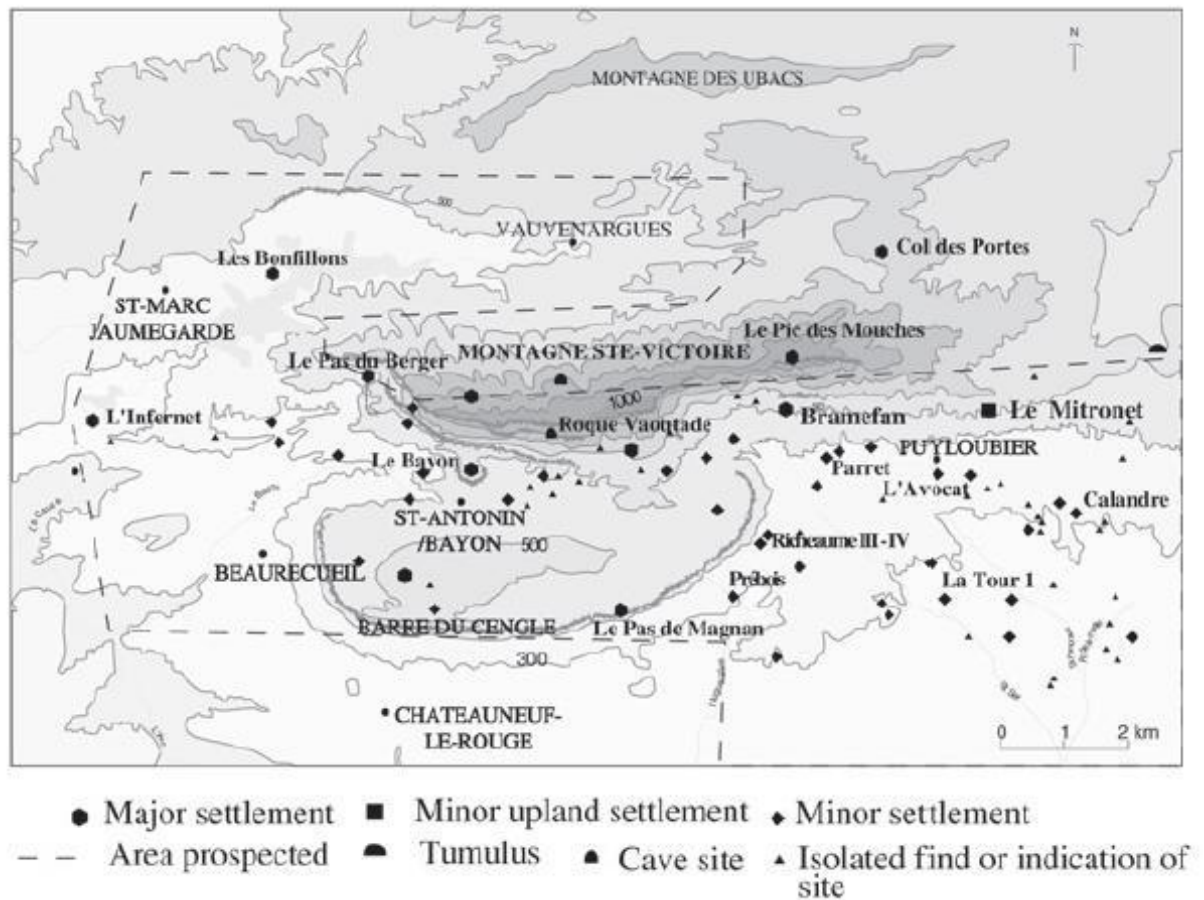


Figure 19 - Distribution of Late Iron Age Settlement on and around the Montagne Sainte-Victoire. From Walsh and Mocci 2003, 51.

Current interpretations characterise this change as demonstrating a more secure landscape, and a greater focus on the exploitation of the land (Mocci *et al* 2004, 89). This was followed by a return to some Late Iron Age sites and establishment of some new sites on the massif in the 1<sup>st</sup> and 2<sup>nd</sup> centuries AD, before a major contraction of settlement in the late 3<sup>rd</sup> century AD and early 4<sup>th</sup> century AD (Walsh and Mocci 2003, 53; see Figure 21). Although settlement around the Sainte-Victoire seems to recover somewhat during the remainder of the 4<sup>th</sup> century and the early 5<sup>th</sup> century, it seems that activity was much more concentrated than previously, probably reflecting the establishment of larger villa estates (Walsh and Mocci 2003, 53, Mocci *et al* 2004, 89-90; see Figure 21). The late 5<sup>th</sup> and early 6<sup>th</sup> centuries AD saw the abandonment of the vast majority of settlements on the Sainte-Victoire, and very little early medieval material was collected during the field-walking campaigns (Walsh and Mocci 2003), although Merovingian period inhumations have been excavated at Richeaume (pers. comm. F Mocci July 2008).

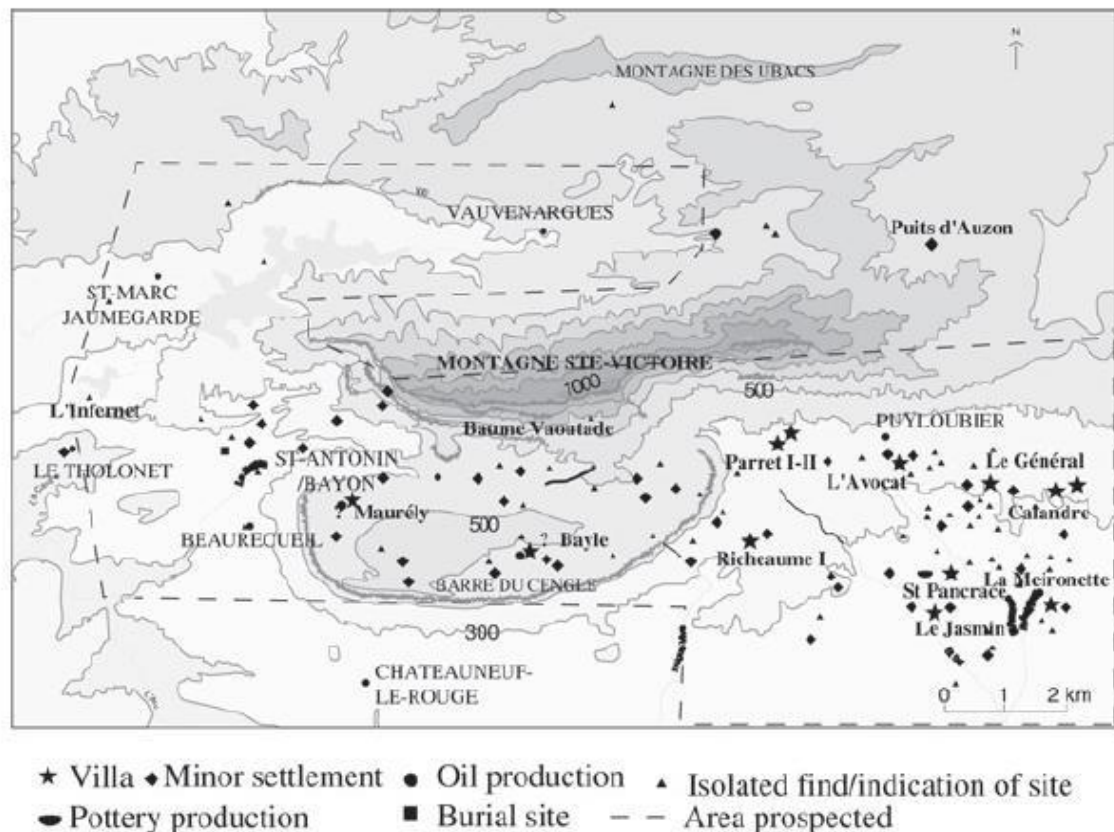


Figure 20 - Distribution of 1<sup>st</sup> to 3<sup>rd</sup> century settlement on and around the Montagne Sainte-Victoire. From Walsh and Mocci 2003, 52.

As with the discussion of settlement patterns in Roman Wiltshire, it can be seen that a significant emphasis has been placed on mapping the location of particular classes of settlement. In the studies discussed above an implicit assumption is made that some settlements were strongly focused on the production of resources for markets beyond the immediate locality, especially the nearby urban settlements of *Aquae Sextiae* and *Massilia*. The language used to describe the settlements is very much oriented towards the economic, focusing on issues such as the intensive cultivation of agricultural land, the production of oil and pottery, storage facilities, and discussing the siting of villas in terms of the availability of good quality soil nearby (Walsh and Mocci 2003, 53). Despite this, there has not been any synthetic study of the relationship between *Aquae Sextiae* and its surrounding rural landscape, and the same appears to be the case for the slightly more distant *Massilia*.

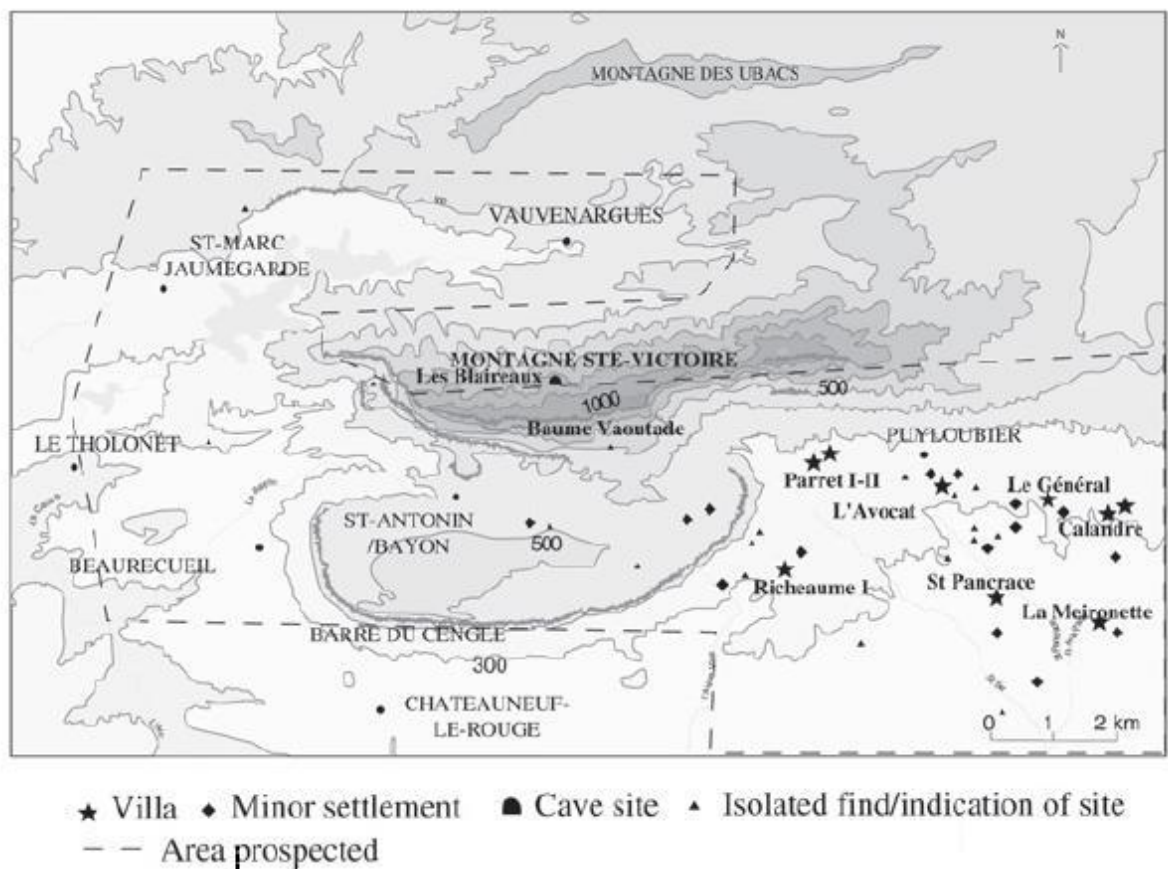


Figure 21 - Distribution of 4th to 5th century settlement on and around the Montagne Sainte-Victoire. From Walsh and Mocci 2003, 52.

Although villa estates are implied by much of the synthetic work on the Montagne Sainte-Victoire as being present in the landscape (Walsh and Mocci 2003), there is insufficient evidence to posit actual boundaries for such estates (pers. comm. K Walsh February 2012). The lack of evidence for such boundaries may reflect the complexity of the system of land holdings, rather than a lack of estates. As Fabre *et al* (2004, 5) assert, two of the most significant structuring elements of the landscape of the Montagne Sainte Victoire during the Roman period are the road network and the aqueducts. Two of the best documented connecting landscape structures between the Montagne Sainte Victoire area and the wider empire are the Via Aurelia, begun under Augustus around 12BC (Boissinot 2006, 110), and the aqueducts drawing water from the area and transporting it to Aquae Sextiae (Fabre *et al* 2004, Leveau 2006). The aqueducts will be discussed further in the next section, but the road seems likely to have had a major influence on the development of the landscape of the area and it is somewhat surprising that it is not more frequently discussed (Boissinot 2006, 110-111). Although the main phase of the Via Aurelia dates to the Augustan period, traces of a road-way preceding the Augustan phase have been found at the oldest levels of the road to the south-east of Aquae Sextiae (Boissinot 2006, 111). This road seems to be an earlier Roman construction (Boissinot 2006, 111), rather than part of the pre-Roman landscape.

As with Roman Wiltshire, the investigation and description of settlement distribution has been used to suggest changes in patterns of control of the landscape, often through similar explanatory mechanisms. For example, Walsh and Mocci (2003, 66) suggest that the clustering of minor settlements and villas in the same area in the later Roman period may represent productive minor settlements being associated with villa estates, allowing the villa sites to be more focused on the luxury accommodation and prestige display of the *villa urbana*, rather than the *villa rustica*. This is a similar model to that proposed by Fulford *et al* (2006, 209) for the village site at Chisenbury Warren and nearby villa in the Avon valley. Beyond domestic and estate settlement sites, the widespread archaeological survey of the Sainte-Victoire also identified a number of specifically production-focused sites, particularly pottery production sites and olive presses / oil production sites (see Figure 20), although

this is by no means to suggest that production of these commodities was not also taking place at villa sites. Having discussed at length the strengths of the dataset derived from the extensive fieldwalking of the Montagne Sainte-Victoire and the surrounding region, some counter-points must now be made. The settlement pattern that Walsh and Mocci (2003) and others have discussed for the Sainte-Victoire is based almost entirely on this surface collection data, although the survey did record other more substantial remains, such as olive presses, architectural remains. Only one Roman period site, Richeaume, has been extensively excavated (Mocci *et al* 2005), raising the issue of how typical, or otherwise Richeaume is for high-status sites in the region. It must be noted that at Richeaume both a villa (Richeaume I; Mocci *et al* 2005) and associated cemetery (Richeaume XIII; Mocci unpub. d) have been excavated.

Another significant bias in the dataset, however, is due to the lack of forest fire damage on the northern slope of the Sainte-Victoire, which prevented substantial areas being field-walked. This has naturally led to the focusing of interpretations on the southern slope, and the plateau of the Cengle, to the detriment of the northern slope. Given the lack of water and rocky environment of the northern slopes, it is likely that southern slopes were preferred during the Roman period for settlement as is the case even today, but it would be far better to be able to assess this assumption with the aid of an equally surveyed dataset, rather than be forced to hope that it is really the case. Finally, it is possible due to the nature of field-walking's unavoidable focus on survivable materials such as stone and ceramics, and the very poor organic preservation conditions of southern Provence, that some aspects of the settlement pattern have simply disappeared. Wooden structures will not be present in the record unless substantial ceramic deposits were made associated with their occupation, and this presents difficulties in assessing shorter-term landscape use, or settlements occupied by the very materially poor, if indeed such settlements existed in the Sainte-Victoire landscape. The field survey methodology was effective, however, in allowing the identification of settlements, generally defined as farms and villas (Walsh and Mocci 2003; see Figure 18, Figure 19, Figure 20 and Figure 21), and other durable landscape features such as olive presses, aqueducts, drainage channels and architectural remains



(Leveau *et al* 1992, Walsh and Mocci 2003).

In summary, the Montagne Sainte-Victoire is located in a heavily developed region of the Roman Empire, but settlement on and around the massif fluctuated significantly and changed a great deal in form and focus through the Roman period. The perception of the landscape of the massif as marginal or otherwise seems to also have varied substantially between the Late Iron Age / Roman transition, and the mid 1<sup>st</sup> to mid 3<sup>rd</sup> centuries AD (the peak of Roman settlement in the area), and again through the 4<sup>th</sup> and 5<sup>th</sup> centuries AD. The work of French and international teams of researchers to map the distribution of sites in the area and investigate some sites in greater detail has allowed a detailed picture of settlement change in the landscape to be built up. This has in places been well integrated with palaeo-environmental study, and this aspect of research in the region will be discussed in the next section. Although the Montagne Sainte-Victoire landscape was physically linked to the Roman foundation of Aquae Sextiae through aqueducts and the Via Aurelia, its relationship with its nearest urban centre has not been as thoroughly investigated as seems necessary. For example, it has been suggested that the agriculturally productive centres of the Sainte-Victoire were economically linked to Aquae Sextiae, but the extent to which the rural landscape of the Sainte-Victoire was dependent on the nearby urban settlement (and vice-versa) remains somewhat unclear.

The following section, 3.4, will begin to explore in detail how current interpretations have explored attitudes to the natural world and interactions with the landscape on and around the Montagne Sainte-Victoire. As in section 3.2 for south-west Wiltshire, these will be framed through discussions of wild nature, tame nature and the lived landscape, in order to provide the background for the new approach this thesis will take in analysing the landscape through developing understandings of attitudes to nature and interactions with landscape.

### **3.4 – The Montagne Sainte-Victoire – Understandings through nature.**

#### **Wild Nature**

The climate of Provence during the Late Iron Age and Roman periods is usually understood to have been generally somewhat drier and more stable than in the preceding late prehistoric periods, or in Late Antiquity (Provansal 1995). This climatic interlude is often discussed as the Roman humid period, recently estimated to be between approximately 2600 cal BP and 1600 cal BP (Nieto-Moreno *et al* 2011). Changes in climate in this period were, however, uneven across the Mediterranean and over time, and dependent on a large number of long-term variables. For example, Dermody *et al* (2011) suggest that fluctuations in sea surface temperature in the North Atlantic contributed substantially towards a more humid climate in the eastern Mediterranean, increasing rainfall and reducing aridity, but that this change did not simultaneously occur in the western Mediterranean. Indeed, the opposite change is posited due to the cyclical nature of the Centennial North Atlantic Oscillation (Dermody *et al* 2011). Geoarchaeological evidence also suggests that Provence was drier during the early and mid-Roman periods, or at least more evenly distributed through the year (Provansal 1995, 352), although this does not necessarily equate to stable climatic conditions. Nieto-Moreno *et al* (2011) suggest that the last two centuries of the Roman humid period (c.1800 cal BP to c.1600 cal BP) saw a sudden and major rise in humidity and fluvial activity. In contrast, Provansal (1995, 352) suggests on the basis of palaeoenvironmental evidence from Provence that there was a reduction in fluvial activity between 300 BC and AD 500, making settling the landscape less difficult in some respects. The overall levelling out or reduction in rainfall, which is generally agreed for Provence until the Late Roman period (Provansal 1995, Dermody *et al* 2011, Nieto-Moreno 2011) also suggests that water resources would have become even more important to maintaining settlement and agriculture in the landscape.

The changing climate would also have impacted on the erosional processes taking place in the landscape and the responses of society in Provence to erosion have been the subject of a substantial body of literature (e.g. Leveau 1999, Provansal 2000, Excoffon *et al* 2004).



Although the majority of the period of study can be characterised as relatively dry, flooding events still occurred, and the climatic instability and increased rainfall towards the end of the study period (Dermody et al 2011, Nieto-Moreno 2011) would have increased these environmental risks. Occasional fluvial activity was still a significant risk to some settlements (Leveau 1999, Provansal 2000, Excoffon *et al* 2004). Particular forms of environmental knowledge regarding mitigation of flooding are evidenced from the archaeological record in the wider region of Provence (Leveau 1999), and there is also textual and/or archaeological evidence for the construction and/or rebuilding of flood defences at Lyon, Arles and elsewhere (Colas 2004, Leveau 2004b).

This picture of fluvial activity varies in the wider region, however, as the Rhône and the plain of Arles are part of different climatic zones (Leveau 2004b). Additionally, the Rhône is subject to influences from much further north in Europe around its source (Leveau 2004b). There has been very extensive debate on the sedimentary effects of climate during this period in Provence, partially due to traditions of geoarchaeological and palaeoenvironmental research in the region (Bravard *et al* 1990, Leveau 1990, 2005, Provansal 1995), and partially due to the traditional narrative of the Romans as ingenious engineers and controllers of wetland landscapes (Leveau 2004b, 90), and modern desires to be seen as the successors of the Romans in this regard. Whilst this debate has been very useful in improving our knowledge of the hydrological and environmental conditions in Provence, and has helped establish a multidisciplinary tradition between archaeology and the environmental sciences, in recent years there has been a growing awareness that studies of the Roman period in the region need to build on this previous work and move towards a wider understanding of society and landscape (Burnouf and Leveau 2004, Leveau 2004b, Leveau 2008).

Whilst we do need to move beyond such traditional areas of study, it is important not to neglect the valuable insights that they have provided us into perceptions of risk and wildness in Roman Provence. Excoffon *et al* (2004) and many others have used fluvial events and management features in the archaeological record to discuss the sophistication of past

strategies to mitigate risk in environments prone to fluvial activity, and the apparent acceptance of a certain level of risk in order to access the valuable resources of wetland or riverine environments. Although the river Arc runs close to the south of the Sainte-Victoire, it is relatively small and stable in comparison to the coastal wetlands and delta environments closer to the Mediterranean seaboard and the Rhône. There are therefore two aspects of this body of work which are particularly relevant to our understanding of the environment and landscape of the Montagne Sainte-Victoire. The first is the extensive exploration by archaeologists of conceptions of environmental risk and danger in Provence during the Roman period and the well-justified interpretation that, for certain sections of society at least, fluvial risk was understood and managed to a significant extent. This has significant social and economic implications regarding the control of labour on a large scale, of economic and social power, and quite substantial understanding of environmental processes by some sections of society. The second point, which follows on from this, is that it is not a major leap of understanding to attribute similar levels of understanding and conceptions of environment and landscape on the part of those of these same social groups active in upland and/or inland regions. This point seems to be borne out by other aspects of the archaeological record in the study area, which will be discussed further in the following sections.

Perceptions of upland areas such as the Montagne Sainte-Victoire as wilderness, or wild, by those living in them are not well known from the Roman period, although there does seem to have been an understanding of them as marginal (Walsh 2004, 2005, 2008), and Roman elites certainly had such perceptions of the higher Alpine mountain areas (Walsh 2008). The literary sources are limited regarding activity in upland zones, beyond certain references to alpine cheeses, and the hostility or impassability of particular alpine passes in winter, and do not enter into discussion of the attitudes or activities of upland dwellers to any meaningful extent (Segard 2009b). The particular situation of the Montagne Sainte-Victoire, however, may allow us to begin to address the issue of attitudes to upland areas in the Roman period because of its near-unique topological status as an isolated area of high, mountainous terrain in a generally lowland landscape. As discussed earlier, it is this

topographic complexity that may begin to allow us to develop subtler understandings of human-landscape interactions.

The landscape and its human population are not, of course, the only actors present in our interpretations (Walsh 2008). The animal population of the Sainte-Victoire area, as in south-west Wiltshire, is likely to have retained elements of non-domesticated animal populations, despite its widespread settlement. There has been very little research on this aspect of the landscape of the region, however, and the only recent study of hunting in the period from the vicinity of the region (Columeau 2001) concluded that the meat of wild animals (other than the rabbit) played a negligible role in meat consumption. A thorough review of data from site reports from excavations around the Sainte-Victoire is required before any firm conclusions may be drawn regarding this issue, as it may simply be that nobody has yet asked this question of the available data. Having briefly outlined some considerations of the wild landscape of the Sainte-Victoire region, the following section will discuss the tame landscape of the region, those areas beyond settlement, but managed by the human population.

### **Tame Nature**

As in south-west Wiltshire, the managed rural landscape forms by far the largest area of the Sainte-Victoire area. There is, however, a major difference between the two, specifically the organisation of the field systems from which agricultural activity is conducted, land is conceptualised and the agricultural landscape was viewed. Unlike the continuing and developing use of the 'Celtic' field systems in Wiltshire, the Roman period sees a major reorganization of land divisions in the Montagne Sainte-Victoire landscape through the process of centuriation (Walsh and Mocchi 2003, 68, Boissinot 2006, 113-117), although there is now some awareness that this process may be more complex in some areas, and be more closely associated with pre-existing co-axial field systems (Boissinot 2006, 117).

Centuriation is generally understood to be the division of a landscape, usually a fairly flat region, on the basis of an orthogonal grid quite often based on recurring measurements in

Roman units (Chouquer 1993, Dietler 1997). Whilst centuriation has occasionally (and controversially) claimed to have been observed in Britain (Peterson 1988), it is generally confined to the core areas of the Empire (Italy, Spain, southern Gaul, Africa and the Balkans (Mattingly 2006, 359). Walsh and Mocci (2003, 68) suggest that in the Sainte Victoire area centuriation represents the imposition of a particular vision of control and management on the landscape. This is quite possibly the case. The vast orthogonal field systems of centuriation indicate the involvement of a more central authority, rather than the organic or local development of land divisions based on negotiation between individuals or local social groups. In addition, centuriation in the landscape requires the question of to what extent pre-existing landscape divisions are associated with those laid down in centuriation. The axis of centuriation varies, and it is sometimes the case that pre-existing field systems are aligned with the new, wider, grid system (Boissinot 2006, 117), although traditional discussions do not include this possibility (e.g. Chouquer 1993). Whether this association was deliberate or not may unfortunately remain an interpretive choice, rather than being definable through archaeological investigation.

Whatever their origin, the immense orthogonal grids of the centuriated landscape are a clearly articulated statement of power and control by certain actors within the landscape, and demonstrate the ability to mobilise substantial quantities of labour and materials, and some skill in surveying.

In addition to the stable agricultural practice implied – although very rarely excavated archaeologically - by the centuriation of large areas of landscape, transhumance played a very significant role in the agricultural landscape of Gallia Narbonensis (Leveau 2004b, Leveau and Segard 2004, Segard 2009a, 2009b). Transhumant activity is particularly interesting for this study because it cuts across the divisions between the tame and wild landscapes into which most other activities can be categorised. Transhumance is generally understood to have taken place between the plains (during wetter seasons), and the mountains (during drier seasons) (Leveau and Segard 2004, 102). There is convincing archaeological evidence for transhumance of approximately 10000 sheep and their

shepherds between the Crau plain and the Alpilles, and that the urban centre of Glanum may have played a significant ceremonial role in this annual movement (Leveau and Segard 2004, 103-106). It is important to note, however, that the Montagne Sainte-Victoire's sheer and inaccessible topography may have formed a more substantial barrier to transhumance than the much lower range of the Alpilles. Set against this possibility, however, is Leveau and Segard's (2004, 113) assertion that sooner or later all of the massif of upper Provence would have been a destination for transhumant pasturing. The movement of domesticated herds of sheep between the quite obviously controlled and agriculturally focused plains landscape, and the more topographically remote and less obviously controlled mountain landscape suggests a significant adaptive ability and wide environmental knowledge on the part of those managing and undertaking the activity. The evidence for ceremonial structuring based around this movement at Glanum implies a level of wider societal awareness of the challenges faced by those involved, and perhaps an appreciation of the contribution of the activity to the prosperity of the wider community (Leveau and Segard 2004).

In addition to the more widely spread – in European terms – agricultural practices of arable farming and pasturing, the iconic products of Provence have long been wine and olives (Brun 2004). The vine and the olive tree were being grown extensively in Provence before the Roman conquest and certain examples of advanced pressing technology have been found, the most well-known of which is from the oppida at Entremont (Leveau *et al* 1993, Brun 2004, 208-213). The Roman conquest brought significant changes to the production of olives and wine. Foremost of these was the interdict against indigenous inhabitants cultivating vines or olives. Control of these activities was legally limited to Roman citizens (Brun 2004, 213), providing a highly profitable monopoly over the trade from Provence to inland Gaul to those controlling production. In addition to the control of cultivation changing, in many areas of the study region the organisation of plantations also changed. The Greek sources that describe the inter-cropping of olives with figs and grapes on individual plots (Foxhall 2007, 114-115), differ from Brun's (2004) interpretation of the archaeological evidence from the Roman period in Provence, where the advent of

centuriation, large estates and the socially restricted control of production combined to form a radical change in both the production and exchange of agricultural products (Brun 2004, 216). It is important to note, however, that Leveau's recent (2003) review of the role of olive production in the economy of Provence during the Roman period suggests that the olive did not play as important an economic role as has been previously suggested, based on improved pollen and anthracology evidence.

Brun (2001) provides an excellent overview of the socio-economic importance of viticulture in Gallia Narbonensis, suggesting that despite its central importance to the exploitation of the landscape, the decline in viticulture in the 3<sup>rd</sup> century AD was in advance of the apparent 3<sup>rd</sup> century crisis. Whether the 3<sup>rd</sup> century can indeed be said to be a period of crisis in the region has been extensively debated (Christol 1996), but Brun (2001) moves towards suggesting that in the case of viticulture at least, the apparent reduction in active production sites may have been less a contraction than a concentration of activity.

Discerning the appropriate balance to place on each of these alternative explanations is further complicated by the advent at this time of biodegradable wooden barrels as the predominant medium of wine storage, instead of amphorae, greatly reducing the archaeological visibility and traceability of this practice. It may be that Brun's (2001) suggestion of a concentration of activity in the 3<sup>rd</sup> century is mirrored by the settlement evidence outlined earlier for the Sainte-Victoire of a reduction in the number of sites which is interpreted as a concentration of settlement.

As in south-west Wiltshire, stone extraction also took place in the Sainte-Victoire landscape. This is not, however, particularly well evidenced as there has not been a substantial quantity of work, and the only recent work focuses on providing a synthesis across France, and regional studies from beyond Provence (Bessac and Sablayrolles 2002). The volume of Gallia from which this study is drawn demonstrates a variety of regional case studies, and begins to develop an awareness of the impact of the process of quarrying on the society in the area of activity (Bessac and Sablayrolles 2002), suggesting that a unique culture would arise around such activity. Bessac and Sablayrolles (2002) rightly stress the importance of

focusing on the wider context of quarries in future research, but this has yet to be achieved in the region around the Sainte-Victoire.

In addition to quarrying, the populous society around the Sainte-Victoire would also have required substantial quantities of fuel for a variety of purposes, such as heating, ceramic production, cremations and preparing food, and the main fuel source would have been wood. Recent anthracological work at Richeaume has identified a range of tree species that were exploited for fuel (Cenzon-Salvayre 2009, unpub.), suggesting that woodland was present in the landscape and relatively easily accessible for use in cremations.

The management of water formed a major part of the tame landscapes of the Sainte-Victoire. Although flood management in the wider region has already been discussed, there is plentiful evidence from the Sainte Victoire region of water management and control through a variety of landscape features. The most obvious of these were the aqueducts (Leveau 2004b, 2006, Farbe *et al* 2005, Mocci *et al* 2005, Boissinot 2006). In addition to the major aqueducts already discussed, the site of Richeaume shows evidence of a substantial number of different forms of water management (Mocci *et al* 2005). These include a variety of structures for the control and direction of water flow, such as drainage channels, dykes, conduits, sewers and sections of aqueduct. Particularly of note is the suggestion, based on excavation evidence, that the villa complex included an ornamental pond, a notable social display in the comparatively dry landscape.

Additionally, the team realised that the aqueduct does not directly supply either the villa rustica or the villa urbana, but instead may have supplied one of a number of ancillary structures on the site. This has several important implications. Firstly, the construction of an aqueduct and an additional imposing foundation structure to support it imply that the water-consuming activity taking place on the site was deemed important enough to necessitate a more elaborate and substantial water supply mechanism than the villa itself, raising interesting questions about the prominence of this activity in social terms, whether it was agricultural or mill-related. Secondly, the occurrence of such examples in our French case study leads naturally to the question of whether we can see similar processes in our

English case studies, and this issue will be discussed further in the final section of this chapter.

The final major element of the managed landscape in the Sainte-Victoire region is terracing, which is thought to have been widely used in the Roman period in Provence to manage erosion. There are extensive systems of terracing still visible and used today across the region, but dating these structures has traditionally been problematic (Leveau 1990). Leveau (1990, 29) suggests that the introduction of terracing, or at least its enormous extension, during the Roman period in Provence, introduced an element of stability in the landscape which significantly contributed to the episode of stability that he asserts characterises the period. The process marks not only the control of the landscape by the Roman elite, but also had a very significant longer term impact on rural economy of the region. It is debateable, however, to what extent this period can be characterised as an episode of stability based on the evidence of terracing reducing erosion. As Walsh (2005) demonstrates for Barbegal, soil histories where periods of apparent stability appear may in fact be due to anthropogenic truncation of deposits due to economic activity. In other words, the stability that Leveau (1990) suggests that the terraces demonstrate may in fact be the result of a substantial investment of labour in maintaining a particular state of landscape.

### **Encounters in the landscape**

Previous sections have considered the agricultural and productive aspects of the case study area, and relations with the wild landscape. This section will consider how the landscape was encountered by those living within it, and also consider places which were assigned different significance in the lived landscape, reviewing the evidence for ritually focused settlement in the study area. Finally, this section will review current interpretations of the lived narratives of landscape, considering whether we can see multiple perceptions of society articulated in attitudes to landscape and the natural world.

The roads and rivers of the region have already been described in section 3.3, and would



have formed long distance connections through the landscape. At a more local level, other routes must have existed, but are not well-documented. Control of movement is an issue articulated briefly in the literature. Leveau *et al* (1992, 69), and Marty *et al* (2005) both mention in passing the idea that the oppidas of Infernet and Pain des Munitions are sited to control movement through passes across the north-south barrier formed by the Montagne Sainte-Victoire. Additionally, Walsh and Mocci's (2003) suggestion that the surge in settlement on the upland areas of the Sainte-Victoire involved a form of constructed marginality as a response to Roman influence implies that part of this marginality was due to the difficulty of accessing the upland settlements from the plains, and the security apparently afforded by the high placement of such settlement sites.

There has been significant discussion of the importance of the structured approaches to oppida, and the particular ornamentation of the routes approaching these settlements. Statues of heroic individuals and displays of human skulls and simulacra of human skulls have been found to line the approach to the oppida at Entremont, and at other sites further away from the study region (Dietler 1997). These approaches are interpreted as the explicit domination of these settings by Late Iron Age elites, and the promotion of the individual as the subject of admiration and status, securing their position in society (Dietler 1997). If the oppida are as explicitly tied to the elite groups who opposed the Roman conquest as this, then we begin to access some of the more detailed reasons for the rapid, sometimes destructive, abandonment of these sites on the Sainte-Victoire at the beginning of the Roman period.

Another area of study where the social importance of movement through the landscape has begun to be explored is the transhumant migration movement through Glanum from upland areas to the Crau, as discussed earlier (Leveau and Segard 2004). Glanum is the site of a temple of Hercules, in his role as protector of the flocks, and has a very large enclosure on the northern side of the town (Leveau and Segard 2004). The town is divided by a rampart and gate that Leveau and Segard (2004, 106) suggest acted as a form of filter or counting point at the town, separating it from the enclosure which may have functioned as

a sanctuary on the transhumant route. Finally, the location of Glanum also suggests it had an important role in long distance movement, located as it is just north of the Alpilles, near the junction of the minor road which links them with the Via Domitia (Leveau and Segard 2004, 106). Although Glanum is not quite within the area of this study, the evidence from the site strongly implies that transhumance was of major social and economic significance in the landscape of the region, and encounters with the traditions and seasonal rhythms of transhumant activity would have been a feature of many encounters with the landscape.

Another structuring division in encounters in the landscape is visible in the archaeological evidence at Richeaume and also known from textual evidence from beyond the study area (Mocci *et al* 2005). This is the concept of the *villa rustica* and the *villa urbana*. The *villa urbana* was traditionally defined as that part of an elite residential complex used and furnished for luxurious domestic habitation for the person or family who owned the establishment. The *villa rustica*, by contrast, is traditionally defined as the working farm element of such an elite estate complex. These areas were previously thought to be very strictly spatially separated, but whilst this structuring principle is still widely agreed to be present on many villa sites, its actual structural articulation and social implications are thought to much more complex than previously thought (Percival 1987). The site of Richeaume (Mocci *et al* 2005) provides potential for a detailed study of the validity of this model for the study area, with particular interest given the extensive evidence for hydrological control for both functional and luxury purposes at the site.

An important point to consider here is the visibility of the non-elite population of villa sites in the study area. The purpose of the various outbuildings at Richeaume has not been securely established, and it is possible that some of the population of the site were housed in these buildings. The comparative invisibility of workers on villa sites, and slaves more generally – except in the literary evidence – is a significant lacunae in research not just on Roman Provence, but for the Roman Empire more widely (pers. comm. J Webster October 2011). The work of Walsh (2005) at Barbegal suggests one point of entry into this debate on the difficulty of identifying differential experiences in the landscape.

Although some of the most recent studies have taken pains to focus on elaborating more perceptual aspects of relations with the landscape through the Roman period (e.g. Walsh and Mocci 2003, Walsh 2005), work in the study area has generally focused on issues of economic production and settlement change. This has meant that this discussion of the lived landscape has been both briefer and more revealing of opportunities for new avenues of research than previous sections on the wild and tame landscapes of the study area. The basic dataset of settlement patterns and landscape use on and around the Sainte-Victoire is strong, although somewhat lacking in excavation data. There are, however, substantial areas of research which this review has revealed to be insufficiently developed. Throughout this section the limitations and opportunities provided by current and emerging interpretations have been discussed, and the theme throughout has been one of complexity and interaction, based around the three structuring domains of the wild, the tame and the lived landscapes created for the purposes of this thesis. The landscape of the Sainte-Victoire area have been shown to be very complex but, as in south-west Wiltshire, this tripartite division has been useful in drawing out different strands of evidence necessary for this review of current knowledge and interpretation, and providing indications of productive avenues for analysis and development of more nuanced interpretations. The conclusions of this section will be discussed further in the following section (3.5), where current understandings of the two study areas, south-west Wiltshire and the Montagne Sainte Victoire, will be brought together.

### **3.5 – South-west Wiltshire and the Montagne Sainte-Victoire – Archaeological research issues**

This chapter has demonstrated the particular utility of the landscapes of south-west Wiltshire and the Montagne Sainte-Victoire region for a comparative study of Roman attitudes to nature and interactions with landscape. Each case study has been the subject of a critical appraisal of general current interpretations in that area, and current understandings of attitudes to nature have also been assessed for each region through the tripartite division of wild, tame and lived landscapes. This schema has thus far proved remarkably useful in drawing out the various strands of landscape interaction that we can suggest from the present evidence, and has provided a thought-provoking framework from which to ask new questions of the data, and critique current models.

The existing datasets have proved to be excellent in many respects, particularly in the cases of settlement patterns and forms, agricultural structures in the landscape, and the control or exploitation of agricultural, natural or wild resources, such as water, wild animals, stone and wood. Significant progress seems possible in taking the next step towards understanding the detailed articulation in society and landscape of these relations with the natural world through the analysis of a range of landscape features associated with these practices, such as olive and wine presses, *vivaria*, *leporaria* and *piscinae*, as well as more substantial boundaries and enclosures that have perhaps not been the subject deep enough critical assessment of function by current models. These processes are particularly interesting as many are subject to particular rhythms of use, subject to variations in season, or demand for a particular resource. It is through these features that we might begin to establish a more nuanced understanding of the landscape over the year, rather than the present approach of ignoring these concerns except where it is impossible to do so.

As well as these material articulations of seasonal or intermittent activity, the Sainte-Victoire case study in particular provokes questions regarding the continual management and imposition of change in the landscape. The appropriate emphasis placed by current models on the macro-scale landscape structures of centuriation, terracing, water

management and land-control, and growing awareness of the detailed implications of these structures for the various actors within the landscape (Walsh 2005) provides a framework for investigating these issues in south-west Wiltshire.

One of the other issues underlying a number of the areas of landscape relations reviewed is the social significance of those relations to the actors involved. On one level social significance seems fairly straightforward, and almost all of the current interpretations reviewed suggest a relatively simple equation of visible control with social power, and vice versa. Many current interpretations, particularly those of British post-processualist landscape archaeologists, also suggest that discrepant experience and understanding of these landscape relations existed. Surely, then, we can suggest that the social significance of these landscape interaction would have varied even amongst those taking part in them, depending on their social and economic identity in particular. The highly socialised practice of hunting seems likely to produce particularly illuminating understandings in this regard, but more prosaic practices such as harvesting, herd management and erosion control also have significant potential for moving forward our understanding. Transhumance seemingly occurred in both of the case study areas during the Roman period, although more so around the Sainte-Victoire, and demonstrates a very significant alternative experience of landscape for non-elite groups to the sedentary existence generally attributed to them. A method must be found of accessing this practice, and a re-investigation of enclosures of undefined function may offer a way forward in south-west Wiltshire, based on work on the Crau plain discussed earlier in this review (Leveau and Segard 2004).

It is insufficient, however, to simply review these various practices in the landscape separately, or even in broader categories of seasonal or continual activity. These practices must be placed in the wider picture of the Roman Empire in the west, and of the preceding Late Iron Age. The south-west Wiltshire case study in particular demonstrates endurance of pre-Roman practices and landscape structures, and the questions of what this signifies for the endurance, or otherwise, of associated social practices is clearly relevant to our concerns of landscape in the Roman period. This also raises the question of the effect of the

apparently more aggressive colonisation of the landscape in the Sainte-Victoire region on pre-Roman social practices, and whether the substantially non-deconstructed pro-Roman discourse in French landscape studies has obscured the true picture. At a physical level, the major structuring elements of both case studies are currently thought to be routeways, whether riverine or terrestrial, and field systems. The extent to which these features were as dominant in structuring conceptions of landscape in the past as they are in the archaeological record needs investigation, and it is possible that comparisons with the settlement record and more detailed analyses of the morphology and location of these structures will allow us to draw more nuanced understandings of their role in human-landscape relations.

In addition to the structured landscape, the complex topography of the two case study regions seems also to have played a significant role in structuring human-landscape interactions. Although often mentioned in the literature reviewed in this chapter, the physical and perceptual effects of topography on movement and use of the landscape have rarely been extensively investigated. Site location choice, and the physical and social constrictions and conditions apparent from the archaeological record may provide valuable insights into perceptions of landscape that have not yet been investigated extensively in concert with other factors.

The potential areas of investigation based on landscape features and other categories of evidence outlined so far in this summary all have one basic element in common. These all contribute to a holistic investigation of landscape processes and human-landscape interactions to understand social relationships, draw wider conclusions about the character of society in these regions during the Roman period, and deepen our general understanding of relations between people and their environment. This approach draws on a wide variety of theoretical background, and rather unavoidably contains a little of many different bodies of work. It is to be hoped, however, that this standpoint which lies somewhere between the dominant schools of thought in the two study areas, will provide insights into both and perhaps even avoid some of the imbalances of interpretation noted during the course of

this review of current models.

The development of this discussion, and the theoretical and investigative stance arising from it, is only possible due to the excellent research traditions and datasets in the two case study areas, a point outlined earlier in this chapter, and increasingly apparent through this review. In addition the respective contexts of these regions within the Roman Empire allow a comparison of different relations with the wider Empire. This is likely to allow broader concerns regarding Roman society, economy and landscape relations to be drawn out through this thesis, and as such these particular regions have to some extent already begun to provoke such research questions. The following chapter will develop a methodology appropriate for identifying appropriate data for the ambitions and aims discussed in this summary, and outline how this complex and multi-layered dataset will be analysed in further chapters.

## **Chapter 4 – Analysis of south-west Wiltshire case study**

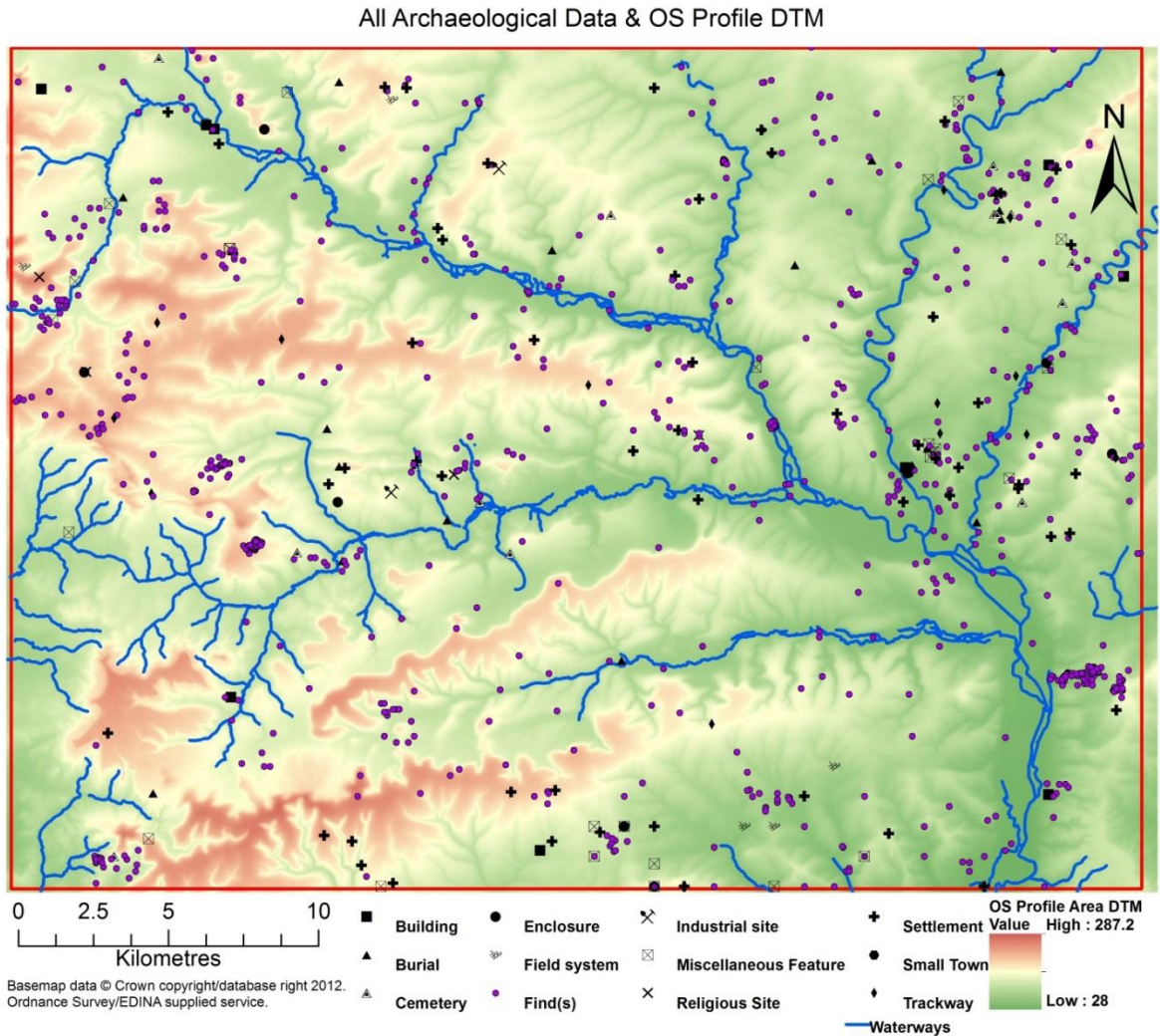
### **Introduction**

This chapter will comprise the analysis and interpretation of the south-west Wiltshire case study of attitudes to, and interactions with, nature and landscape during the Roman period. The analysis will follow the research framework set out in Chapter 2. The general context of the case study has been laid out extensively in Chapters 2 and 3, and will not be repeated here. Appendix 1 discusses the lengthy data acquisition, normalisation, and processing undertaken for this case study, and also explores the biases in the dataset. Its key points will be repeated here to place the case study in context. It concludes that biases of academic research, such as the ‘honey-pot’ effect of Stonehenge and Avebury on regional research funding, are much less significant in shaping the dataset than the lack of commercial archaeology in the region, and taphonomic biases of soil conditions and land-use. None of these are statistically significant biases of archaeological distribution, however, and the overall conclusion of this work is that the archaeological record of the study area presents a generally robust archaeological pattern, albeit one that is unlikely to include the majority of the archaeological sites and features that could be discovered. As such, this analysis can proceed with cautious confidence in its base dataset.

The overall distribution of sites and finds-spots is mapped in Figure 22 below; sites are categorised according to a traditional schema such as that used by Draper (2006) or James (2010) with the exception of the removal of the category of ‘villa’. Buildings are defined as nucleated settlements of primarily domestic function with apparently a single focus of activity and are usually at least partly constructed in stone. This category predominantly equates to settlements previously known as villas, but also includes some more ambiguous examples of settlement, where sites have not been fully excavated or conclusively functionally defined. Naturally some categories overlap; for example, there are very few solely industrial sites, because many settlements include areas of industrial activity. It is important to note that only twenty six sites in the study area have been subject to



significant excavation, with a significant proportion of larger sites (e.g. Stockton Earthworks and other sites on the Great Ridge) having never been subject to a research-led investigation, and known only from surface survey and limited aerial photography. Therefore although distribution biases may not be statistically significant, the less quantifiable biases of quality and extent of investigation are important to consider.



**Figure 22 - All archaeological data overlaid on OS Profile DTM.**

Appendix 1 also discusses the potential for new data acquisition across the study area in order to evaluate the potential dataset that is not yet archaeologically known. To understand this, two exercises were undertaken. Firstly, a series of analyses of LiDAR data and re-analysis of HER aerial photography digitisations were undertaken on part of the

Great Ridge, resulting in a very large increase in the quantity and density of Roman period archaeological features. Secondly, the results of the Teffont Archaeology Project, which covers a small area of this case study, were summarised, demonstrating a complex Roman landscape, both chronologically and spatially. These analyses demonstrated that the archaeology of the study area has immense potential. Therefore it is important to emphasise that this research should provide the basis for substantial future archaeological investigation in the region, rather than being taken as an authoritative synthesis.

## **Wild Nature**

**Subsections: ‘Marginality from settlement’, ‘Wild Animals’ and ‘Climate, weather, hydrology and geology’.**

There are a range of ways in which we can access interactions with ‘wild’ landscape and nature in the study area through the archaeological evidence. Firstly, we can use landscape evidence to attempt to discern where wild places might have been during the Roman period.

Wild places, unless curated ‘wilderness’ such as hunting reserves, are generally some distance away from focuses of settlement, and are often considered ‘marginal’ by archaeologists. Walsh and Mocci (2003) have demonstrated that marginality may have been actively socially constructed by those living in particular environments. Marginality is a highly subjective term constructed by both people of the past and ourselves as archaeologists interpreting that past. Given that marginality is difficult to reconstruct from existing sources within this study area (see Chapter 3), a novel approach must be taken. Initially the base difficulty of accessing the landscape from settlement will be analysed in order to establish areas that can be considered more remote at a basic level, and then the resulting areas will be analysed to consider whether any truly ‘wild’ areas could have existed in the study area or if these areas are the product of the visibility biases discussed in Appendix 1.

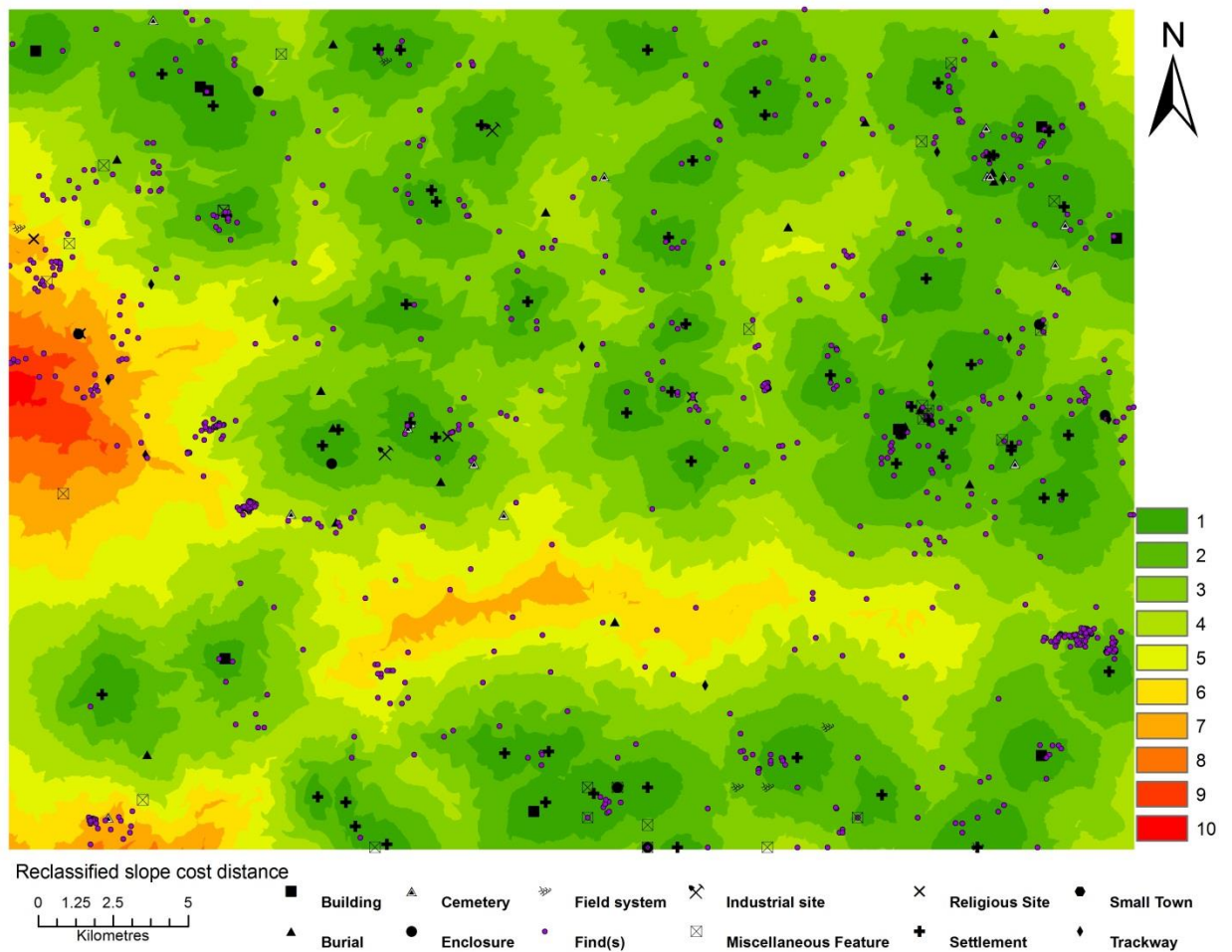
## **Marginality from settlement**

Difficulty of access from settlement should not be considered in arbitrary terms of cartographic distance, but within the context of travelling in the landscape. This can be achieved through the use of cost distance analyses (Wheatley and Gillings 2002). Cost distance analysis determines the travel cost to other locations from a point, or points, based on weighted factors that may affect travel. Any factor may be included in the model, provided it is possible to model it in GIS. Recent studies have focused on physical factors such as slope, terrain and hydrology (Gietl *et al* 2008). These analyses, if attempting to accurately model how people may have moved around a landscape, fail to take into account human agency and identity by neglecting preferences for particular places, tradition, or avoidance of particular places, as well as more complex physical factors such as seasonality, vegetation cover or weather.

This analysis does not seek to accurately model human movement in this landscape. Instead, through the use of cost distance analysis it tries to suggest areas that may have been perceived as marginal for further enquiry in latter stages of this analysis, taking into account further sociospatial factors. Figure 23 shows a simple slope based cost-distance map of the region, based on settlement features – buildings, settlement sites and the small town of Sorviodunum. In this analysis cost distance is being used to provide a very broad brush, but heuristically useful, visualisation of settlement patterns and physically possible movements. Areas that are likely to have taken more effort to reach are more likely to have been perceived as marginal to daily life.

Figure 23 displays several areas of possible marginality. There are two large areas where few settlements exist, in the west of the study area and in the central southern part of the study area. The central area covers Swallowcliffe and Fovant Downs between the Nadder and Ebbles valleys (Figure 24), and much of the Ebbles valley, particularly its northern and western areas. The western area stretches from the valley of the River Sem in the south, across Keysley Down, towards the uppermost reaches of the River Wylde and the south-western extent of the Great Ridge. There is a smaller area of possible marginality in the

south-western corner of the study area, covering Charlton Down, Compton Down and part of the upper drainage basin of the River Stour, around Twyford. These areas, particularly the western area, seem to be genuinely anomalous within the dataset as they also contain relatively few chance finds. At this stage of the analysis it seems that different explanations of a lack of settlement may apply to each area.



**Figure 23 - Slope based cost distance simulation based on settlement features. Green areas are low cost distance, through yellow to red areas of high cost distance. The 1-10 scale here is a reclassified scale from the cumulative cost distance results of a reclassified slope model.**

In the central area, it is important to note the relative geographic isolation of the Ebble valley. Unlike the Wylde and Nadder valleys, it does not provide a natural passage through to other river systems beyond the immediate region via a short overland journey (Sherratt 1996), instead only facilitating passage into the far western end of the Nadder valley. This



may have some bearing on the desirability of the area for settlement, but seems insufficient explanation for the major part of the valley lacking settlement.

### Nadder and Ebble valleys - OS Basemap under OS Profile DTM.

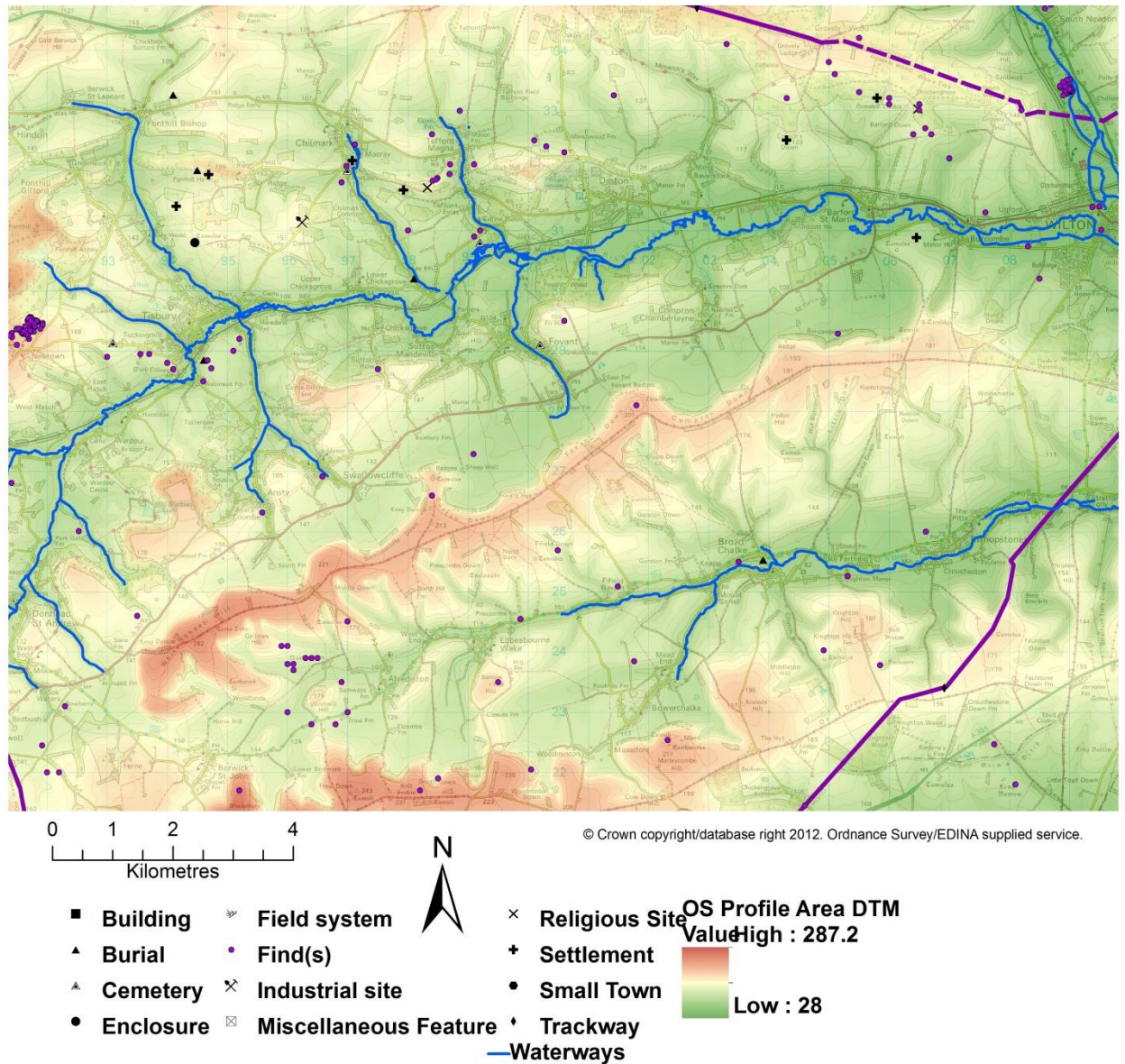


Figure 24 - The Nadder and Ebble valleys; the Nadder is the northernmost of the two valleys shown; see Figure 9 for wider location map. Note the much wider valley floor of the Nadder, and more extensive tributary streams.

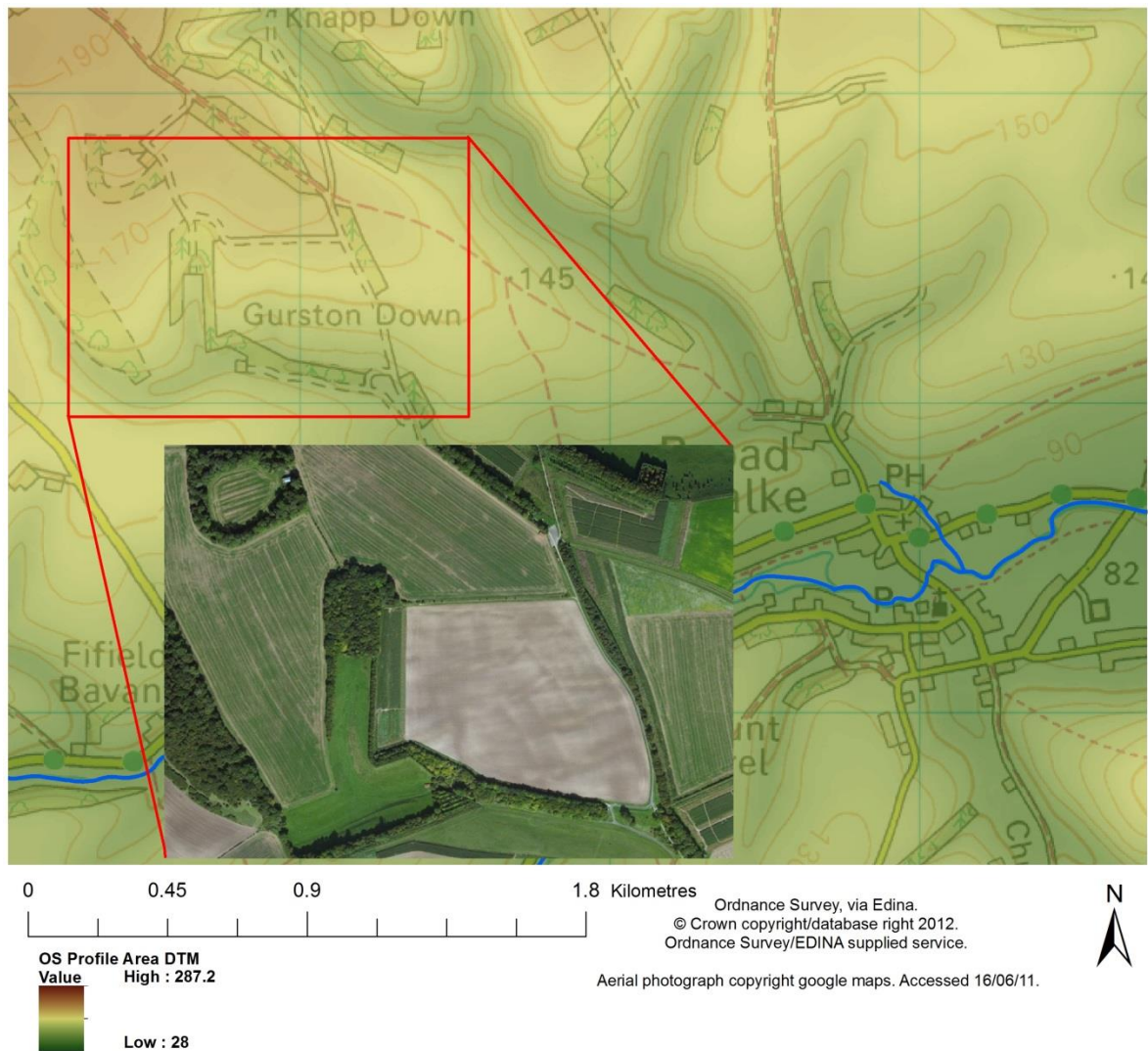
The valley is also somewhat narrower than the other river valleys in the region, reducing the area of fertile alluvium for farming (Figure 24). The dataset shows no settlements within the Ebble valley, only finds and a single burial (Figure 23). Whilst it is likely, based on the

taphonomic biases explored earlier in this chapter, that this is to some extent a reflection of a real pattern, it is unlikely that the valley was uninhabited due to the comparatively intense occupation of the study area in general (which is also likely to have been more densely settled than the dataset indicates – see Appendix 1). A more detailed look at the area of apparent marginality demonstrates some evidence for settlement activity. ‘Celtic’ field systems are visible on aerial photography across some of the downland on the northern side of the valley (Figure 25), and the cluster of metal-detected finds at the far end of the valley may indicate another occupation site. Aerial photography of that area also displays a number of features, including another ‘Celtic’ field system that is on record in the HER, although not dated as Roman (Figure 26).

It appears therefore that, although settlement may have been sparser in the Ebbles valley than elsewhere in the study area during the Roman period, the area was still settled. Further survey and field research is needed to clarify the character of settlement in the valley. In particular this discussion has highlighted the importance of including the widespread field systems of the study area when considering the landscape. An area that seemed marginal when considering the distribution of occupation sites is actually likely to have been predominantly farmed, and to have included settlements that have not yet been discovered. By contrast, the western area of possible marginality does not readily display similarly widespread features on a systematic review of aerial photography from 2009, 2002 and 1945. This is likely to be at least partly due to the poor visibility of features on clay geologies on aerial photographs (Riley 1996).

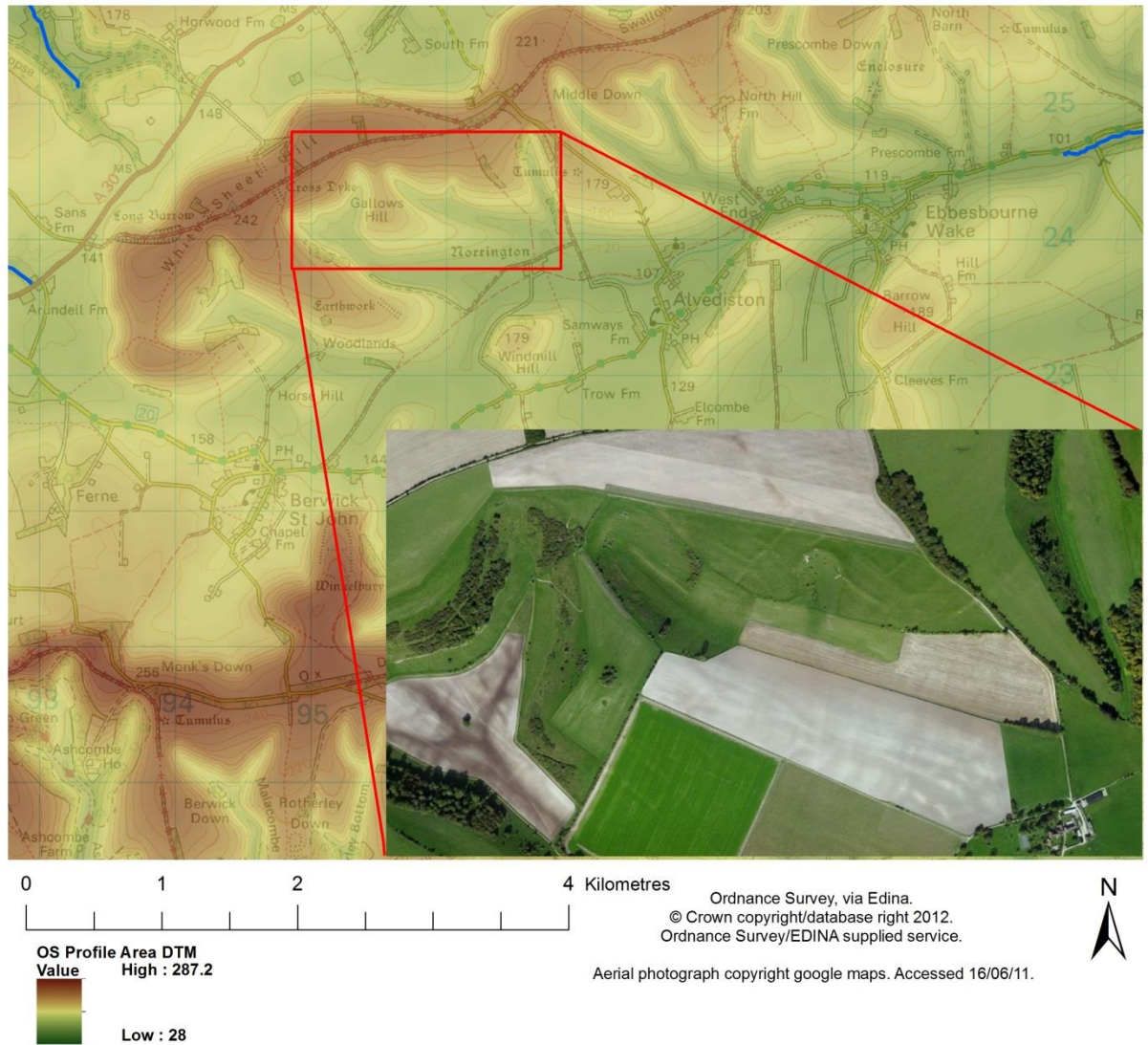
This western area is dominated by the clays and mudstones of the Kimmeridge Clay geology group, unlike the remainder of the study area (Figure 27). The geology of the area may also have affected the morphology of the modern field systems in the area, which demonstrate a complex pattern of curving boundaries, in contrast to other parts of the study area, which are dominated by long rectilinear fields on the chalk, often the result of enclosure, or a mixed field pattern in river valleys. There are several factors which may have contributed to this area of apparent absence of settlement. Poor aerial photographic visibility, a lack of

development (and therefore a lack of commercial archaeology) and the relative isolation of this area from major centres of population (although Gillingham and Shaftesbury are not very far away) may have affected the visibility and level of investigation of archaeology in the area. The visibility of archaeological features in the region has also been severely detrimentally affected by the clay geology, which generally does not show cropmarks (Riley 1996). The only archaeological feature in the area, including finds from metal detecting, is a single bank and ditch at Leaze Farm sectioned by the Shaftesbury and District Archaeology Group (WILTS HER# ST82NE301).



**Figure 25 - Probable 'Celtic' Field System on Gurston Down (Broad Chalke). The pale field in the centre of the picture clearly demonstrates the diagnostic shape of 'Celtic' fields in the region, although somewhat truncated in places. This field system is also visible in the fields immediately to the west and north in other aerial photography.**

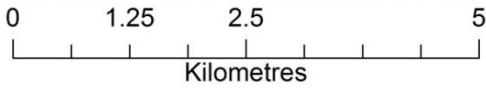
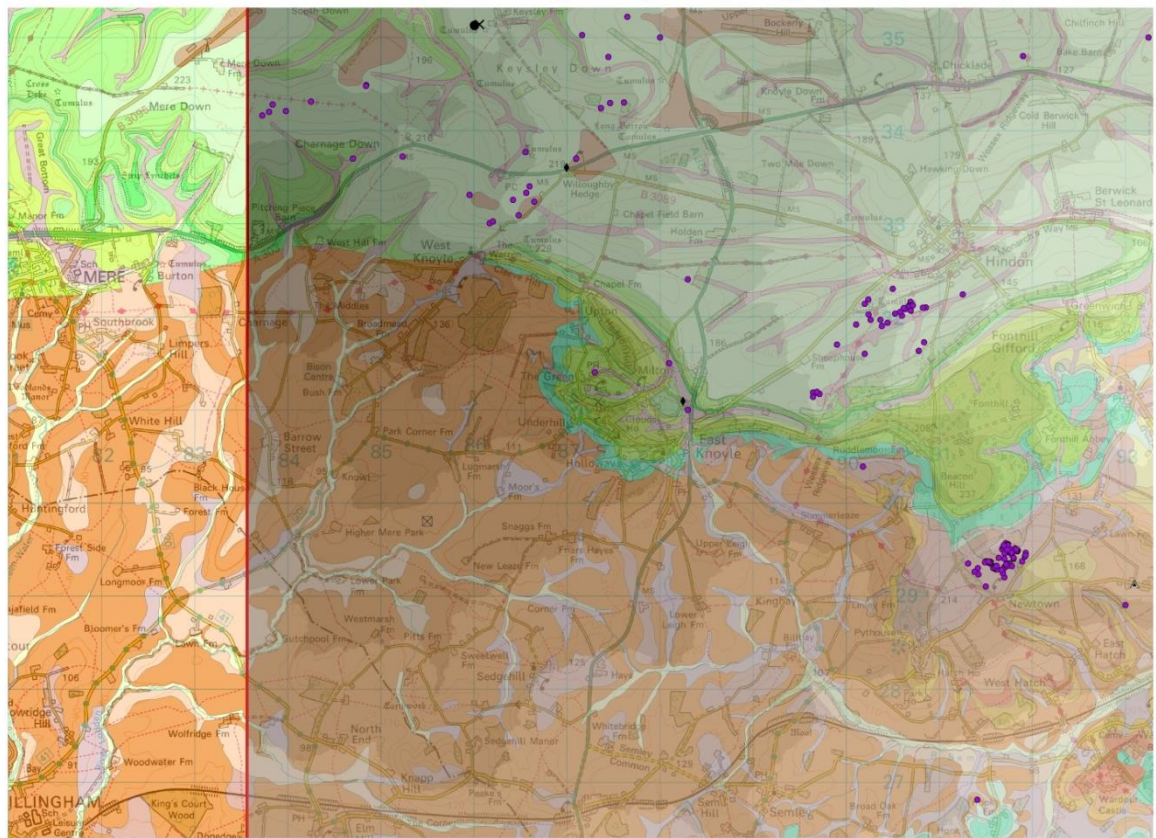




**Figure 26 - 'Celtic' field system on Gallows Hill and Ansty Down. The field system covers most of the fields in the central area of the image, but is most easily visible in the green fields in the top half of the picture. Note how the field system follows the steep contours of the down and survives slightly better on these slopes due to these areas being slightly more difficult to plough in the centuries since the field system's abandonment. The image also shows a very clear palaeochannel in the coombe on the left side of the image.**

It therefore appears that, unlike the central area of possible marginality, this western zone cannot be easily argued to have seen significant settlement during the Roman period. The primary possible explanation for this area's apparent marginality must be its geology, which is exceptional for the study area. The more variable clays and mudstones of the Kimmeridge formation would have been significantly more difficult to plough than lighter soils on the chalk. This area must therefore be treated as possibly being marginal to societies in the area during the Roman period.





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 British Geological Survey/EDINA supplied service.

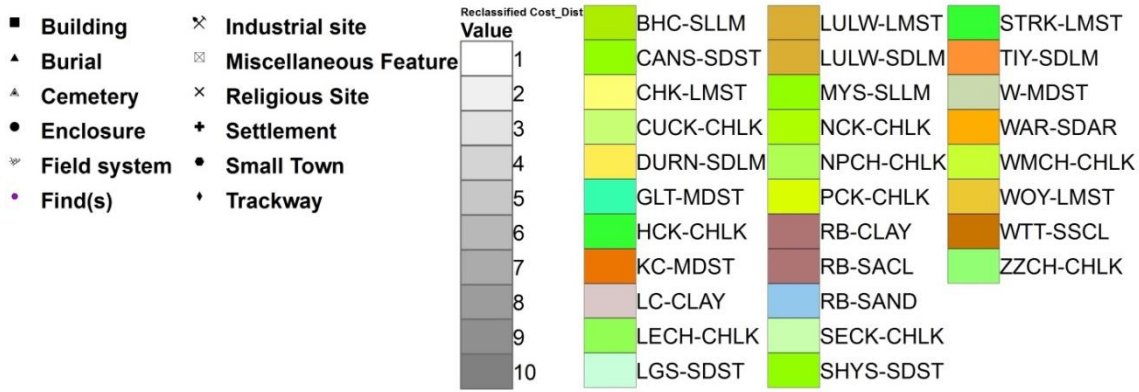


Figure 27 - Western area of possible marginality (greyscale, darker areas are further from settlement) overlaid on OS Basemap and BGS Geology map. Note the orange and beige areas of the Kimmeridge mudstone / clay group.

The south-western area of possible marginality contains a major cluster of metal detecting finds, in addition to pottery of Roman date found during the course of metal detecting, strongly suggesting that an undiscovered settlement lies in the centre of this apparently marginal area, on a downland plateau similar to many site locations elsewhere in the study

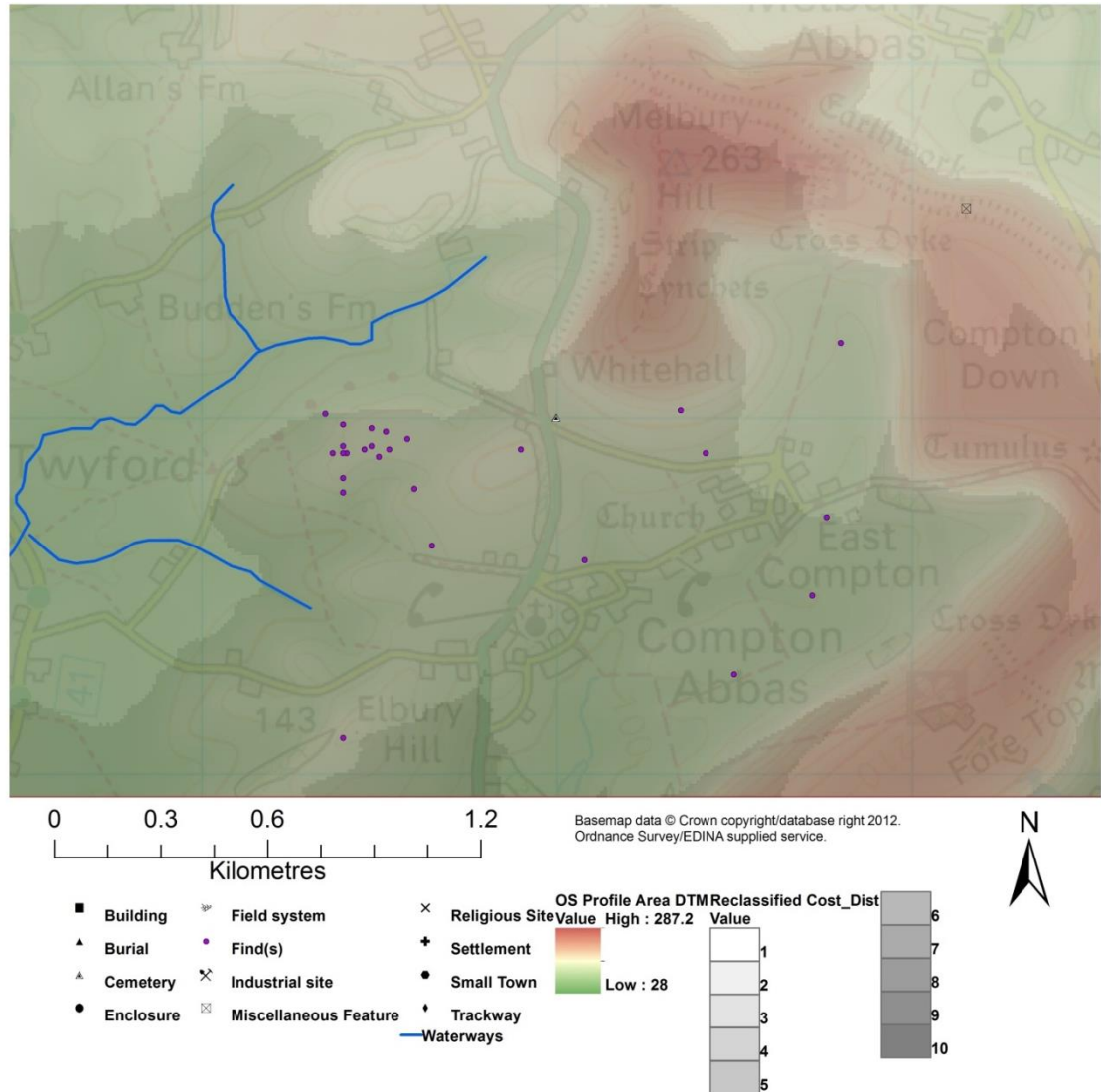
area (Figure 28). The long date range of finds from this settlement and high status of the finds suggest that this area was not marginal, instead indicating that the settlements in the area have simply not yet been found. This example also demonstrates how exploring landscape evidence through this framework can produce unexpected results. Ordinarily this cluster may not have been reviewed in detail, but due to the research framework requiring an exploration of superficially marginal areas, a probable new site has been located.

This review of possible marginal areas has demonstrated that only one part of the study area is likely to have been a 'wild' landscape, the western area of clay geology in the study area. An HER search for records of other periods in the area reveals no entries until the medieval period, certainly an anomalous result for the wider region given the extent of prehistoric and Roman archaeology in Wessex. Lake and Edwards (2006) demonstrate the very significant differences between clay landscapes and nearby chalk landscapes in terms of the agricultural economy in Hampshire in the medieval period. They demonstrate that these claylands would have had a much more mixed economy than the chalk uplands, with activities such as coppicing and brickmaking occurring alongside agriculture and smaller and more isolated farmsteads than in other areas.

It is possible that the western area of the case study may have been occupied by such activity in the Roman period, although the chronology of the analogy is rather a stretch, despite the similarity of the landscapes. If so, however, we should expect to see some evidence of Roman period economic activity in the area through metal-detected finds, even if the biases discussed above have rendered archaeological sites otherwise invisible. There are no such metal-detected finds recorded in the southern part of this region by the PAS, a unique absence for such a large area in Wiltshire, although there are a significant number in the northern part of the area. As such, it appears that at least part of this region was genuinely marginal to human occupation in the Roman period.

If the southern part of this clayland area can be considered 'wild' or 'marginal' it is important to consider what type of landscape it may have been during the Roman period. There are only small numbers of finds of wild animal remains from the study area (see

below), so it seems that the area was not extensively exploited through hunting, although few of these sites have been subject to modern excavation. There are also no pollen cores or plant macro-fossil assemblages from archaeological sites in this area, so vegetational reconstruction is impossible at present. Therefore, although we have been able to delineate a possible area of 'wild' landscape, we can say very little about it with the current dataset.



**Figure 28 - Probable undiscovered Roman settlement.** This dense cluster of Roman finds suggests a Roman settlement here. The finds span the entire roman period, and are of high status, ranging from a 1<sup>st</sup> century intaglio to a 4<sup>th</sup>/5<sup>th</sup> century finger ring. The settlement may be associated with the late Roman earthworks on Melbury Hill, 0.5km to the north-west.

The most likely interpretation is that the area was predominantly wooded, on the basis of

the lack of field systems evident in a relatively undisturbed modern landscape, and that perhaps the northern half, where metal finds of Roman date are present, was exploited for various purposes as part of a mixed economy. The southern half may have been relatively uninhabited and unused. There does not appear to be any definition of this area in terms of boundary features in the Roman period, suggesting either that this area was not a coherent area of landscape in the way argued above, or that defining this territory was not important or necessary to social groups in the area.

### **Wild animals**

Non-domesticated animals are a key part of the wild landscape. Some may have been interacted with regularly, such as wild birds and scavengers, but others would have been more rarely encountered and of different social significance (see discussion in Chapter 2). The paucity of high quality excavation records in the area means that there is not a statistically viable sample of wild animal remains and faunal remains in general to draw detailed conclusions about animals and society, but some overall observations can be made.

Four sites in the study area (Glebe Field, Teffont; Eyewell Farm; Butterfield Down; Durrington) have produced either red or roe deer bones, with an additional find of sawn antler from Stockton Earthworks. There are further finds of hare, woodcock, partridge and crow from the first four sites. All these sites are domestic settlement sites, although Glebe field is closely associated with the contemporary shrine in Upper Holt Wood on the ridge above Glebe Field (Roberts in prep. a). None of the excavated sites in the area traditionally thought to be of higher status have demonstrated evidence for deer or other wild animals, but none have been extensively excavated in the modern era. As such, we cannot draw any firm conclusions about the social importance of wild animals in the landscape, except to say that interaction with them was not restricted to elites.

### **Climate, weather, hydrology and geology**

Chapter 2 has already explored climatic change in Roman Britain in general terms, and that discussion will not be duplicated here. There is no evidence that the study area was subject

to any archaeologically visible climatic disaster events during the period of study. There has been insufficient work on fluvial activity in the Roman period in the region to present evidence for flooding events, unlike elsewhere in southern Roman Britain (Rippon 2000). Whilst it is very likely that some floods and other regionally significant weather events such as hurricanes or storms happened in the study area, the lack of work prevents detailed analysis. Work by the Teffont Archaeology Project has demonstrated that a local trackway was substantially embanked in the Roman period where it passes alongside and immediately above the floodplain of the Tef (the Teffont stream), which is prone to seasonal flooding even today (Roberts in prep. a). This demonstrates a basic knowledge of fluvial activity and investment in ensuring that movement along this trackway between settlement sites in Teffont and the chalk downs was unimpeded during times of flood.

A wider issue in the south-west Wiltshire landscape are winterbournes, the seasonally flowing watercourses that were once common in the landscape, but are increasingly dry all year due to the impact of modern agriculture on the water table (Furse 1977, pers. comm. J Bacon June 2013). These watercourses are often visible on aerial photography as palaeochannels, and no work has yet been undertaken on establishing their seasonality, flow or use in the Roman period. This is particularly relevant to understanding the settlements such as Stockton Earthworks or Hamshill Ditches, which are located on the Great Ridge, and do not have easy access to any modern water sources. For year round water, wells must have been dug through the chalk or (now disappeared) springs utilised, but these settlements also display clear traces of palaeochannels (Figure 29). As well as providing irrigation to upland fields through which they pass, these streams are valuable sources of seasonal herbs and grazing, being particularly abundant in plants of the *Rorippa* (yellowcresses) and *Apium* (celerics and marshworts) genera (Furse 1977).

This seasonality increases the potential for movement of animals between different areas of the landscape to take advantage of summer grazing in the lower river valleys, and early spring grazing closer to upland settlements where winterbournes could provide grazing for part of the year. The trackway in Teffont (Roberts in prep. a) leading between the lower



valley of the Tef and the higher chalk downs, may have been used for moving animals in this way. Environmental knowledge would have been vital to such grazing practices. The lack of 'wild' areas of the landscape in itself shows the dominance of agricultural society in the study area. Like many other aspects of landscape practice, the opportunity for such activity is initially provided by the geology and ecology of the study area.



**Figure 29 - Multiple features on aerial photography on the south-western part of the Great Ridge. Whilst some features on this aerial photograph are not of the Roman period (particularly on the outskirts of the two villages to the south of the picture), 'Celtic' field systems are visible across the entire central band of the image, in places associated with apparent ditches, palaeochannels and possible trackways.**

The previous discussion of marginality touched on the effect of clay geology, but in common with much of the Wessex landscape, this study area is dominated by deposits of chalk geology. In Wiltshire, areas of land are known to local as either 'chalk' or 'cheese', where chalk is mostly found across the rolling acres of downland, and the cheese (everything else, geologically) is found in river valleys and pockets of clay geology. Figure 30 shows the

geology of the study area with archaeological data. The north, east and south of the study area are almost entirely dominated by the chalk, with some deposits of alluvium and head in river valleys, and some of the higher ridges capped with clay deposits. The west of the study area is dominated by the Kimmeridge group of clays and mudstones, as discussed in earlier. Bedrock geology affects the potential of overlying soils for agricultural activity, in terms of the nutritional content and general fertility of the soil for crop growth, and the physical difficulty of agricultural activity, including factors such as difficulty of ploughing and drainage.

The nature of agricultural practice on the Wessex chalklands in prehistoric and Roman periods has been explored extensively in the archaeological literature (Bonney 1972, Bradley *et al* 1994, Fulford *et al* 2006, Allen and Scaife 2007, Lawson 2007, Van der Veen and Jones 2007, Cunliffe 2008, Davis 2011; see Chapter 3). A general model emerges from the literature of extensive mixed agricultural regimes across the chalk downlands, which whilst in the main focused on cereal production also included fields given over to pasture and left fallow. These downland areas were defined by extensive field systems, known as 'Celtic' fields. The ploughing of these fields over many centuries created substantial lynchets, which some scholars have suggested were so large that they may have been allowed to be colonised by woodland, in order that this could be exploited for grazing and fuel (Davis 2011). Certainly, these field systems were intensively cultivated and the key productive feature of a highly developed and integrated agricultural landscape. River valleys provided some fertile land for cultivation in addition to smaller areas of wetland which could be exploited for a variety of animal and plant products. Areas of woodland were present, although not extensive, and generally occupied the upper parts of river valleys and coombes. As discussed above, it is also likely that some form of local seasonal transhumance, or at least out-grazing, took place between the downs and the valleys, as in later periods (Lawson 2007).

As discussed previously, the nature of this dataset makes discussion of the exact area covered by field systems difficult, as HER data is recorded as point data, and includes only a



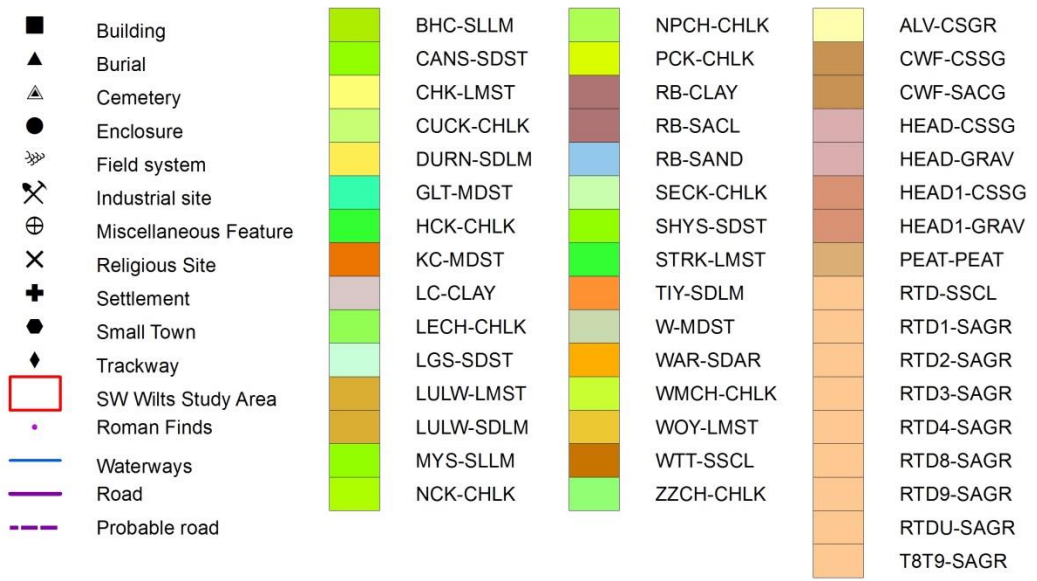
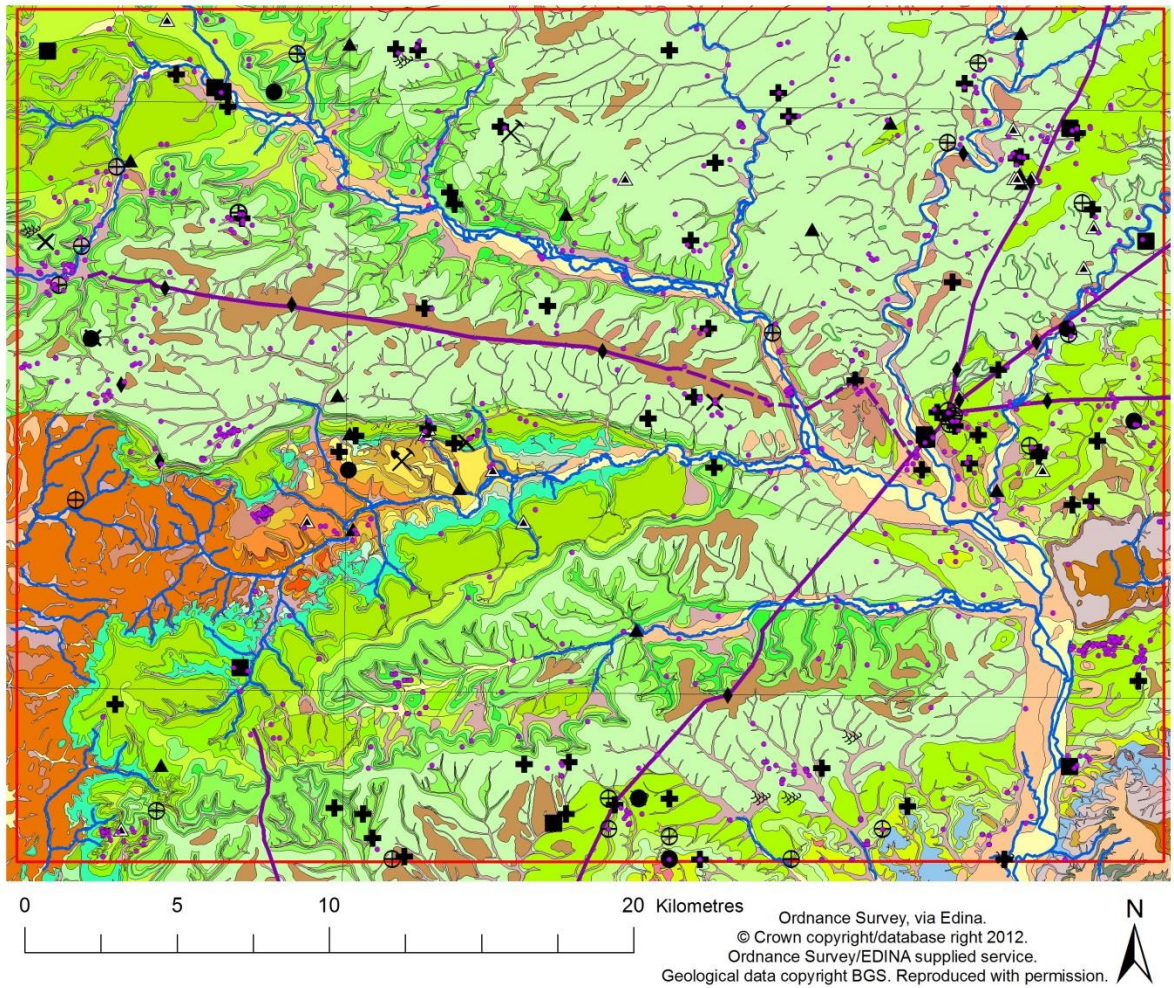


Figure 30 - Geology of the study area with all archaeological data, roads and waterways. Major components are chalk (various shades of green), clay capping ridges (brown), Kimmeridge clays and mudstones (orange), alluvium (beige) and river gravels (puce/grey).



very small minority of the field systems visible from aerial photography. Therefore, instead of attempting to discuss the geology covered by field systems exhaustively, this study will restate that the overwhelming majority of visible field systems are located on the chalk, and that a relatively uniform model of farming practice – although not necessarily socioeconomic relations – was in place across the chalk. In order to access more complex discussions of geology and locale, settlement sites will be used as a form of proxy, making the assumption that they are located within the areas of land that their communities farmed. Their geological surroundings will then be analysed.

Settlement Type	Transition zone?	Chalk	Clay	River valley	Sandstone	Limestone	Mudstone	Sand	Frequency	Transition %	Chalk %	Clay %	River valley %	Other %
Building	8	5	1	4	0	0	0	0	10	80	50	10	40	0
Settlement	39	46	4	3	3	1	1	1	59	66.10	77.97	6.78	5.08	10.17
Small Town	1	0	0	1	0	0	0	0	1	100	0	0	100	0

**Table 6 - Geological distribution of domestic sites (settlements, buildings and small towns); the left hand side of table is the actual location of settlements on various geologies, the right hand side summarises data and includes figures for all settlements in transition areas.**

Table 6 demonstrates the geological distribution of domestic sites in the study area. A settlement is defined here as being within a transition zone if it is within 1km of a substantial area of a different type of geology. For example, a settlement on the chalk that is close to a thin strip of head deposits would not be deemed as being within a transition zone, whereas a settlement on the edge of the chalk above a river valley would be defined as within a transition zone. This data demonstrates a very strong trend amongst all settlement types within the study area to be within transition zones. This trend is particularly strong for superficially higher status places (buildings and Sorviadunum). There is also a strong trend for settlements to be located on the chalk, although higher status settlements again display a divergence from the general pattern, being located off the chalk as regularly as they are on it.

Bird (2004) and Taylor (2011) both suggest that villas may have been located on or around geological transitions, to provide increased opportunity for variety in agricultural production. The data for the study area strongly bears out this suggestion, raising the possibility that this pattern may have been quite widespread in southern England, if it is present in Wiltshire and Surrey (Bird 2004). It is important to recognise that this apparent environmental strategy of optimising settlement location for variety of agricultural opportunities is not a product of the Roman period *per se*. Many of the settlements in this study area have pre-Roman origins and, as Taylor (2011, 190) asserts, much of any increase in production or innovative agricultural practice in the Roman period until the mid 2<sup>nd</sup> century can be attributed to the “maximisation” of production techniques introduced in the late Iron Age. It is also important to note that this is not simply an environmentally deterministic argument, although it does prioritise geological factors. This is likely to be one of several important reasons for the location of settlement, and rather than simply assuming an abstract ‘best-fit’ reasoning for settlement position, emphasises the environmental knowledge necessary to make such choices, and that these were not always the choices made. Other groups, such as those constructing villa establishments, clearly made choices about the location of those settlements based on different criteria.

The pattern in the study area is also suggestive of correlation with the widely observed change in agricultural practice across southern and eastern Britain in the late 2<sup>nd</sup> century and 3<sup>rd</sup> century, when villa establishments begin to play an apparently more prominent role in the socioeconomic landscape (Taylor 2011). This is particularly suggested by the fact that proportionally far more buildings (often villa type establishments) than settlements are located in river valleys, hinting at a changing pattern of land holding with similarities to that observed north of the study area by Fulford *et al* (2006). Fulford *et al* (2006) elucidated a pattern of landholding that included villas located close to river valleys, with strong economic ties to lower status settlements higher up on the chalk. However, the overall pattern of landuse was complex, with some settlements demonstrating continuity and independence throughout the period (Fulford *et al* 2006).

One aspect of the pattern that these arguments have overlooked, however, is the question of just how, and whether, the river valleys were exploited economically beyond the trade links afforded by the rivers themselves. The Roman period is replete with examples of the exploitation of hydraulic power and watery places (Purcell 1996, Field 1999, Mocci *et al* 2005, Bennett *et al* 2010). Unfortunately no work has been done in the study area on this topic, although the work of Field (1999) on the extraordinary wadi-style water management (Barker 2002) on Salisbury Plain just to the north of the study area raises intriguing possibilities regarding the exploitation of higher valleys and coombes that are now dry. The review of the aerial photographic evidence carried out in Appendix 1 did not reveal any such features. Indeed, there is one clear example of a Roman field system running up to about 20m short of the edge of a large palaeochannel and stopping, deliberately not extended close to the watercourse (Figure 31).

Despite the similarity of placement of individual site categories, however, the overall pattern of site location does not indicate that villa estates were present in the study area, unless the lower status settlements apparently subsidiary to villa communities were located either in much less geologically differentiated positions than around Salisbury Plain, or had much longer distance relations. As such, the study area can be legitimately characterised as not displaying the 'villa estate' type of landscape relations posited for the south Wiltshire region by Fulford *et al* (2006) and Draper (2006) amongst others.

In Chapter 3 the problem of erosion of the light soils of the chalk was discussed. Whilst it is known that some erosion occurred during the Iron Age and Roman periods, this has not been quantified in detail. Indeed, although erosion would have been detrimental to the agricultural potential of the downlands, it is possible that the lighter soils on the chalk would have made ploughing easier, particularly in comparison with the heavy clays elsewhere in the study area. It is in fact possible that the substantial lynchets that developed in the study area are both a consequence and a response to erosion of soils on the chalk during the Iron Age and Roman periods. It is interesting to note that despite the corrective effects of the lynchets on erosion, by the 10th century at the latest the downland

fields had been predominantly abandoned, cultivation having shifted to lower slopes and valley bottoms (Hooke 1988; Figure 32).



**Figure 31 –Palaeochannel on the north-west side of the Great Ridge. Top of the image oriented north. Note the cropmarks immediately to the east of the southern branch of the palaeochannel. This field system is morphologically ‘Celtic’, and clearly does not extend to the channel’s edge. Image from [google.com/maps](https://www.google.com/maps), accessed 23/8/14.**

The change in cultivation practice between the Roman period and the Anglo-Saxon period is likely to be at least partly due to erosion. It is possible that the final degradation of the downland soils was due to increased intensity of cultivation during the second half of the Roman period (Lawson 2007). There are two key aspects of this change to this study. Firstly, by the Anglo-Saxon period, a quite different set of knowledge regarding how to farm and manage the landscape of the study area had developed, based on the environmental constraints imposed by soil erosion, which may have been partly caused by intensive Iron Age and Roman agriculture. Secondly, the common grammar of place which had existed for around a thousand years since the Late Iron Age had disappeared. The intensively exploited downlands were no longer heavily farmed, and the clay caps of the chalk ridges were colonised by woodland (Lawson 2007).

Patches of this ancient woodland still remain in the modern landscape, as at Teffont, where Upper Holt Wood – Holt is a Saxon word for wood – contains a Roman shrine site covered



section, 'Tame Nature', will build on ideas raised in this section, and work to further draw out issues of spatial complexity.

## **Tame Nature**

### **Subsections: 'Territory', 'Place', 'Scale', and 'Networks'**

This section will discuss interactions with nature in those places that were beyond human settlement, but within human society. A key aspect of how people interacted with landscape is how the landscape was structured and divided, reflecting sociospatial territories. Territories were constantly negotiated, and had differing meanings depending on social status, age, gender, wealth and other social factors, as has been demonstrated in Chapters 2 and 3. Following discussion of how territoriality was articulated in the landscape, consideration will be given to how particular places within the case study area shaped, and were shaped by, interactions with 'tame' nature and landscape. Finally, issues of scale and networks will be explored, and how relations of production and access to different socio-economic networks shaped interactions with nature and landscape.

### **Territory**

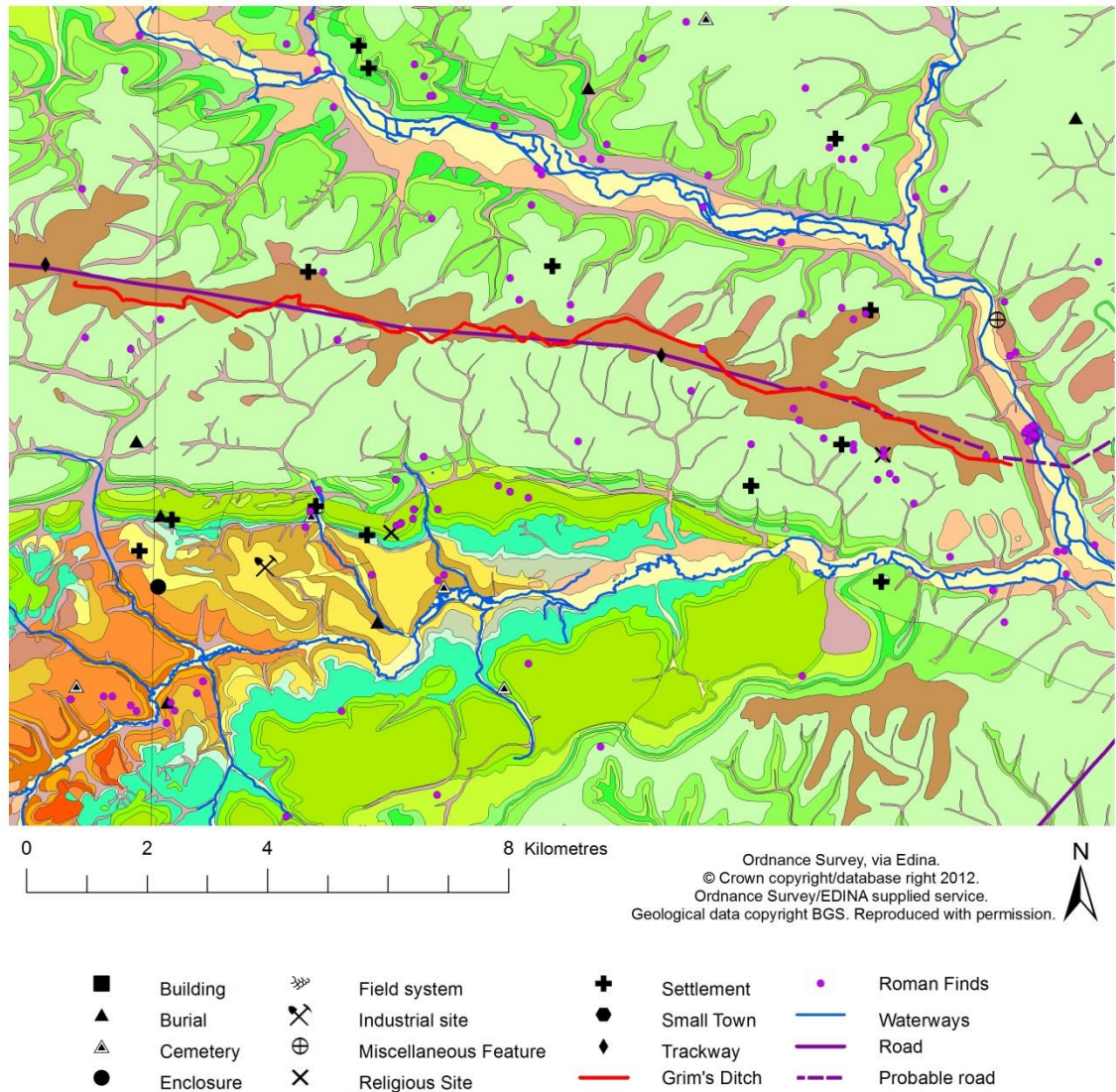
There are many ways of physically dividing a landscape due to concerns of territoriality, many of which do not survive archaeologically. The most common anthropogenic landscape divisions are banks, ditches, walls, trackways, fences and hedges, and of these the first four are much more likely to survive archaeologically. Natural landscape divisions, particular rivers, streams and mountains, also commonly formed physical divisions in past landscapes (Bradley 2000). The physical division of a landscape by any of the anthropogenic features discussed above is a clear articulation of some past sociospatial division. The study area in south-west Wiltshire displays a wide range of such features of different periods. It is important to note that many of the physical divisions visible – and possibly still meaningful – in the landscapes of the Roman period date from earlier periods. These features would not

have had the same meaning throughout their existence, however, and any meaning assigned to them in the Roman period would be part of the sociospatial processes active in that period, although their antiquity may have affected these (Williams (1997, 1998).

Located along the crest of the Great Ridge (Figure 33) is Grim's Ditch, a bank and ditch system which may have functioned as a trackway as well as a boundary, runs for approximately 16 km in an irregular line. The ditch is clearly visible for much of its course, with a bank present for some sections. Although not yet dated, the ditch is cut in several places by the early Roman road running along the ridge, so is very likely to be a prehistoric land division in origin. Part of the ditch is slighted by the Roman road, but this does not negate the possibility of its continued significance in the landscape. This is also clear from the way that the earthwork seems to be integrated into the undated linear features surrounding the Iron Age and Roman period settlement at Stockton Earthworks (see Figure 11). Its enduring significance into the medieval period is certain, as the parish boundaries of all the parishes either side of the Great Ridge are along the Grim's Ditch rather than the Roman road, with the exception of the parishes on the eastern end of the ridge, which are aligned around the remnants of the medieval hunting forest of Groveley (Bonney 1972; Figure 34).

The role of Grim's Ditch in the landscape in the Roman period can be investigated through its relationships to surrounding features. There are significant areas of 'Celtic' field systems on the Great Ridge either side of Grim's Ditch, associated with settlements at Hamshill Ditches, Stockton Earthworks, and Ebsbury. These do not slight Grim's Ditch, whereas the Roman period field systems at Ebsbury, for example, slight the earthworks of the Iron Age hillfort at the site (HER). The field systems seem therefore to have functioned within the same landscape territories as Grim's Ditch. The survival of the territorially structuring spatial division of Grim's Ditch, and the contemporary slighting of the Ebsbury hillfort earthworks are suggestive of the continued importance of agricultural spatial divisions in the landscape of the Great Ridge, and the lack of sociospatial importance attached to the articulation of pre-Roman power or community at Ebsbury by the Roman period.





**Figure 33 - Location of Grim's Ditch on the Great Ridge. See Figure 30 for geology key.**

It is also interesting to note that the settlements along the Great Ridge are all entirely one side or the other of Grim's Ditch (Figure 33). This may suggest some social separateness between the settlements, despite their spatial proximity. A final important point is that Gardiner and Allen (2009) suggest that several of the modern routes from north to south across the ridge are likely to be based on prehistoric trackways, and the trackways excavated in Teffont provides a Roman example to add to their discussion (Roberts in prep. a). Grim's Ditch is perpendicular to these routes, and would have been a notable point on them, possibly suggesting a transition from one sociospatial zone to another. Overall, Grim's Ditch appears to be a major structural feature in the Roman landscape of the study



region, demonstrating the continuity of particular sociospatial structures in the landscape from the Iron Age. Grim's Ditch will be further discussed in later sections that consider how the landscape was encountered, and how networks affected landscape interaction.

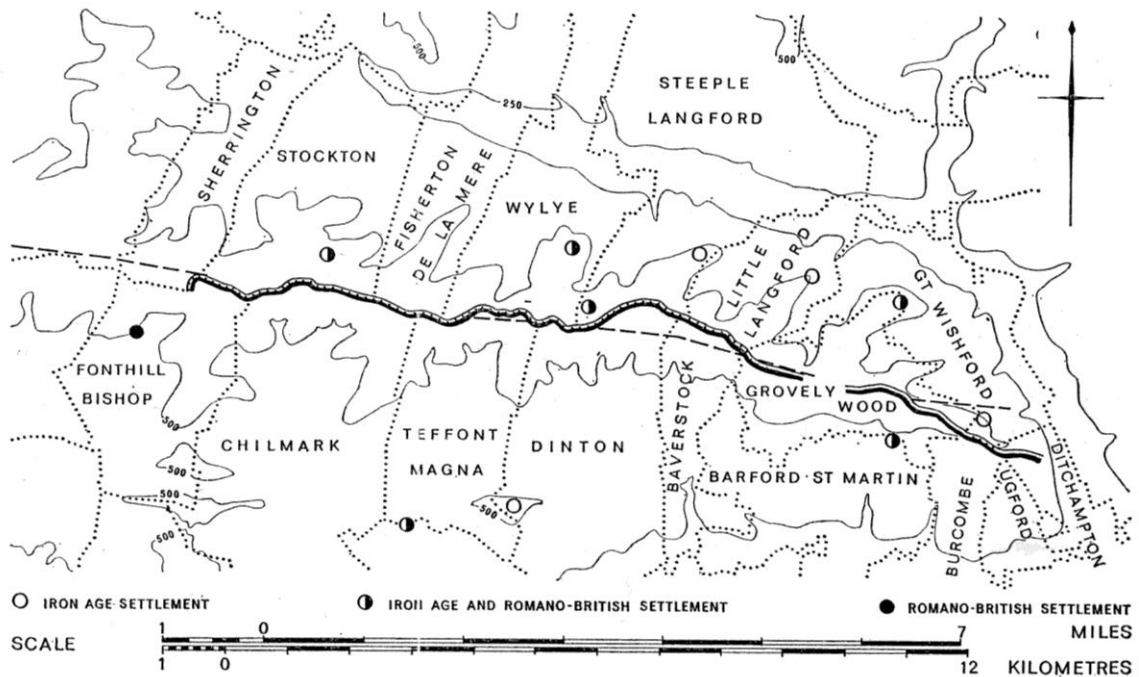


Figure 34 - Parish boundaries around the Great Ridge, showing the Roman road (dashed line) and Grim's Ditch (thick line). From Bonney 1972, 177.

There are a range of other ditch and bank features in the study area that are likely to have acted as boundaries, including the late/post Roman defensive earthwork of Bokerley dyke. Located in the south of the study area, Bokerley Dyke may be of similar date to other large earthworks in the wider region such as the Wansdyke (Eagles 2001, Fowler 2001) and is likely to have formed a border defence during the 5<sup>th</sup> and/or 6<sup>th</sup> centuries. Bokerley Dyke is the only clearly defensive earthwork in the study area, most of the other banks and ditches appear to have functioned primarily as land boundaries. As with Grim's Ditch, other boundaries appear to remain significant into the Roman period in terms of dividing settlements and fields. This suggests that overall the pattern of land division did not undergo any major alterations in the Roman period, although control of the land may have altered.

The most common way of delineating territory in the landscape of this case study was the 'Celtic' field, which has already been mentioned several times and discussed in Chapter 3 at length. The question remains, however, of how or if these fields were actually physically bounded from one another, as they would have to have been to contain the movement of livestock. Fences or hedges would have been necessary to create such divisions, as the lynchets at field edges would have been easily passable for livestock. These features are difficult to detect in the archaeological record, except where found in association with larger features, as at Boscombe Down (WILTS HER# SU13NE319). During an evaluation excavation a Roman ditch was excavated (WILTS HER# SU13NE319), on the southern side of which were a row of post holes, later replaced by stakes, which were in turn replaced by another row of posts. This sequence is not securely dated, so could extend over several centuries, or only a few decades. Spring Pond Enclosure, Rockbourne provides another example of fencing, where a zig-zag fence was constructed of large posts 13.7m apart, with smaller posts halfway between each large post (HANTS HER# 21713). Although these are the only two examples from across the whole study area they do, however, suggest that certain landscape divisions were reinforced with structural elements. This may have been due to the necessity of stock management, or perhaps defining the edge of a larger field system. The maintenance of such boundaries would also have been an important form of social display, demonstrating practical ability, resources and commitment to landscape use (Giles 2007).

Hedges have not been recorded from Roman period archaeological excavations in the study area. Allen (2008, 52) suggests that, although hedges are difficult to detect in the archaeological record, whether through palaeoenvironmental methods or excavation of lynchets, the fact that those lynchets which have been excavated across the southern chalklands display well stratified sequences with little evidence of mixing suggests that these field-edge features have not been extensively disturbed by roots.

The comparative lack of hedges suggests that stock were either controlled through the construction of fences like that excavated at Boscombe Down, or were pastured on open

ground. The fact that only a single example of such fence structures has been excavated suggests that this is the less likely interpretation. This question has major implications for landscape relations, and patterns of landscape use, particularly stock grazing. Its implications for how sociospatial territories were visually articulated within the landscape are also important, as a predominant lack of fences and hedges would result in wider fields of vision across the landscape than might otherwise be the case, suggesting a lack of any compelling social reason to restrict visibility of the landscape.

It is also important to consider how the shorter term action of constructing these features can be understood. The construction of these features would have required significant investment of time and labour, as well as materials in the case of those features not solely constructed in earth. The act of construction would have been quite long-term process in terms of the everyday lives of those undertaking it. There is likely to have been a clear difference between how Roman roads and other landscape divisions were constructed. Roman roads are generally thought to have been initially constructed by the Roman army, although possibly maintained by more local authorities (Mattingly 2006). The courses of the roads were generally laid out by engineers using surveying techniques common across the Empire (Witcher 1998, Copeland 2009). The straightness of the roads and their relationship with existing land divisions such as Grim's Ditch demonstrates the dominating social paradigm in which they were constructed.

By contrast the act of construction of earthworks such as Grim's Ditch, and particularly earlier linear landscape divisions, may have been the culmination of a process of negotiation between communities with long associations with the territories being delineated (Evans and Vaughan 1985). Evans and Vaughan (1985) excavated deeply incised plough-marks marking out the course of the major linear bank at Knoll Down, Hampshire, which immediately precede the construction of the bank. They suggest that these plough-marks may represent the symbolic marking out of the course of the boundary feature to be constructed by the communities at the time. The social importance of joining together to plough land in late prehistoric communities in Britain and elsewhere is well attested (Atha

2007, Giles 2007, Karl 2008), and it is therefore quite likely given the evidence from Knoll Down that in some cases negotiated boundaries in the region were laid out in this way.

The Roman practice of *sulcus primigenius* also involves the use of ploughing to mark the boundaries of a city, and Virgil also writes approvingly of the use of ploughing to mark out the plots for buildings during the foundation of Carthage (Edmondson 2006, 250; not all translations use the word plough, some translate the original as ditch). Although derived from a different cultural and legal tradition, the act of ploughing to mark boundaries would not have been unfamiliar to Roman elites administering the region. This cross-cultural comparison also demonstrates once more the fundamental social role of landscape interaction in ancient societies.

We should, however, certainly not to generally characterise the act of construction of physical landscape divisions as inherently peaceful, negotiated and communal, in opposition to the dominating, hostile construction of Roman roads by the Roman army. It is very likely that some prehistoric earthworks were created due to hostility and conflict between communities, as suggested by the evidence for conflict and defensive construction at Danebury, a major hillfort just beyond the study area (Cunliffe 1995).

## **Place**

Ploughing to mark the negotiated line of boundaries is one way in which territoriality could be imbued in the memory of a particular community at a particular place or landscape feature. This section will explore particular socio-environmentally coherent spaces such as locales, milieux, sites, settlements, geological zones and regions. In pre-modern societies these can generally be divided into substantially anthropogenically influenced places such as sites and settlements, and less visibly anthropogenically influenced places such as geological, topographical or ecological regions. Such a division, despite the terminology, does not assert the classic culture-nature dichotomy due to the inherent emphasis on connectedness and complexity in the phase space theory upon which this framework is based. For example, places such as geological zones are predominantly meaningful to

human societies in terms of those societies' interaction with them.

The concept of a locale is particularly interesting for any study of place, as it unites human and non-human actors through the idea of a place being defined by an event, or events, that occurred there (Agnew 2011). Naturally, some 'events' are not actually single chronological entities, but rather compilations and sedimentation of interactions over generations and / or across communities, developing into constructions that we might term environmental knowledge, or phase space scholars might term forces of embeddedness (e.g. Jones M 2009). Particular soils, for example, may influence the success of crop regimes, and be influenced by the nutrient cycling properties of crops, and agricultural cycles of ploughing and sowing. This theory has similar strengths to the actor-network theory espoused by Walsh (2008), but attempts to place these ideas in a wider context of spatial interaction through a stronger emphasis on the complexity of the sometimes conflicting territories, scales and networks of socio-environmental interaction.

Over time the character of a locale is iterated and recreated, the interaction of anthropogenic and non-anthropogenic processes ensuring a constant development of the locale. Therefore locales are, or were, if we are considering archaeological locales, active and changing places that materially articulate relationships in a fundamentally sociospatial context. Examples of locale could also include a settlement, field system, landmark, or monument. Some (perhaps most) locales would not show any physical anthropogenic impact, preventing retrieval of any indication of how social relations may have been structured and structured that place. The work of Bradley (2000) in British prehistory goes some way towards addressing these issues, but these themes have seldom been addressed in Roman archaeology. It may, however, be possible to posit that, in a society that used the landscape comparatively intensively thus leaving few areas of wilderness (see earlier discussion of 'wild' landscapes), the most often frequented locales might be more likely to demonstrate some form of anthropogenic impact.

In terms of exploring attitudes to nature and interactions with the environment, the importance of these concepts lies in several inter-connected strands of process. Firstly,

interrogating how processes of creation, maintenance or destruction of place generally occurred in the study area is likely to give an insight into the cognitive structuring of interaction with the landscape. Secondly, the discussion of how the character of relationships at particular places are materially articulated, whether sedimented by everyday activity, consciously monumentalised or both, can give an insight into the significance or role of particular places in the identities and relations of particular groups. Thirdly, identification and characterisation of any common types of locale may begin to allow some generalisations to be drawn regarding how societies interacted with their environment. Finally, it will be useful to investigate whether locales that were not materially altered by societies at the time can be identified, and question why these places were treated differently to those that were materially altered.

Due to the nature of archaeological data available to this study, there will inevitably be an over-emphasis on settlements and sites as places, to the detriment of the wider landscape, or taskscape (Ingold 1993). This will be avoided where possible, but will inevitably bias the possible conclusions of the discussion to some extent, once again highlighting the need for a more holistic, landscape application of archaeological investigation in the study area.

### ***The life cycle of places***

This subsection will consider the life-cycle of places in the study area, focusing on how they were created, how processes of maintenance and dwelling took place, and how they were destroyed.

The 'creation' of a place is a terminological red herring, as it is almost always impossible to determine the very first human occupation or interaction with a particular locale. Especially considering the chronological focus of this study on the Roman period and the form of archaeological data, this study will consider the beginning of a place to be the first phase of occupation of a place that continues into or begins in the Roman period, excluding earlier phases where there are major breaks in occupation unless these have demonstrably (materially) had an influence on later occupation. Only some of the dataset has sufficiently

accurate and complete chronological data for this analysis to be possible (Table 7, Figure 35).

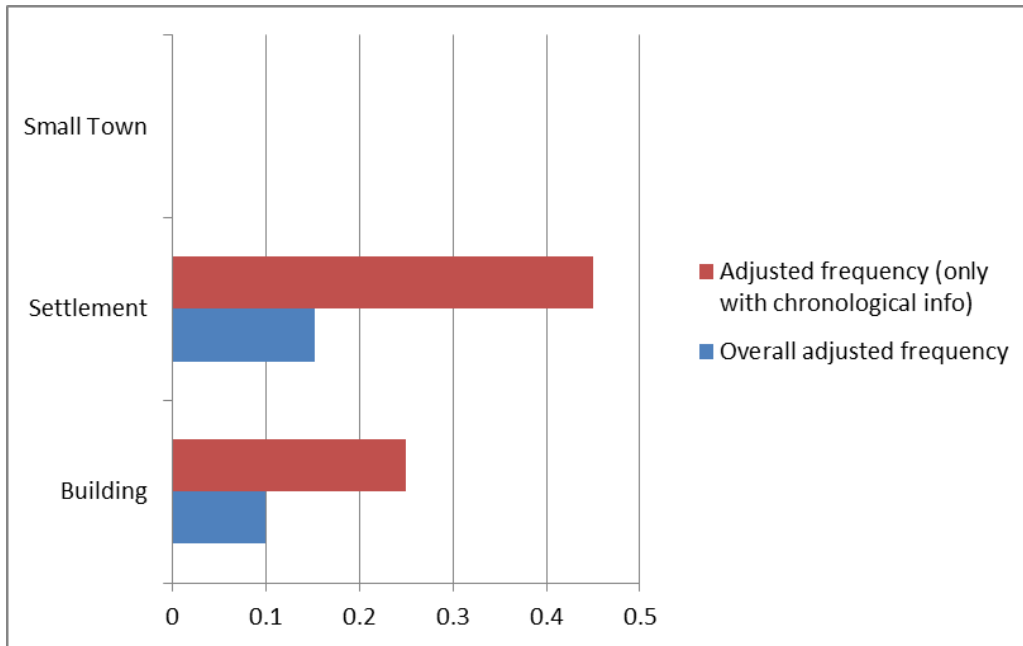
Settlement Type	Frequency	Iron Age Origin?	Frequency with chronological info	Overall adjusted frequency	Adjusted frequency (only sites with chronological info)
Building	10	1	4	0.1	0.25
Settlement	57	9	20	0.152542	0.45
Small Town	1	0	1	0	0

**Table 7- Chronological resolution of dataset, with calculations of the relative frequency of settlements Iron Age origins a) overall and b) within the subset of sites that have chronological information to a resolution of the nearest century or better.**

This discussion must perforce focus on settlements as no other data type has sufficient chronological resolution to permit this analysis to be undertaken with the exception of finds, which present many significant complexities regarding deposition practices before they can be interpreted as a deliberate articulation of a place. The work of Robbins (2013) demonstrates the biases in Portable Antiquities Scheme data, and various authors have discussed at length the many motivations behind the practice of hoarding in Roman Britain (e.g. Manning 1972, Aitchison 1988, Hingley 2006, Rogers 2007). Hingley (2006) discusses the wide range of possible reasons for the deposition of ironwork, and Fulford (2001) discusses ritual deposition at length. Given these complexities, the deposition of associated finds groups will not be considered in this discussion of place.

The settlement chronology data can be reviewed at two resolutions that are particularly relevant to the research questions of this study. The first is whether these settlements from the Roman period demonstrate a continued location from the Iron Age, prior to Roman domination of Britain. The second is the creation of these settlements within the Roman period. Figure 36 demonstrates the apparent origin of domestic settlements in the study area for which chronological resolution to the nearest century or better is available. There are few sites with their origins in the 2<sup>nd</sup> century in comparison to the Iron Age, 1<sup>st</sup> century or 3<sup>rd</sup> century, only a single site originating in the 4<sup>th</sup> century, and none in the 5<sup>th</sup> century.

This pattern appears to reflect the generally accepted pattern of rural settlement in the wider region (see Chapter 3).



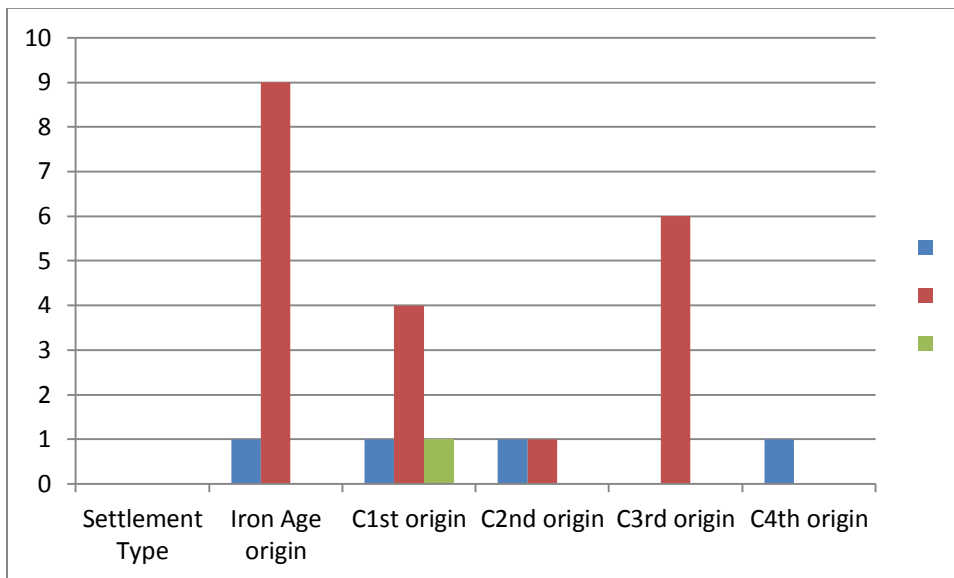
**Figure 35 - Bar chart demonstrating the adjusted frequencies of different settlement types with Iron Age origins a) overall (in blue) and b) within the subset of sites that have chronological information to a resolution of the nearest century or better (red).**

Many rural regions display significant continuity of settlement from the Iron Age, and this is reflected in the study area. The 1<sup>st</sup> century AD sees the establishment of Sorviodunum, the only small town in the study area, at the junction of the network of Roman roads that were also constructed in the 1<sup>st</sup> century. As discussed in Chapter 3, the precise relative chronology of the town and roads has not been firmly established. Although a close link has yet to be definitively made between the Roman town of Sorviodunum and the nearby Iron Age hillfort at Old Sarum which shows late Iron Age occupation, it is probable that the hillfort at the least provided a landmark close to which a junction and town could be located. Few sites demonstrate origins in the 2<sup>nd</sup> century, perhaps reflecting the relatively long occupation histories of the settlements occupied from preceding centuries.

The 3<sup>rd</sup> century saw major economic and social changes in the Roman world and southern Britain (see Chapter 3), and a certain level of change is perhaps reflected by the establishment of a number of new settlements across the study area. The number of sites



categorised as ‘buildings’ across the study area with chronological information is too small to bear much interpretation, although it is perhaps somewhat surprising that the study area does not contain more buildings with origins in the 3<sup>rd</sup> and 4<sup>th</sup> centuries, given the contemporary increase in ‘villa’ type sites in nearby regions (Mattingly 2006), and apparent increase in wealth during this period (Moorhead 2009).



**Figure 36 – Frequency of origin by century of settlements by type in the study area where origin date is known, or can be suggested from assemblages on the site. Two settlements demonstrate their first occupation during the Roman period in the 2<sup>nd</sup> century AD, but extensively re-use Iron Age enclosures and / or features, and are here included in the category of ‘Settlement’ with ‘Iron Age origin’.**

Having quantified the apparent chronological origins of domestic sites in the study area where data is available, it is appropriate to consider the more qualitative evidence regarding the creation of place. No particular historic events can be isolated in the sparse available literary evidence and associated with the creation of any of these places, with the possible exception of the town at Sorviodunum, where its literary evidence is limited to its appearance in the Antonine Itinerary (Corney 2001, 18). The town may be associated with the imposition of an Imperial infrastructure of administration and transport, given the probable *mansio* and 1<sup>st</sup> century origins (James 2010). Other practices have been identified in the regional archaeological record as being diagnostic of the foundation or establishment of a settlement, particularly the deposition of animals and material culture in shafts at the centre of sites (Fulford 2001, Woodward and Woodward 2004, King 2005).

One site in the area demonstrates a practice similar to this; the shrine in Upper Holt Wood, Teffont Evias has produced a burial of a whole lamb aged approximately 4 months from a scoop underlying the earliest phase of a small building within the shrine enclosure (Rainsford and Chipping unpub.). This has been interpreted as a foundation deposit due to the lack of butchery marks, lack of any other faunal material from the feature, and its context in the building sequence. Two further lambs of very similar age were associated with the shrine enclosure boundary wall, one of which displayed pronounced cut marks on the ventral surface of an axis vertebra, consistent with throat-slitting (Rainsford and Chipping unpub.). The distribution of elements (generally head and feet) in this deposit suggest disposal of slaughtered lambs outside the shrine enclosure, in all probability demonstrating continued practice associated with the foundation deposit.

### ***Maintenance and dwelling***

The practice of regular sacrifice, even on an occasional basis, in a relatively small community would have necessitated the cooperation and probable participation of local herd-owners, or the extraction of animal wealth by other groups or individuals. Recent work in the Iron Age has suggested that day to day activities such as curation of herds, boundary maintenance and upkeep of dwellings, when performed in a highly connected rural landscape were likely to have formed a significant factor in maintaining and developing social relationships, reinforcing claims of social status, inheritance and agricultural knowledge (Giles 2007). Given the level of continuity from the Iron Age displayed in the study area (Table 7; Figure 35), it is not unreasonable to suggest that similar social processes would have occurred in this complex rural landscape during the Roman period.

There is evidence in the dataset to bear out this assertion. Across the study area the majority of sites for which chronological information is available display significant continuity (Figure 35), with the exception of the group of sites founded in the 3<sup>rd</sup> century (Figure 36). There is also specific evidence that care was taken to maintain places that were publicly visible, such as the care taken to observe field boundaries when ploughing that lead to the formation of the substantial lynchets that can be seen on aerial photography across

the study area.

The idea that the maintenance of places was an important aspect of social relations in the study area can be extended to include aspects of 'care' and 'maintenance' deriving from belief. Serjeantson and Morris (2011, 98-102) discuss the role of ravens and crows in the 'associated bone groups' found at the base of Roman period pit deposits across southern Britain, and suggest that these animals may have played a role in several aspects of belief in the Roman period, including as familiars, totemic animals, scavengers of the excarnated dead, and even shape shifters. The authors conclude that the burial of these animals (and perhaps others found in similar circumstances) may have been a ritual of propitiation:

“to the gods of the underworld, deposited to ensure a favourable outcome to some future event, or to avert a bad outcome”.

Serjeantson and Morris (2011, 102)

There is one possible example of such a corvid deposit in the study area, at the Butterfield Down settlement (Fitzpatrick 1991, Rawling and Fitzpatrick 1996, Serjeantson and Morris 2011). Such rituals can be understood as contributing to the protection of the community of the settlement and their dwelling place, as they were made in substantial pits in general view. Although only a single example has been excavated from the settlement, a probable sceptre head in the form of a bird was also excavated (Henig 1996; Figure 37). Henig (1996) suggests that the bird is likely to be an eagle, but Serjeantson and Morris (2011) posit that the form of the beak, and ritual deposit of a raven at the same site, suggest that the bird sceptre is in fact a raven. A fibula brooch in the shape of a bird has also been found at Shrewton (*WANHM* 80, 242). The creation of the sceptre head implies that a certain amount of social importance was invested in these activities of ritual maintenance and safeguarding of place.

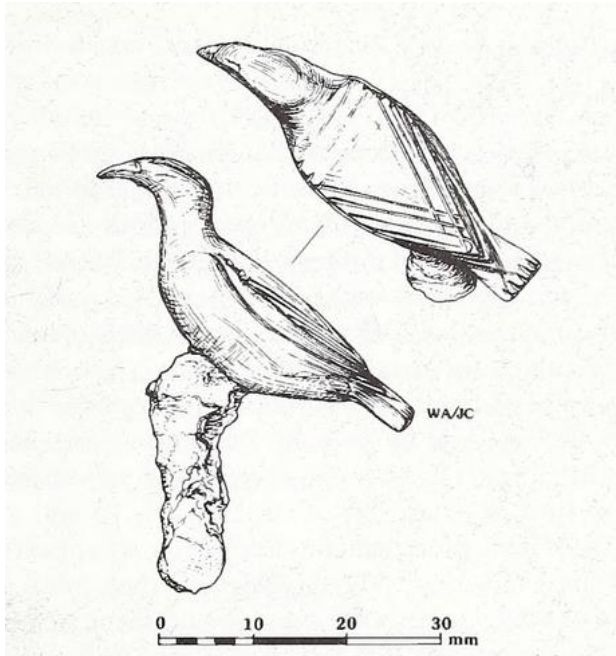


Figure 37 – Possible sceptre head from Butterfield Down.

### ***Destruction***

The archaeology of destruction has received almost no attention whatsoever in the Roman period, with the exception of Neill's (2008) thesis on destruction as an instrument of military policy. There is also little evidence available to discuss this aspect of the curation of place in the study area, as destruction layers are often not extensively interpreted in the same manner as occupation layers. One interesting example of deliberate slighting of a major landscape feature in the study area is at Sorviodunum in the 4<sup>th</sup> century, where a substantial building excavated on the playing fields of the theological college demonstrated an unexpected relationship with the Portway, the major Roman road running into Sorviodunum from the east (James 2010). The building's foundations covered the road ditch, and its front extended a small distance onto the road surface itself. This provides an intriguing snapshot of changing social power structures in the 4<sup>th</sup> century, demonstrating the decline in prestige and importance of the centrally imposed and imperial road network, and the continuing ability of local elites to finance substantial building projects.

There are a number of other examples from the study area where destruction can be seen to be a deliberate transformation of a locale, rather than part of a process of abandonment at the end of the Roman period, but all are drawn from the slighting of landscape boundaries. This can be seen at Ebsbury and the northern Grim's Ditch, both of which were discussed earlier in this chapter, at Sutton Mandeville, where Roman ploughing slighted a prehistoric cross dyke (*WANHM* 60, 47-51) and at Bilbury Rings, where a rammed flint track was built across the hillfort ditch during the late Roman period. These processes share a common characteristic of the removal or destruction of boundaries, and most of these examples are probably symptomatic of a wider social process of renegotiation of land rights and control through the period. The ploughing of an existing boundary feature is particularly symbolic given the importance of ploughing in wider cultural ways of defining boundaries (Edmondson 2006, Karl 2008). The slighting of Grim's Ditch by the road between Sorviodunum and the Mendips is likely to reflect a different spatial and chronological resolution of social change, as discussed earlier. After consideration of the available evidence there does not seem to be any pattern of deliberate or socialised destruction of particular locales in the area and period of study.

### **Sedimentation and commemoration of place**

Locales of significance were not only materially articulated through substantial landscape features such as the sites, settlements and boundaries considered above. Although those features are of major significance, other aspects of the dataset can be interrogated to further elucidate where may have been of importance, and why. The character of relationships at particular places can be materially articulated, whether sedimented by everyday activity, or consciously monumentalised; often the two are the same in agricultural communities (Giles 2007). Sometimes commemoration or monumentalisation can leave only a very minor material impact (Bradley 2000). Rogers (2008) has explored issues in this area for urban settlements. This section will attempt to consider whether these more peripheral articulations of place can be seen in the study area, and discuss the implications of such practices for sociospatial relations. This section will present a case

study demonstrating one such aspect of the active creation of locales in the area of study, and discuss the social significance of such practices in terms of attitudes to landscape.

During the Roman period prehistoric features that may have been thousands of years old were sometimes used as landmarks, or known as places of ritual and/or historic significance (Gosden and Lock 1998, Williams 1998). During the creation of the dataset a pattern was noticed regarding a range of prehistoric barrows of different types, forms and dates, predominantly excavated by Vatcher in advance of development (WILTS HER (25 sites; see Appendix 2 for detailed references)). Many of the barrows excavated produced Romano-British pottery, sometimes from the surrounding ditch but in most cases from the upper part of the barrow itself. These barrow excavations account for 8.99% of all findspots of pottery not associated with settlements in the study area (Table 8). If we include pottery findspots associated with other major prehistoric features without materially evidenced continuity into the Roman period, such as Neolithic enclosures or early Iron Age hillforts, the proportion increases to 10.8% (Table 8). Naturally, these features would still have been notable landscape features in the Roman period.

Frequency of pot findspots	Associated with barrows	Associated with pre-Roman features
278	25	30

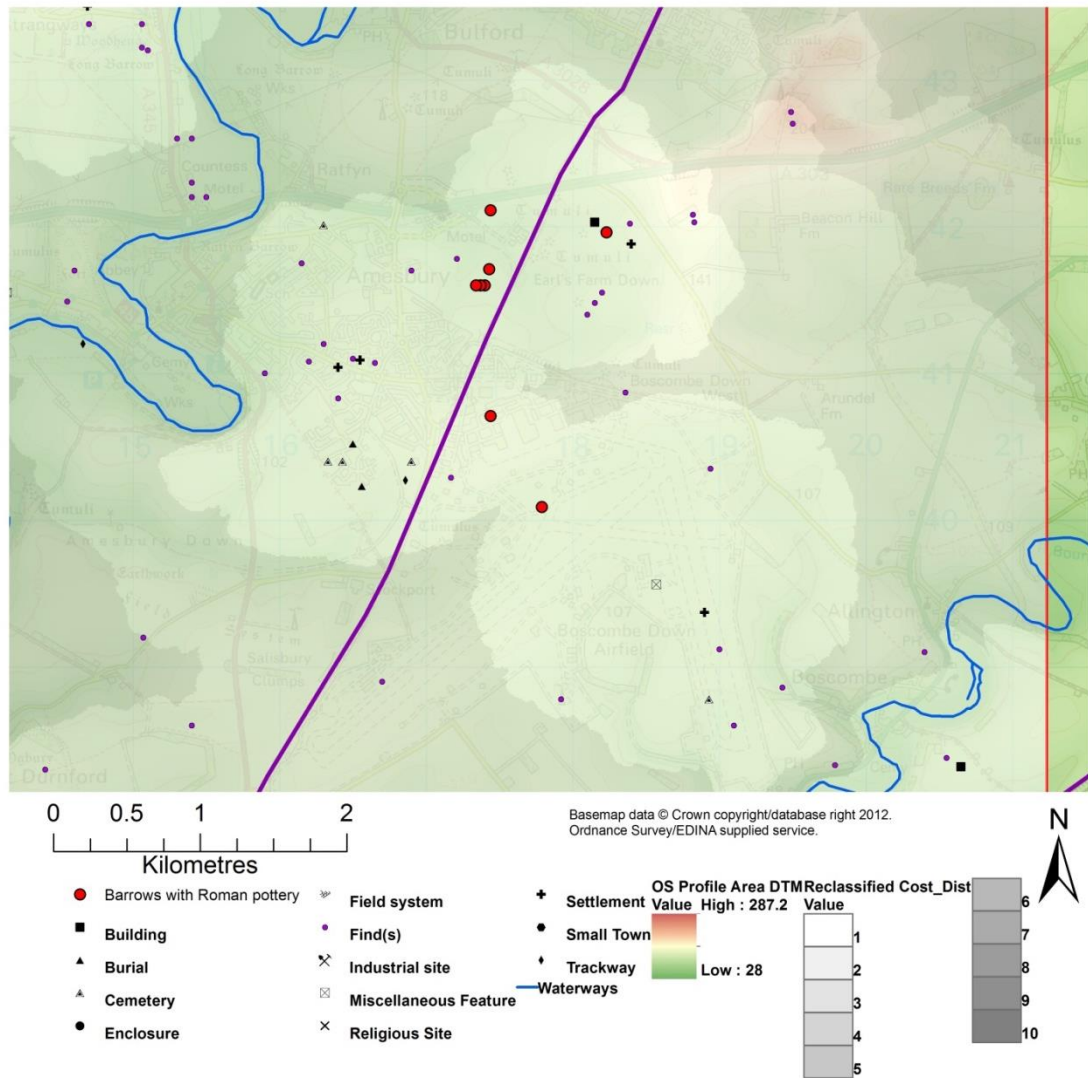
**Table 8 - Pottery findspots in the study area associated with barrows and prehistoric features.**

This is a relatively high level of deposition to be associated with a particular class of pre-existing monument, especially when we consider the high proportion of other pottery finds derived from metal detecting (25.26%), which often derive from the survey of known ‘productive’ sites or settlement sites (Robbins 2013). Furthermore, the way that the pottery was deposited into these barrows suggests a deliberate act of placing these broken vessels within the existing monument (with the exception of one example, which the HER suggests was more likely to be the result of manuring from a nearby settlement). This was not a direct funerary rite, as none of these examples are associated with burials of Roman date.

A range of scholars have noted the enduring importance of prehistoric monuments as

boundary markers and / or places of ritual significance during the Roman period (Gosden and Lock 1998, Williams 1998, Roebuck 2006). It is possible that the reason for this pattern of pottery deposition is some form of sealing of agreement or resolution of dispute at a prominent or well-known place on a boundary between two communities. Roebuck (2006) suggests that the well-known practice of the deposition of metal objects at rivers (another common boundary location) could often have been to mark the resolution of disputes. This is entirely plausible but the deposition of highly expensive metalwork would not have been possible, or economic, for marking more minor compromises between communities. By contrast, shared consumption at a place of ritual significance located on the border between communities could have been a suitable and conspicuous way of marking such resolutions. It fits well with this schema for the vessels of the food or drink consumed to then be deposited within the barrows, permanently marking the place within sight of community ancestors. Although difficult to conclusively prove, one example from the study area particularly strongly corroborates such an interpretation.

Eight of the twenty five barrows with Roman pottery in the study area lie around or between the settlements of Earls Farm Down, Butterfield Down and Boscombe Down West (Figure 38). The distribution map of the barrows displays a strikingly suggestive pattern, particularly when combined with the basic cost distance model previously used to calculate areas of possible marginality (Figure 38). The barrows with pottery are particularly concentrated almost exactly half way between the two most intensively occupied settlements in the area, Butterfield Down and Earls Down Farm (Figure 38). Whilst this interpretation is at present unproven, a wider future study could review other case study areas in Britain to attempt to see whether such deposits were a widespread practice. There is, however, sufficient evidence to make this at least a plausible interpretation of these deposits. If correct, this represents an excellent example of how people articulated their social relationships through the adaption of particular locales.



**Figure 38 - Prehistoric barrows with Roman pottery around the settlements at Butterfield Down (in the west of the image), Earls Down Farm (in the north-east) and Boscombe Down West (in the south-east).**

The choice of barrows already over a thousand years old by the Roman period for such social statements demonstrates the mythological history discussed by Gosden and Lock (1998) as being active in Romano-British communities and the inclusion of ancestors in active social relations discussed by Williams (1998). This interpretation does not suggest that all disputes resolved and commemorated in this way were disputes regarding boundaries, although these may have been common in such an intensively farmed landscape. Rather, these occasional material articulations of community relations represent the coming together of communities at a place of negotiation to resolve disputes between



groups or individuals in the communities. This is different aspect of liminality to those of bounding and division discussed thus far, the liminality of the boundary area apparently providing a more neutral locale where communities could resolve issues. This practice also demonstrates the choice not to use roads to travel to access the Roman legal system; perhaps the distance of such systems renders them less relevant?

This case study is important to understanding the social dynamics of landscape occupation in the study area because it demonstrates that it is possible that a system of dispute resolution quite separate from formal Roman law persisted in the study area, and that the practice of this system was intrinsically linked to locale. This implies that the accumulation and comprehension of knowledge regarding such places would have been necessary in order to participate in the discussion and resolution of disputes between these rural communities. In common with other social structures in this rural landscape, consumption is at the centre of these landscape displays of social relations, emphasising again the importance of agricultural produce and practice. Furthermore, in this example landscape knowledge can be seen to begin to encompass more than knowledge of how best to farm, or which strategies are best for interacting with changing environments, functionally extending to tradition and social relations.

### ***The life cycle of places in the study area***

This discussion has suggested that continuity was a key factor in how settlement and the wider landscape were constructed and used. Many of the settlements in the region had long occupation histories, and there is evidence that settlements were carefully maintained, in both every-day and ritual contexts. There is little evidence for deliberate destruction of place in the study area in terms of domestic sites, but there is widespread evidence for the renegotiation of boundaries and places in agricultural contexts. Perhaps this allows us to suggest that social relationships between communities were more actively and openly negotiated in the fields and pastures of the wider landscape, rather than within the carefully maintained and sometimes ritually protected domestic spaces of settlements and enclosures.

This review of place has suggested that the significant continuity in site occupation may also have only been appreciably altered by events and processes taking place at a much greater spatial and social resolution. For example, the study area sees the foundation of a large number of new settlements during the 3<sup>rd</sup> century, a period of quite rapid change across the Roman Empire (Christol 1996, Potter 2004). Whilst these processes are not necessarily causally linked, it is certainly an interesting correlation. Similarly, the most substantial and striking change in landscape boundaries highlighted in this section, the slighting of Grim's Ditch by a Roman road, is part of a wider process of the imposition of an imperial road network across Britain. Whilst it is possible, as discussed earlier, that the Roman group surveying the road's course deliberately attempted to weaken the importance of this major prehistoric land division, the actual decision to construct it was in all likelihood taken with little concern or understanding of the sociospatial dynamics around the Great Ridge. We can thus begin to see different sociospatial resolutions operating simultaneously in the study area, altering how places and locales were constructed, used, defined and perceived.

### **Rural practices in the landscape**

The landscape does not merely consist of agricultural fields, pastures, watercourses and settlements. A host of other activities took place, and the range of these activities can begin to allow us to understand human-landscape relations in depth in the Roman period (Allen and Sykes 2011). Data on a range of landscape features associated with key forms of landscape interaction at particular places was collected as part of this study. The features were selected based upon two main criteria. Firstly, what landscape features had been recorded at sites within the study area, so as to avoid ignoring classes of features that have not traditionally been considered as proxies for landscape interaction (e.g. quarrying). Secondly, features identified in Chapter 3 as signifying landscape interaction, and that are found either elsewhere in the wider region, or in the second case study area, to allow comparability of results. The frequency of places with evidence for these interactions will be reviewed, and key datasets from within that selection will be further analysed. Table 9 summarises the frequencies of these features. The relatively low frequency of most of these

categories reinforces the relative lack of well excavated sites in the study area.

These results do, however, give some indications of the character of landscape interaction across the study area. In particular, the high frequency of grain dryers and quern stones strongly corroborates the existing suggestion that grain production was a highly important practice in the landscapes of the study area during the Roman period (Table 9, Figure 39; Moorhead 2009). We can begin to understand where key stages of the process of food and drink production took place through finds of quern stones and grain dryers at archaeological sites. The term grain dryer is still retained in much archaeological literature on the Roman period, despite these characteristic structures having been conclusively proven to “not dry grain efficiently or economically” (Reynolds 1999, 159). Instead, they have been proved to function effectively as malting ovens, a key part of the process of making beer (Reynolds and Langley 1979).

It is possible that, as in the medieval period, most of the population of Roman Britain drank beer as their everyday beverage, rather than potentially polluted water. However, the potential for biofouling of water varies significantly depending on a range of factors, particularly the origin of the water and the maintenance of hygiene around this source (Bachmann and Edyvean 2006). Temperature and piping also have significant influences on the quality of drinking water (Bachmann and Edyvean 2006). Pollution of ground water and river water became a very major problem in urban settlements as these developed in the Roman and Early Medieval periods, but may have been less of a problem in smaller settlements in rural areas. No work appears to have been done on the subject of water pollution in Iron Age or Roman Britain beyond lead pollution, which the most recent synthesis has concluded did not have major effects on Romano-British populations, even elites (Retief and Cilliers 2006).

It is important to note that beer also had a notable social importance in British society into the Roman period (Pitts 2005), despite the oft-stated social importance of wine to elite consumption (Haverfield 1923, Mattingly 2006, Henig 2010). Pitts (2005) suggests that beer consumption was not a mark of cultural resistance, but instead was part of a wider web of

prestige consumption surrounding the giving of food and drink by elite people and groups. Whilst this is likely to be the case, particularly in the elite context of the Colchester sites which Pitts studied, the practice of beer consumption has both a wider social relevance, and a wider socioeconomic importance. It is also possible that beer may have been imported to urban areas from rural areas, although difficult to prove.

<b>Interaction with landscape</b>	<b>Frequency</b>
Grain Dryer(s) – processing of harvested cereals	14
Milling / Millstones – large scale cereal processing	1
Quern stone(s) – smaller scale cereal processing	7
Clay/Stone extraction – on any scale	5
Water management – baths, canals, etc	1
Woodland Management	1
Fish ponds	0
Olive press(es)	0
Terracing	0
Pottery Production	0
Well(s)	0

**Table 9 - Frequency of features associated with particular interactions with landscape across the south-west Wiltshire study area. Some categories added for comparison with Montagne Sainte-Victoire case study.**

Beer production and consumption was not only important in elite contexts. Beer, together with milk and perhaps herbal infusions, would have been the only alternative beverage to water for most of the population. Whilst insufficient work has been undertaken to discern the viability of drinking water sources in the rural landscape, Bachmann and Edyvean (2005) cite agricultural activity first of the main factors that impact on the quality of groundwater or surface water.

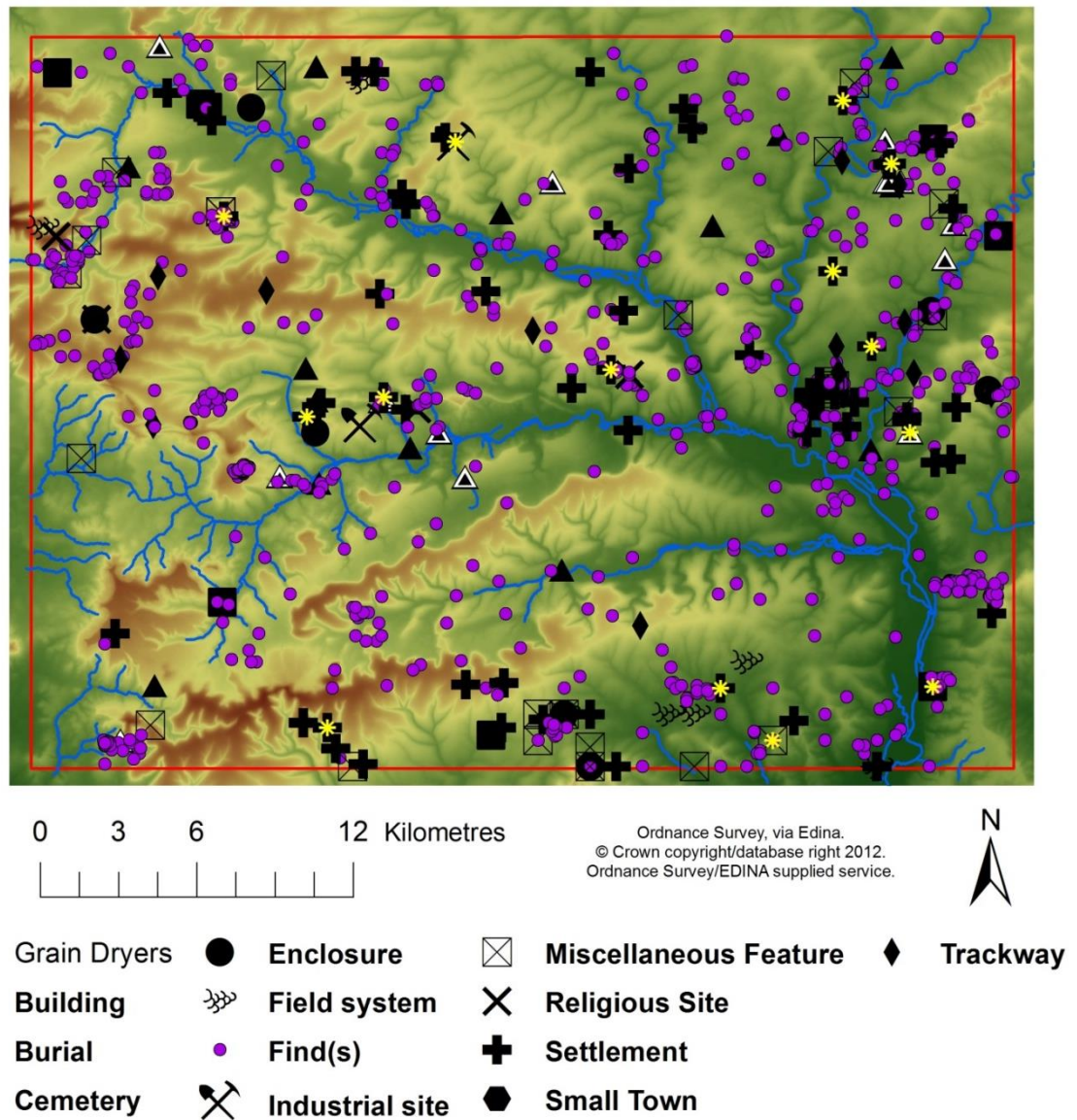


Figure 39 - Distribution of grain dryers in the study area, superimposed on all other archaeological data.

The intensively farmed rural landscapes of the study area were reliant on natural watercourses and springs for irrigation when necessary and for drinking water for animals. Although no chemical fertilisers were used, with the probable exception of lime, there is likely to have been extensive manuring. This would have led to the presence of at least some faecal matter in water runoff from fields, the severity of which would be partly determined by the regularity with which ditches were maintained (Atha 2007). We might therefore posit that most surface watercourses (rivers and streams) would have been at least somewhat polluted, particularly further downstream, whereas settlements with

immediate access to springs may have had more reliably clean water sources.

Therefore beer, alongside milk and perhaps herbal infusions, is likely to have had a vital role to play in sustaining the population. It has been suggested (Unger 2004) that a range of herbs, narcotics or other flavourings (particularly honey) were likely added to the relatively weak beer to provide variety and a range of tastes and effects. Pitts (2005) finds a clear association between beer vessels and strainers, perhaps bearing out such a connection. One such strainer, found at the 'Doctor's grave' in Colchester, contained wormwood flavouring (Pitts 2005, 155), presumably strained out when beer was served. The only trace of wine drinking from the study area is a set of five imported vessels, including two wine strainer bowls, found 1.6km east of the shrine at West Keysley Farm (Figure 40). It is unclear why these vessels were deposited where they were, as they are in the midst of a very extensive 'Celtic' field system, and it entirely possible they were used to strain beer as well as wine. Overall, wine drinking does not seem to have played a major role in drinking practices in the study area.

The simplest explanation for the lack of prominence of wine consumption is that the raw materials necessary for producing beer were readily available in the landscape. These were wheat or barley for malting, yeast and water; hops are not recorded as being used until the medieval period (Unger, 2004). Fermentation removed most of the health risks of water outlined above. Thus brewing presented a method of providing bulk quantities of beverages that were safe and pleasant to drink, creating the conditions for brewing to take place across most of the study. Consumption of food is quite often discussed in sociocultural terms in studies of Roman Britain, but with the exception of Pitts (2005) and brief references to the importance of imported wine, beverage production and consumption receives little attention. As in the medieval period (Unger 2004) it is likely that most brewing took place on a relatively small scale within households or farmsteads and was undertaken as another task in the daily round, and this is mirrored by the distribution of grain dryers.

The evidence of the prevalence of grain dryers (malting ovens) from this study area emphatically suggests that the production of beverages was a key activity in the landscape,

and deserves to be studied in greater depth. There are fourteen sites within the study area with confirmed grain dryers (Figure 39). All sites have only a grain dryer, with the exception of the three grain dryers at Spring Pond, Rockbourne, which is strongly associated with Rockbourne villa, just beyond the southern edge of the study area in Hampshire. Grain dryers are a class of feature that is quite unlikely to be discovered except through excavation. Geophysical surveys are not especially likely to identify grain dryers unless they are conducted at high resolution due to the relatively small size and complexity of the features, and similar difficulties apply to aerial photography. Considering that only twenty six sites in the study area have seen significant excavation, and that these excavations were seldom extensive, a very high proportion of sites in the study area demonstrate the presence of grain dryers.



**Figure 40 - Five vessels found near West Keysley, Wiltshire. The three vessels with handles are trullei, a form of saucepan, and the other two vessels are wine strainers. One trullei bears the maker's mark of a workshop near to Pompeii, and dates from around 100AD. Photo: copyright Salisbury Museum.**

The majority of grain dryers are directly associated with settlements and the remainder, with the exception of Spring Pond, are located at separate sites a short distance away from known settlements. It is clear that this part of the production process took place in the immediate vicinity of settlements, rather than within field systems or on separate

production sites. Given that the only example from the study area where this is not the case is the set of three malting ovens associated with but some distance from the elaborate villa at Rockbourne, just out of the study area, it is possible that that anomaly stems from the operation of a different scale of production on land associated with the villa. The larger capacity of three features and their distance from the villa may imply estate level production of beer for those working the fields surrounding the enclosure at Spring Pond. The villa at Downton does not display any such separation, with a closely associated single grain dryer, despite its size (seven rooms) and luxury (bath house, mosaic floor) (WILTS HER SU12SE301). Downton is also in the south-east of the study area, close to Rockbourne, and demonstrates that we cannot assume a simple contrast in the social contexts of beverage production between villas and other rural settlements. Instead, choices regarding the organisation of this important aspect of consumption may have rested on more local, circumstantial concerns and relations.

Despite the complexity revealed by this review of grain dryers, we cannot associate these features and the activities they imply with particular political territories active in the case study area. Although there are slightly more in the central and eastern parts of the study area, this seems likely to be a function of archaeological bias, rather than variations in landscape practice. This discussion has, however, provided an insight into the social landscape of the area. It is certain that the practice of brewing using malted barley was widespread across the study area and was carried out in close proximity to, or within, settlements. The only exception to this is a site associated with a large villa establishment just beyond the study area. This has significant implications for the mix of crops grown in the study area. The level of beer production implied by the prevalence of grain dryers requires a substantial quantity of barley, unless wheat beer was being brewed.

It is interesting to note that barley production increases in the later Iron Age (Dark and Dark 1997), as feasting becomes a more prominent social practice (Van der Veen and Jones 2007). Whilst this is often interpreted as part of a more general increase in cereal crop production creating surplus wealth that facilitates feasting, and the development of a more



stratified society, perhaps this is also partly an increase in production in response to demand from elites for beer to consume at feasts? It is clear that much more work needs to be done on corn dryers, particularly on the question of why these structures only appear in the Roman period in Britain. If they are malting ovens, as the only experimental work (Reynolds and Langley 1979) suggests, then how was grain malted in the Iron Age? Alternatively, if these structures are, contra Reynolds and Langley, for drying processed grain prior to storage, why do they not function efficiently or effectively? Also, considering the quantity of grain produced in the region, why are they so few in number and comparatively small in size?

The second most commonly recorded features with connections to landscape interaction at occupation sites were quern stones (Figure 41). Quern stones are a key part of the process of producing flour from grain crops, grinding processed grains into flour. They have also been used for a range of other grinding purposes, including cosmetics, plant processing or even aspects of metalworking. The querns found in the study area are not of sufficient size to have been millstones, and are hand querns. One millstone has been excavated from the study area at Butterfield Down, although there is no indication of the form of any mill with which it is associated. The distribution of milling stones of all types is restricted to settlements, with none found at higher status buildings. This suggests that higher status settlements received their flour as flour, rather than as grains to be milled, although it is always possible that quern finds from these sites have not been published.

The geographic distribution of milling stones is also noteworthy. These artefacts are concentrated in the central and north eastern parts of the study area. It is possible that the lack of milling stones from the south of the study area reflects a different approach to milling, with grains being milled away from settlements. This might explain why no grinding stones have been found at settlements. If this is the case, this is a clear difference in how the farming process took place. There has been significant debate regarding the details of the production process for flour (Stevens 2003, Jones and van der Veen 2006), but this debate has been framed in terms of questioning which of several competing academic

models is correct, with no consideration given to the possibility of multiple, differing forms of production being active in the same region at the same time. Whilst the distinctive distribution of milling stones in the study area does not give us any new insight into the details of the production process in which these particular examples were used, it does suggest that contrasting production processes were used elsewhere within the study area.

Five instances of stone extraction are recorded in the study area, and none of clay extraction. We can be fairly sure that clay was extracted within the study area, as a number of local wares were produced in the region, and are highly likely to have used local clay sources in their production (James 2010, Roberts in prep. b). One candidate for such industrial extraction is Lower Holt Wood, Teffont, where large earthworks (banks, trackways, deep pits and dumping) along a clay seam are undated, but without any historical record. Such substantial industry seems likely to have been recorded if medieval, considering the relatively small size of the village at that time, and thus may be a Roman clay extraction site.

Similarly, some buildings in the area are built from local stone, but the extraction sites and provenance of this stone has not been recorded (e.g. the villa at Downton (Rahtz and Morley-Hewitt 1963)). Three sites, Teffont Quarry, Lady Down (Tisbury) (both limestone) and Maddington Farm (Shrewton) (chalk) display direct evidence for Roman quarrying, and two others record the provenance of stone to additional quarry sites. The corridor villa at Upper Copse, Allington, uses stone from Chilmark (Algar and Swan 1970), and the site at Glebe Field, Teffont Evias, uses stone from a nearby greensand ridge, and Teffont Quarry (Roberts in prep.). Although stone buildings and structures are known from across the study area, most appear to use stone extracted locally during the construction process, as at Glebe Field. Lady Down displays evidence of beehive quern quarrying, but even at such sites which seem to provide evidence for quarrying beyond immediate local needs it is impossible to estimate the scale of production due to the reuse of stone sources in later periods leading to destruction of evidence, or a lack of investigation at the site. As such, few conclusions can be drawn regarding the social significance of quarrying in the landscape

beyond a brief discussion of possible reasons for the quarrying that we know took place.

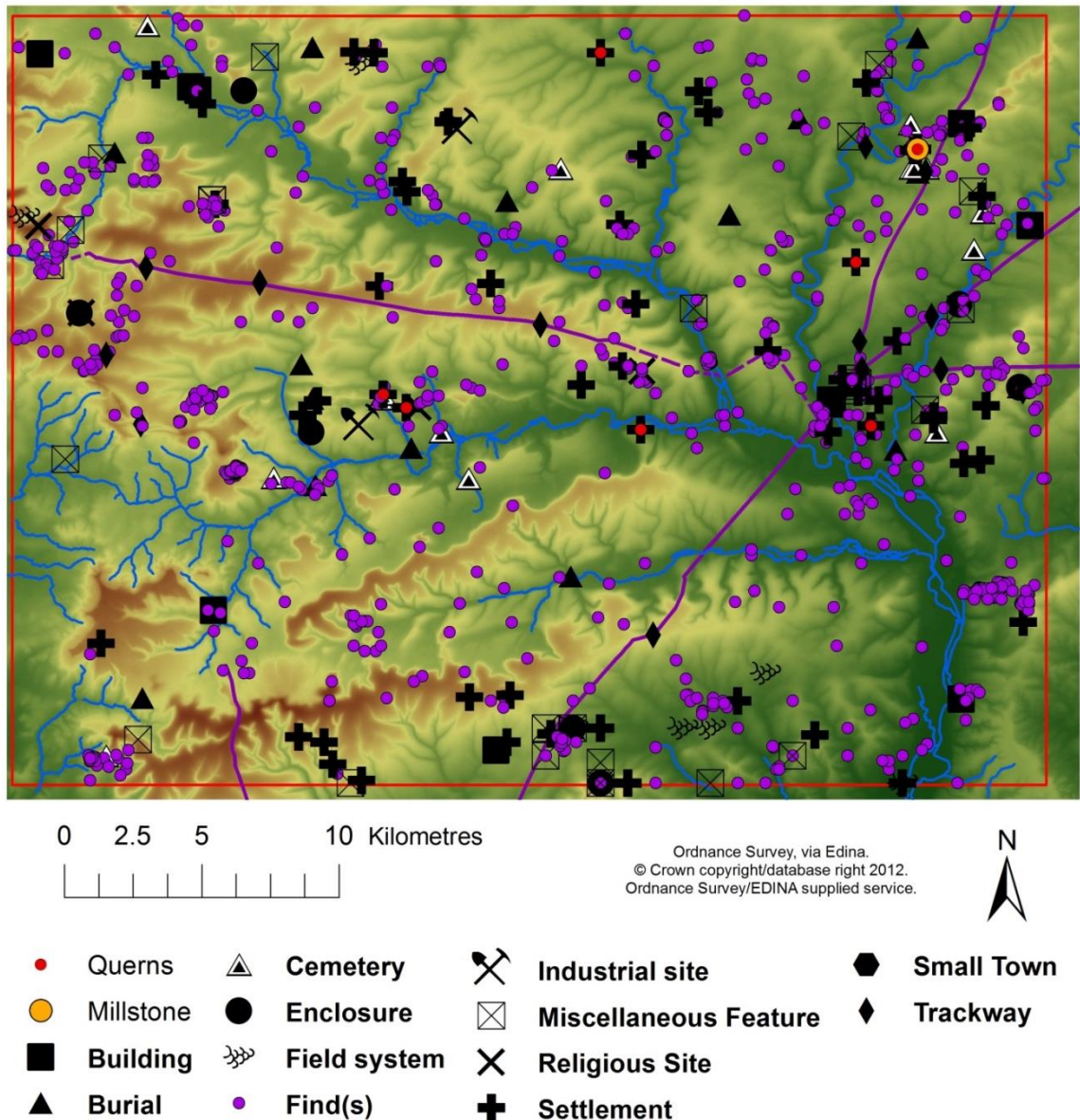


Figure 41 - Distribution of milling stones in the study area, superimposed on all other archaeological data.

The distance between Chilmark and Allington (24.5 km) demonstrates that stone could be moved long distances when required, but without further evidence this isolated example can tell us relatively little. It is interesting to note, however, that Lady Down, Teffont and Chilmark quarries all produce high quality limestone, which is not available over much of the study area, where the bedrock is either chalk or mudstone. Limestone from Teffont Quarry is also used as a facing stone for the enclosure wall of the shrine and within other

structural features at Upper Holt Copse, Teffont Evias (Roberts in prep. a). The side of the enclosure with a direct view to the large settlements on the southern side of the Great Ridge was faced in white limestone blocks, almost certainly to display the shrine from a distance (Roberts in prep. a). It therefore seems that to some extent the choice of location for quarrying was dependent on the social need for stone with particular characteristics and where such stone might be found, rather than a functional need for a stone wall, when local stone could be used with little difficulty.

This extended discussion of grain dryers, milling stones and quarrying has drawn out some of the range of interactions with nature in the study area. A particularly evident theme has been the interconnectedness of society and landscape, and the importance of social relations at a local or regional scale, rather than political territories. A more meaningful distinction can be drawn between different ways of living across the study area, partially connected to pre-Roman trajectories of social change, than between putative territories such as civitates. This conclusion can only be drawn very tenuously at present, however, and will be discussed further in following sections.

### **'Place' in the landscape**

This section has predominantly considered landscape interaction in a horizontal manner, looking at distributions and variation across the study area rather than relations between people and processes within the landscape. It is clear, however, that certain patterns emerge from this analysis. Firstly, production was not only important in terms of the economic end product, whether wheat, carved stone or beer, and how that product was consumed or used. The maintenance and curation of the landscape and structures, herds and ritual practices within the landscape were also a key part of maintaining social relations and prestige, and involved considerable investment. Secondly, landscape practice, especially the location of settlement and some field systems, demonstrates considerable continuity from the Late Iron Age. This is not to say, however, that only Roman intervention caused change in landscape practice in the case study area. Certain elements of landscape practice go through significant change, apparently without outside influence. For example,

the lack of grain dryers (or malting ovens) on Late Iron Age sites and widespread appearance of these structures in the Roman period raises questions regarding the production and consumption of beer and grain in the Roman period, and the social changes that this implies.

Some changes, however, may be related to wider issues. There is a significant intensification in settlement pattern in the 3<sup>rd</sup> century, with the establishment of several new settlements (c.25% of settlements with good chronological data available are established in the 3<sup>rd</sup> century). This may relate to the agrarian reforms of Emperor Probus (276-82 AD) (Moorhead 2009, 156), which coincide with the beginning of a major period of economic expansion in central southern Britain. Moorhead (2009) posits that this is due to the increased demand for agricultural exports, particularly grain, from Britain to the continent in the wake of several invasions that caused severe damage to estates in central and north-western Europe, a geopolitical trend that continues through to the famous grain exports from Britain to the Rhineland under Julian (355-63 AD).

Many of the issues raised here have highlighted the limits of the dataset and current research in the study area and beyond when interrogated from a spatially integrated research stance. This demonstrates the importance of the theoretical approach taken in providing a novel way to attempt to understand the landscape in holistic terms of interactions with landscape, rather than as a set of discrete events, activities or sites. The following section will consider how scales of power may have affected interaction with landscape, looking at vertical considerations of elite power, economic power and trade.

## **Scale**

### **Imperial / Elite Power**

During the Roman period throughout the Empire the power of the Imperial state, or its regional successor states during periods of secession, was a dominating force. Although some areas were treated differently during the process of conquest depending on the level of collaboration of local elites, the creation of Empire was a militaristic, colonising process

(Mattingly 2006). As such, state power was a key force in shaping society within the Empire, and must be considered when attempting to understand interactions with landscape.

As discussed in Chapter 3, scholars in the mid 20<sup>th</sup> century believed that the study area may have been part of an imperial estate due to the lack of villa establishments in the wider region, although this is now seen as less likely due to recent discoveries of villas around Salisbury Plain (Draper 2006). As other scholars have discussed, in the absence of written records, it can be difficult to differentiate between an agricultural landscape exploited by Imperial administrators, or by other elite groups (Fincham 2002, Draper 2006). Both would have used substantial buildings as a base from which estates could be operated, both are known to have displayed high status material culture, and both would have had similarly unequal and exploitative relations with those working or enslaved on their estates. Chapter 3 discussed the possibility of such imperial estates, or villa estates, existing in the study area and concluded that there was little evidence to support this hypothesis. Further analysis in the sections above has not exposed any additional evidence to support this hypothesis in terms of settlement location or landscape management. The previous section demonstrated that no associations like those found by Fulford *et al* (2006) of lowland villas with subsidiary downland farms or villages can be seen in the study area.

There are, however, some suggestions that such power structures may not be completely absent. Building type sites (of which many are likely to be villas) are significantly more likely to be located in river valleys than other settlements. These locations would have primary access to trade goods transported by water which, as Chapter 3 outlined, would be the majority of goods transported in the region. Sherratt (1996) discussed the importance of the Wylde valley to Mid to Late Iron Age trade routes in the region, although he suggests that its importance declined during the Roman period. He suggests that the twin hillforts of Scratchbury and Battlesbury Camps were built to control movement along the Wylde river system at the point where traders would have make a short overland journey to reach the headwaters of the Rivers Frome and Avon (Bristol). It is entirely plausible to similarly suggest that the two buildings located in very similar location (Figure 42) were also partly so



located in order to intervene or to take advantage of this trade corridor.

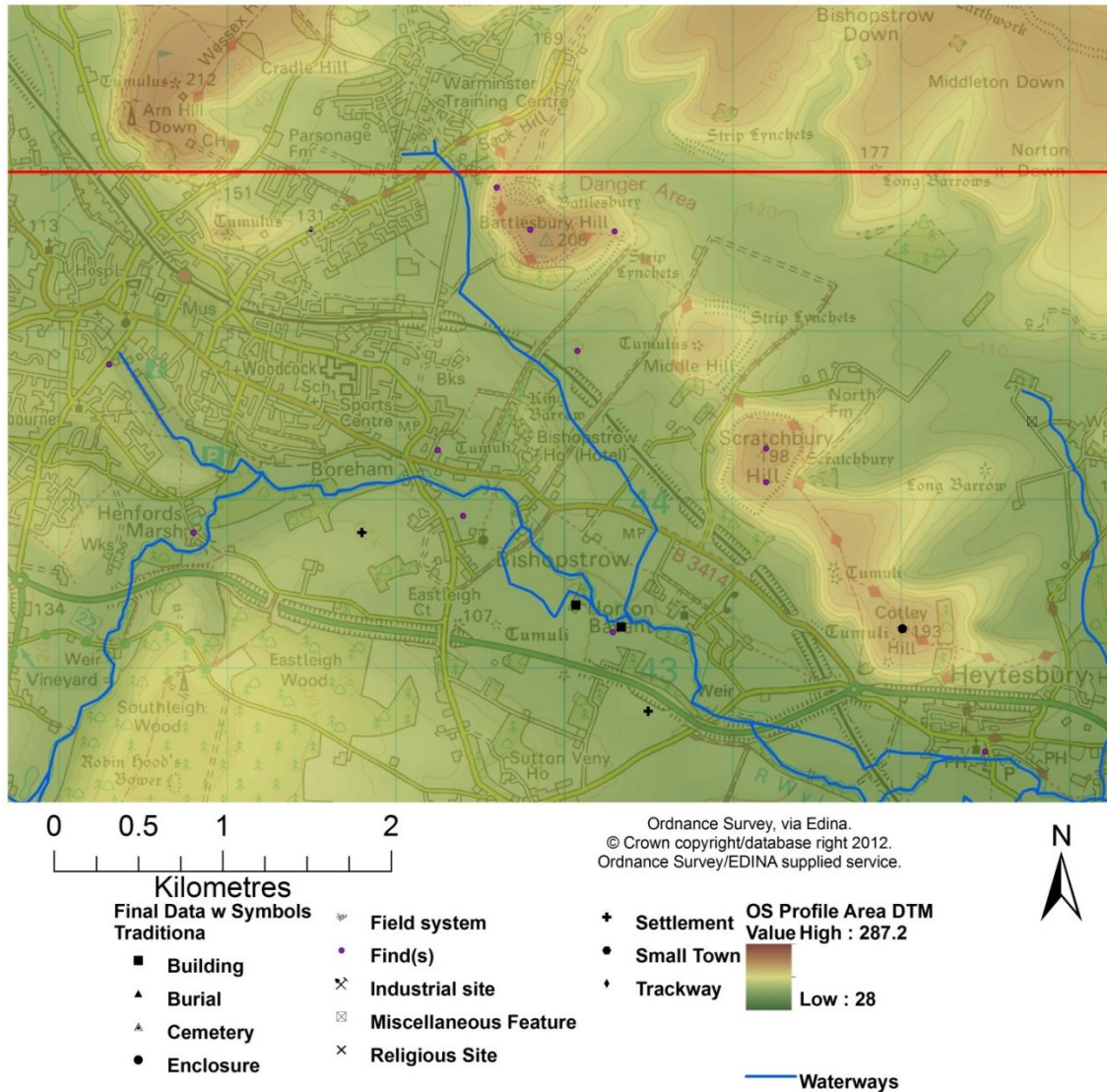


Figure 42 - The Upper Wylde Valley - note the location of the two riverside Roman buildings, and the similar - if more imposing - locations of Battlesbury and Scratchbury hillforts.

It is also telling that the only small town in the region, Sorviodunum, is located close to the junction of the rivers Avon, Bourne and Wylde, the major north-south corridors across and around Salisbury Plain to the Vale of Pewsey (Avon and Bourne) and the Cotswolds (Wylde), and directly on the banks of the most substantial of these, the Avon. Indeed, although there is evidence for settlement and activity around the road junction immediately north-east of Sorviodunum, the most substantial structures and the town itself are located as close to the river as is possible (Figure 43) However, Sorviodunum is generally discussed in terms of its

location at a road junction. This is missing a substantial aspect of the strategic and economic power of its location, the ability to influence trade and communications along three major waterways. This kind of hierarchical power is derived from both scale and networks. The scalar, vertical power of imperial elites allows the creation of Sorviodunum, and at a more devolved level, the creation of valley villa establishments, but the network-based dimension of power regarding connections and movement seems to be a major factor in the choice of such locations and the continued maintenance and sedimentation of that power.

There may, however, be another aspect to the location of these high status settlements. Existing settlement patterns show a strong continuity from the Iron Age and a focus on exploitation of downland. Although there is some evidence for exploitation of wetland areas, the primary focus of settlement was the downland and higher valleys (Figure 22). It is possible that the location of elite settlements in lower areas was partially a case of the filling of a niche in the agricultural exploitation of that part of the landscape, based on the opportunity provided by two key aspects of the elites constructing such settlements.

Firstly, these elite groups had access to the financial and labour resources needed to make the capital investments necessary to more intensively exploit the river valleys (a factor of sociospatial scale). Indeed, it is entirely plausible that the wealth and resources to make these investments were extracted from the local population, whether in money, goods or labour. Secondly, due to the access of these groups to expertise in water management from the wider Empire (Purcell 1996, Leveau 2006), they were better equipped to understand and exploit such apparent agricultural opportunities (a factor of sociospatial networks). It is also probable that the continuing gradual erosion of downland soils was slowly enriching valley soils during the period (Lawson 2007, Brown 2009). Although no river valley landscape in the study area has been sufficiently investigated to explore this possibility, it may be that the study area sees changes similar to those observed at Dorney, Buckinghamshire (Parker *et al* 2008).



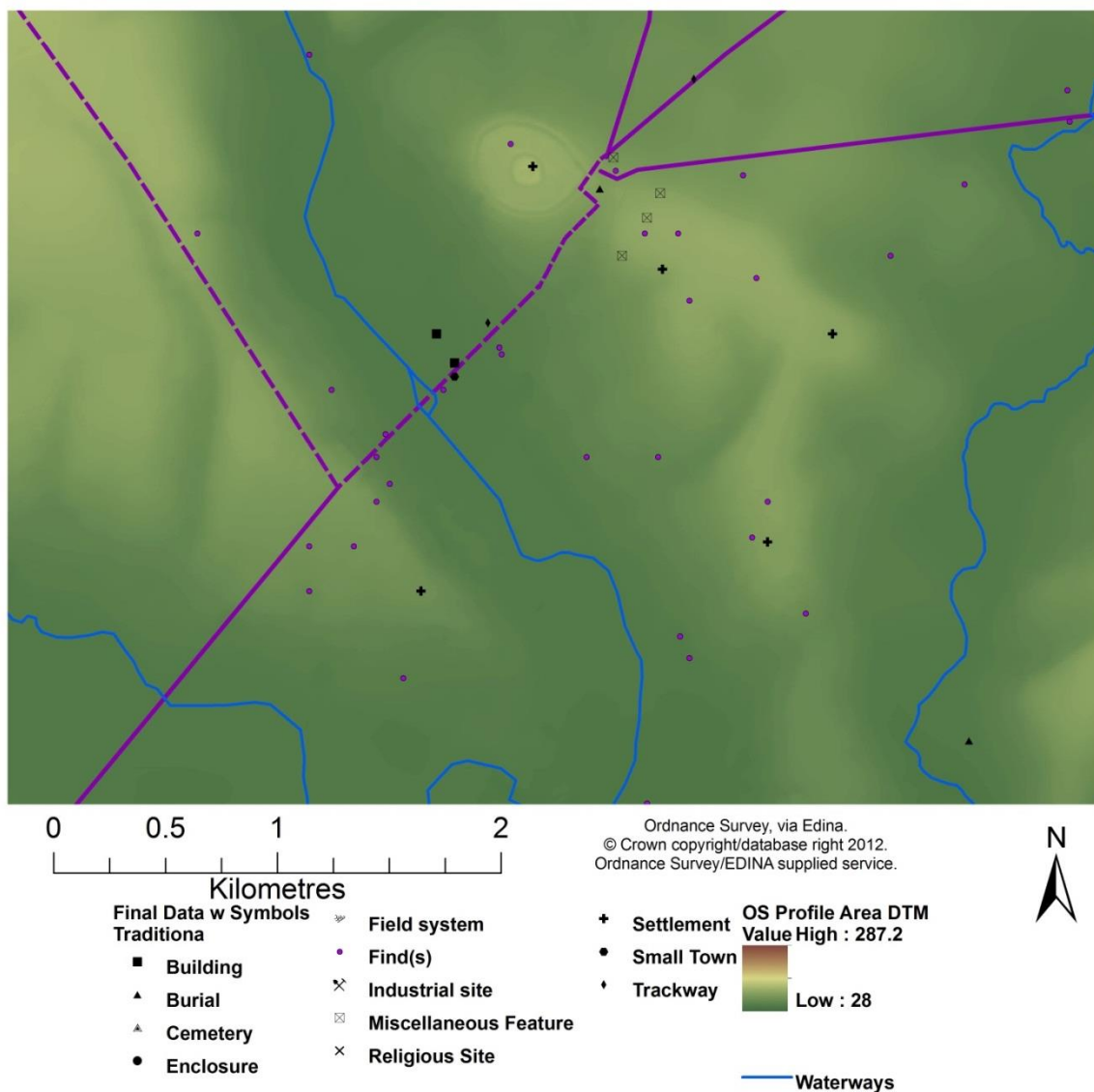


Figure 43 - The Roman landscape of Sorviodunum.

In the river valley at Dorney late Iron Age and early Roman hay meadows and pasturing were replaced in the 2<sup>nd</sup> and 3<sup>rd</sup> centuries by intensive cereal cropping, despite occasional flooding of fields, possibly contributed to by increased river sedimentation due to soil runoff from river valley ploughing (Parker *et al* 2008). This agricultural activity was based from a river valley settlement site 800m away (Parker *et al* 2008). It is possible that the placement of elite valley settlements, the hierarchical power of scale and the network resources of environmental and agricultural knowledge to which their population had access allowed more intense farming practices to be established in river valleys during the Roman period.

Further field research into these areas in the Roman period would be rewarding in building our general understanding of Roman attitudes to and interactions with nature, and how these aspects of life were related to sociospatial scale and networks.

Other aspects of imperial power active in the landscape have already been discussed, including the imposition of the road network and the changing economic relations of the study area's population to the wider Empire.

### **Economic power**

Economic scales of power in pre-industrial societies are often very closely linked to agricultural production and social hierarchy, and this was certainly the case in the Roman period (Green 1986). Several strands of economic power scales can be drawn out for the study area. Firstly, power relations of production in the economy. Secondly, access to varying amounts or different varieties of economic resources. Thirdly, how economic produce was defined, measured and controlled. These final two concerns are also closely linked to networks of interaction across (and beyond) the study area.

Relations of production have already been considered in the traditional terms (e.g. Hingley 1989) of the relations between elite settlements and other sites within the study area in earlier sections of this chapter and Chapter 3. There are certain issues regarding relations of production that have not yet been covered, however, that are best understood when considering sociospatial scale. The first of these is slavery. Slavery in the Roman Empire is still not fully understood in terms of either its impact on labour markets and the economy, or the social structures by which it was maintained (see Temin 2006 for a recent review of the economics, and Temin 2001, 2004 on labour market structures). Whilst the work of Webster (2001, 2005) has highlighted the lack of research on slavery, and emphasised its status as an issue which many academics wish not to approach, definitive evidence of slavery is difficult to locate in Roman Britain, even at high status settlements or urban centres. There is no evidence from this study area for slavery. Despite this, it is likely that at least some slaves were present in the study area during the Roman period because the

institution of slavery was present in elite contexts across the empire, and the study area contains high status sites. Again, this area requires further research. One possibly productive avenue of research would be the creolisation of material culture explored by Webster (2001, 2005), which offers potential for understanding resistance and subversion through the material record. Roskams (2006) also offers an example of the innovative use of archaeological evidence to discover the marginalized population in a Roman context.

A second key aspect of relations of production that has not yet been considered is relations of production within settlements and households. Most settlements in the region are either rural semi-nucleated settlements, or individual farmsteads. Some settlements, such as Stockton Earthworks or Ebsbury are very large (70ha and 40ha respectively; James 2010), whereas individual farmsteads such as that at Burcombe would have farmed smaller areas. There would clearly be a substantial difference in volume and probably variety of agricultural production between these settlements in their entirety, but little is known about the relations of production active at such sites. Whilst the settlements included individual household enclosures (Figure 11), the presence of separate living spaces does not necessarily imply anything about relations of power and production at such sites. Unfortunately no large village settlement in the study area has been subjected to modern excavation, or exhaustive landscape survey, so little data on settlement structuring, consumption and social relations at such sites is available to be analysed.

Relations of production within settlements, whether villages, farmsteads or other sites also need to be considered. Hingley (1989) has suggested that the family unit was the basis of Romano-British rural societies, and there has been surprisingly little debate regarding this, given how central it is to how people interacted with the landscape and environment in their everyday activities. Even less consideration has been given to how different individuals may have interacted with the world around them in such a context. It is implicit in much of the literature (e.g. Hingley 1989, Fuller *et al* 2006) that gender and age would have been significant divisions in rural society, and perhaps they were, but surprisingly little investigation of these issues has occurred.

One particular example from beyond the study area hints at the complexity that may exist within economic relations in Roman Britain in terms of power divisions between gender in poorer families or settlements. Fuller *et al* (2006) used isotopic and osteoarchaeological techniques to investigate the diet and health of individuals from the substantial cemetery at Queenford Farm in the Upper Thames Valley. They discovered a significant difference between the levels of protein in male and female diets, a significantly lower female than male life expectancy (likely beyond that expected due to deaths in childbirth) and unusually small statures for the entire population. These trends are interpreted as signalling a community under significant environmental stress, where a strategy was adopted of prioritising food (particularly protein) for those undertaking the work most productive of food. There is a major implicit assumption in this interpretation that male members of the community were undertaking the majority of agricultural work, although this is possible. Other isotopic studies from the Roman period (e.g. Richards *et al* 1998, Redfern *et al* 2010, Redfern *et al* 2012) did not reveal similar trends, suggesting that the pattern of dietary stress observed at Queenford Farm may be the result of the socio-political turmoil of the end of the Roman period in Britain. Further investigation of such issues needs to take place in the study area (and Roman Britain as a whole) if we are to improve our current lack of knowledge regarding differential interaction with the landscape in the Roman period.

A final aspect of economic power that can be accessed through consideration of sociospatial scales is the question of how economic power and resources were defined and controlled. In the study area, society was strongly focused on agricultural production. Although variations in climate, weather, security of storage and political change may have impacted on production in particular years, scholars generally agree that the region regularly produced surpluses of cereal crops and other agriculturally produced materials during the Roman period (Mattingly 2006, Lawson 2007). This surplus would have provided the means by which rural agriculturally based settlements could acquire goods from further afield through its exchange or sale and transport.

An integral part of such economic activity is the means by which quantities of surplus are

measured and defined. The dataset compiled for this study demonstrates that a consistent system of weights and measures may have been active across the study area (Figure 44). Eight weights have been found, and one steelyard arm with gradations. The weights, with one exception, are of similar design to each other, being either conical or biconical, and are similar to other examples found in Britain (Geake 2001). The weights are found across the study area, with the exception of the north-west part of the study area around the western half of the Great Ridge, and the upper Wylve valley. The weights are slightly clustered around Sorviodunum's surrounding area, but not sufficiently to indicate any statistically robust patterning. In view of earlier interpretations of the importance of river valleys in trade and exchange, it is interesting to note that all the weights save one are within river valleys, or at the heads of valleys, close to watersheds (Figure 44).

<b>Findspot</b>	<b>Weight</b>
<b>Alderbury</b>	120g
<b>Aldeviston</b>	147g
<b>Durnford</b>	53g
<b>Hamshill Ditches</b>	1000g
<b>Tisbury (1)</b>	Unrecorded
<b>Tisbury (2)</b>	Unrecorded
<b>Woodford (1)</b>	108g
<b>Woodford (2)</b>	Unrecorded

**Table 10- Weights found in the study area.**

The fact that a consistent weights and measures system was in place across the study area does allow us to suggest that this was one aspect of economic power defined by the Roman elite. Interestingly, however, these weights are all far too light to have been used in the

weighing major agricultural surplus raw produce, such as unprocessed grain or wool, even allowing for the use of steelyard arms to multiply the weighing ranges. Vessels such as amphorae may also have been used for volumetric control of quantity.

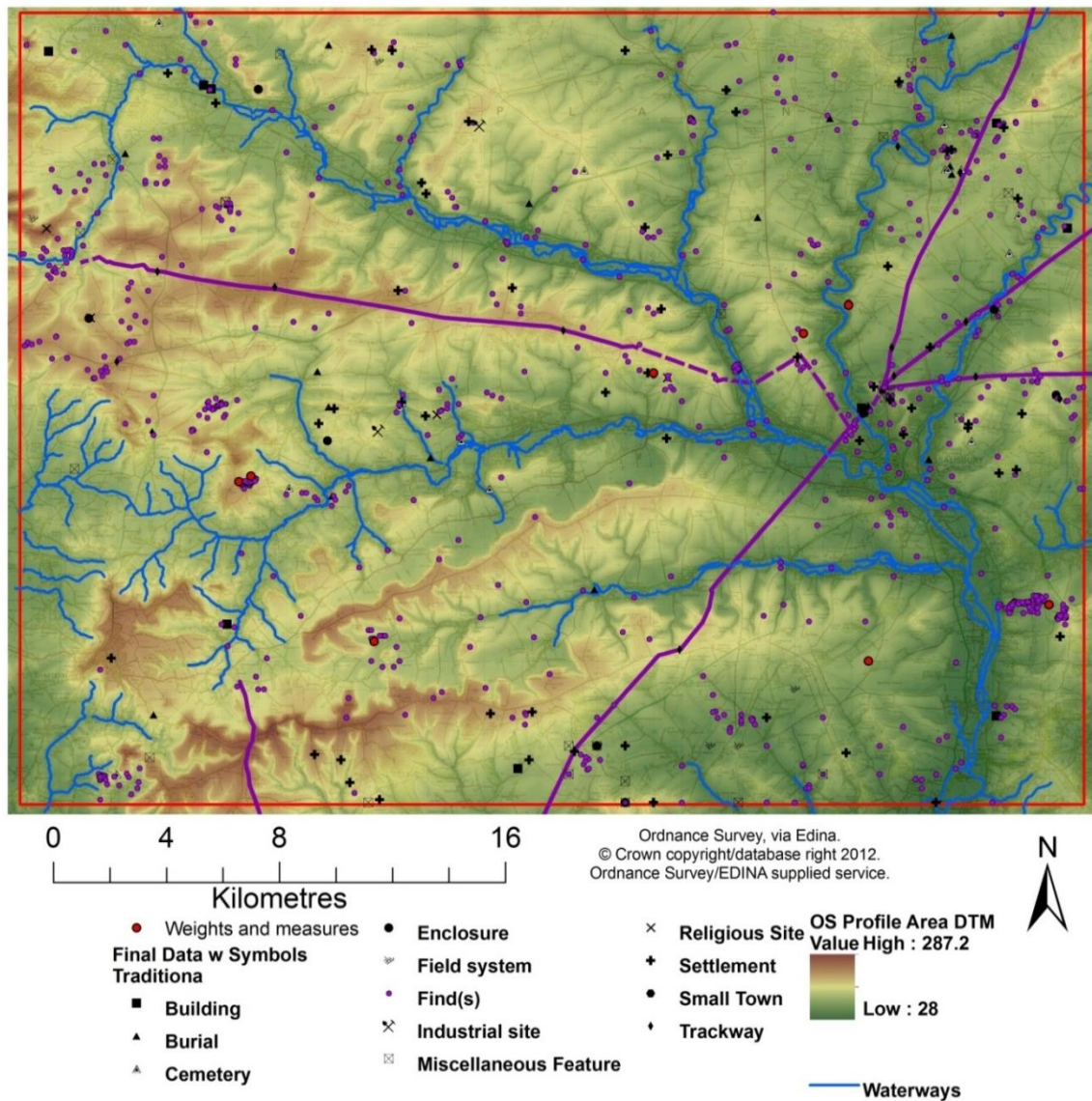


Figure 44 - Findspots of weights and measures in the study area.

The weights are summarised in Table 10. Note the light weight of all except the example from Hamshill Ditches. Although found on a Roman site, this example is in such good condition that the PAS FLO for Wiltshire, Katie Hinds, recorded that it may be a medieval example. If we exclude that example, these weights range between 147g and 53g, hardly weights suitable for defining quantities of agricultural produce on the massive scale of the

region's grain producers, even with the leverage of steelyard arm. Perhaps these were suitable for weighing quantities of processed flour sufficient for domestic use by individual households.

It may also be the case that these weights were used to define some other resource, presumably one with a high value to weight ratio that was yet fairly commonly available, given their quite wide distribution. One possible candidate is salt, a commodity quite commonly available in Roman Britain but of quite significant value due to the labour required to extract it from various locations (Gerrard 2008). Most, if not all, settlements would have needed to use some salt to preserve meat amongst other household uses. It is noteworthy that the only surviving weights are those intended for higher value and more portable goods. Perhaps this is partially a function of the difficulty of transporting bulk crops over large distances, or perhaps these resources were more controlled by the state or elites. It is entirely possible, indeed likely, that the greater economic power of elites to influence the measurement of these resources was also associated with the power of their socioeconomic networks to acquire and distribute such resources.

### **Scale in the landscape**

Hierarchies of power have been shown to be important in the study area during the Roman period in shaping how people interacted or were able to interact with the landscape. A key aspect of such power is the ability to establish new settlements to take advantage of opportunities to exploit the environment and networks of trade, as has been posited for elite establishments in river valleys. It is unfortunate, however, that more research has not previously been undertaken that goes beyond questioning the relations of villas and rural settlements, and 'elites' and 'natives' in the landscape. Control and definition of key high value resources through relations of production, control of trade routes and weights and measures may also have been both a result of elite power scales, and a supporting part of those structures.

Both of these key issues would have had far reaching implications for how people interacted

with the landscape in terms of travel, labour, the maintenance of environmental knowledge, and the definition of resources either derived from, or necessary for, interacting successfully with the environment. Hierarchies of power did not only affect how people interacted with the landscape on a scale between elites and the general population. Discussions in this section drawing on material from Queenford Farm, in the Upper Thames Valley, has demonstrated the potential for understanding society in Roman Britain by examining power relations of consumption and landscape interaction within individuals settlements. Although such research is only beginning to emerge, it can begin to move beyond the current homogenised picture of the general rural population in Roman Britain to explore issues of equality, gender and health. Future research could usefully explore points noted in this section in order to provide a more subtle understanding of the effects of power relations on interactions with landscape in Roman Britain.

## **Networks**

Reviewing how sociospatial networks affected interactions with landscape is difficult. Networks are articulated in a range of material evidence across the landscape, particularly through distributions of styles of material artefacts, the demonstration of particular cultural or social approaches to landscape practice that indicate shared socio-spatial networks, and the physical articulation of networks of economic, social and political relations, roads, waterways and trackways. Trying to understand which aspects of material culture represent real networks of human relations with landscape, rather than simply distribution patterns of a particular item, is key to using this evidence to understand interactions with landscape. The previous section discussed how certain aspects of material culture such as weights and measures can provide insights into interactions with landscape.

The ability to communicate over distance is an important aspect of social networks and exchange. Literacy was a significant marker of social status in many aspects of Romano-British society, and there is artefactual evidence of literate communication through writing in the study area. Evidence from finds was collated (excluding inscription evidence as inscriptions do not testify habitual use of writing as a means of communication). The



accoutrements of writing are more likely to testify to this. The study area has produced three categories of finds directly relating to writing: intaglios, seal boxes and styluses. The extent to which these artefacts reflect the habitual or regular practice of literacy is debatable, but they are certainly associated with these activities. Figure 45 demonstrates the distribution of these artefacts.

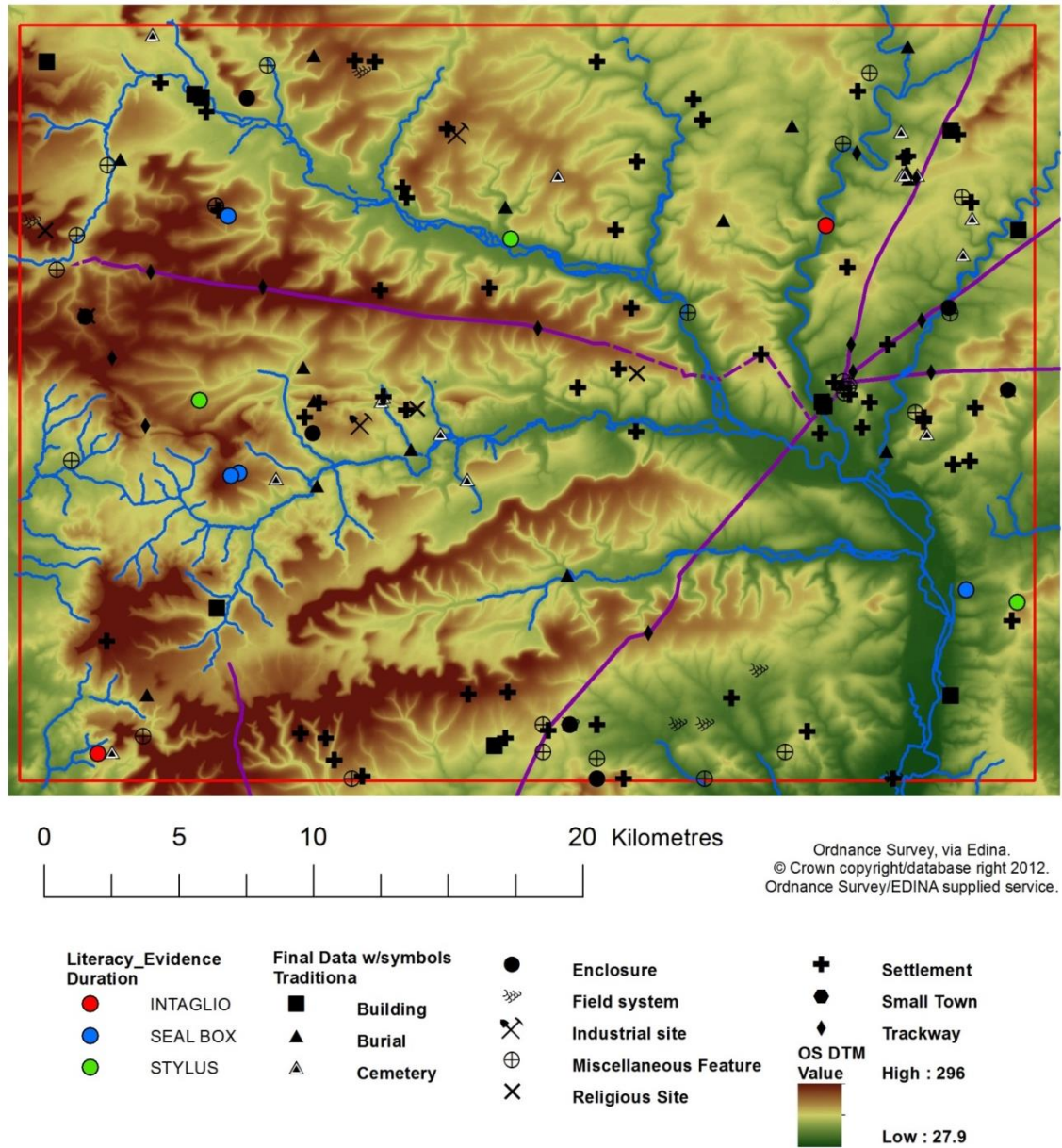


Figure 45 - Artefactual evidence for literacy in the study area.

Whilst the sample is small, some patterns emerge. All these items are located close to

transport routes or rural settlements. None are located closer to sites traditionally considered higher status, such as villas or the small town of Sorviodunum. Seal boxes are found at a multi-focus shrine site near Tisbury (2 seal boxes, one partially destroyed), the rural settlement at Tytherington Hill, and close to the River Avon downslope from the settlement at Witherington.

Styluses have been found at a newly discovered (and not included in base data here due to its discovery in 2012) rural settlement site at Hindon, close to the River Wylve downslope from the rural settlement at Bilbury Rings, and close to the rural settlement at Witherington. Intaglio rings have been found beside the upper River Avon at Great Durnford and in the far south-west of the study area at Twyford. This inverts the expected picture of literacy in the study area. This is likely, however, to be at least partially due to the biases of metal-detected data in this case. Several of the villas sites in the study area are scheduled monuments, such as Rockbourne, and thus not metal-detected. Nonetheless, it is remarkable that none of the unscheduled high status settlements have produced material associated with literacy.

The use of writing instruments speaks to all three of the aspects of networks mentioned above. Writing implies a shared language and literacy on the part of sender and receiver, or at least the ability to gain understanding from another member of the community. Secondly, it implies the existence of regular communication networks between particular social groups, sharing literacy as a common skill. Finally, it signifies acceptance and understanding of a certain set of forms of material culture. Seals, seal boxes and the written word were clearly understood by members of this sociospatial network, which judging by this distribution, contained at least some of the area's rural settlements. The distribution also suggests that literate individuals travelled and communicated at least partially via the river network. This corroborates previous suggestions that high status settlements in river valleys were located there partly to participate in, and perhaps control, riverine communication networks of value to elite groups.

The following section, encounters in the landscape, will further explore these themes of

how the landscape was connected through movement and communication.

## **Encounters in the Landscape**

### **Subsections: 'Encounters on the Road' and 'Structured Encounters'**

This section will consider approaches to studying how the landscapes of south-west Wiltshire in the Roman period were encountered and perceived by those living in and moving through them. Due to the natural overlap between the categories of analysis used here, some evidence relating to this theme has already been considered. Of particular relevance is the discussion of riverine transport and communication, and how elite practice in the landscape sought to control this movement. Also part of how the landscape was encountered, however, were structures that required being part of the community to be fully understood, such as the possible reuse of prehistoric monuments discussed above. In general terms, the maintenance of place, curation of herds and physical structures and demonstration of skills and practices would also affect how the landscape was encountered. A dissonance that has emerged from the previous analyses is that between local and elite groups, particularly in terms of the impact of the Roman road network. The major case study in this section will undertake a detailed analysis of how those using the Roman road network would have encountered the landscape around the roads.

### **Encounters on the road**

Eckhardt's study of the Bartlow barrows in Cambridgeshire suggests that those travelling along the nearby Roman roads were only peripheral to the areas at which the social display of the barrows was directed (Eckhardt 2009, 76). Contrastingly, Witcher (1998) emphasises the role of roads in reshaping and sedimenting Roman presence and control in the landscape through transformation of ideologies and practices of space, and Pitts (2008) focuses on the role of roads as connectors. These three different understandings of how road shaped encounters with the landscape are useful starting points for this analysis.

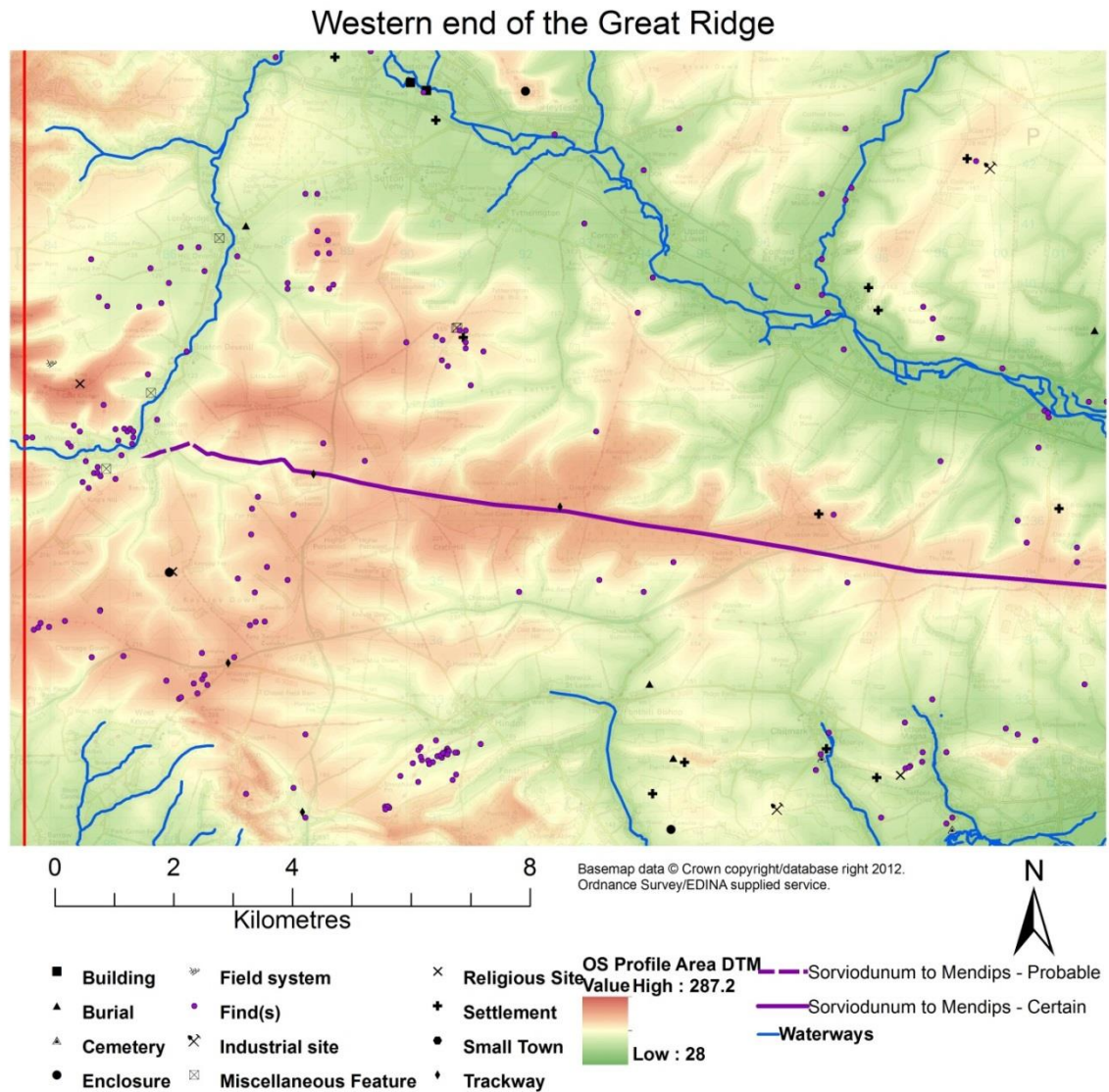
The manner in which the Sorviodunum to Mendips road cuts across and slights a major Late

Iron Age boundary (Grim's Ditch) is a clear example of Witcher's (1998) conception of roads as a transforming and imperialist reshaping of local landscapes (Figure 33). The road is surely also, however, an example of increasing connectivity, creating an axis of movement through the landscape where an axis of boundedness had previously existed (see above discussion in 'Tame Nature'). It is of key importance that the axis of movement thus created was perpendicular to existing axes of movement across the possible border region of the Great Ridge (Gardiner and Allen 2009). Although the road passes between several major settlements along the ridge, it also passes through the northern edge of the western area of possible marginality identified above (Figure 46).

Therefore, although the road *does* appear to sediment Roman control and ideology in the locality, and *would* have changed how those in immediate proximity to it in settled areas conceived, verbalised and experienced the landscape, it was also connecting wider areas in a new way which was not always relevant to the sociospatial relationships in the locality of settlement. The apparent lack of movement of settlement towards the road on the ridge, and enduring significance beyond the Roman occupation of Grim's Ditch as a structural landscape division, emphasise that at a particular sociospatial resolution, the road was incorporated into existing landscape relationships with relatively little immediate effect on the existing schema.

Thus it can in fact be seen that depending on – metaphorically speaking – where you were standing in the sociospatial landscape of the Great Ridge in the Roman period, the road could simultaneously be characterised by all three of the sociospatial perspectives (Witcher 1998, Pitts 2008, Eckhardt 2009) outlined above, even though parts of these, from our flattened, historic perspective, may seem partially contradictory. So for certain people, in certain contexts, the road was liminal, for others it was central whilst the landscape beside the road may have been characterised as liminal, and for still others it may have formed a reference point in experiencing and using the landscape. Given the predominance of 'Celtic' field systems on this part of the ridge (once again not dated closely to the Roman period in the HER, but clearly visible on aerial photography; Appendix 1), however, this may be too

fine a distinction to be drawn at present.



**Figure 46 - The western end of the Great Ridge. Note the comparative lack of settlements towards the western end. Although this landscape was intensely occupied, with extensive field systems and trackways (see Appendix 1), there appear to be fewer domestic settlements on this part of the ridge, which may have led to the road playing a slightly more prominent role in how the landscape was cognitively structured.**

This discussion has thus far considered the implications of the road in terms of those interacting with it and the landscape around it, rather than from the perspective of a traveller along the road. Those travelling on the roads would have seen a certain part of the landscape, shaping their perception of the landscape. Thus ultimately some perceptions of the landscape would have been shaped by those who planned the road. It is important

therefore to consider the parts of the landscape that are visible from the road's course, in order to begin to understand how the planning of the road affected the landscape perceptions of those who used it.

Figure 47 demonstrates a likely maximum area of visibility from the courses of the Roman roads existing in the study area. This model assumes a maximum visibility of 10 km, and was adjusted to allow for the curvature of the earth. Viewer heights were calculated from midway between the male and female mean adult height measurements for the Roman period in Britain given by Roberts (2009, 144; Table 11). Viewsheds were then calculated from each road based on the Ordnance Survey Profile digital terrain model. These viewsheds were then combined to produce a representation of areas that could possibly have been visible from any of the Roman roads present in the study area. This is only a model, however, and the effects on visibility of vegetation, structures, weather or time of day/night are some of the main aspects which it does not include. This could, however, be reasonably said to be a clear representation of all of those areas which are not visible from roads in the region.

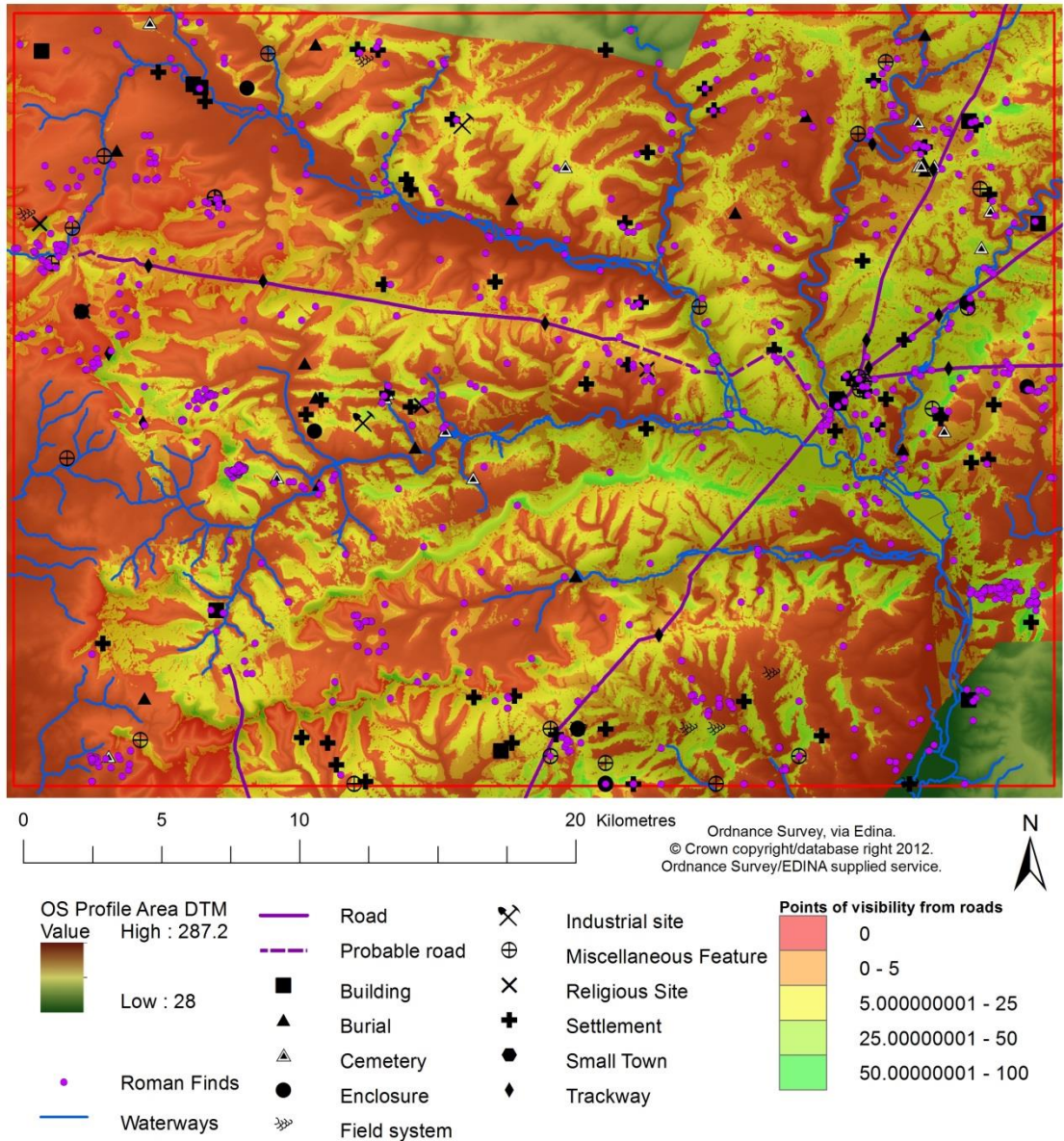
Mean height for males in Roman Britain (M)	169cm
Mean height for females in Roman Britain (F)	159cm
Height used for viewshed calculations $((M+F)/2)$	164cm

**Table 11 - Mean adult heights in Roman Britain, and viewshed observer height calculation. Based on data from Roberts 2009, 144**

This basic viewshed analysis allows us to consider the general character of sites visible from roads in comparison to those invisible from roads, and investigate whether there is any significant difference between the types of site in the two zones (Figure 48). It can immediately be seen that certain classifications of site are more likely than others to be visible from Roman roads. In particular, burial sites and cemeteries are both more likely than other types of sites to be invisible from all roads, contrary to traditional Roman practices (Toynbee 1971). This also seems to be the case with religious buildings, although



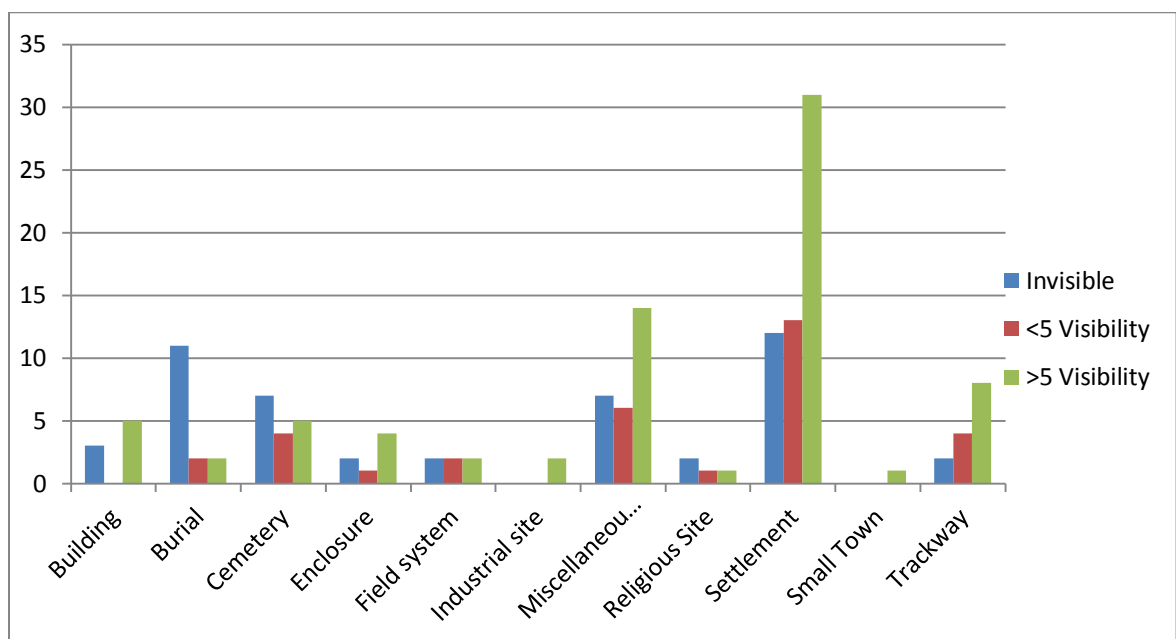
based on the small sample of four religious sites in the study area. Contrastingly, buildings, enclosures, settlements, miscellaneous features, trackways, and industrial sites are more likely to be visible from roads than not. Sorviodonum is naturally visible from roads because it is located at a major road junction.



**Figure 47 - Transparent cumulative viewshed of Roman roads within study area. Roads in purple solid lines, uncertain courses represented by dashed purple line. Red areas are entirely invisible from roads, orange from between 0 and 5 points along roads, etc – see legend. Maximum visibility assumed to be 10km. No vegetation included. Background topography from OS Profile DTM visible in background through raster (transparency 50%).**

Field systems produced ambiguous results, but given the difficulties of modelling such a large area feature in comparison to other sites which can be appropriately represented

using this kind of point data, it can be excluded from this discussion. Many field systems would have been visible from roads due to the highly agricultural nature of most landscape activity during this period in the region (see earlier discussions). These initial results are interesting, as it suggests that there may have been a difference between how sites were located in relation to Roman roads depending on their use. The combination of cemeteries, burials and religious sites strongly suggests that such places of ritual significance – despite often being associated with settlements – were intentionally located beyond the view of those moving along the roads. This begins to afford us an insight into how space and landscape use may have been structured by cognitive divisions.



**Figure 48 - Visibility of different types of site from Roman roads in the study area. It is important to remember that this data is derived from cumulative viewsheds at many regular points along each road, and therefore it can be suggested that sites with <5 points of visibility were likely to have been difficult to see from roads, particularly given that this model does not account for vegetation.**

## Structured Encounters

Chapter 3 extensively discussed the importance of grammars of place in structuring how people interacted with the landscape. This brief case study will consider the evidence for coherent grammars of place within the case study area, even though analysis of categories is difficult due to the small number of substantially excavated or surveyed settlements, and



the lack of full publication of some of those which have been excavated.

Some patterns can nonetheless be drawn out from the dataset. Settlements are commonly associated with a cemetery and / or burials a short distance away where data is available. Figure 49 shows an area of the study area north-east of Sorviodunum. Five settlements are shown within this subsample. Three are within relatively short distance of cemeteries or burials, perhaps indicating associations between them. The remaining two do not have nearby burials or cemeteries. Five other settlements in the study area also display multiple burials.

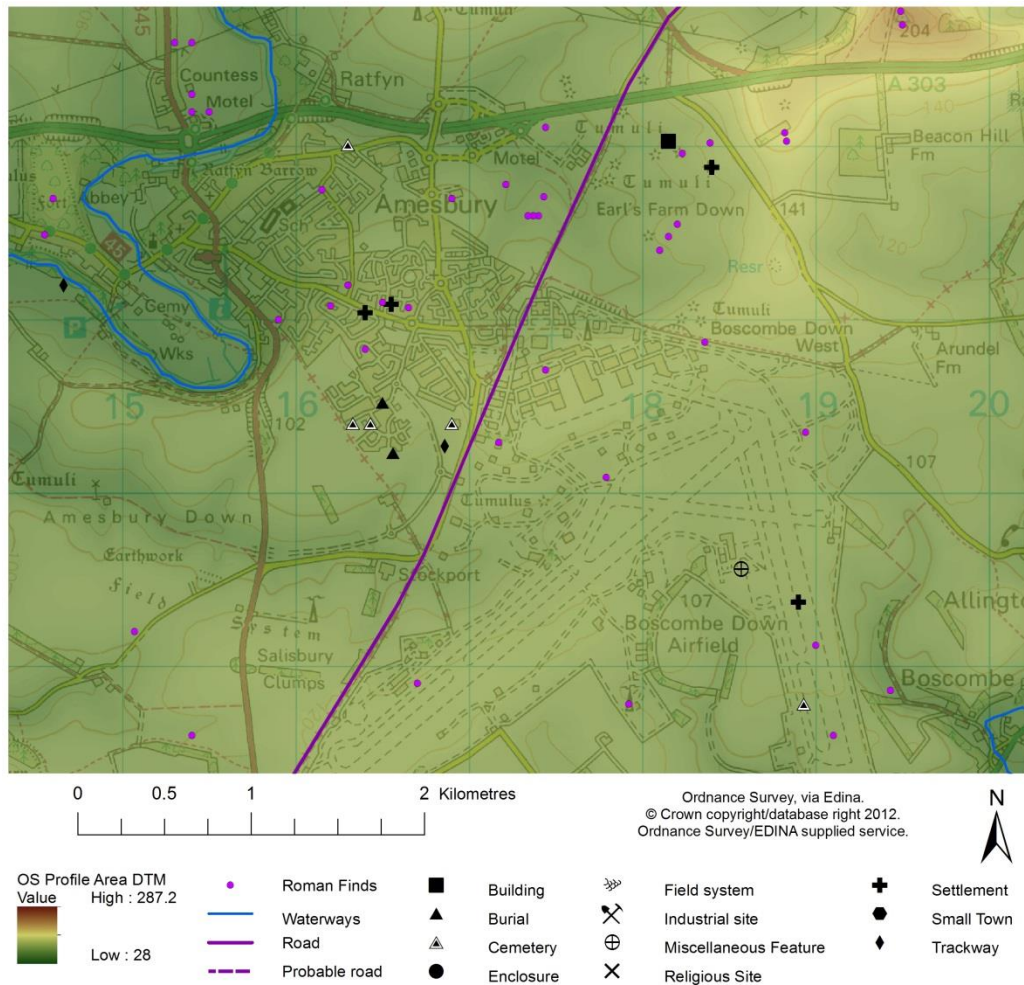


Figure 49 - The Roman landscape north-east of Sorviodunum.

Human remains have also been excavated at the shrine sites of Cold Kitchen Hill and Upper Holt Wood, Teffont Evias (Wiltshire HER# ST83NW302, Roberts in prep. a). Overall the

pattern suggests that there was a particular reason that these individuals were buried at shrines, perhaps concerning belief or ill health, but that people were more often buried in particular cemeteries associated with the settlements where they lived.

Beyond this, and the evidence discussed at length in Chapter 3 for grammars present at sites across the study area, the available data is insufficient to significantly improve our understanding of this aspect of sociospatiality, with one exception. The large semi-nucleated rural settlements present in the study area form a significant proportion of rural settlements, and this site type has not previously been extensively explored in the region. Examples of this type of settlement from the study area are Stockton Earthworks, Ebsbury, Hamshill Ditches, Butterfield Down and Boscombe Down, with several other possible examples at Durrington and Winterbourne Stoke. The settlements of this type share a number of characteristics. They are large, between 15 and 70 ha, and with a large number of individual structures, almost exclusively in the form of roundhouses of various sizes. They all have Iron Age precursors, and are connected by often complex networks of trackways to surrounding 'Celtic' field systems, and include a range of enclosures within the settled area that do not appear to be dwellings and may be stock enclosures. They are not, however, simply farming settlements. They are tied into wider networks, often situated on ridges above rivers or along which major roadways run, as on the Great Ridge, and demonstrate a range of material culture; most of these sites have not been extensively excavated. Each of these sites except Stockton Earthworks has produced a hoard of Roman date and a significant number of other coin finds (Moorhead 2001a, 2001b; HER; PAS). Although there is no hoard at Stockton, it has produced at least 237 coins (Moorhead 2001a). These are the largest settlements in the study area, and probably the most populous. As such, it is important that we include them in the major grammars of settlement in the study area. Table 12 summarises the grammars of site structuration that can be observed in the study area.

Grammar	Key principles	Study area type site?
'Rural shrine'	Enclosed precinct, inner sanctum.	Cold Kitchen Hill
'Urban'	Grid street pattern, semi-standardised public buildings / spaces.	?Sorviodunum?
'Rural semi-nucleated'	Apparently organic settlement pattern, ridge top/downland location, coinage, linked into agricultural landscape	Stockton Earthworks / Ebsbury / Boscombe Down / Butterfield Down
'Celtic' farmstead	Bounded enclosure, eastwards orientation, centrality of the household.	Rotherley Down.

**Table 12 - Common grammars of settlement space in the study area. See Chapter 3 for full details.**

As Table 12 demonstrates, these grammars are all concerned with delineating space, and structuring movement. This returns to the idea that territoriality was a concern of those inhabiting the landscape, implying the social importance of control and access. This in itself is not a particularly profound conclusion, but is important in demonstrating the difference in the ways this structuring was undertaken and its social implications. Insufficient work has been undertaken at large semi-nucleated rural settlements to understand their internal structuring, but they do appear to differ from urban 'planned' settlements, which are clearly designed by a central controlling influence, presumably the Roman state. It is interesting that the layout of settlements was either not deemed a priority for control by local elites at large rural settlements, or that elites were not able to control this construction. I would argue that this reflects the greater concern of rural elites with interaction with landscape and control of resources such as animals, crops, trade goods and surpluses of these, rather than social control as a display of prestige. Instead, because of the continuity from Iron Age societies at these settlements, gift exchange, feasting and agriculture may have been key demonstrations of prestige.

This discussion has drawn out some of the key ways in which the landscape was encountered on the road and at particular types of site. This builds on earlier discussions of how the landscape was encountered in riverine environments and communication. The way in which the landscape was encountered was clearly important, and has been shown to be

contingent depending on social group or the way that an individual moved through the landscape. Encountering the landscape was not simply a visual phenomenon. Burial sites and possibly religious sites have been shown to differ from the general pattern of visibility from the roman road network, and it is possible that they were deliberately located in this way. Other aspects of landscape were not concealed, however, but were contingent on having the appropriate local knowledge to fully understand them, such as the reuse and social significance of prehistoric monuments. The following section will bring this discussion together with other sections on wild and tame nature, and synthesise the results of the case study.

## Discussion

The aim of this case study has been to understand attitudes towards, and interactions with, nature and landscape in south-west Wiltshire during the Roman period. The exploration of issues relating to these concerns has been wide-ranging and, at times, superficially at least, tangential to the core theme. Throughout the analysis, however, a focus has been maintained on the experience of people and changing interactions with landscape.

The study area has a high quality archaeological record in many respects. There is a large quantity of data, particularly metal-detected data, and the HER is an extensive repository of information. Appendix 1 explored the dataset in statistical terms, and demonstrated its essential reliability in terms of the overall patterns of distribution. This chapter has also, however, demonstrated some important gaps in the basic data. There have been very few high quality modern excavations in the study area, substantially reducing the extent to which a range of issues can be discussed. Especially problematic issues include detailed chronologies for the majority of sites, faunal assemblages, structuration and zoning of deposits and activity within large rural settlements, and environmental remains, particularly pollen. Hence some wider research questions have proven to be unanswerable with the current dataset, including the extent of woodland in the study area, changes in diet across the population demographics, the extent and character of Sorviodunum, the extent and dating of field systems and the depth and rapidity of erosion and colluviation.

This analysis has, however, been able to draw a number of significant patterns from the data, and the research framework used has proved useful in approaching questions from an innovative perspective, bringing together previously isolated areas of study. A key theme to emerge from this discussion is the importance of continuity and transition to those interacting with landscape in the agricultural sphere. This is not the same as a simple continuation of Iron Age practice, but rather the development of Iron Age practice in new ways in the Roman period. For example, field systems were expanded, in places slighting Iron Age sites which had lost their social significance and utility in the Roman period, such as the fortifications at Ebsbury. Nonetheless, the large semi-nucleated rural settlements that

continue from the Iron Age, and form major population centres, were still closely tied into 'Celtic' field systems and respect prehistoric boundary features such as Grim's Ditch, ignoring the imposition of the Roman road on the same axis.

As in the Iron Age, consumption of agricultural surplus and feasting appears to be key to rural prestige and everyday life. The adoption or creation of the new technology of the 'grain dryer', which is more likely to have functioned as a malting oven, demonstrates the continuing importance of beer, both as a safe drink at a time of presumably increasing water pollution through intensifying agricultural activity, and as a social product for consumption. This technology becomes apparently ubiquitous on rural sites, being by far the most common single material structure of landscape interaction in terms of specific activities in the study area. Consumption was also tied into ritual and religious practice, as the example from Teffont, where young lambs were removed for sacrifice from a population of sheep that were otherwise retained until adulthood. Wild animals remained important, as they had been in the Iron Age, with corvids in particular having a religious or ritual significance, as foundation deposits and the Butterfield Down 'sceptre head' demonstrate. Again, as in the Iron Age, wild animals are found in small numbers on Roman period sites but are present consistently on a majority of sites with modern faunal reports. This suggests that their killing was not restricted to elite groups as it was in the medieval period. It is possible that deer, the most common wild animal identified in the study area, both in terms of widespread distribution and absolute MNI, were occasionally hunted for food.

Elite groups beyond those inhabiting parts of semi-nucleated settlements (if they did) had significant influence in the study area, however, particularly through controlling communication and trade along the river and road network. Buildings with high status elements were often located in river valleys, as was the only 'urban' settlement in the study area, Sorvidunum. Control and definition of key high value resources through weights and measures may also have been both a result of elite power scales, and a supporting part of those structures. There is, however, very little evidence for villa estates in the study, the

only possible example being around Rockbourne, a villa that is actually slightly beyond the south-eastern corner of the study area. Within the study area are, however, a set of three grain dryers which given their scale and proximity to Rockbourne may indicate estate level production, rather than household level production as elsewhere in the study area.

The extent to which elites were involved in, and benefitted from, the intensification in settlement demonstrated in the study area in the 3<sup>rd</sup> century has not been resolved. There is certainly a significant increase in settlement site numbers at this time, and an increase in coin use in the study area (Moorhead 2001b), suggesting that agricultural production (the lead activity in the study area) was from this point in time more closely tied into wider monetised networks of trade and exchange than previously. This change may be associated with the grain reforms of Emperor Probus (Moorhead 2001b, 2009). There is strong evidence, however, that the wider Roman Empire was to some extent at least, encountered on the terms of the native occupants of the landscape. Roman law was not always the prime arbiter of dispute resolution, with the pattern of deposition of Roman material in prehistoric monuments suggesting a different manner of dispute resolution contingent on local knowledge and community relations.

Further to this, a contrast has been observed between the apparent visibility and shared nature of the practice of literacy in the landscape, presumably inclusive of native elites given the distribution of material culture, and the lack of visibility of the funerary sites of native origin from Roman roads. This suggests that particular forms of landscape practice were chosen to be hidden from, or displayed to, incoming elites in different ways depending on what they signified. Outwardly, writing and communication via a traditionally Roman medium signifies a participation in 'Roman' forms of social network, if not necessarily in wider networks themselves. The analysis of visibility of sites from the road network suggests that funerary sites were deliberately removed from the view of those travelling the road network. Thus, some activities were conducted in view of elites, demonstrating participation in wider networks, but other activities, perhaps those with deeper social meaning to local groups, were carried out away from elite view.

This example once more illustrates the superficial nature of traditional assumptions regarding 'Romanised' material culture, and the difficulty of using material culture as markers of political or social affiliations in Romano-British contexts. Although at least some of those living at the large British settlements which dominate the agricultural economy participated in the monetary system, were literate and communicated with elite groups, these signals of material 'Romanisation' are to some extent superficial, if Roman practices have not yet been adopted for more personal rituals. The landscape context of this material culture is the key guide to its meaning in this regional context, demonstrating the complexity of the sociospatial relations of landscape practice active in the area.

The manner in which the frontage of a late Roman building at Sorviodunum (one of the few excavated at the site) extends onto the Portway, the major Roman road through the town, demonstrates the changing power structures of the 4<sup>th</sup> century. Local elites could still contribute to the building of substantial structures in an urban setting, but less respect was given to the structures of wider Imperial domination. Most rural sites in the study area where good dating evidence is available also continue into the 4<sup>th</sup> century, and there is a widening of coin use in this period to further flung rural sites (Moorhead 2001b). This continued prosperity may well result from Britain's relatively stable society in comparison to the Gallic provinces, and continued demand for grain from continental Roman armies (Moorhead 2009). We can therefore suggest that the area continued to be prosperous well into the 4<sup>th</sup> century, based on the structures of continuing (albeit intensifying) interaction with the landscape on a well-established pattern.

Whilst this discussion has not been exhaustive, it has successfully demonstrated that a holistic, wide-ranging approach to investigating landscape interaction, undertaken with an awareness of sociospatial resolution, can produce a convincing and complex narrative of social landscape change over time. In Chapter 6 this case study will be brought together with the results of Chapter 5, the case study of the Montagne Sainte Victoire, to consider how changing relations with landscape differed in two areas of the western Roman Empire.



## **Chapter 5 – Analysis of Montagne Sainte-Victoire case study**

### **Introduction**

This chapter will comprise the analysis and interpretation of the Montagne Sainte Victoire case study of attitudes to and interactions with nature and landscape during the Roman period. The analysis will follow the research framework set out in Chapter 3, and be undertaken along similar lines to the analysis of south-west Wiltshire in Chapter 4. The general context of the case study has been laid out extensively in Chapter 3, and will not be repeated here.

### **Data sources and processing**

There are a wide variety of data sources available for a landscape study such as this, but several key requirements of the study clearly emerge from Chapter 3 to provide a basis for analysis. A comprehensive dataset of all Roman sites in the study area is a necessity given the focus of this study of how the landscape is used. An incomplete dataset would at best prevent the full complexity of patterns of landscape use to be drawn out, and at worst lead to substantially erroneous conclusions. In order to deepen the potential analyses of the landscape through including chance losses, find spots should also be included if available, together with any remaining features of Roman date.

The site data for this case study is drawn from two overlapping sources. Firstly, the encyclopaedic volume of the *Carte Archeologique de la Gaule* series 13/4 (Mocci and Nin 2006; the acronym CAG13/4 will be used henceforth) covering the region provides extensive discussion of individual sites in the area, providing the backbone of this study. Much of the data in CAG13/4 for the Montagne Sainte Victoire and its immediate environs, particularly on the southern slopes, is drawn from the extensive programme of field investigation by the multi-disciplinary and multi-national team of the *Prospection-inventaire et évaluation du patrimoine archéologique* project, and related *Projet collectif de recherche sur le massif de Sainte-Victoire* (D'Anna and Mocci 1993). These projects, particularly the

former, provide the remainder of the site data for this study. A very substantial set of unpublished grey literature has also been made available to this study, comprising yearly activity reports from fieldwalking campaigns and excavations at Richeaume and a wide range of specialist reports, including Carine Cenzon-Salvayre's unpublished PhD thesis. These several thousand pages of reports have been drawn on selectively to support the analyses presented here; the object of this chapter is not to synthesise all unpublished work from the landscape, but to provide a case study in landscape interaction.

As in the other case study, this case study will look only at sites of the Roman period. It is particularly important, however, to consider the extensive Iron Age occupation of the Montagne Sainte Victoire area as outlined in Chapter 3. Iron Age settlement influenced later patterns of occupation, particularly in the early Roman period, as Walsh and Mocci (2003) have discussed. The data available for the Roman period being predominantly drawn from fieldwalking means that whilst pottery dating provides precise dates, few sites have extensive excavated stratigraphic sequences, with the exception of the villa complex of Richeaume (Mocci *et al* 2005).

The sites around the modern Domaine de Richeaume, primarily the villa at Richeaume I and the cemetery at Richeaume XIII, have been extensively excavated by Florence Mocci and a large multi-disciplinary team for much of the last fifteen years (Cenzon-Salvayre unpub., Mocci *et al* 2005, Mocci unpub. d are the key references). The team has kindly given the author access to a wide range of unpublished literature on these sites, which provide the only substantially excavated sites of Roman date in the study area. Whilst not necessarily an insurmountable problem for a long term landscape study such as this, the lack of excavation data does mean that fewer detailed conclusions can be drawn regarding quite a wide range of aspects of society.

The literature available reminds us of various weaknesses of the site data drawn from these sources, particularly the field walking data. D'Anna *et al* (1993), Leveau *et al* (1992) and others (D'Anna *et al* 1992) discuss the limitations of fieldwalking in different terrains in the Sainte-Victoire landscape, and emphasise that the spatial patterning of the data produced

by the survey is a product of the availability and / or conditions of particular tracts of land for fieldwalking. Problems encountered on the southern slopes of the Montagne Sainte-Victoire included extensive scrub vegetation, the in-situ remnants of forests destroyed in the forest fire of 1989, or land under permanent pasture (D’Anna *et al* 1992, 271).

Furthermore, the northern slopes of the massif were almost entirely unaffected by the forest fire, and this area is predominantly covered by thick scrub and forest. This has almost completely disguised any archaeological remains on that slope, and prevented any significant field-walking (D’Anna *et al* 1992). Contrastingly, the widespread vineyards in lower areas were found to provide excellent conditions for fieldwalking, the evenly spaced rows of vines providing ideal transects for work.

Land use data per se is not available for this case study area. This has been mitigated by landscape visits and reviewing satellite imagery. This has demonstrated that as well as the vertical differentiation in the landscape highlighted in Figure 5, there is an important difference between the northern and southern slopes of the massif. Modern land use on the plains to the south of the massif is predominantly agricultural, with very extensive cultivation of olives and vines. Contrastingly, the northern slopes are thick with scrub and woodland. This provides little opportunity for agriculture, particularly given the relative lack of water in this part of the landscape. As such, this area is generally used for forestry, hunting and leisure activities. This is an important differentiation within the landscape, and is very likely to have shaped human interaction with nature in similar ways in the past. Table 13 summarises the main datasets used.

Dataset	Acquired from
Site data	<i>Carte Archeologique de la Gaule 13/4</i> (Mocci and Nin 2006).
Additional site data	Various publications and grey literature produced by the recent projects by Mocci <i>et al</i> on the Montagne Sainte Victoire landscape, and data personally supplied by Flo. Mocci.
MNT France – National topographic dataset for France. 500m, 250m and 25m resolution digital terrain models.	Institut National de l’information Géographique et Forestière.

**Table 13 - Main datasets used in analysis of Montagne Sainte Victoire case study. Basic metadata on dataset content and acquisition.**

## **Normalisation of Archaeological Data**

The archaeological data available varied significantly by source. In general the information available from CAG13/4 was more extensive and detailed than the information available from other sources. In general, however, this is because the more ephemeral sites and pottery scatters located by recent work were not included in CAG13/4, whereas larger and more diagnostic sites discovered were included. As the data was not yet in digital form, no normalization of digital data was required. The data quality was generally high, and proved simple to input into the spreadsheet structure designed for this project. A very significant difference from the south-west Wiltshire case study is the almost total lack of find-spot data. Metal-detecting is illegal in France, and there is no equivalent of the Portable Antiquities Scheme (Bland 2005). Indeed, the site of Favary, in the commune of Rousset, and others elsewhere in the study area, have been illicitly detected (CAG13/4, 654). As such, no metal-detected finds data is available to this study, greatly reducing the size of the overall dataset in comparison to that for an equivalent area in southern Britain. Contrastingly, however, the standing remains of structures such as olive presses, pottery production sites, aqueducts and water management systems are not present in the UK dataset.

The spreadsheet designed for this case study deliberately used as similar as possible a structure to that used for the south-west Wiltshire case study (see Appendix 1). The only significant difference is the addition of the analytical categories of 'HE' and 'AT', representing the categories 'Haute Empire' (High Empire) and 'Antiquité Tardive' (Late Antiquity), which are used repeatedly in the literature where more precise dating is not possible. This has been adopted for this case study due to the large number of sites where this distinction is the only available dating data. There are minor differences in terminology due the nature of the French dataset, particularly the change from 'settlement' to 'farmstead' and 'building' to 'villa' in site types. This reflects a difficulty with CAG13/4 and other work in the region, which does not articulate the criteria for the definition of a farmstead versus a villa. This point is key, and will be returned to later in the analysis.

## Study area

The study area for this case study has already been loosely defined in earlier chapters, but during data acquisition was defined as the following communes around the Montagne Sainte Victoire: Beaurecueil, Châteauneuf-le-Rouge, Le Tholonet, Puyloubier, Rousset, Sainte Antonin-sur-Bayon, Sainte-Marc-Jaumegarde and Vauvenargues. These communes provide a representative sample of the landscape east of Aix-en-Provence, and are bordered to the north and south by natural features, the Montagne des Ubacs and the River Arc respectively.

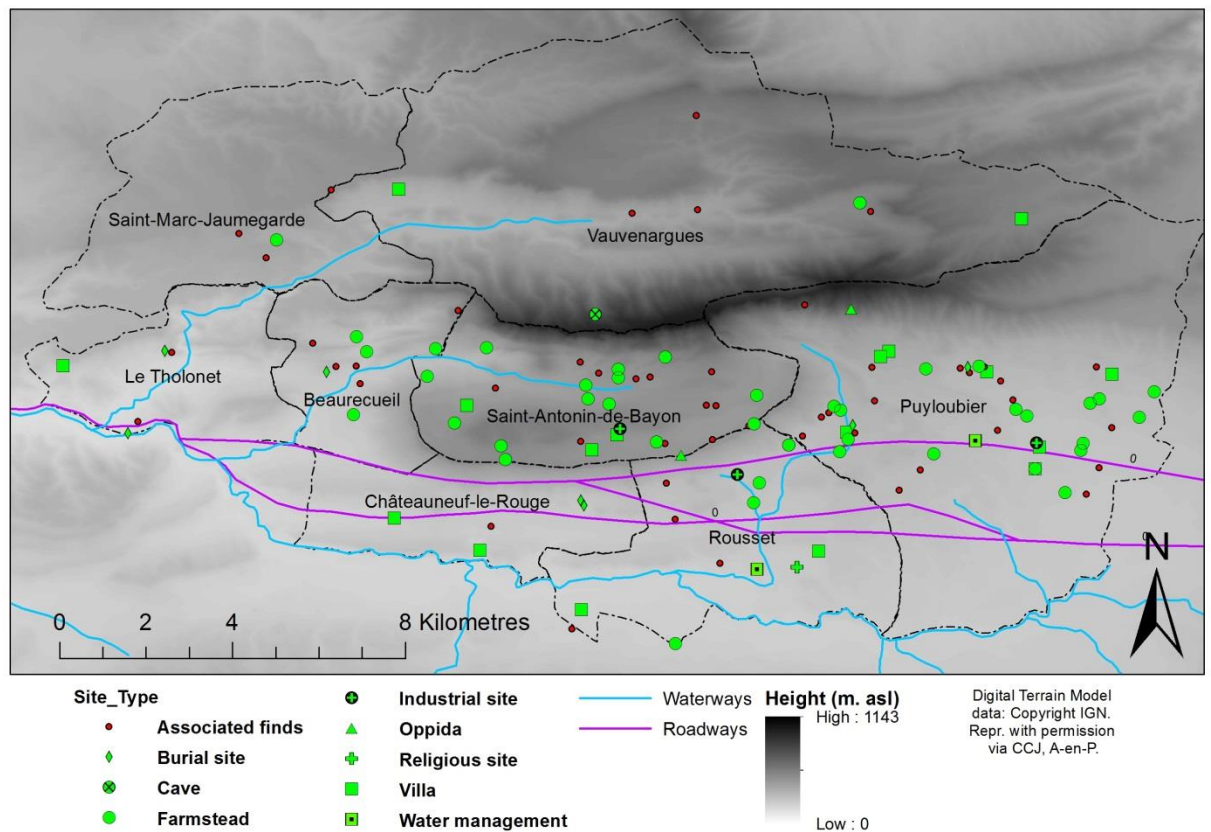


Figure 50 - All archaeological data on DTM model of Montagne Sainte-Victoire.

Figure 50 demonstrates the distribution of Roman period archaeological sites around the Montagne Sainte Victoire. The massif of the Sainte-Victoire itself is the high feature in the centre of the image, with the semi-circular piedmont of the Cengle immediately to the south forming the southern boundary of the commune of Saint-Antonin-de-Bayon. The

valley of the Arc runs east to west approximately 3km south of the Cengle, and is one of the lowest parts of the study area. The beginning of the minor river 'La Cause' is to the north of the massif, running south-west. All data apart from three sites in the south of the commune of Rousset (the southernmost sites in Figure 50) are to the north of the River Arc.

### **Archaeological dataset**

The archaeological dataset shown in Figure 50 has a very clear distribution pattern. There are many more sites to the south of the Sainte-Victoire than to the north. This demonstrates the bias discussed in Chapter 3, which is that the overwhelming majority of the fieldwalking undertaken following the major forest fire of 1989 was undertaken on the southern side of the Sainte-Victoire, as there was little fire damage to the northern side (Leveau *et al* 1992, Walsh and Mocci 2003). The parts of the northern slopes undamaged by the fire remain relatively unexplored by archaeologists, and there is no LiDAR data available, removing the most cost-effective survey method for forested areas.

The dataset contains a total of 130 archaeological entities. Of these there are three categories that comprise the bulk of the data (Figure 51). These are 'Associated Finds', 'Farmsteads' and 'Villas'. These broadly correlate to the three main categories of site defined by the fieldwalking surveys in the study area, 'occupation', 'établissement agricole' and 'villa', although the sites are not all derived from these surveys, and the surveys also include forms of site such as olive presses, caves, etc.

These categories are also representative of how Roman society is conceptualised by the dominant discourse in French academia and archaeology. Sedentary rural society is stratified, with elites living in villas and the rural population living in farmsteads (e.g. Leveau 2002). Difficulties with this model emerge, however, when the field data on which these categories are based is considered in detail. In particular, the definition of farmsteads from fieldwalking data is problematic. Most farmsteads in the study area found by fieldwalking are defined as such based on the combination of a range of ceramic evidence, particularly dolia (very large storage vessels), tegulae, imbrices (roof tiles), amphorae, local pottery and

sigillata (samian ware). Many artefact scatters, defined in survey reports as ‘occupation’ consist of very similar combinations of ceramics. It is interesting to note how pre-existing interpretive frameworks for settlement are imposed on data collected from a methodological and theoretical standpoint quite different to the origins of those frameworks.

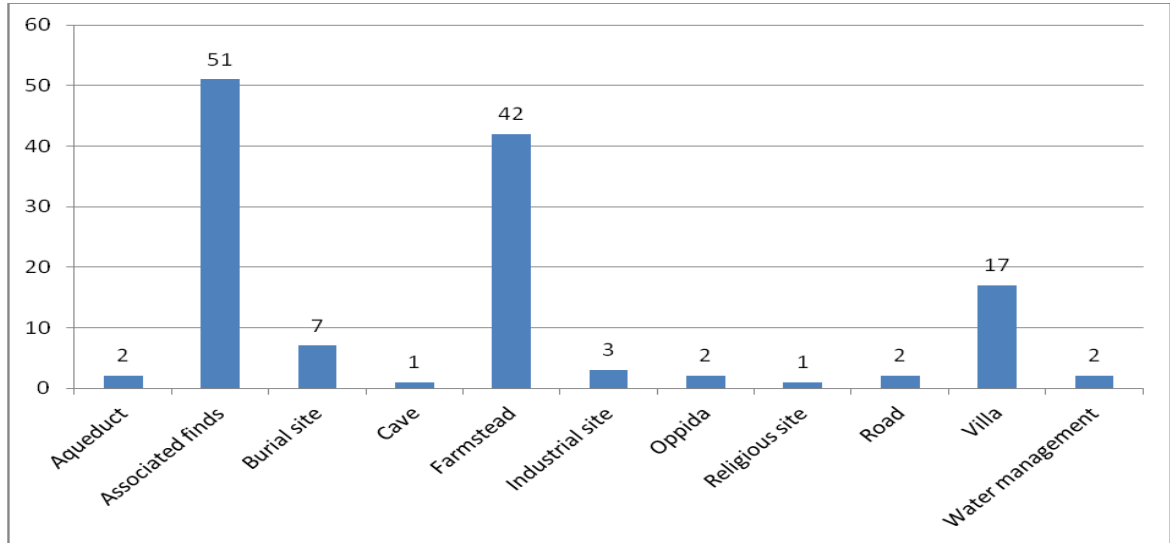


Figure 51 - Overall frequencies of site types.

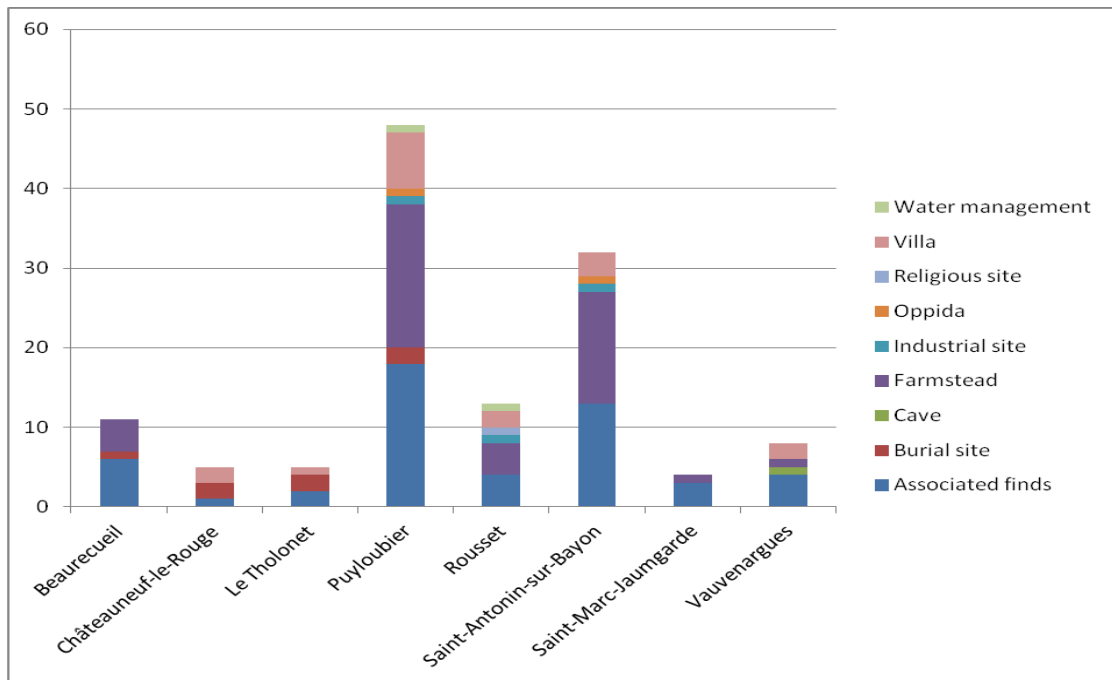


Figure 52 - Site type frequencies by commune.

Within the distribution there are substantial differences in site frequencies by communes. Figure 52 displays the relative frequency of site types by commune, and Table 14 shows the raw frequencies per commune, and site frequency per ha by commune. Beaurecueil, Saint-Antonin-de-Bayon and Puyloubier have notably higher numbers of sites per ha than the other communes in the study area (Figure 50). In order to examine whether this is a genuine pattern, the data collection needs to be reviewed. Châteauneuf-le-Rouge and Rousset were

Commune	Associated finds	Burial site	Cave	Farmstead	Industrial site
Beaurecueil	6	1	0	4	0
Châteauneuf-le-Rouge	1	2	0	0	0
Le Tholonet	2	2	0	0	0
Puyloubier	18	2	0	18	1
Rousset	4	0	0	4	1
Saint-Antonin-de-Bayon	13	0	0	14	1
Saint-Marc-Jaumgarde	3	0	0	1	0
Vauvenargues	4	0	1	1	0
Commune	Oppida	Religious site	Villa	Water management	Sites per ha.
Beaurecueil	0	0	0	0	0.013598
Châteauneuf-le-Rouge	0	0	2	0	0.004563
Le Tholonet	0	0	1	0	0.004621
Puyloubier	1	0	7	1	0.011724
Rousset	0	1	2	1	0.006667
Saint-Antonin-de-Bayon	1	0	3	0	0.018254
Saint-Marc-Jaumgarde	0	0	0	0	0.001773
Vauvenargues	0	0	2	0	0.001667

**Table 14 - Frequency of sites and sites per ha by commune. Excludes aqueducts and roads, as these linear features are naturally present in multiple communes.**



not included in the original study area of the post-fire prospection project, and have thus not seen any systematic investigation beyond the review of existing evidence necessitated for the writing of the CAG13/4 volume. The communes of Sainte-Antonin-de-Bayon, Sainte-Marc-Jaumgarde, Puyloubier and Vauvenargues were investigated in almost their entirety, with the exception of some private property and especially inaccessible areas of piedmont or mountainside (Mocci unpub. c).

Contrastingly, approximately half of the commune of Beaurecueil was surveyed, and rather less of Le Tholonet (Mocci unpub. c). Vauvenargues and the southern part of Puyloubier were an extension in 1994 to the original study area, which focused on the area destroyed by fire (Mocci unpub. c). Despite the survey extending to cover the commune of Vauvenargues and the northern slopes of the massif including Saint-Marc-Jaumgarde, this was not systematic fieldwalking due the substantial forest cover (D'Anna et al 1992, Mocci unpub. c), although some survey was undertaken within the forest. Systematic fieldwalking was undertaken in areas the forest fire had exposed, and within olive and vine plantations, which offer neatly delineated transects and clear ground ideal for fieldwalking survey.

Overall therefore we can suggest that the results from Puyloubier and Sainte-Antonin-de-Bayon are representative of the archaeological dataset, and that almost the whole area of these communes have been systematically assessed. We can make the same assertion for the northern half of Beaurecueil, which was the part of the commune fieldwalked after fire damage. We can also suggest that the communes of Vauvenargues and Saint-Marc-de-Jaumgarde have been investigated sufficiently to discover any substantial surface remains. These communes, like Le Tholonet, Châteauneuf-le-Rouge and Rousset, do not have datasets representative of the subsurface deposits (Figure 50). These considerations are very likely the main reason for the differences in frequency of sites per ha between the communes.

The communes that have been extensively fieldwalked demonstrate approximately equal proportions of associated finds and farmsteads, the two most common types of site in the study area and the type most commonly defined through fieldwalking. There is much less of

a difference in the frequency of villas between those communes fieldwalked and others, probably because villas as (traditionally defined) leave much more substantial architectural remains than farmsteads, including elements such as large masonry walls, drainage systems, columns, etc. Villas would also have been recognised more easily by antiquarians; many of the villas in the study area were first recognised by B Benoit in the 1930s (Mocci and Nin 2006).

Other classes of site are less evenly represented, possibly because of their relatively low frequencies. This is likely to at least partially be a function of differential investigation as discussed above, but may also reflect that these more particular forms of site were less evenly distributed across the landscape due to various social or technical factors.

Furthermore, some sites classified as villas or farmsteads also demonstrate evidence for particular specialist activities. As these activities do not appear to be the primary function of the sites, they have been recorded as part of the data for the settlement sites with which they are associated in order to avoid multiple entries in the dataset over-representing a single site. For example, Figure 50 suggests that no burial sites have been found within the barrier of the Cenge. In fact, the villa at Maurély, in the north-west of Saint-Antonin-de-Bayon, has multiple inhumations associated with it (CAG13/4).

Unlike in the south-west Wiltshire case study, it has not been possible to assess the potential for undiscovered sites. The Sainte-Victoire study area contains minimal arable crops and is dominated by olive and vine cultivation, and is thus not conducive to aerial survey. It has not been possible to conduct any additional fieldwalking, although the author has excavated at Richeaume and visited the area on multiple occasions. A significant advantage of the study area is that parts of it have been near-exhaustively fieldwalked, providing a much more robust pattern of archaeological investigation than is the case in south-west Wiltshire, where individual sites tend to be studied rather than a landscape approach taken.

This difference in data quality and representativeness across the study area must be borne in mind throughout the analyses in this chapter. This chapter will follow the research

framework laid out in Chapter 3, and demonstrated previously in Chapter 4 for the south-west Wiltshire case study. This case study will not, however, conduct entirely the same analyses as have been undertaken in the previous chapter. Although the same themes will be considered and many of the same issues addressed, the holistic approach described in Chapter 3 emphasises the importance of the particular sociospatial relations pertaining to particular landscapes, rather than advocating an inflexible approach to all landscapes. As such, the analyses undertaken in this chapter will be focused on the evidence provided by the Montagne Sainte-Victoire dataset, and the particular characteristics of this unusual landscape.

## **Wild Nature**

### **Marginality**

A key discussion in the existing literature of the Montagne Sainte-Victoire is the extent to which parts of the landscape were marginal. Walsh and Mocci (2003) argue that the period around the Roman conquest was marked by a movement of settlement to inaccessible areas of the massif, demonstrating a form of constructed marginality. To investigate this argument and the issue of marginality in the Sainte-Victoire landscape more generally, it would be preferable to calculate cost distance maps on the same basis as for the Wiltshire case study for each century during the Roman period. Unfortunately, the distribution of sites for which chronological information to the nearest century is available is very uneven (Figure 53). As such, cost-distance maps of the study area by century are meaningless because there are a significant majority of sites that cannot be included, preventing a representative sample. This problem is compounded by the fact that sites with detailed chronological information are almost entirely situated in Puyloubier and Saint-Antonin-de-Bayon, ensuring that the distribution is also geographically uneven, a major problem for cost-distance models.

The following figures (Figure 54, Figure 55, Figure 56, Figure 57, Figure 58 and Figure 59) demonstrate the pattern of settlement by century during the Roman period for those sites which do have detailed chronological information. As these figures demonstrate, there is some patterning in the distribution of settlement. In general there appears to be a reduction in site numbers over time, and particularly in the latter centuries of the Roman period, and a concentration of settlement in the east of the study area in Puyloubier. As discussed above, however, this dataset is not fully representative. Figure 60 and Figure 61 display sites which have been identified as 'Haut Empire' and 'Antiquité Tardive' respectively. These distributions share the biases of the distributions by century, although to a slightly lesser extent as more sites have chronological information at this resolution. The broader chronological resolution also more clearly demonstrates a shift in settlement away from the Saint-Antonin-de-Bayon area in Late Antiquity towards Puyloubier.

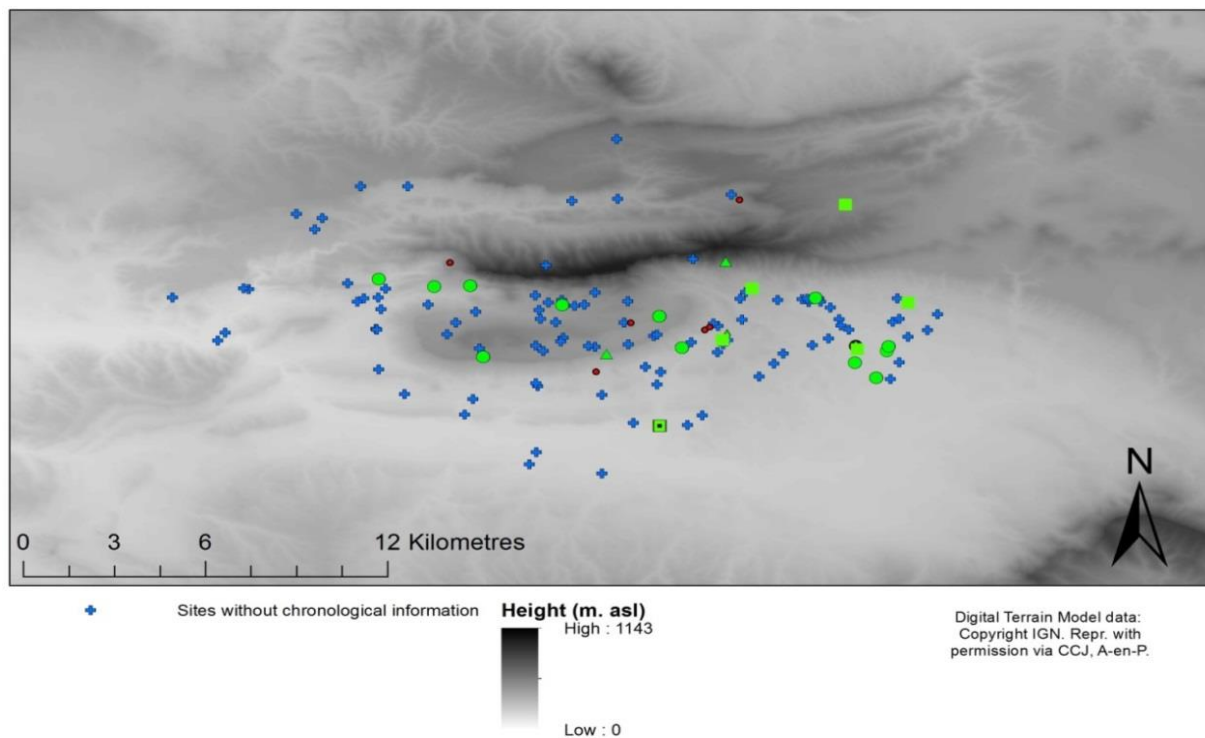


Figure 53 - Sites without detailed chronological information in blue, and those with chronological information better than 'Haut-Empire' or 'Roman' in green.

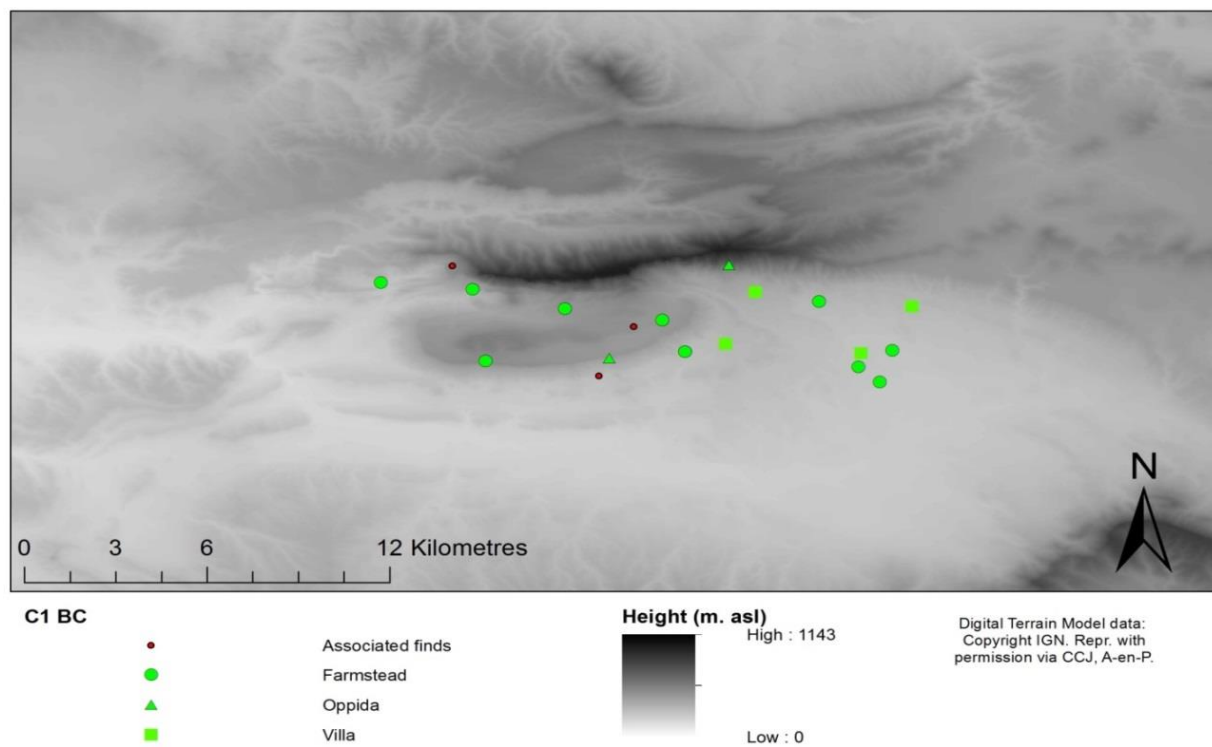


Figure 54 - Sites occupied during the 1<sup>st</sup> century BC. NB - this excludes Late Iron Age sites occupied in this century, unless they also demonstrate signs of occupation post-conquest.

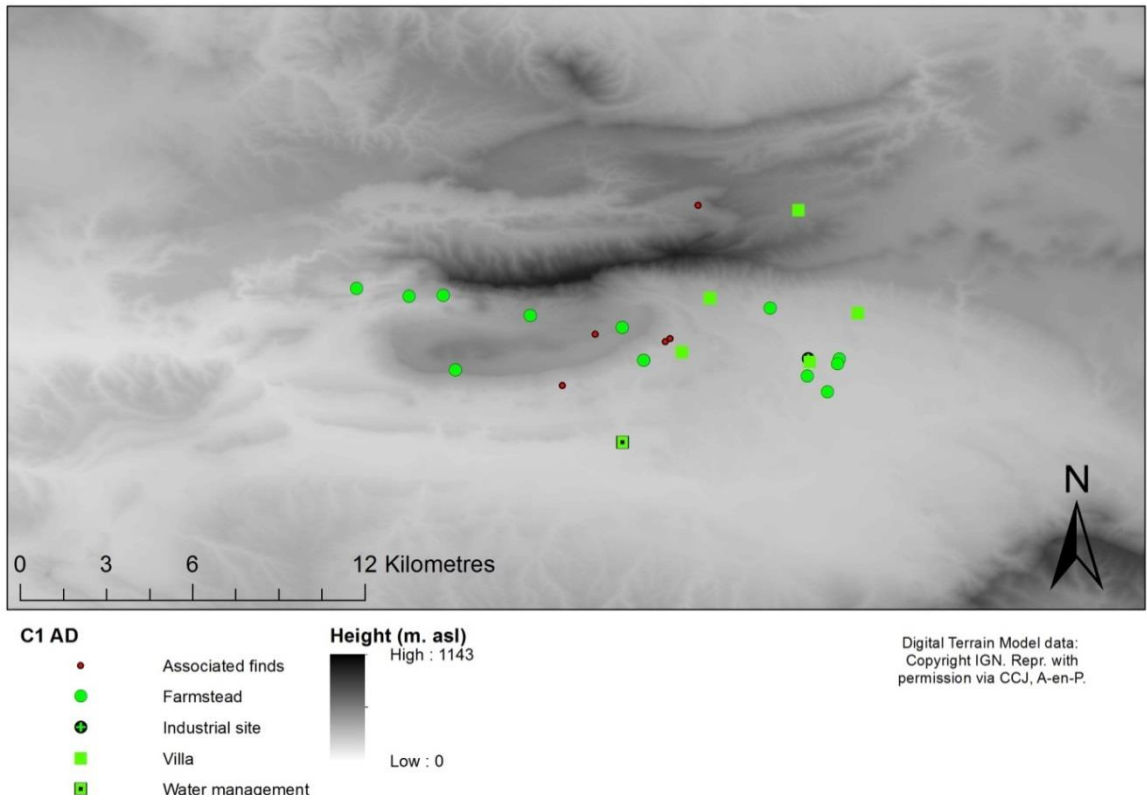


Figure 55 - Sites occupied during the 1<sup>st</sup> century AD.

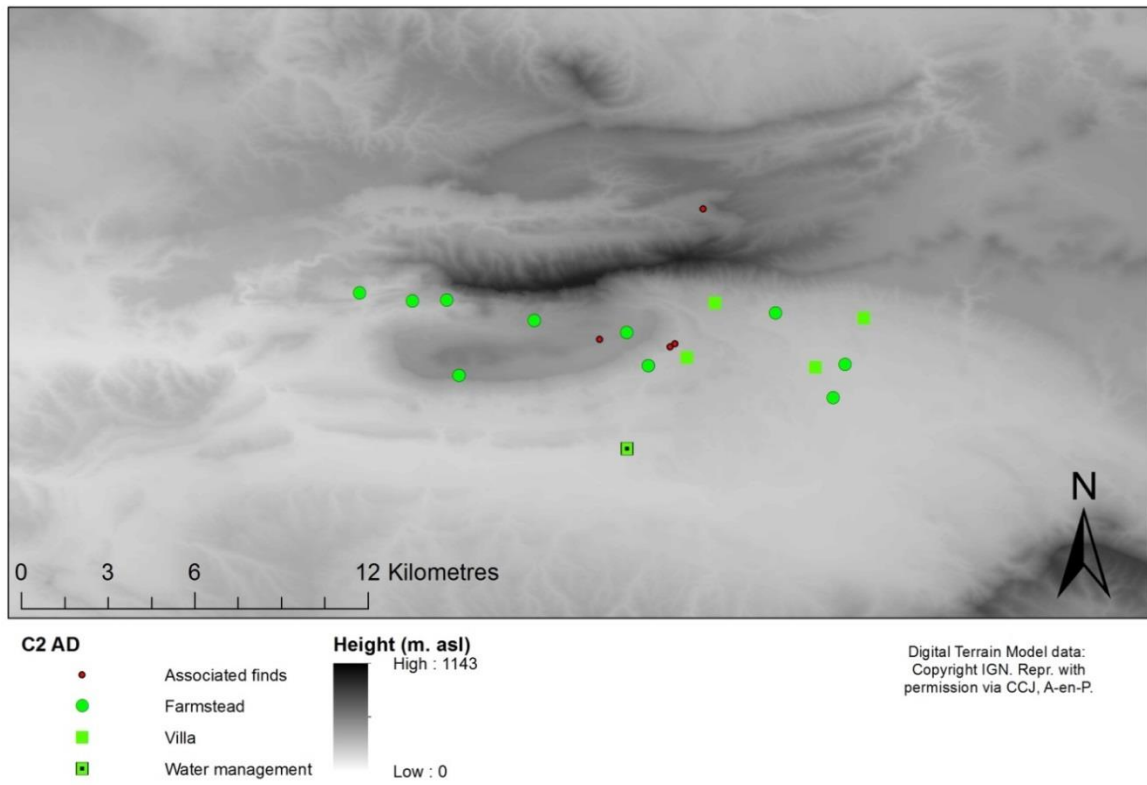


Figure 56 - Sites occupied in the 2<sup>nd</sup> century AD.

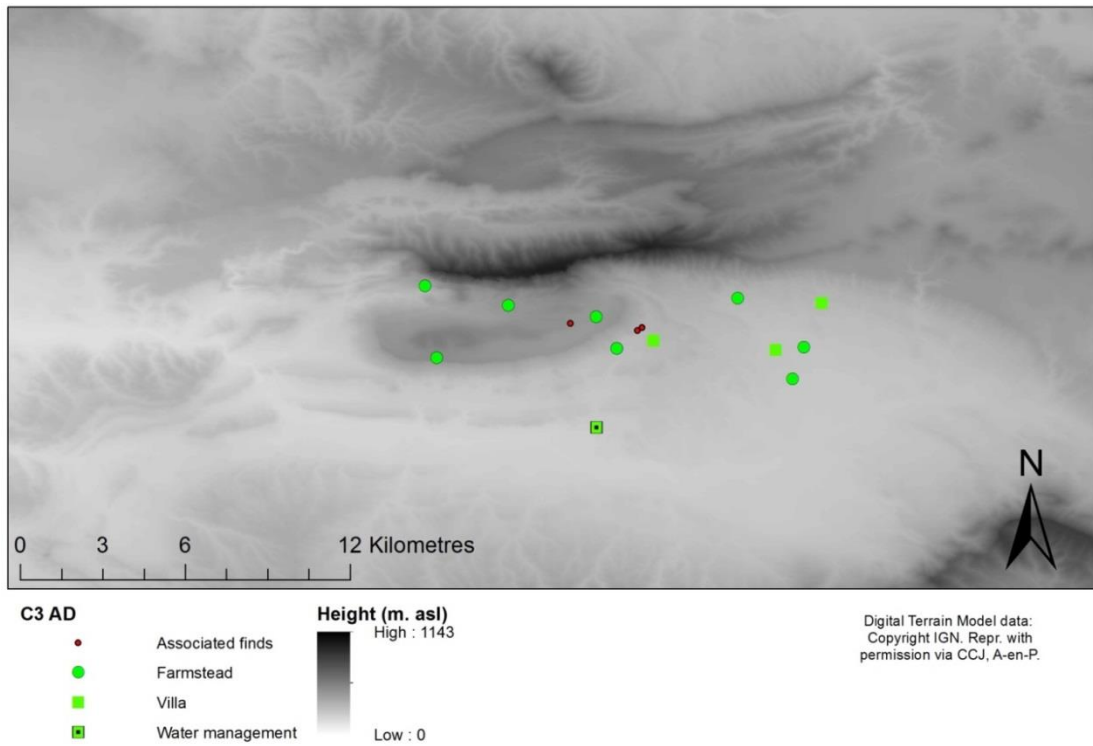


Figure 57 - Sites occupied in the 3<sup>rd</sup> century AD.

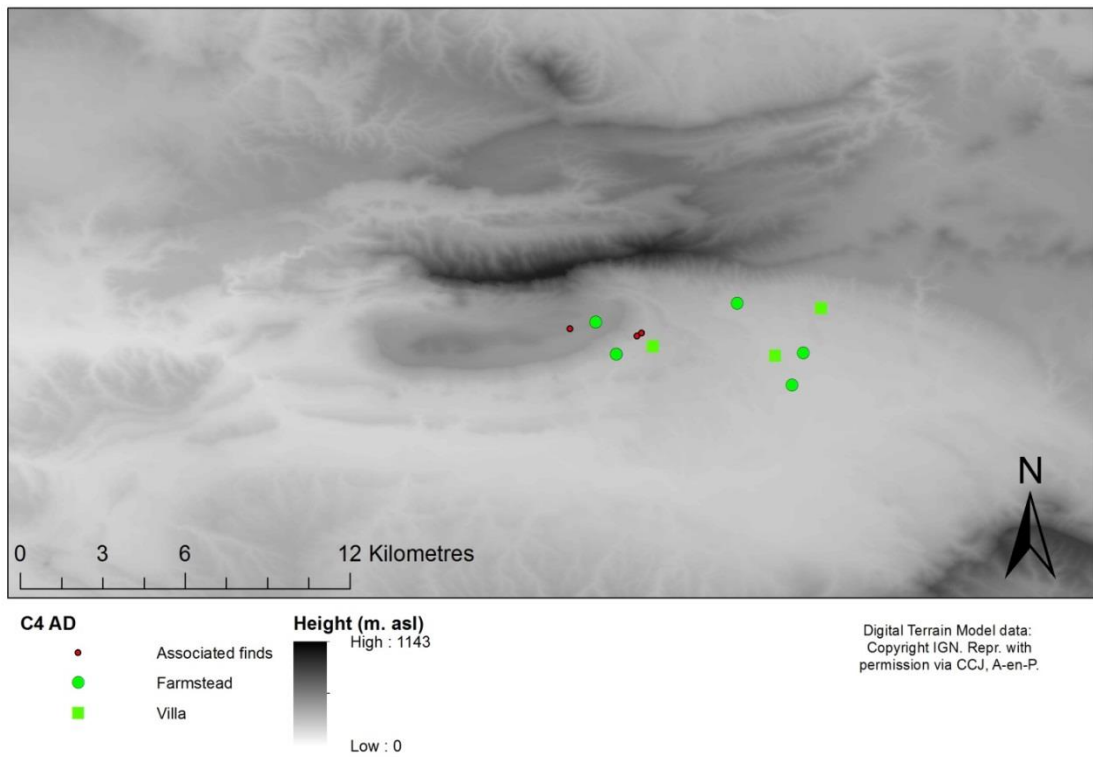


Figure 58 - Sites occupied in the 4<sup>th</sup> century AD.

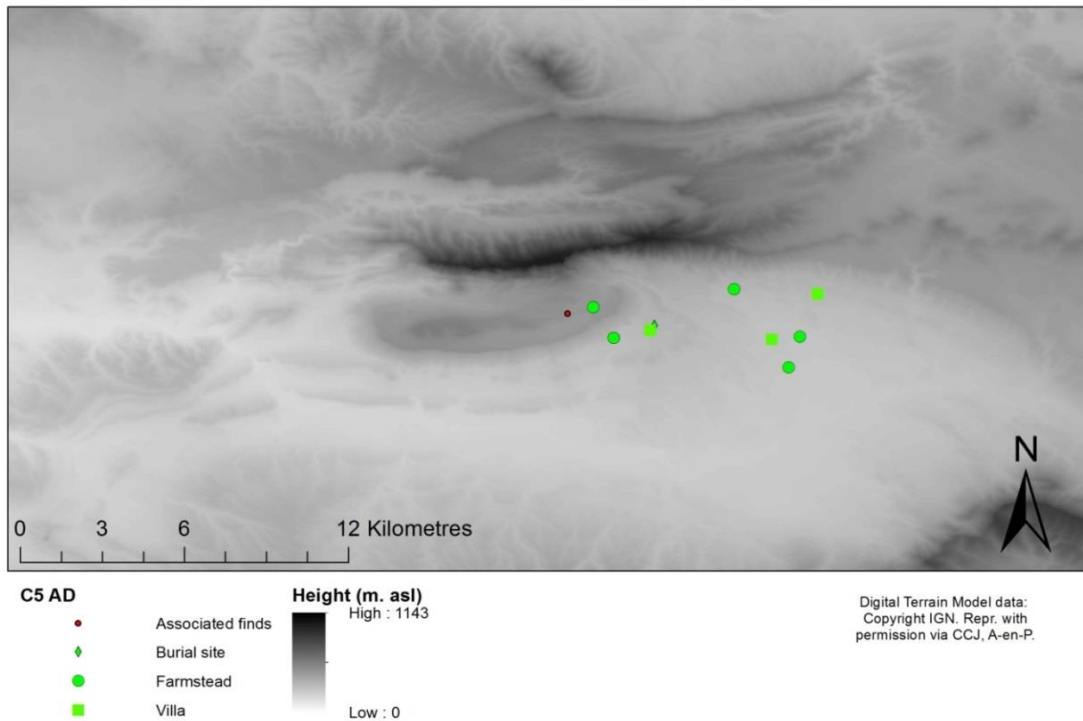


Figure 59 - Sites occupied in the 5<sup>th</sup> century AD.

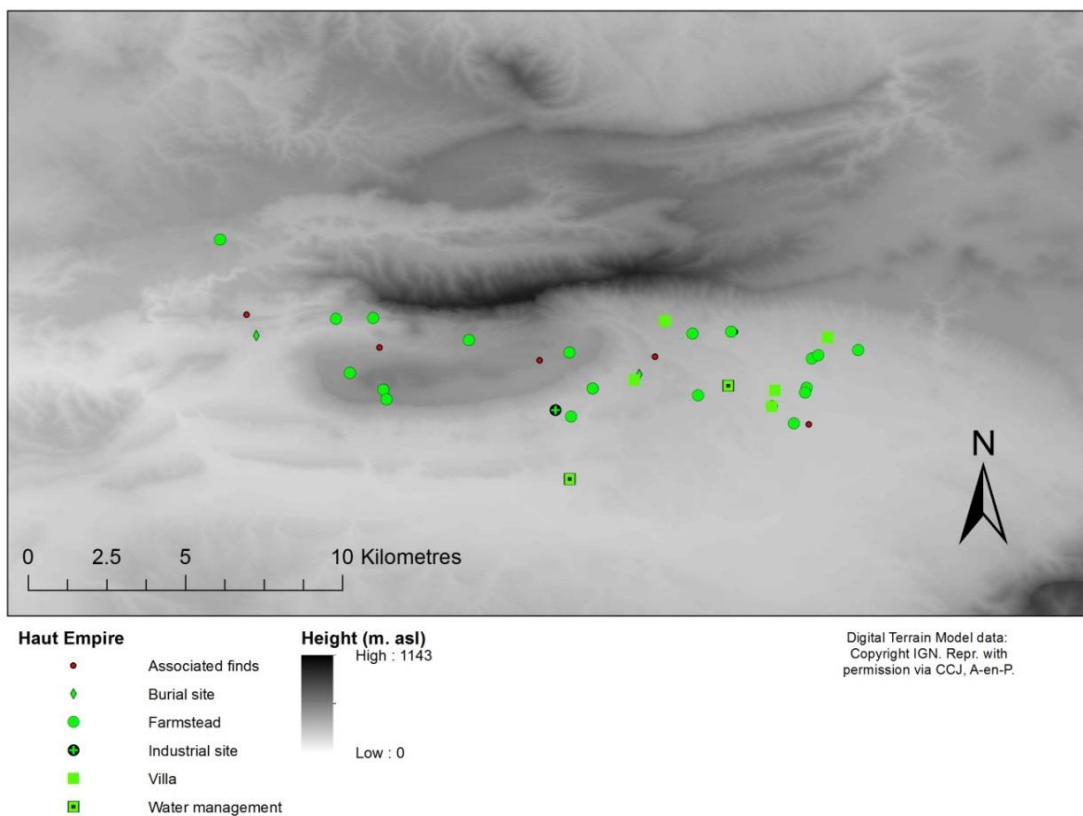


Figure 60 - All sites which have been identified as 'Haut Empire' in period in CAG13/4 or other sources.



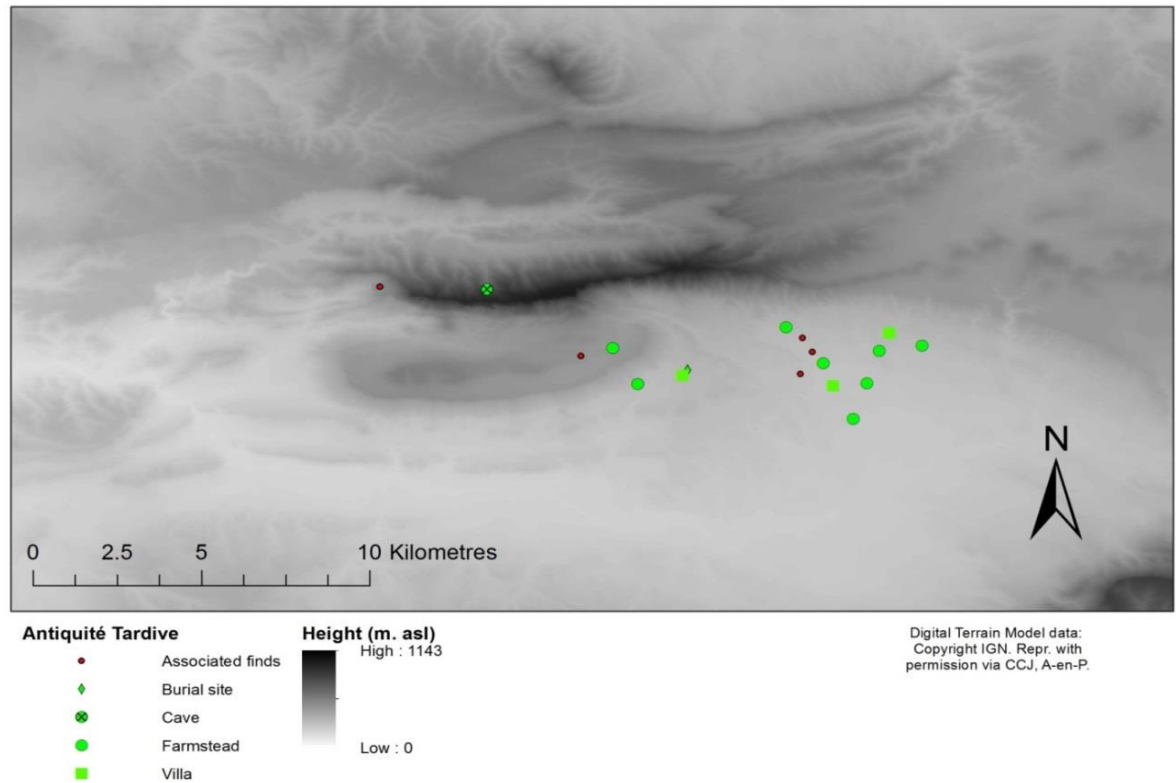


Figure 61 - All sites which have been identified as 'Antiquité Tardive' in period in CAG13/4 or other sources.

As such, instead of chronologically divided cost-distance maps, an overall cost-distance map was calculated for the study area in the same manner as for the south-west Wiltshire case study (Figure 62). Figure 62 demonstrates the overall cost distance values produced by a slope-based cost distance model. This clearly demonstrates that the extreme difficulty of access across the ridge of the Montagne Sainte Victoire in comparison to the difficulty of crossing or bypassing the Cengle. The cave site at Grotte des Blaireaux on the crest of the ridge occupied in Late Antiquity gives a somewhat false impression of ease of access to the centre of the ridge from occupation sites, as this site was not occupied for most of the Roman period.

The lack of sites to the north of the ridge, and thus the apparent inaccessibility of this area in the model, must be treated with caution given the data collection biases described above. Nonetheless the contrasts in topography, and likely vegetation, are also likely to have contributed to the marginality of this area from settlement. Marginality is a complex concept, and it must be borne in mind that these areas would have had other uses,

including forestry and perhaps hunting.

This analysis does not suggest any substantial areas of marginality within the remainder of the case study area, as the model shows relatively easy access across the southern plain and around the Cengele. Whilst the model cannot account for any historic non-physical barriers such as estate boundaries, this analysis is a useful starting point and will feed into the remainder of this chapter. Overall, the model demonstrates that whilst there may not have been any major areas of marginality in the south of the study area during the Roman period, it clearly shows that the face of the massif was a near-impassable barrier to access. This is likely to have contributed to two distinct communities to its north and south. The settlement pattern does appear to bear this out, although the extent to which this is product of data biases is difficult to assess. A consequence of this barrier is likely to have been that Aquae Sextiae would have acted as a key node for both communities, as it was easier to access the city than the other side of the massif.

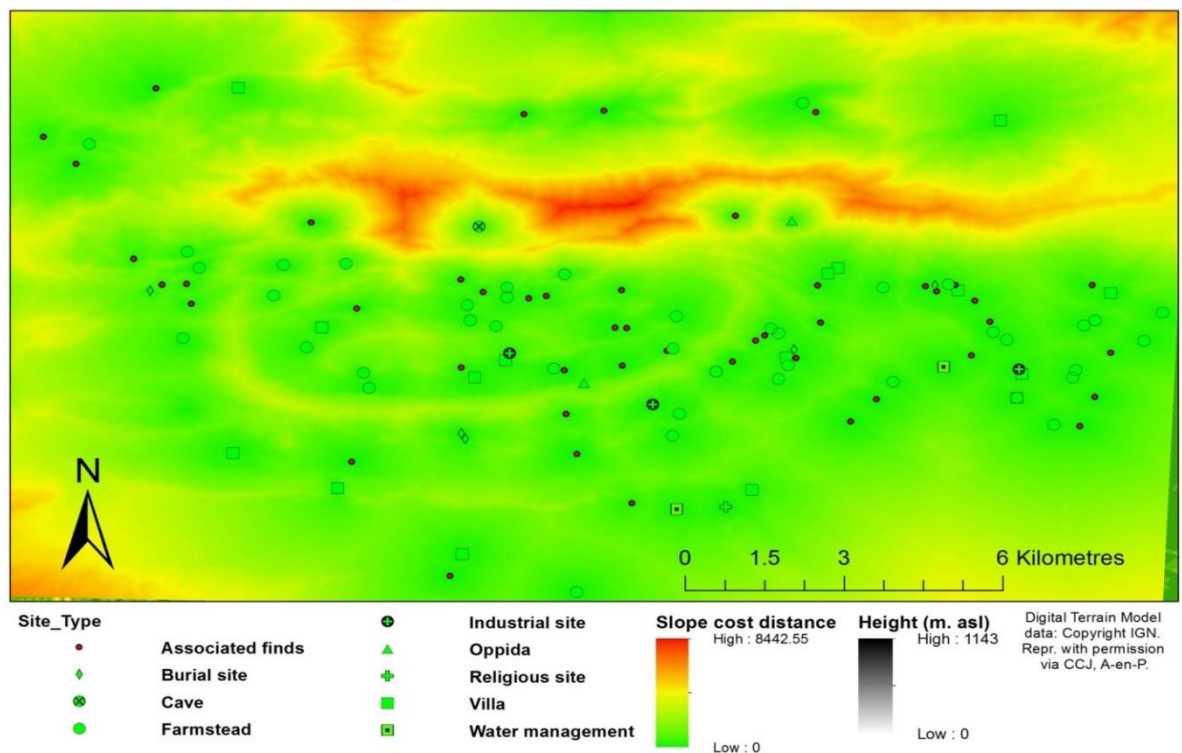


Figure 62 - Slope based cost distance model of the study area, based on the distance between all sites and concentrations of finds, and the surrounding landscape.

## Water

Beyond marginality, what other aspects of wild nature can be considered for the Montagne Sainte-Victoire dataset? The analysis above demonstrates the importance of three particular areas for settlement. These are the area bounded by the Cengle, the plain of Puylobier, and the valley of the river Arc, in the south of the study area. The river valley in particular displays a higher proportion of villas than other areas of the landscape (Figure 50). This suggests that those constructing and inhabiting these establishments were able to mitigate fluvial damage (e.g. Mocci *et al* 2005), and utilise water resources in the areas around these establishments. The management of water would have been important in the Montagne Sainte-Victoire landscape. Although the landscape is not arid, there are not extensive wetlands and the Arc is only a relatively small river. Springs, some of which at least would only be seasonal, and streams around the Cengle and the Sainte-Victoire massif would have provided additional water sources.

Two key structures in the landscape are the Aqueduc Saint-Antonin and the Aqueduc de Vauvenargues. These are both very substantial engineering undertakings and employ a range of construction methods to ensure a steady gradient on the structures moving water from the Montagne Sainte Victoire landscape to Aquae Sextiae (Aix-en-Provence). Their courses have not been fully defined, but sections have been recorded in CAG13/4. The Aqueduc Saint-Antonin begins in the commune of Saint-Antonin-de-Bayon, running through the communes of Beaurecueil and Le Tholonet towards Aquae Sextiae (Leveau 2006). The Aqueduc de Vauvenargues is quite well defined in its upper reaches, but less known between the central area of Vauvenargues and the city (Leveau 2006). The feed of water from the uplands into these aqueducts would reduce the quantity of water available to the surrounding landscape. However, there is little evidence that this had an especially significant impact on agricultural production or supplies of water for human consumption.

Given the variability of the Mediterranean weather and, to a lesser extent, climate (Walsh 2013) there must have been some years, albeit rare, when water supply became restricted and the exploitative extraction of this key resource to feed Aquae Sextiae became

problematic or dangerous for the rural population. If such an impact had occurred, a much larger network of water supply and irrigation would be needed to support the extensive settlement demonstrated by the dataset for the study area. Instead, there are relatively few sites which demonstrate water management structures in the archaeological record (Figure 63). The six sites shown in Figure 63 include two villas demonstrating water management for practical and ornamental purposes (Richeaume and Favary), two small aqueducts, one of which is an offshoot of the Aqueduc Saint-Antonin, a drainage trench and a water tank with a fairly complex drainage system.

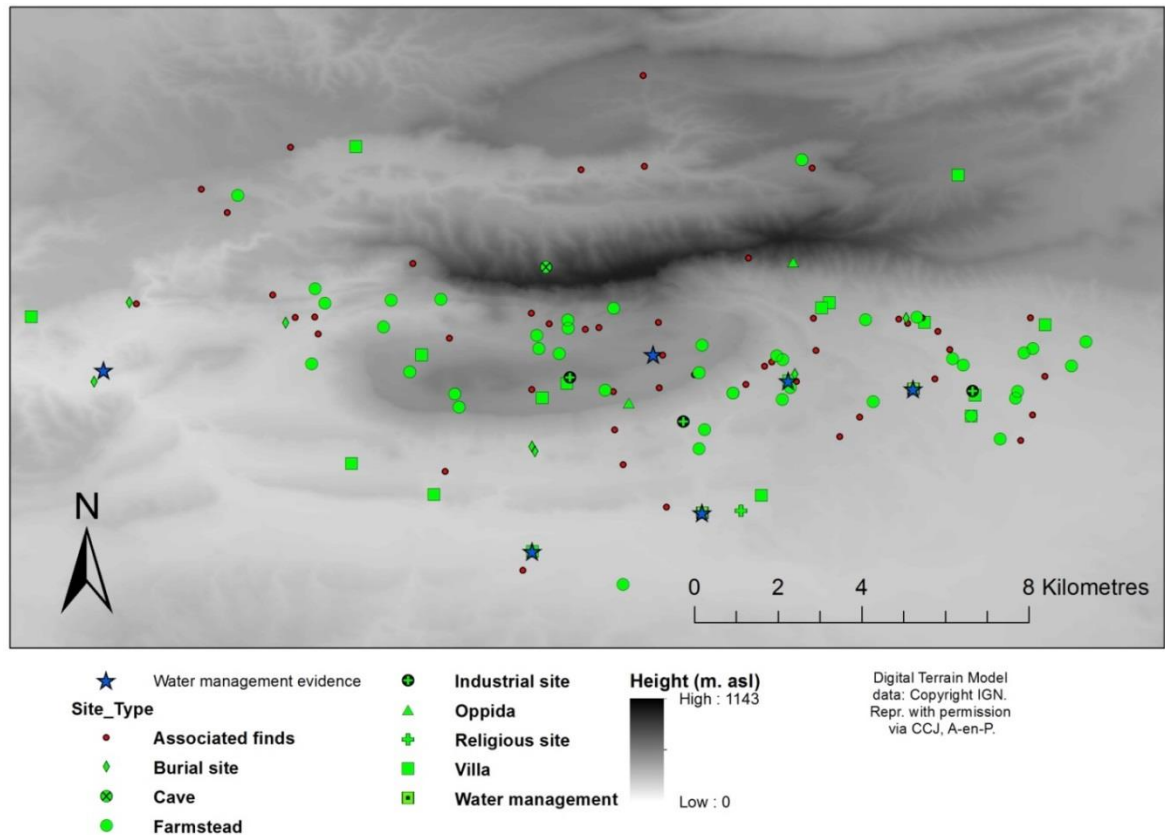


Figure 63 - All sites with evidence for water management structures, excluding the two major aqueducts.

The villa at Richeaume (Richeaume I) demonstrates a wide range of water management structures, as discussed briefly in Chapter 3. Figure 64 shows the course proposed by Mocci *et al* (2005) for the main aqueduct at Richeaume I, which was fed from the eastern slopes of the Cengle and provided the main water supply for the site. Of particular interest is the observation that following the abandonment of the site, there are multiple layers of erosion

affecting the palaeochannel running alongside the aqueduct, and destroying the eastern extremity of the aqueduct itself (Mocci *et al* 2005, 152). This is important for two main reasons. Firstly, as the authors state, this erosion is part of a wider pattern of change in the region in Late Antiquity, as erosion has a major impact following the cessation of maintenance of a range of landscape structures, particularly terraces (Mocci *et al* 2005, 152).

Secondly, as Walsh (2013) discusses, the maintenance that prevented such erosion would have had significant impacts on how people perceived the landscape. At Richeaume, however, the picture is not as clear as at Barbegal regarding who was doing this work, and in what circumstances. At Richeaume the source of the eroding sediment appears to be partially from a greater distance away than at Barbegal. Although some maintenance of the aqueduct itself would have been necessary, the maintenance of the terraces which prevented major erosion was part of a different landscape activity, agricultural cultivation on terraces, rather than inherently tied into the maintenance of the aqueduct and palaeochannel.

Another important aspect of the aqueduct at Richeaume is that unlike those at other villas in the wider region (Mocci *et al* 2005), it does not only directly feed the *villa urbana*, the residential part of the villa. After supplying the domestic structures, a branch of the aqueduct turns abruptly away from the domestic area of the site and empties into the palaeochannel (Walsh 2013), although it is also possible that it supplies water to one of a number of ancillary buildings close to the stream (Figure 64). Unfortunately, the uses or structural plans of these apparent structures have not been confirmed. Other water management structures such as the tank at Le Plantier (CAG 13/4) have survived well in the vicinity where they were made predominantly from stone, so it is plausible to suggest that the aqueduct may have fed a wooden building, perhaps a watermill or other water-powered industrial structure. Importantly, the area around the channel shows signs of flooding, and is separated from the villa by a dyke, which does not protect the ancillary buildings (Walsh 2013). The area subject to flooding shows signs of regular clearance between the 2<sup>nd</sup>

century and early 5<sup>th</sup> century, suggesting a substantial investment of labour in maintaining this area against erosion, similarly to Barbegal (Walsh 2008).

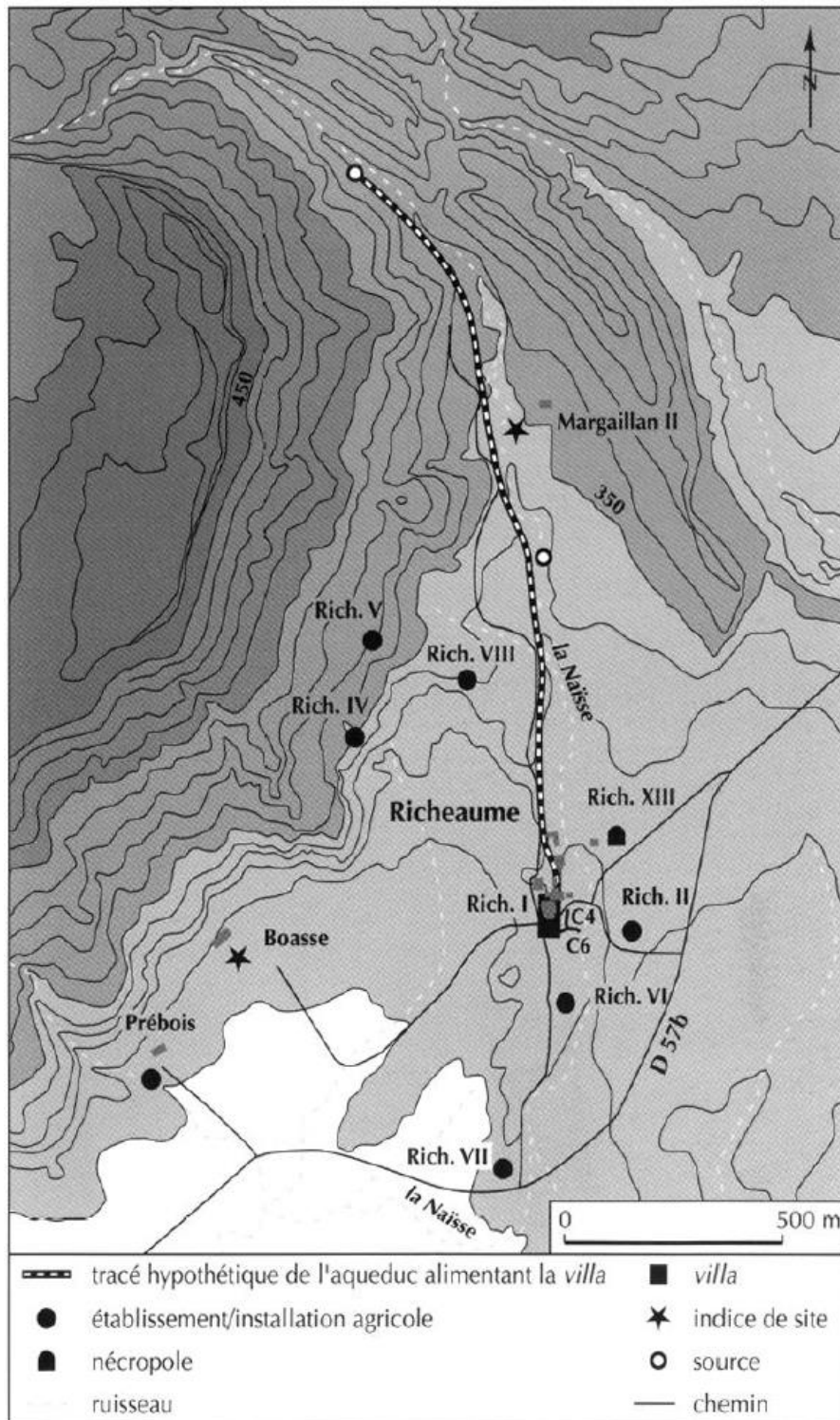


Figure 64 - Sites around Richeaume and the probable course of the aqueduct feeding the villa site (Richeaume I). From Mocchi *et al* 2005.

The villa at Richeaume also demonstrated evidence for extensive and complex water management, including an ornamental pond in the peristyle of the *villa urbana*. Drains, conduits and sewers were also excavated, suggesting a quality of life for the villa's elite inhabitants where hygiene, leisure and display were all enhanced through the plentiful supply of water.

The villa at Favary also revealed traces of an aqueduct supplying water drawn from higher ground some distance to the south. The villa at Favary is actually closer to the river Arc than the water-source chosen for the aqueduct, so it is clearly not simply proximity to water supply that was important to elite groups. The choice to instead construct an aqueduct demonstrates several points. Firstly, drawing water from a source that flows to you is much more convenient than drawing it from a river some distance away. Secondly, the river Arc would be likely to be somewhat more polluted by manure runoff and waste water than the upland stream from which the aqueduct was supplied. This may show some knowledge of water hygiene. Thirdly, that the resource to construct such a structure was available to elites in the Roman period and deemed worthwhile even when water could have possibly been accessed relatively nearby. Overall, the example of Favary is important because it demonstrates that the construction of aqueducts for domestic purposes was not an exceptional or unusual decision for elite groups in this landscape (Leveau 2006), and as at Richeaume, was tied into wider ways of living such as personal hygiene, display and possibly light industry.

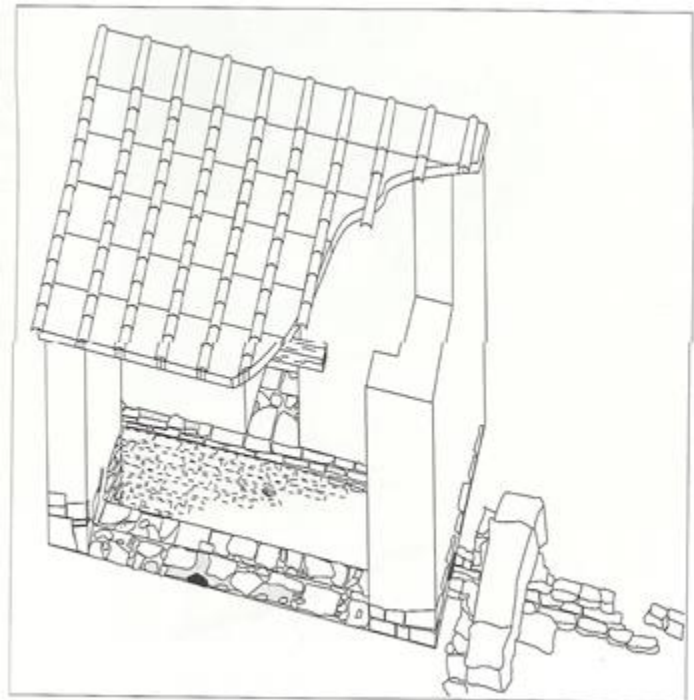
CAG13/4 also mentions a small aqueduct, "of local use" (Mocci and Nin 2006, 689), fed from La Cause, a stream close to Lake Zola reservoir in the far west of the study area, in the commune of Le Tholonet. There is no known nearby occupation site, but a burial site is close to the feature, suggesting an undiscovered occupation site may be present in the vicinity. The final example of a local aqueduct in the study area is at La Tour, south of Puylobier. In 1864 antiquarian B Blanc recorded a small subterranean aqueduct leading towards a water-mill that was extant at the time (Mocci and Nin 2006, 625). There is no indication of where the aqueduct may have supplied, although a small number of Roman

ceramics and a few fragments of tegulae have been found to the west through field-walking (Mocci and Nin 2006, 625).

A similarly isolated structure of water management has been excavated at Le Plantier, in the commune of Rousset. An elaborately constructed tank, with inflow and outflow pipes, appears to have been designed to store water (Figure 65). The depth to which the tank has been preserved would hold a volume of 4995 litres, a substantial volume of water. Mocci and Nin (2006) do not suggest what the stored water would have been used for, and it is unclear how the in- and out-flows were related to any surrounding field-system or landscape. It is clear, however, that some investment was required to construct this stone tank and its accompanying features. Given the lack of such tanks elsewhere, it is unlikely that this feature was simply for field irrigation; if such features were necessary, they would be much more widespread, even allowing for later robbing or disturbance. The site is not close to any villa sites, but Mocci and Nin (2006, 657) demonstrate that the ceramic assemblage dumped into the tank at the end of its use-life in the 3<sup>rd</sup> century is likely to be derived from an undiscovered villa nearby. The tank, given its quality of construction, may therefore be a fragment of a system of water management similar to that at Richeaume.

**Figure 65 - Reconstruction of water tank at Le Plantier. From CAG13.4, 657.**

The final example of water management in the study area is the site of Suis I, in the commune of Saint-Antonin-de-Bayon. Field survey discovered a drain of Roman date designed to drain a seasonally wet depression. The





survey also found a concentration of ceramics of Roman date on a small hill immediately north of the depression, and Mocci and Nin (2006, 669) suggest this may represent a temporary or seasonally used agricultural establishment of some form, probably related to the small farmstead at Suis II 500m to the east. The use of the depression is unknown, but a similar example is located nearby at Troncas. Although Mocci and Nin (2006, 673) suggest that the site at Troncas may be of Roman date or earlier, there is no evidence of its use prior to the medieval period.

These six examples have demonstrated that water was a resource in the study area that was collected and used in a range of ways. Elites – and it is elites employing these structures of hydrological control, for four of these six examples demonstrate a clear association with a villa – had the resources and technological and environmental knowledge to construct and maintain aqueducts, tanks, drains and other structures. Although water does not appear to have been scarce in the study area due to the lack of a widespread irrigation system, control of a supply was necessary to provide the lifestyle implied by ornamental pools and sewers, and the economic/industrial power suggested by the aqueduct at Richeaume. As discussed in Chapters 2 and 3, control of water and the construction of highly visible and technologically advanced landscape features was a demonstration of power and wealth in the landscape. This would have affected how people understood the landscape, and how others in the landscape, such as non-elite groups or those passing through the area would have perceived their own practices in the landscape.

### **Wild animals**

Another practice suggested to have been associated with displays of power and control in the landscape is hunting. Unfortunately there is relatively little data available on faunal remains in the study area. The only assemblage from the period to have been analysed in the study area is from Richeaume I (the villa), which has an assemblage of 1459 fragments of animal bone, including demonstrable examples of hunting. The assemblage is summarised in Table 15 below. The domesticates will be discussed in the following section, 'Tame Nature', and wild species will be discussed here. The assemblage from Richeaume

demonstrates 5.5% wild species in comparison to 94.9% domesticates, or 9.5%/90.% if rabbits are included as wild. Columeau (2001) treats rabbits as wild in the region, and this analysis will follow his precedent.

Species	Adult	Young	Very Young	Indeterminate	Total	% total
Cattle	49	14	8	24	95	25.6
Horse	1		2		3	0.8
Ass	1				1	0.2
Mule	2				2	0.5
Pig	25	35	11	9	23	22.3
Sheep/Goat	45	25	7	11	88	23.7
Sheep	20	6	2	1	29	7.8
Goat	9	4		2	15	4
Dog	5		1		6	1.6
Chicken	2			8	10	2.7
Red Deer	11	3	1	2	17	4.5
Boar	1				1	0.2
Roe Deer	1				1	0.2
Lynx				1	1	0.2
Badger	1				1	0.2
Rabbit	9	1	1	4	15	4
Rat				1	1	0.2
Scallop				1	1	0.2
Cockle				1	1	0.2

Table 15 - Faunal Remains data from Richeaume I. All numerical columns are MNI. Note that the ageing categories have been regrouped into Adult, Jeune (trans: young – includes sub-adult) and Très Jeune (trans :very young – includes neonatal, perinatal and pre-weaning). Data from Columeau (unpub.).

Whilst the chronology of the villa site begins in the 1<sup>st</sup> century BC, the faunal assemblage is predominantly derived from two later date ranges, the 3<sup>rd</sup>-4<sup>th</sup> centuries and 5<sup>th</sup>-6<sup>th</sup> centuries AD. This is due to a very large proportion of the assemblage being recovered from deposits that were redeposited into the disused rooms of the villa from elsewhere on the site (Columeau unpub.). Columeau (unpub.) suggests that these assemblages may therefore actually be earlier in date and originate as occupation debris contemporary with the peak period of the villa (1<sup>st</sup> century AD – 4<sup>th</sup> century AD). Unfortunately, however, this has meant that the two data ranges mentioned above contain the bulk of faunal material from the site.

The proportion of wild animals at Richeaume I varies by period. In the 3<sup>rd</sup> and 4<sup>th</sup> centuries wild animals comprise 14.3% of the total MNI at the site, whereas in the 5<sup>th</sup> and 6<sup>th</sup> century assemblages wild animals make up only 5% of MNI. As the majority of the wild animals present on the site are deer and rabbit, the wild assemblage can be characterised as derived from hunting and possibly trapping of rabbits. The overwhelming bulk of the deer present are red deer, a prestigious animal to hunt because of its size and large antlers (Sykes 2010). The single boar identified is also a particularly large specimen (Columeau unpub.). The variation over time suggests that hunting played a less significant role in the latest centuries of occupation at the villa, possibly mirroring the structural evidence (Mocci et al 2005, unpub. d) in reflecting a reduction in the villa's status at this time. An important consideration here is the disjuncture between this evidence of the Sainte-Victoire landscape as one in which red deer and wild boar were present (albeit not necessarily in very large numbers) and one which does not display evidence for any sizeable areas of marginality south of the ridge beyond the face and crest of the massif itself (see earlier discussion of marginality in this section). This may suggest that some of the areas south of the massif where occupation evidence is absent are not due to biases of the dataset, but are genuine absences of settlement due to the existence of woodland. Alternatively, hunting may have taken place north of the massif.

Although the overall percentage of wild species and their likely meat-bearing volume is much lower than domesticates, 4.5% of the total MNI on the site is comprised of red deer.

Given their relatively large size these animals would have made a notable contribution to diet on the site (Cool 2006).

Interestingly, even this reduced level of wild species can be compared to a total absence of wild species beyond a very small number of rabbits at the oppidum of Constantine (in the region of Bouches-du-Rhône) during its occupation in the 5<sup>th</sup> century AD (Columeau 2001). This site is the nearest available comparison, again demonstrating the lack of zooarchaeological work in the study area. To illustrate the paucity of evidence beyond Richeaume I, the entirety of CAG13/4 including the very extensive section on *Aquae Sextiae* contains three mentions of faunal remains and only one site (Beaulieu, in the commune of Rognes) where any faunal remains have been identified to species. This site is of Late Bronze Age to Early Iron Age date, and the species identified are cow, sheep and dog. Given the date, no useful analogy can be drawn from this assemblage to the study area. The nearby urban centre of *Aquae Sextiae* contains an amphitheatre, but there is no indication of what form of entertainment took place there if any at all beyond theatre, and no evidence of wild animals or facilities for keeping them. As such, we must suggest that whilst the current evidence makes any assessment of the role of wild animals in society extremely difficult, there is some evidence that hunting took place on a limited scale

## **Summary**

This discussion of 'wild' nature has demonstrated that there is relatively little evidence for wildness or wilderness in the south of the study area during the Roman period, but that there may have been substantial areas of forest on the massif's northern slopes. Although Walsh and Mocci's (2003) suggestion regarding constructed marginality appears plausible for the Late Iron Age to Roman transition as they suggest, during the Roman period no areas to the south of the massif can at present be plausibly suggested to be marginal landscapes. This is substantially due to the highly differential evidence base, which is predominantly drawn from fieldwalking surveys in the early 1990s. These surveys were only able to cover areas either burnt by the forest fire of 1989, or that were accessible in the survey's expanded area in the communes of Saint-Antonin-de-Bayon, Puyloubier and Beureceuil. As

such, most sites are concentrated in these areas, with a smaller number of more easily discovered sites (villas, burials, etc) in other communes.

Water management has emerged as an important element of landscape practice, predominantly for the villa-dwelling elites. Complex and expensive structures such as aqueducts, drains and ornamental pools were methods of maintaining a certain way of living (including supplying the urban population of *Aquae Sextiae* with water), and displaying power and wealth in the landscape. Some structures appear to have employed water power to support non-domestic activity, possibly through watermills, although the precise function and use of these non-domestic examples is less clear.

Wild animals were present in the landscape, with quite a wide range of species represented in the Richeaume I assemblage. Red deer appear to have contributed notably to diet, perhaps through hunting on an occasional or seasonal basis. Rabbits may have been trapped, and the presence of a single rat in the assemblage may imply a wider presence of these commensal scavengers (O'Connor 2013). Naturally, an assemblage from a single site cannot necessarily be extrapolated to the wider landscape, although Richeaume I's assemblage does demonstrate the hunting and consumption of wild animals took place in the area. Without further comparanda, however, we cannot conclude that this was necessarily an elite practice, although the red deer was surely a prestigious animal to hunt given its particular characteristics.

The climate of the region has already been discussed at length in Chapter 3, but the available evidence fits with the existing literature. The only evidence found thus far for natural agency is the build-up of sediment and destruction of part of the aqueduct at Richeaume, probably due to the cessation of maintenance of terracing upstream. Overall, there appears to be very little about this landscape that is wild, at least to the south of the massif. However, this discussion has already drawn out some of the characteristics of the dataset, and begun to suggest elements of a landscape narrative. A lacuna thus far, however, is the activity of non-elite groups, who have not yet figured prominently due to the themes discussed and the evidence base. The following section will consider

interactions with 'tame' nature, and how the agricultural landscape shaped and was shaped by human interaction, and more fully considers how the wider population interacted with landscape.

## **Tame Nature**

This section will consider interaction with nature in those places that were beyond human settlement, but within human society. The research framework used to discuss 'tame' nature in Chapter 4 will be followed here, focusing on the sociospatial dimensions of territory, place, scale and network. This will facilitate a wide-ranging discussion of interaction with nature and landscape, based on a complex understanding of place.

## **Territoriality**

Territoriality, how the landscape is divided and defined, is a key part of understanding how people understood and interacted with the landscape. The Montagne Sainte-Victoire and its surrounding communes today appear to make a relatively coherent landscape unit. To the modern inhabitant of the region, the Montagne Sainte-Victoire and its surrounding villages are a sign that the driver (for most modern movement through this landscape is by car) has passed out of the immediate surroundings of Aix-en-Provence, and is entering the inland stage of their journey along the A8 to Cannes or Nice. During the Roman period, however, there is evidence that the territories of the cities of Arles and Aquae Sextiae may have bordered in this study area. Figure 66 shows the suggested boundary of the territory of Aquae Sextiae. This is primarily based on finds of milestones at sites in the area.

Of particular importance is the boundary marker apparently found in the commune of Saint-Antonin-de-Bayon (marked on Figure 66 by a red vertical dash immediately beside the 'S' marking the commune name). This boundary marker is inscribed as marking the territories of Arelate (Arles) and Aquae Sextiae. There is debate as to the actual location of the find, however, with some scholars suggesting that the Latin of the original 17<sup>th</sup> century report of the find has been misinterpreted, and the find is in fact from the commune of Vauvenargues, on the northern side of the Sainte-Victoire (CAG13/4, 666). Further doubt is cast on the discovery by the suggestion that it is of triangular cross-section, whereas all other boundary markers from the region are rectangular. Finally, there is the consideration that the marker is from a location that is highly unlikely to be on the border of the

territories of Aquae Sextiae and Arelate, given that Arelate is some seventy km to the west of Aquae Sextiae, and the apparent find-spot is fifteen km in the opposite direction. Even a map of the boundaries of the territory of Aquae Sextiae (Figure 66) has to make a substantial diversion in the course of the hypothesised boundary to account for this find, and this reconstruction fails to explain how the territory of Arelate might extend ninety km to the east of that city, and extend between the cities of Aquae Sextiae and Massilia. Overall, it appears that if this boundary marker was truly found in Saint-Antonin-de-Bayon or Vauvenargues, it was not in its original location.

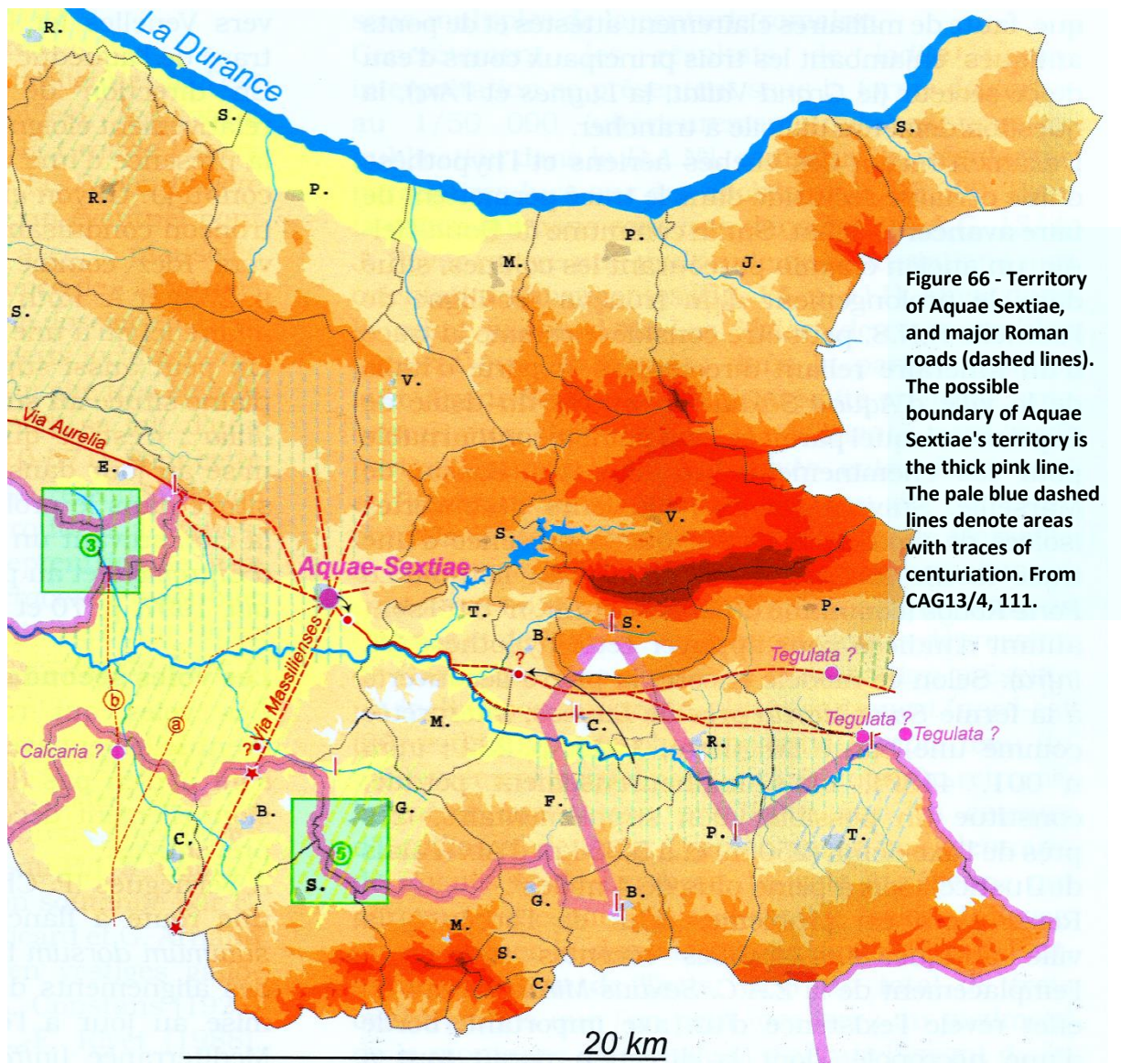


Figure 66 - Territory of Aquae Sextiae, and major Roman roads (dashed lines). The possible boundary of Aquae Sextiae's territory is the thick pink line. The pale blue dashed lines denote areas with traces of centuriation. From CAG13/4, 111.

Nonetheless, the find demonstrates that political territories defined by the Roman state

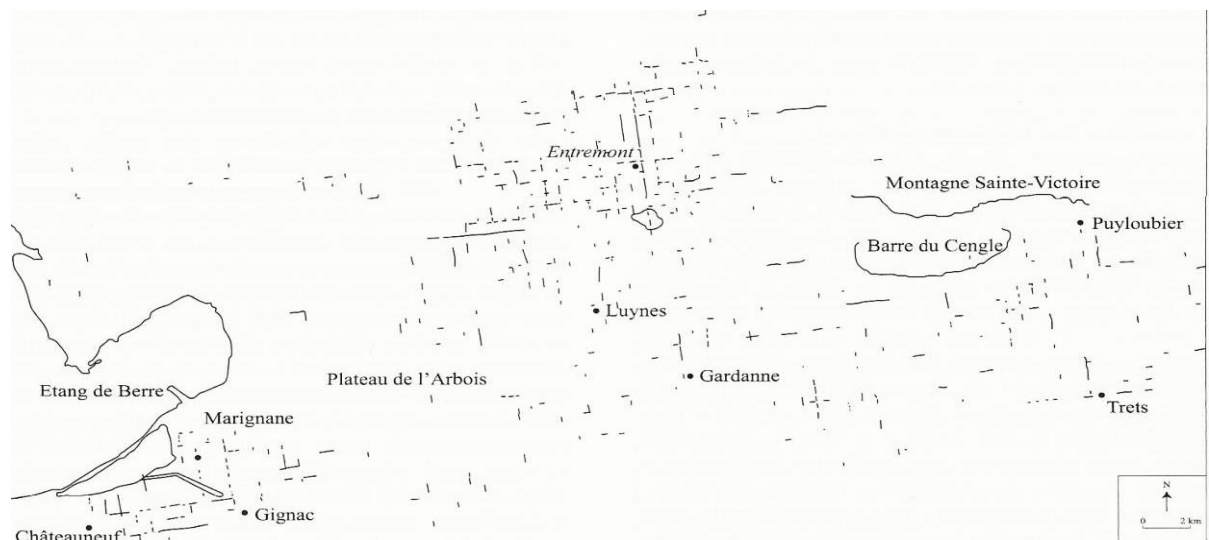


were clearly of legal importance in the region, and required marking on the ground. There is also evidence that the landscape was surveyed and defined by the Imperial state. In the commune of Châteauneuf-le-Rouge a milestone has been found from the Via Aurelia (the Roman road between Aquae Sextiae and Italy) marking seven miles from Aquae Sextiae (CAG13/4, 535). Dating to the reign of Antoninus Pius, this is one of a number of such milestones preserved in Gallia Narbonensis and reflects the importance attached by the Roman state to demonstrating control and asserting Imperial prestige to those travelling on the road network. This milestone demonstrates that the landscape in the study area was defined by some actors in the landscape in terms of its relation to the city of Aquae Sextiae, rather than through any of its own particular characteristics, although no doubt the massif would have provided a clear landmark.

Another important way of defining and dividing the landscape of the study area was centuriation. Figure 67 shows the traces of centuriation visible in the modern landscape as defined by Mocci (Gateau and Mocci 1995). Mocci's work here is important as it forms the final part of a long history of investigation of centuriation in the region, marked by extraordinary focus on the fine geometric points of orientation rather than consideration of the implications of the extraordinarily widespread surveying and definition of orthogonal field boundaries and land divisions. It has been suggested that centuriation formed the basis of several different tiers of land division, from individual fields to wider territories (CAG13/4, 114). It appears that the territories of Arelate and Aquae Sextiae shared a system of centuriation of the same size of field division and angle, suggesting that the territories of these cities were reorganised at the same time, probably in the early part of the Roman period.

Although centuriation is widespread (Figure 67), it does not cover the entire case study area. There is very little evidence for centuriation within the barrier of the Cengle, or on the northern slopes of the Sainte-Victoire. Figure 67 displays a single fragment of possible centuriation in each of these areas. These short field boundaries appear to have been included on the basis that they of the same orientation as other centuriated areas.

However, the practical difficulties of surveying into these areas cast doubt on these attributions, as does the lack of accompanying boundaries like those found elsewhere in the study area. The plain of Puylobier and the region around the river arc to the south of the Cenge demonstrate substantial centuriation, and this is clearly the dominant form of land division in these areas. This contrast hints at an interpretation suggested by the earlier review of site distribution. This is that the area south of the Cenge, and across the plain of Puylobier, was more closely linked to the wider Imperial landscape as defined by the surveyed Roman road, by centuriation and by the establishment of elite villa complexes, which occur somewhat more commonly in this area than in other parts of the study area. At this stage in the analysis, however, this interpretation is merely a hypothesis.



**Figure 67 - Centuriation in the study area and beyond – this extent to the west is shown to demonstrate the extent of this centuriated system. From CAG13/4, 120.**

The act of centuriation is a highly political one. The redefinition of land divisions on such a grand scale cannot have included considerations of existing landscape divisions or territories without deviating from the overall surveyed pattern, which it does not. Whilst centuriation generally covers the flatter areas with less complex topography, there are still very significant engineering challenges involved in the creation of such a system, and its successful construction implies both a substantial investment and significant technical knowledge. The imposition of such resources also necessitates a disregard for other form of

knowledge regarding how the landscape may previously have been divided, as this knowledge has no relevance after the imposition of the new system. As has been discussed for other imperial systems, the act of land division can have enormously debilitating effects on the traditions of the indigenous populations of an area, alienating them from their ancestral landscape (Byrne 2003).

This discussion of territory has demonstrated the importance of imperially defined boundaries and systems of land division in the landscape of this case study. Perhaps just as emphatically, this discussion has demonstrated the absence of local or pre-Roman acts of territoriality in the Roman landscape of the case study. These have been erased by the extensive surveyed boundaries of centuriation through most of the southern half of the case study with the possible exception of the area within the Cengle. The northern slopes of the Sainte-Victoire provide an exception, with only a single possible trace of centuriation noted. Whilst it is possible that this absence is due to a lack of visibility for aerial photography and ground survey, the rough topography and forest cover (which was likely also present in the Roman period) is likely to have made this area more difficult and less necessary to centuriate anyway. We begin to see, therefore, that the natural division between the northern and southern parts of the study area is more substantial than the impact of pre-Roman anthropogenic landscape structures. The following section will consider the sociospatial dimension of place, and how we can understand changing landscape interactions over time at specific locales in the study area, building on the broader discussion in this section.

## **Place**

A key discussion in Chapters 3 and 4 has been how we can understand landscape interaction through archaeologically visible structures associated with particular types of interaction. Naturally, the particular types of structures used in the landscape of the Montagne Sainte-Victoire will be different in some respects to those used in the south-west Wiltshire case study area because of differences in climate, agricultural economy and regional society. Nonetheless, structures such as olive presses, tanks and kilns have been noted in the study

area and demonstrate the presence of particular activities in the landscape. Whilst agriculture was the dominant practice in most landscapes of the Roman empire, the cultivation of the land, growing of crops and pasturing of animals is only one set of practices amongst many. The following sections will consider how other interactions with landscape may have taken place at particular locales, and how these activities may have fitted into wider patterns of landscape practice. Secondly, the creation and maintenance of place will be explored through an in-depth case study of cremation practice at Richeaume XIII, a substantial cemetery associated with the villa site of Richeaume I.

### ***Rural practice in the landscape***

As discussed in Chapter 3, a key practice in Gallia Narbonensis during the Roman period was the cultivation of olives and vines. In order to extract the grape juice and oil that are the primary products of these plants, pressing or treading is necessary. Five sites in the study area display evidence for presses, four of which are villa sites (Figure 68).

The fifth site is at Pascoun, just south-east of the Cengle, and displays very clear evidence of a substantial olive press. Importantly, the site also has evidence for over forty *dolia* (large storage vessels) and is at the end of a possible secondary road or track branching north from the Via Aurelia. This combination of large storage facilities and easy access to the main transport route in the region is strongly suggestive of production for markets beyond the study area. In view of the relatively close proximity of Aquae Sextiae, and that the city is the closest destination of the Via Aurelia, it seems very likely that this site was closely integrated into the supply of olive oil to the city. Given the association of the other presses (or partial evidence for presses) with villas, it appears plausible that these installations were associated with estate production. The sites of presses are quite evenly distributed across the study area, but there is insufficient evidence to associate them with any kind of catchment area for which they pressed olives or grapes. As Brun (2004) discusses, distinguishing between oil and wine presses in the landscape can be difficult in many cases, and it is uncertain whether these other presses at villa sites would have been used for olives, grapes, or both. Brun (2004) also makes clear that many of the key parts of presses

would have been used until broken, or reused in later periods, suggesting that only a relatively small proportion of these features survive, despite the construction of many of their key elements in stone.

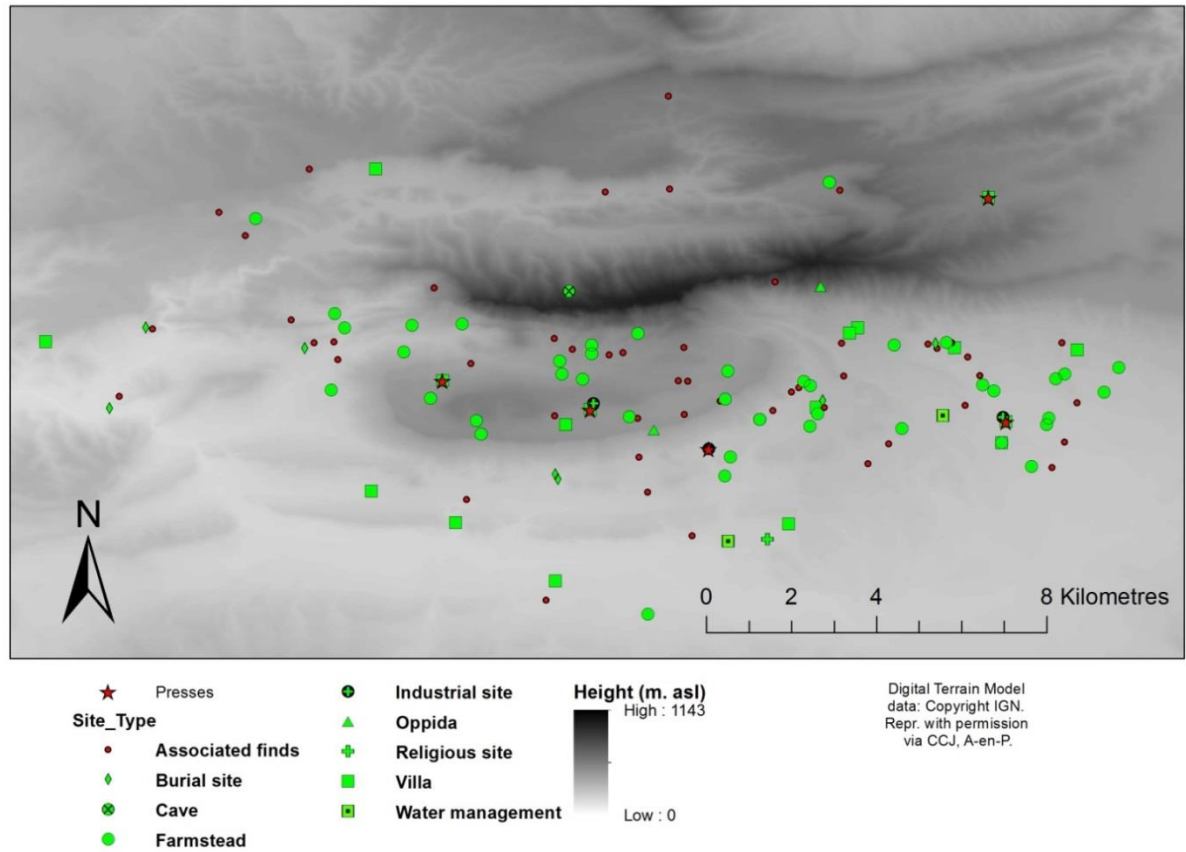


Figure 68 - Sites with evidence for presses in the study area.

There are three sites in the study area that display evidence for ceramic production (Figure 69). Two are associated with the villa site at Domaine de Bayle in the commune of Saint-Antonin-de-Bayon, north of the Cengle. The remaining site is at Cancelade in the commune of Puylobrier, and appears to be associated with the villa site at Saint-Pancrace, approximately 100m to the south-east. The site at Cancelade appears the most substantial, being interpreted as a tile and pottery making workshop with three or four ovens. Production at the site appears to cease in the 2<sup>nd</sup> century, despite continuing occupation throughout the Roman period at the villa at Saint-Pancrace.

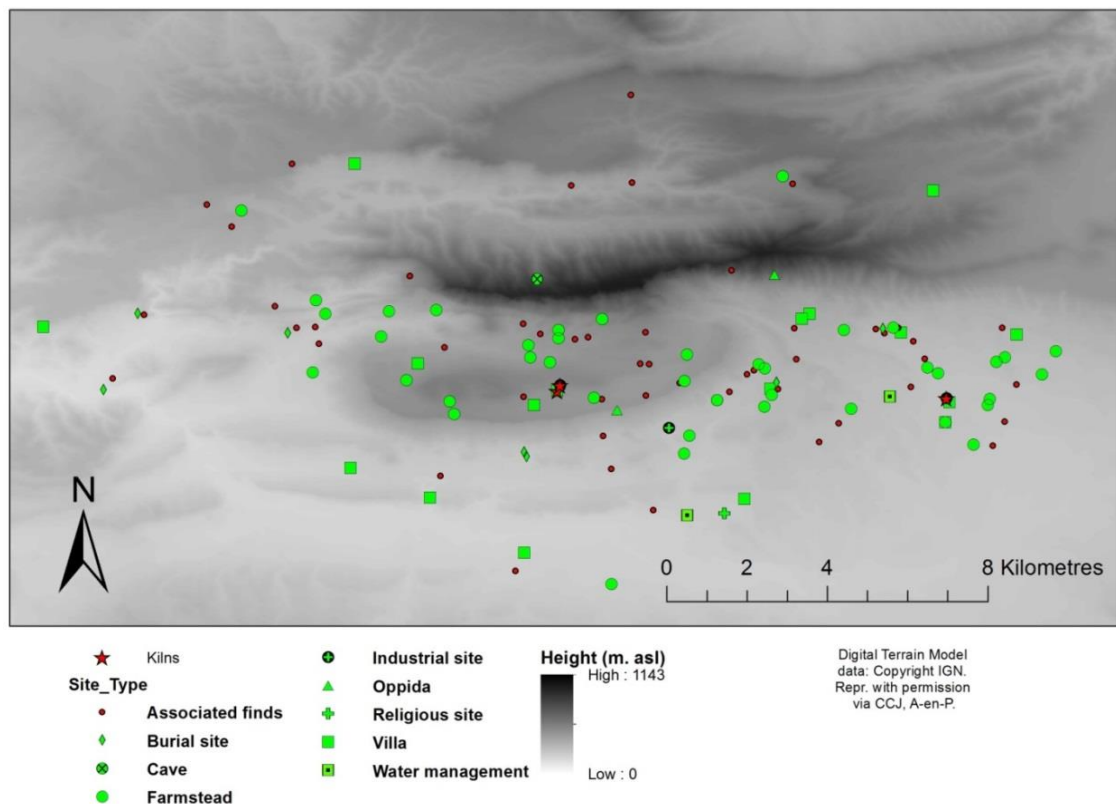


Figure 69 - Sites with possible kilns in the study area.

A third key landscape practice for which structural evidence has been discovered in the study area is the use of quern stones or milling. These were primarily used to process grain into flour, as discussed for the south-west Wiltshire case study in Chapter 4. The eleven sites from the study area that display evidence for querns are variable in both type and date (Figure 70). Querns are used throughout the Roman period, from the reoccupation of the oppida of Bramefan at the very beginning of the Roman period, to the continuation of activity at some sites into Late Antiquity. They are also used across both elite and non-elite sites in the study area, perhaps demonstrating that the processing of grain was more ubiquitous and less specialised than the production of oil or wine. There is a concentration of querns within this widespread distribution in the commune of Puylobier, particularly its eastern area (Figure 70). It is suggestive that this area is one of the flattest parts of the study area, and thus suited to cereal production. It is possible that the concentration of querns here represents a concentration of grain processing at sites associated with cereal production.

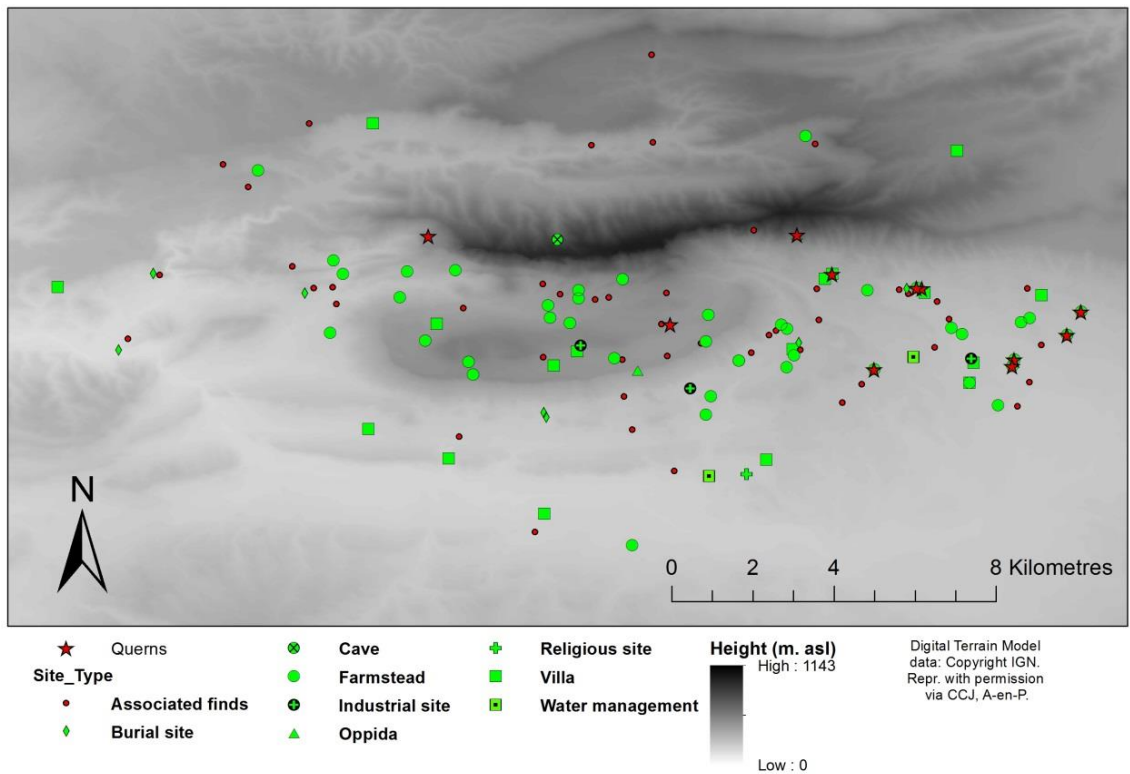


Figure 70 - Sites with evidence for querns in the study area.

The three activities discussed above are each only represented at a relatively small proportion of sites, almost certainly due to factors of archaeological visibility. The nature of the dataset makes the identification of complex landscape structures difficult, as most of the dataset is drawn from fieldwalking. If fieldwalking is to record such structures, they need to have survived on the surface for 1700 years, which is unlikely in an active agricultural landscape.

Fieldwalking is nonetheless very effective at identifying ceramics, and the distribution of *dolia* in the study area is an excellent example of this (Figure 71). *Dolia* are large storage vessels, generally remaining in situ once brought to a site. They would be used to store a wide range of materials including water, oil, wine and grain (Tereso *et al* 2013). Forty-three percent of sites in the study area display evidence of *dolia*, including thirty-one percent of finds concentrations not defined as sites in CAG13/4. Storage must have been an absolutely key requirement in the landscape if *dolia* are so ubiquitous. The distribution of *dolia* is also noteworthy. Very few of the sites close to the river Arc have *dolia*, whereas a majority of

sites in the northern part of Beaucueil, throughout Saint-Antonin-de-Bayon and Puylobier demonstrate evidence for *dolia*.

The key question in explaining this distribution is what did the *dolia* contain? It is tempting to suggest that they contained water, given their widespread distribution and concentration away from the river Arc. However, it seems unlikely that the supply of water would be so minimal that *dolia* storage would be able to make a significant difference. It is more likely that the *dolia* were used for storing a wider range of consumables, depending on the function of the sites with which they are associated. The isolated concentrations of *dolia* away from occupation sites may suggest the storage of agricultural goods such as feed or seed, or perhaps water, oil and other consumables for those working away from occupation sites. The example discussed above at Pascoun also suggests that *dolia* may have been used to store goods prior to transport to urban centres such as Aquae Sextiae.

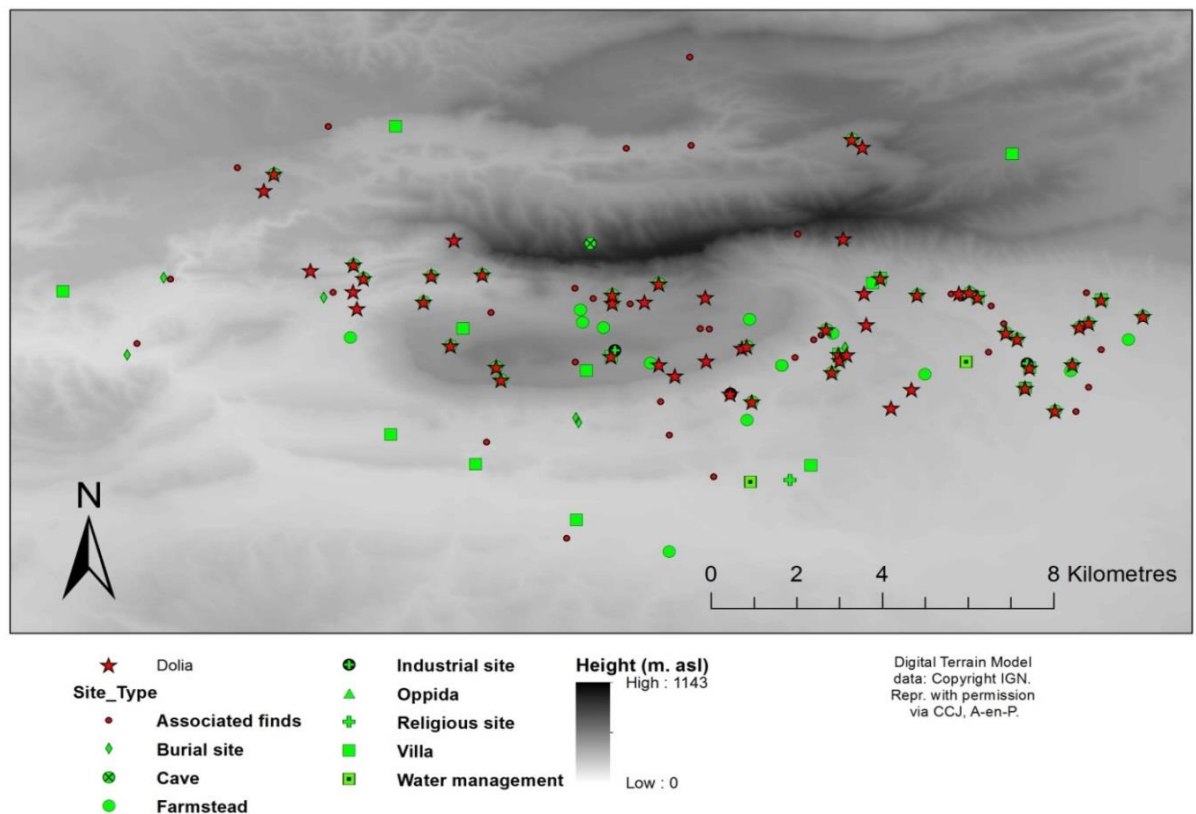


Figure 71 - Distribution of *dolia* in the study area.



This review of rural practice in the landscape has demonstrated evidence for a suite of activities in the landscape. All of those discussed so far have focused on production-related activity, and the practices of the agricultural landscape. The following section will consider how people created and maintained the landscape, and the ways in which particular locales changed over time.

### ***Creation and maintenance of place***

The act of creation of place was undoubtedly important in this case study area. Previous discussions have shown a significant disjuncture between the Roman and pre-Roman settlement pattern, and demonstrated the role of centuriation in dividing the landscape in a way that was explicitly the imposition of a new system. As well as being part of the often violent process of incorporation into the Roman Empire, these were acts of creation of new places. This section will consider in detail the creation and maintenance of a particular place, a cemetery or funerary space at the villa of Richeaume. This site (Richeaume XIII) has been extensively excavated and provides a number of insights into the creation and maintenance of place in the study area (Mocci unpub. d). Of particular interest is the work of Cençon-Salvayre (2009, unpub., Cençon-Salvayre and Durand 2011) on the anthracology of the cremation deposits. The section will lay out the chronology, character and context of the cemetery, and then discuss its creation, maintenance and destruction, and what the activities that took place there can tell us about interactions with the wider landscape.

The cemetery has seven phases, but this discussion will focus on phases one to four, covering the Roman period (Mocci unpub. d). The first phase of the cemetery consists of the widening of a Pleistocene terrace to accommodate the construction of structure E1 and walkways around its edges (Figure 72). Structure E1 is 12.43m x 13.29m, and faced in stone bonded with high quality mortar (Mocci unpub. d, 47). This is a substantial structure displaying considerable construction knowledge and resources. In the first phase there are two cremations, and a range of possible structural features including post-holes. The first phase dates from the mid-1<sup>st</sup> century AD to the beginning of the 2<sup>nd</sup> century (Mocci unpub. d, 45).



**Figure 72 - The cemetery of Richeaume XIII. Note the structure E1 visible in the centre of the image.**

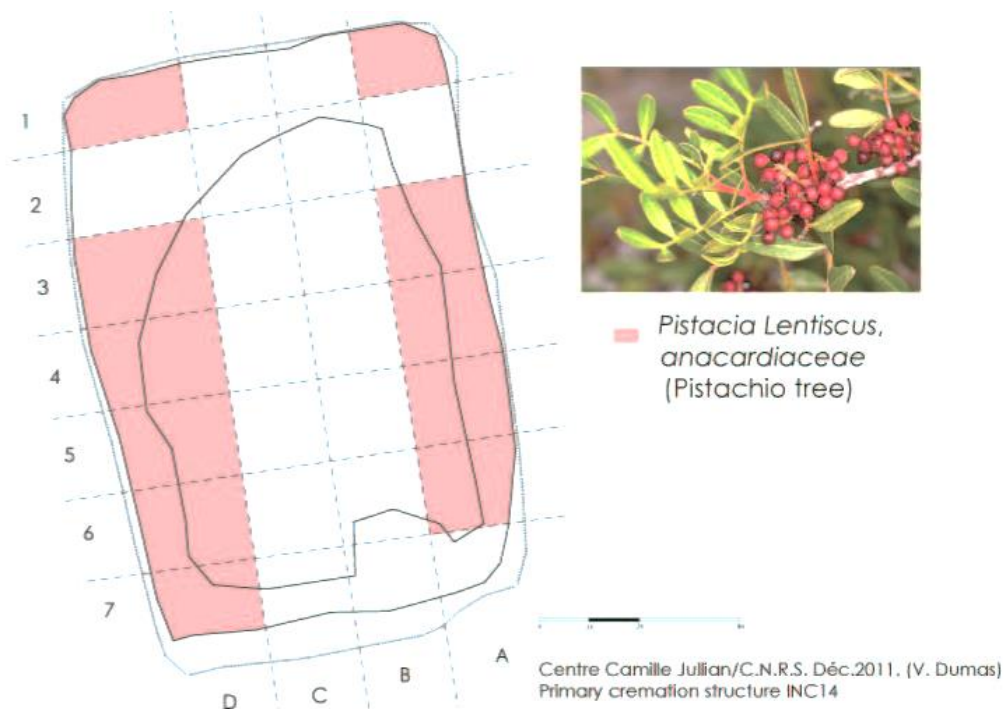
The second phase saw re-levelling of the interior and exterior parts of the structure and terrace, removing material derived from erosion. Also deposited in this phase were a triple-cremation, a double cremation, two single cremations and six child burials (Mocci unpub. d, 45). The child burials were to the south of structure E1, whereas the adult cremations were all within the structure (Mocci unpub. d, 45). This phase dates between the beginning of the 2<sup>nd</sup> century and the second half of the 2<sup>nd</sup> century. The third phase (mid 2<sup>nd</sup> to mid 3<sup>rd</sup> centuries) shows the redevelopment of three of the walls of structure E1, the deposition of three more cremations and two more child burials. In the fourth phase (between the mid 3<sup>rd</sup> century and end of the 4<sup>th</sup> century / early 5<sup>th</sup> century) the walls of structure E1 are partially destroyed, sediment accumulates within the structure and there is evidence of occupation in the southern part of the enclosure (Mocci unpub. d, 45). A final child burial is deposited in this phase, prior to the cemetery's reuse in Late Antiquity, where structure E1 is redeveloped and several inhumations deposited south of the structure, disturbing the area of child burials (Mocci unpub. d, 46).

The creation of this cemetery demonstrates two key points. Firstly, its date is mid 1<sup>st</sup> century AD, a period prior to the construction of the villa at Richeaume I c.200m to the south-west, at a time when that site was occupied by a farmstead (Mocci unpub. d). This implies that the inhabitants of the site chose to build an elaborate walled cemetery prior to elaborating their domestic settlement, suggesting that a great deal of social value was attached by the living to monumentalising the dead.

Secondly, ceramics from cremations in phase one include high quality wares. For example, four whole south-Gaulish samian cups were placed into cremations 14 and 16, and overall fine wares comprise one third of the assemblage from this phase (Mocci unpub. d, 75). The deposition of samian cups (alongside two locally made vases) in cremations demonstrates the importance of consumption in marking the deposition of the dead. The ritual was not consistent, as the cups from cremation 14 show signs of having been placed in the embers of the pyre, whereas the cups from cremation 16 are heavily burnt, suggesting they were placed on or around the pyre prior to ignition. Given the role generally assigned to the burning of the pyre of transforming the dead, symbolising the passing of the deceased from one world to the next (Williams 2004), this suggests that the cups were not intended to accompany the deceased. Instead, the important aspect of this ritual is the use or placing of these cups by the living, perhaps including consumption prior to deposition (Williams 2004). In this particular landscape, which was highly productive of wine, it is very likely that wine was consumed during this ritual. Whatever was consumed, the act of consumption ties the memorialising of the dead into the wider landscape. Indeed, given the high-status nature of this cemetery, it is entirely possible that the deceased were commemorated through the consumption of produce with which they had had a direct economic connection in life.

Cremations continued throughout the use of the cemetery in the Roman period, although never in large numbers, suggesting limited access to burial here, perhaps restricted to the family group who controlled the villa at Richeaume I. Anthracological work also has bearing on arguments regarding social ritual and landscape interaction at Richeaume. Cenzon-Salvayre (2009, 2012, unpub., Cenzon-Salvayre and Durand 2011) has analysed the charcoal

assemblages from cremations at the site, producing a detailed record of the consumption of wood through cremation pyres based on an intense sampling strategy (e.g. Figure 73).

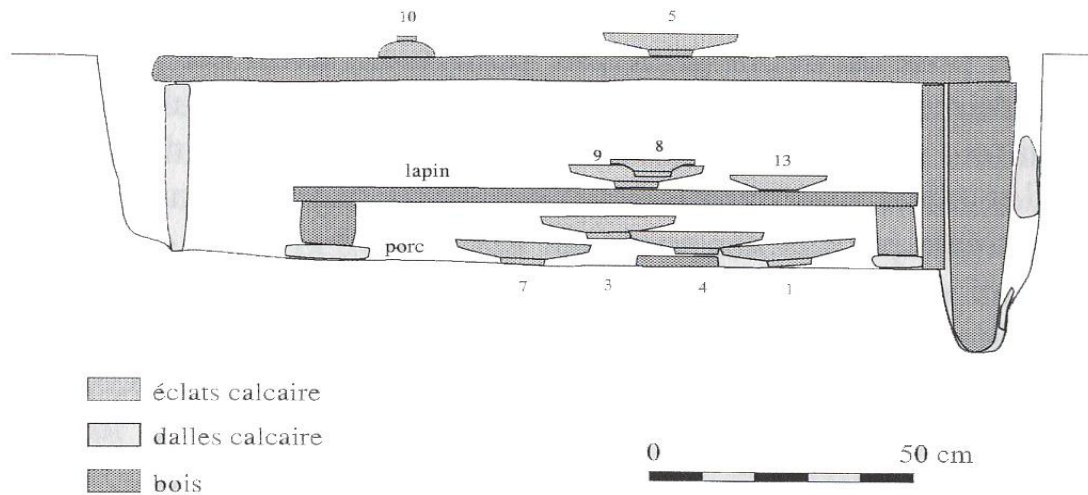


**Figure 73 - Distribution of mastic (pistachio) tree charcoal around cremation 14 at Richeaume XIII. From Cençon-Salvayre 2012.**

Environmental analysis has also been undertaken from the site, demonstrating a meso-Mediterranean climate where the tree population was dominated by Aleppo pine, stone pine, juniper, mastic and oaks, primarily kermes oak (Cençon-Salvayre 2009, 61). Cremation charcoal assemblages were dominated by the same species, with a small number of additional species such as beech and vine (Cençon-Salvayre 2009, 61). The extensive use of Aleppo pine and stone pine in the cremations analysed by Cençon-Salvayre (2009, 61) is suggested to result from environmental constraints; these species were the nearest available large trees, probably sourced from the lower slopes of the Montagne Sainte-Victoire. A funerary column with a pine cone sculpture at its top has been found in Saint-Marc-Jaumgarde, close to the site of Le Jardin, suggesting a wider association of pine with funerary contexts in the study area (CAG13/4). The appearance of kermes (scrub) oak in the assemblage is explained through the coppicing of this smaller species following the reduction of larger deciduous oak species in the Mediterranean zone during the late Iron

Age and Roman period (Cenzon-Salvayre 2009). Coppiced stakes are suggested to have helped with lighting the fire, providing the initial source of fuel to allow the lighting of larger logs (Cenzon-Salvayre 2009, 62). Mastic was located around the edges of cremation 14 (Figure 73), suggesting that this cremation pyre (the first on the site) was decorated with branches of mastic holding the tree's characteristic bright red berries (Cenzon-Salvayre 2012, unpub.).

Cenzon-Salvayre suggests that the intimate knowledge of the burning properties of particular species may imply the involvement of a specialist “cremateur” (Cenzon-Salvayre 2009, 63). There is also a suggestion that cremation 6, the assemblage of which was dominated by Aleppo pine, with some stone pine and kermes oak, may have included a funerary bed at the base of the pyre constructed from stone-pine (Cenzon-Salvayre 2009, 64). The nails and iron fittings found associated with the pyre base are ambiguous, however, and may just have been part of the construction of the pyre. Cenzon-Salvayre (2009, 65) suggests that the hypothesised bed may have been of similar construction and use to that found at Nimes (Figure 74).



**Figure 74 - Reconstruction of cremation at Nimes. Note the combination of wood and stone around the funerary bed to support this grave furniture. The pyre and fuel would then be placed above and around the bed. From Cenzon-Salvayre 2009, 65.**

As well as possible consumption at the cremation ceremony, the careful construction of the

pyre (including the use of decorative woods and the possible employment of a technical specialist), and possible inclusion of a funerary bed, Cençon-Salvayre (2009, 66) demonstrated evidence for a concentration of beech wood (not native to the area) within the deposit. This is suggested to have possibly come from a writing tablet, based on the inclusion of a stylus in the deposit and the charcoal's particular spatial concentration.

A final element of the cremation identified by Cençon-Salvayre (2009, 67) is the placing of a vine branch on the pyre as an offering. The vine branch is unlikely to have been a fuel component of the pyre due to its slow growing nature and value as a productive plant, but the vine is a highly symbolic plant, associated with the god Bacchus and acts of consumption and pleasure. Perhaps more importantly, during the majority of the date range of this cremation, the cultivation of vines was limited to Roman citizens throughout Gallia Narbonensis (Brun 2004, 213; see Chapter 3). The act of deposition of a vine branch in the cremation implies control of vines by some of those involved in the cremation, strongly suggesting that they, the deceased, or both were Roman citizens.

As with cremations in Roman Britain (Williams 2004) and elsewhere in France (Figeuiral *et al* 2010), the form of ritual is contingent on a wide range of issues of identity, belief, and socio-economic networks of relations. The cremation and associated ceremonies are acts of asserting and reconstructing identity and memory. Conducted within a substantial walled area of the cemetery at Richeaume, these cremations were spatially separated from the domain of the living by the stream at Richeaume as well as the wall of structure E1. If, as seems very likely, deposition at the cemetery was restricted to the family group who owned the villa Richeaume I) across the stream, the literal and metaphorical act of crossing the stream becomes highly symbolic in the light of Classical mythology regarding the Styx. It is perhaps therefore possible that the crossing of the stream at Richeaume sometimes represented a transition from a living landscape to a place of the dead.

The preceding discussion has outlined the ways in which cremations in the cemetery at Richeaume XIII are social constructions that can inform us about the landscape in which they took place (Mocci unpub. d, Cençon-Salvayre 2009, 2012, unpub., Cençon-Salvayre and

Durand 2011). In order to gather sufficient fuel for the large cremation pyres built, those organising the ceremony must have had access to pine woods on the lower slopes of the Montagne Sainte-Victoire, as well as (if one was used as Cençon-Salvayre (2009) suggests) access to wealth to hire a 'cremateur' for their technical knowledge. Although other anthracological studies of Roman cremations from France which find assemblages similarly dominated by local wood explain this through functional convenience (e.g. Figueiral *et al* 2010, Deforce and Haneka 2012), to even access such fuel locally requires a certain amount of economic power.

Several cups and vessels, including expensive samian ware, were deposited in the pyre or pyre remnants as part of commemorative acts of consumption. The pyre itself consumed furniture (the funerary bed), possibly especially constructed for the occasion. Items symbolising the deceased individual's role in life, such as a vine branch, writing tablet and stylus, were deposited on the pyre. These acts of consumption of material culture, natural resources and agricultural produce thus place the elites using this cemetery in their landscape context. Without quite complex networks of interaction with landscape the practice of elaborate cremation could not have been maintained. The practice itself changed the ways in which the local landscape could be understood through the symbolism of the landscape to the elite family group for whom the cemetery was reserved. Thus, the maintenance of place through practice demonstrates an array of interactions with and perceptions of landscape, as well as providing evidence for the wider ecological and social contexts to which the place is linked.

### ***Place in the landscape***

This discussion of place in the Montagne Sainte-Victoire landscape has once again demonstrated the quality of the dataset in terms of its detailed coverage of certain parts of the study area. The field-survey data has allowed particular landscape processes to be associated with certain types of settlement. In particular, it is clear that the processes of olive/wine pressing and pottery production were closely associated with high status settlement. Every example of these activities from the study area is closely associated with

villa settlements. Nonetheless, there appear to be differences in the scale of these activities between villa sites. The olive press at Pascoun is a large example for the study area, and the site also demonstrates a very large assemblage of over forty *dolia*. This site is linked by a possible secondary road or track branching north from the Via Aurelia, and this strongly suggests that the estate at Pascoun was producing olive oil for Aquae Sextiae and other urban centres that could be reached along the Roman road network. It is interesting that Rossiter (1981) notes that Cato suggests 100 such jars for a 240 iugera (63ha) estate. This implies that Pascoun is within the realm of estate level production of oil; however, we cannot estimate the size of any estate based on this as we do not know how many *dolia* are associated with the villa, or whether the press served only that estate.

Similarly, the villa at Saint-Pancrace is closely associated with a major ceramic production site at Cancelade and very close to the Via Aurelia. The three or four ceramic ovens at Cancelade could clearly produce substantially more tile and pottery than was needed locally, and therefore are likely to have been supplying urban markets. Pottery production appears to cease in the 2<sup>nd</sup> century at the site, despite continued occupation of the associated villa. This must indicate a shift in production activity around that period at this site, with the wealth needed to maintain the villa coming from a different source.

Whilst olive, wine and pottery production appear to have been confined to villas, quern stones are found much more widely across the study area on farmsteads and villa sites, and throughout the period of study (Figure 70, Figure 76). Whilst it is assumed that these artefacts were used for grinding grain for flour, we cannot be certain that these were not also used for small scale production of oil or wine. Nonetheless, the key technologies for the large scale production of oil and wine were clearly concentrated in the hands of the elite. This reflects the textual evidence of the production of oil and wine being limited to Roman citizens (Brun 2001).

Elite control of the landscape and resources is also very clearly evidenced in the cremations analysed by Cenzon-Salvayre (2009, unpub.) at Richeaume XIII. The cemetery itself is apparently restricted to the elite group dwelling in the Richeaume I villa, and the



anthracology of the cremations provides a demonstration of the various facets of elite landscape control. Cremation 14, the founding cremation of the cemetery, is accompanied by a vine branch, suggesting that the individual may have been involved in wine production, samian cups placed into the pyre suggest the consumption of wine, and the inclusion of a possible writing tablet and stylus suggests a literate social group. The use of multiple types of wood suggests access to resources from a range of landscape areas, including upland/piedmont where zones Aleppo and Stone Pines could be found, lowland scrub oak, vine from plantations and beech from beyond the immediate vicinity in the form of a writing tablet. The areas from which these pines were sourced must surely be from on and around the massif of the Sainte-Victoire, as the transport costs of these trees would have been prohibitive to their long-distance import for cremations. This further reinforces the earlier suggestion, based on faunal evidence as a proxy, of the existence of some tracts of forest in the study area in this period (possibly on the northern side of the massif).

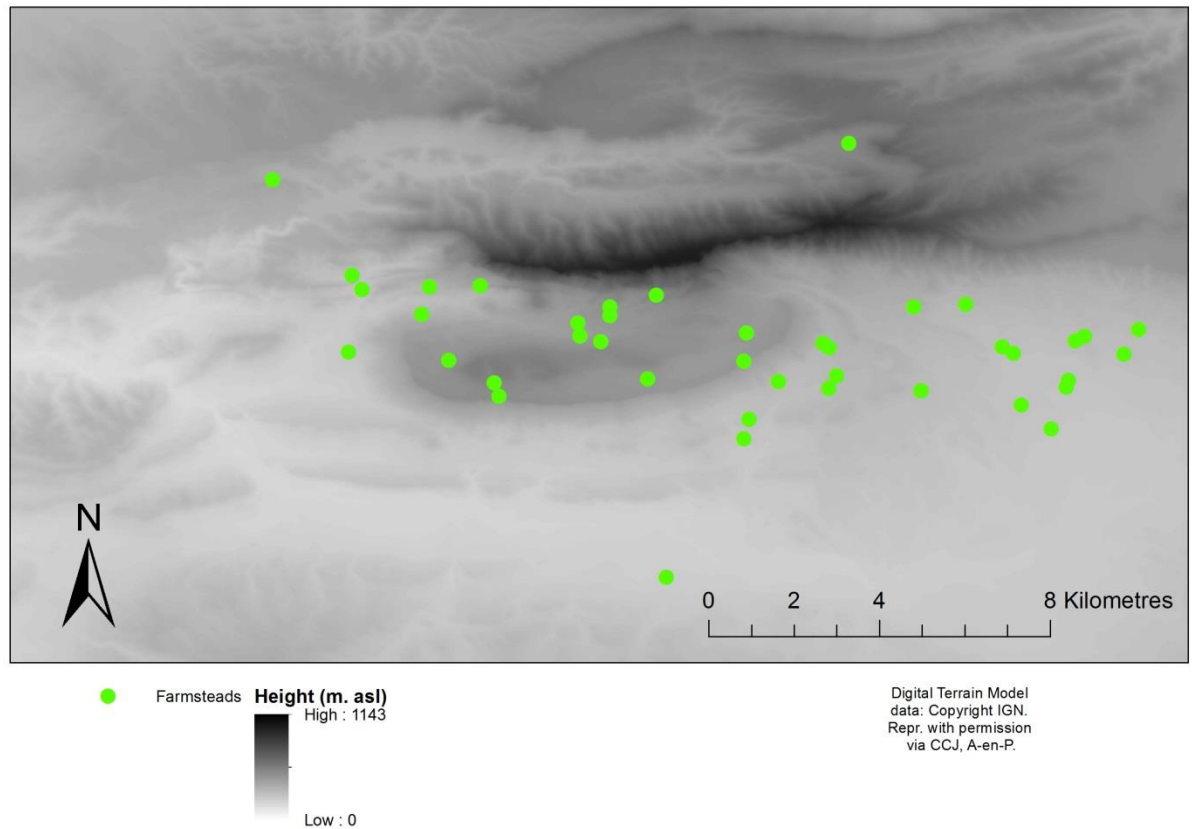
These examples show us how we can begin to see places in the Sainte-Victoire landscape as constructed by practices based on networks of landscape relations. Without the access to wood fuel demonstrated by its extensive use in large cremations at Richeaume XIII (Cenzon-Salvayre unpub.), villas such as Saint-Panrace would be unable to undertake large scale ceramic production. Similarly, the technological knowledge of press construction and access to urban demand for oil allowed the villa at Pascoun to support itself and invest in prestigious structural features. A picture of a landscape defined by centuriation and controlled by elite concerns begins to emerge from this discussion, but does not explain some significant aspects of landscape interaction in the case study area. For example, how did lower status social groups interact with the landscape beyond working (we assume) in the vineyards and olive plantations of these villa estates? Did lower status individuals have similar access to wider networks, or was the reality of everyday life for the bulk of society much more local? How did the domesticated animals present at Richeaume I (Table 15) fit into this pattern of landscape use and networks? The following sections on scale and networks will begin to elucidate these issues.

## **Scale**

This section will consider how the landscape can be understood in terms of different scales of landscape interaction, focusing especially on concerns of production and power. The dataset presented thus far suggests that different scales of interaction with landscape took place around the Montagne Sainte-Victoire. The first part of this case study will consider the character of farmsteads in the landscape. Of the three main classes of site in the case study area (associated finds, farmsteads and villas), villas have received a disproportionate quantity of attention in previous sections. This is because the central element of the only extensively excavated site in the study area, Richeaume, is a villa site (Richeaume I) and because villa sites such as Favary and Pascoun have been slightly more extensively investigated by antiquarians and early archaeologists (CAG 13/4). This is to a significant extent because they are easier to recognise as sites due to their generally more substantial structural remains, and their association with wider intellectual traditions of architectural history, classics and literature (Hingley 2000). This discussion of the sociospatial dimension of scale will therefore attempt to begin to redress the balance with a detailed consideration of farmsteads in the Montagne Sainte-Victoire landscape.

### ***Farmsteads***

Farmsteads discovered during fieldwalking prospection are defined as clear concentrations of material culture and structural remains that do not display the luxurious or elaborate architectural features and structures that are deemed characteristic of villa sites, although this is seldom made explicit in the literature (Mocci and Nin 2006). There are forty-two farmsteads in the dataset, distributed throughout the study area, although mainly concentrated within areas that have been intensively fieldwalked (Figure 75). In these areas where we have a reliable dataset we can observe that farmsteads are approximately three times as common as villa sites and are widely distributed across the landscape (Figure 51, Table 16). There does not appear to be any general clustering within the dataset, but there are several pairs of farmsteads found in close proximity to each other (Figure 75).



**Figure 75 - Distribution of farmsteads in the study area.**

There is substantial variation in the ceramic assemblage found at farmsteads (Figure 76). Most farmsteads (90%) display the presence of dolia, 67% display tegulae, 57% amphorae, 43% sigillata, 24% imbrices and 14% querns. Most also demonstrate the presence of local wares, but this is not consistently recorded. Traces of walls have been found at 12% of sites defined as farmsteads. 62% of farmsteads display at least two forms of higher status ceramic (amphorae, imbrices, sigillata or tegulae) in their field-walked assemblage (Figure 77). It is possible that these sites represent prosperous farmsteads, and that other sites were poorer, more directly reliant on villa sites, or perhaps seasonally occupied.

Commune	Villas	Farmsteads
Puylobier	7	18
Saint-Antonin-de-Bayon	3	14

**Table 16- Comparative numbers of villas and farmsteads in communes with robust datasets.**

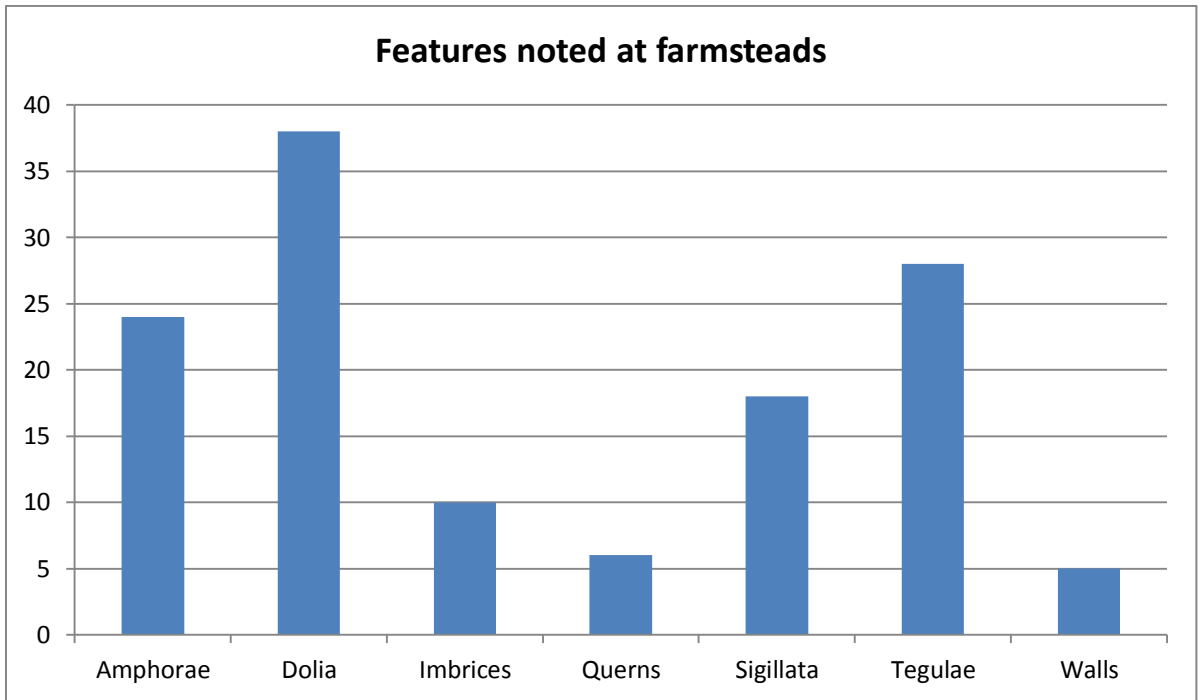


Figure 76 - Features noted at farmsteads in CAG13/4.

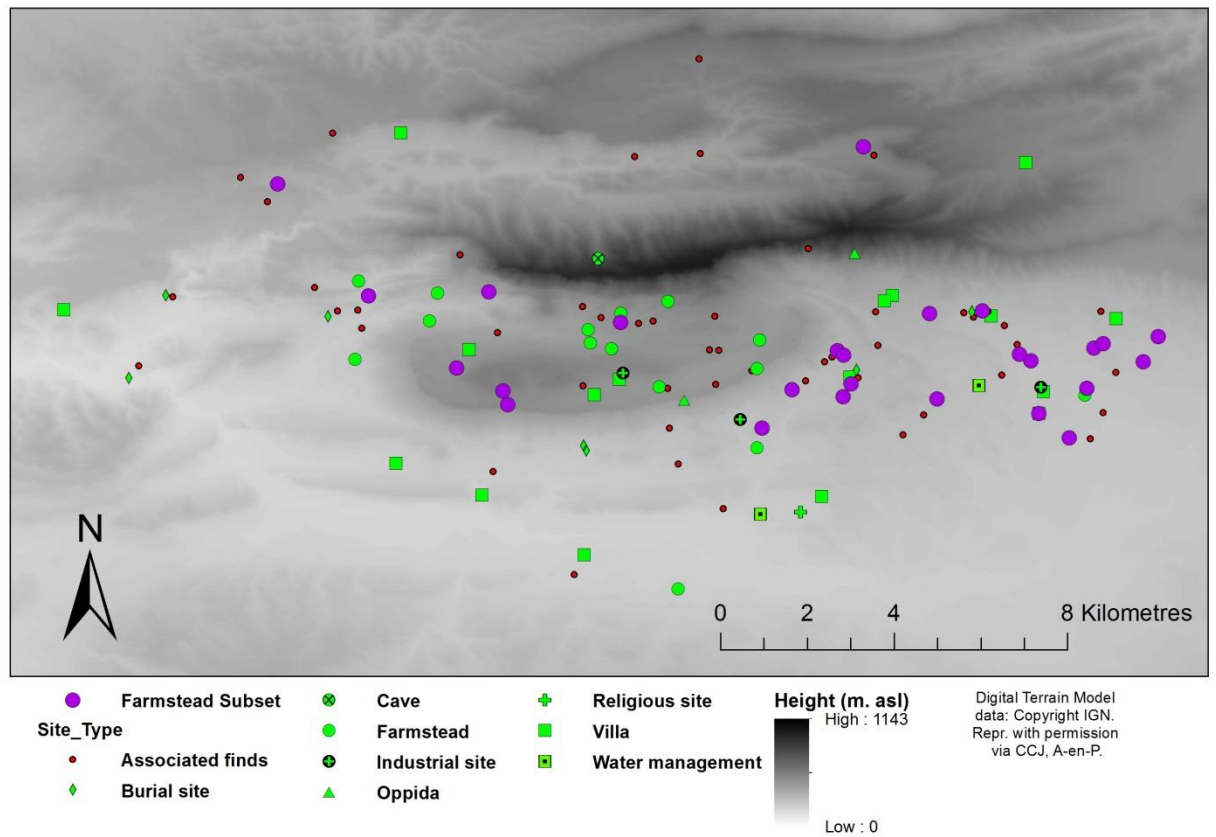


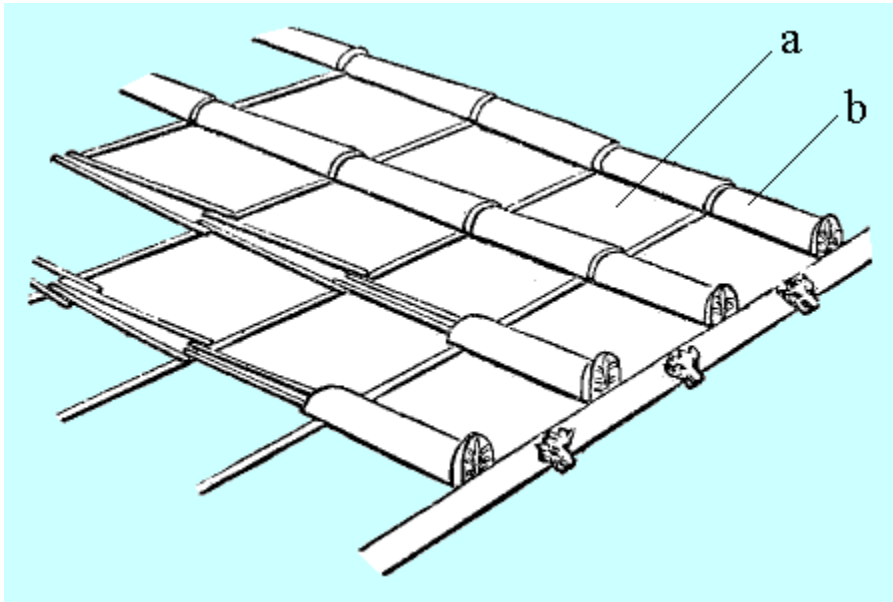
Figure 77 - Subset of farmsteads displaying at least two forms of higher status ceramic beyond dolia.

It is notable that unlike the general distribution of farmsteads, the distribution of farmsteads with higher status and more varied ceramic assemblages displays a clear concentration in the commune of Puyloubier, especially in the eastern half of the commune (Figure 77). Contrastingly, there is a clear concentration of farmsteads without such elements within their assemblages in the eastern half of the commune of Saint-Antonin-de-Bayon, within the Cengle. This contrast is between the two most robust fieldwalking datasets in the study area, so is very likely to reflect the archaeological reality. The farmsteads in the western half of Sainte-Antonin-de-Bayon have assemblages resembling those in Puyloubier. It appears therefore that different activities were taking place in the eastern part of Sainte-Antonin-de-Bayon than elsewhere in the area south of the massif. The absence of significant numbers of farmsteads from the southern part of the study area around the river valley of the Arc should also be noted. Unfortunately, a far smaller proportion of this area has been fieldwalked, so this distribution is less reliable.

Chronologically, activity in the cluster of these sites in Puyloubier generally continues later into the Roman period than activity on farmsteads, although this is not a clear-cut trend (Figure 60, Figure 61). The character of activities undertaken at these farmsteads is also unclear. Their widespread association with *dolia* demonstrates that as at villas, storage was an important consideration. Some appear to have been constructed with good quality tile roofs (Figure 78), although the fact that *tegulae* appear at approximately twice as many sites as *imbrices* is not immediately explicable. Amphorae are present at more than half of farmsteads, and suggest that portable storage vessels were also necessary alongside *dolia*. These may be a sign of consumption.

Some sites defined in CAG13/4 as farmsteads are not necessarily occupation sites. For example, the farmsteads north of Trenque and north of Roque-Vaoutade display high concentrations of *dolia*, but little other ceramic evidence. Both these sites are located in the eastern half of Saint-Antonin-de-Bayon. It is probable that these sites were simply storage locations within the wider landscape, or possible short-term occupation sites constructed from biodegradable materials (Favory et al 1996). *Dolia* holding animal feed or seed-crop,

for example, could have been of great utility in the agricultural landscape of the study area, and Rossiter (1981) demonstrates their importance in wine and oil production. By contrast, the 'farmstead' at Les Ferrages, just north-west of the villa at L'Avocat in the commune of Puylobier, displays a highly varied assemblage of local and regional pottery, imported fineware, imbrices, tegulae, dolia, amphorae and marble. This site must surely be associated with L'Avocat, and may represent a secondary building or residence.



**Figure 78 - Configuration of tegulae and imbrices as roof tiles. Reproduced under Wikimedia commons licence.**

This discussion of farmsteads has demonstrated that there is significant diversity in the types of sites included in this category. The limitations of a tripartite division between 'villas', 'farmsteads' and 'finds' can be seen in the minor differences between the most elaborate farmsteads and some villas, and between farmsteads defined through a concentration of ceramics, and a concentration of associated ceramic finds. Naturally, some form of classification needs to be made in order to establish analytical categories, but the current traditional model in French studies (also reflected to a great extent in Romano-British studies, although with slightly different terminology; see Chapter 2) is unable to demonstrate the diversity of the evidence adequately.

Exploring the types of material culture found at farmsteads has shown that there is notable

variation between the types of interaction with landscape that are likely to have taken place at these sites. Finally, the concentration of farmsteads with more varied and richer assemblages of ceramics in the commune of Puyloubier suggests that the landscape of the plain of Puyloubier was being farmed in a way that necessitated larger numbers of buildings and could support the creation and maintenance of these structures. The western half of Saint-Antonin-de-Bayon displays some similar farmsteads, but not so closely concentrated, and the eastern half of Saint-Antonin-de-Bayon shows a near-absence of such sites. Thus although the fieldwalking dataset is limited in terms of detailed environmental evidence, phasing and its spatial extent, within these communes where it is most robust it has proved able to demonstrate differing intensities of occupation, which likely equate to differing agricultural practices.

The difference between the Puyloubier plain, where a large number of villas and a large number of developed farmstead sites are present, and the interior of the Cengle, which displays a pattern of relatively dispersed villas and somewhat lower number of often less elaborate farmstead sites, shows that differences of scale of production occurred in the study area. These differences of scale were based on differences in landscape; it is unlikely to be a coincidence that the distribution of querns (Figure 70) very closely matches the concentration of farmsteads and villas in the landscape of the Puyloubier plain, whereas very few querns are present in the more topographically complex piedmont of the Cengle. The Puyloubier plain is also one of the parts of the study area with clear evidence of centuriation (Figure 67). Centuriation is also present in the valley of the river Arc, slightly south of both the concentration of farmsteads around Puyloubier and the Cengle, and this area displays almost no farmsteads. Whilst this is probably due to data biases (primarily a lack of field-walking), it is also possible that this pattern is due to a differing form or scale of landscape interaction in the landscape immediately around the river.

The relationship between the farmsteads discussed in this section and the villas in the study area is difficult to discern. There is a discourse in the literature that implicitly or explicitly defines farmsteads as subject to the economic power of villas (e.g. Leveau 2002, Mocci and

Nin 2006), and the evidence previously discussed from cremations and the villa landscape at Richeaume appears to support this in the case of that particular part of the landscape. However, this discussion of farmsteads has not been able to demonstrate economic power relationships between villas and farmsteads based on the available dataset. Although villas demonstrate a wider range of material culture than farmsteads (Mocci and Nin 2006), this reflects that it is through the richness and diversity of material culture that villas have been defined in this study area. Furthermore, this contrast is representative of the access of these sites to wider economic networks, rather than of direct relationships between them. It is through landscape relations such as those at Richeaume that we may be able to demonstrate the power or status of villas in the landscape of the study area.

## **Networks**

This section will consider how we can understand landscape interaction through the sociospatial dimension of networks in the study area. Networks allow us to consider how people are linked by practices of landscape interaction across the study area and beyond, and can be both material and non-material. This section will focus on understanding the case study area through the practices surrounding domesticated animals, and particularly how the raising of these animals can be linked to wider rural-urban relations. Whilst these animals and the consumption, processing, exchange and trade of their products are of course part of a much wider network of social and economic interaction, this analysis will focus primarily on the animals themselves, as conceptions of networks in this manner are far more often focused solely on human-human interaction.

### ***Animal networks***

The landscape of the southern plains of the study area around the river Arc was clearly a productive one, but consideration of the sociospatial dimension of networks forces us to explore how that productivity and practice was linked to wider systems and relations. Considering this in the context of networks may prove more productive than the discussion of scale of production above, which demonstrated the difficulties of defining scales of



production in the landscape.

A key aspect of many agricultural landscapes in the region was the breeding, herding and exploitation of the major domesticates (Leguilloux 1997, Segard 2009a, 2009b, Leveau and Palet-Martinez 2010). This section will consider the evidence from a butchery pit in *Aquae Sextiae* which comprises the only published substantial faunal assemblage from the city, and compare this with the domesticates present at Richeaume I. Whilst naturally we must be cautious about drawing detailed or complex analogies when we in effect have single data points from the rural landscape and its urban counterpart, this is a useful comparison for elucidating how rural-urban supply networks may have functioned.

Leguilloux (1997) discusses a butchery waste pit in *Aquae Sextiae* dating from sometime within the 1<sup>st</sup> to 2<sup>nd</sup> centuries AD. The pit contained a large and apparently rapidly accumulated deposit of butchery waste. The assemblage was overwhelmingly pig (82.2% / 1521 MNI) and cattle (17.7% / 328 MNI). 99.6% of pig bones and 63% of cattle bones were skull fragments, very strongly suggesting the discard of specific elements during a particular part of the butchery process. Leguilloux's analysis of the cut mark patterns of the cattle and pig heads from this pit revealed highly consistent and specialised sets of butchery marks, strongly suggesting the preparation of particular types of meat products from these elements (Leguilloux 1997, 252-254). Leguilloux (1997, 253) suggests that these were most likely various forms of sausage, with the pigs in particular providing ingredients for a form of offal and blood pudding similar to those produced in rural northern France in relatively recent times. This assemblage appears to be a 'snap-shot' assemblage and is highly unlikely to be representative of *Aquae Sextiae*'s overall meat consumption, instead representing a specialist activity focused on provision of a particular inexpensive meat product (Leguilloux 1997).

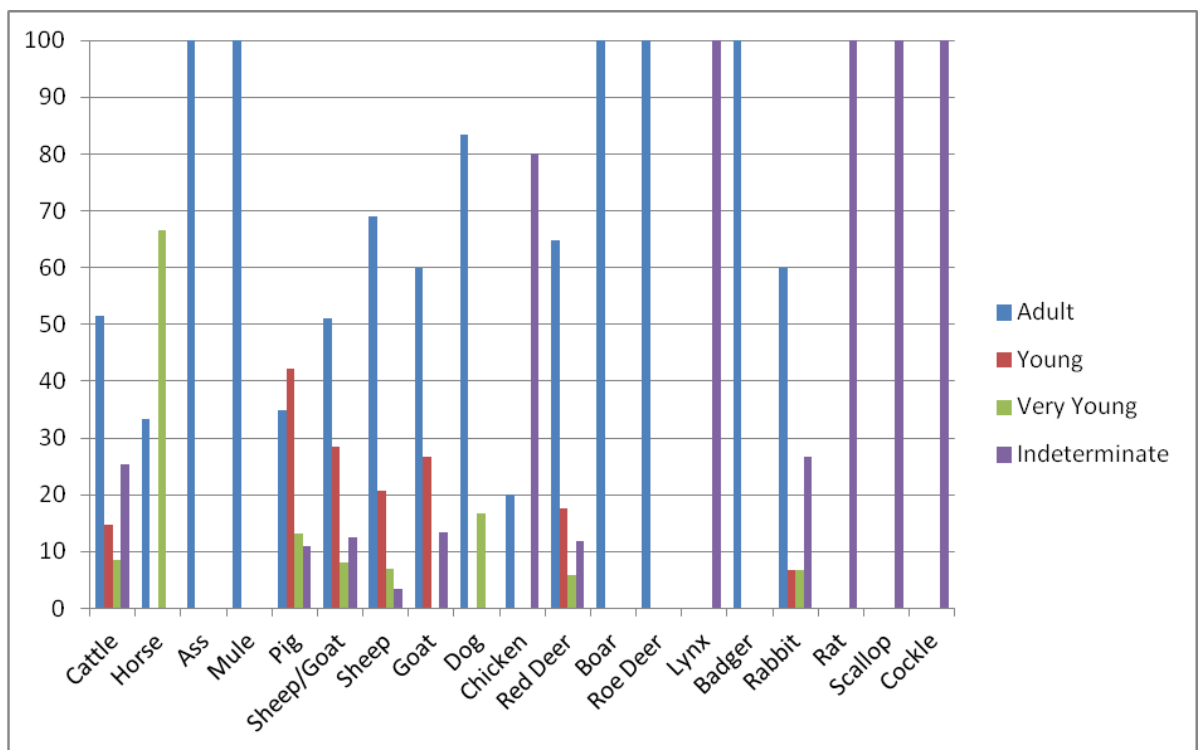
Meat was a valuable source of fat and nutrition in the Roman period, and the butchery remains from this site demonstrate that where possible, every calorie was extracted from the carcass. Bones were cracked or butchered and boiled as the basis for stocks, and the heads of animals stripped of meat for sausage-making (Leguilloux 1997). The wider range of

beef elements in the assemblage is explained by the fact that beef sausages sold for the same value whatever their content, at least if Diocletian's price edict was enforced or obeyed (Leguilloux 1997). A regular and large scale supply was required from the countryside to keep specialist butchers in Aix supplied, and the age at death profile of pigs from this deposit (mostly from 1-5 years of age, peaking between 2 and 4 years) demonstrates slaughter around the time that full growth is achieved (Leguilloux 1997, 254). Female pigs from the assemblage, which is dominated by male pigs, are slaughtered much later at around 7 years of age, likely following the end of their useful breeding life. This pattern is partly reflected in cattle from the assemblage, which were killed either between 18 months and 2 years old, or more than 5 years old. This reflects these animals being killed either after reaching full growth, or following long term exploitation for traction, milk or breeding (Leguilloux 1997, 255).

These discussions shed light on the species profiles and age at death profiles of domesticates at Richeaume I, where the assemblage was 25.6% cattle and 22.3% pig, a far more common species distribution (King 1999, Columeau unpub.; Table 15, Figure 79). At Richeaume I approximately 50% of cattle were killed during adulthood, although only one shows signs of traction, through osteoarthritis of a second phalanx (Columeau unpub., 7) and 25% were killed or died as young or very young animals. Approximately 55% of pigs were slaughtered as young or very young animals, and about 35% as adults. Perhaps this hints at the delicacy of suckling pig being consumed at Richeaume? Goats were slaughtered as adults, whereas sheep were slaughtered both as young animals and adults; Columeau (unpub., 5) suggests that the bulk of sheep/goat that were killed young were sheep, but does not explain why these individuals remain in this category, rather than 'sheep' if they can be positively distinguished from goat. Another point of interest is that two of the three horses that were identified on the site are aged as 'very young'. This may suggest breeding on a small scale.

Key points from the age at death faunal profile at Richeaume I are that the age at death profile of pigs is very similar to that in Aix, but far fewer young cattle are present in the

assemblage from Richeaume I than in Aix. This suggests that cattle of a young age may have been removed from the population and moved to Aix in order to supply meat there. The numbers and proportion of cattle at Richeaume are high in comparison to other species, and the large number of cattle killed in adulthood appears high for the supply of milk and traction. Similarly, the proportion of young cattle appears low given the comparative lack of usefulness of male cattle beyond a certain number for traction once they reach adulthood – where are the male cows that would usually be killed on reaching peak meat yield? Perhaps this pattern suggests that young male cattle were bred at Richeaume for transport to an urban market for consumption?



**Figure 79 - Age at death of fauna at Richeaume I by percentage of total per species. Based on MNI data. Data from Columeau (unpub.).**

Although the above discussion has demonstrated that it is possible that sites such as Richeaume bred animals to supply urban populations, this does not appear to be the overwhelming focus of animal breeding at the site. Pigs, which supply little other than meat, are slaughtered at all ages at Richeaume, with peaks at ‘young’ and ‘adult’ (Figure 79). If an urban centre was the dominant partner in the relationship we might expect to see fewer

young pigs in the assemblage at the production site, and few old pigs at the consumption sites such as that described by Leguilloux (1997). In this example the urban assemblage shows a significant number of female pigs slaughtered at the end of their useful breeding life in addition to the majority of pigs, which are males slaughtered around the point they reached full growth (Leguilloux 1997). As such, we can suggest that there was not necessarily a dominant economic partner in the type of relationships that existed between urban and rural consumers and producers of this kind. However, Richeaume is an elaborate villa that appears to have been controlled by a powerful group, who are likely to have been active in the society of the nearby urban settlement as well as their own rural community (Leveau 1983, 2002). It is possible that other forms of relationship existed between less well connected communities in the rural landscape and urban centres.

The assemblage Leguilloux (1997) analyses is derived from butchery of animal heads, probably to produce some of the cheapest sausages available to the urban market. Although the market in pigs' heads is not necessarily one in which urban elites would have sought to intervene, the heads are waste products and the age at death pattern they provide also applies to the better cuts of meat taken earlier in the butchery process. As such, it appears that the urban market was supplied with some pigs and cattle at the optimum age in meat production terms, but also with those animals which had provided extensive use to rural establishments as traction or breeding animals prior to being sent to slaughter at the end of their useful lives. This suggests that the relationships between rural producers of meat and urban markets were negotiated, rather than being purely extractive and dominated by the urban market. The network of interaction described in the above analysis is largely constituted by engagement with domesticates, a facet of interaction with 'tame' nature sometime obscured by the treatment of faunal remains as primarily informative regarding economic relations or subsistence. The following section will draw out some further implications of these human-animal interactions for how the landscape was encountered by its population.

## **Encountered Nature**

This final section of analysis will focus on how the landscape was encountered by those living in and travelling through it, a key consideration in how people interacted with nature and landscape. Some elements of this topic have already been discussed above due to the way in which the various themes of this research framework are intertwined. The first part of this section will consider individuals in the landscape, attempting to discern ways in which particular occupations may have encountered the landscape based on the discussion thus far. The second section will consider the role of road and river transport in the landscape, and how these major transport routes affected how the landscape was encountered.

### **Occupational encounters**

The discussion so far has elucidated a wide range of topics, but has generally considered these from a top-down perspective, reviewing distribution patterns, landscape structures, topography and sites. This section will expand this discussion to consider perspectives of individuals in the landscape, focusing on the idea of the landscape as a taskscape, based on the wider discussions of landscape interaction thus far.

Of particular relevance in informing individual perspectives are the clearly diverse ways in which animals were encountered; elite groups at Richeaume encountered some animals during hunts, most if not all inhabitants of the landscape would have encountered animals as food, and a range of people would have been involved in their breeding, rearing, training (in some cases), trade and processing of animal products. There were also legal and perhaps technological limits on how individuals could interact with landscape; only Roman citizens could produce wine and olive oil for much of the period of study, and the above section has demonstrated how large-scale oil, wine and pottery production was almost entirely restricted to villas. This may have meant that these interactions with landscape relied on individuals playing more specialist roles involving particular technical and environmental knowledge than has previously been considered in the literature (Rossiter 1981, Brun 2001,

Poblome 2004, Foxhall 2007).

Specialist knowledge was also required by a range of other individual spheres of landscape interaction discussed above, including shepherds, cremateurs, huntsmen, estate managers, surveyors and potters, for example. Although these individuals are rarely visible in the archaeological record, the material remains of the structures of landscape interaction around which much of their lives were based allow us to recognise their occupations. These individuals would have encountered the landscape in many different ways and from a wide range of personal perspectives. To understand the landscape as a taskscape for these individuals requires conceptualising their regular activities in a landscape context.

Table 17 lists basic information on some of the occupations which the analysis of the Montagne Sainte-Victoire landscape thus far has demonstrated are likely to have existed in the study area. It is clear that there is a diversity of contexts in which landscape interaction took place. Mobility is a key difference in these taskscapes. Some individuals, such as shepherds, merchants, cremateurs or surveyors, would have had much greater opportunity to move around the wider landscape and travel. Few of these occupations except merchants, estate managers and perhaps surveyors would have been able to visit urban areas with any regularity. Elites would also have been likely to spend time in both urban and rural landscapes. Contrastingly, potters (Poblome 2004), labourers, farmers (Lewitt 2002), and hunters (Green 1996) would have seldom had reason to travel far beyond their immediate surroundings, depending on the conditions or contract under which they were working (Temin 2004).

Those who were mobile within the landscape would have experienced a wider variety of landscape contexts, and perhaps more clearly understood the wider social and political system within which they lived. This mobility may have come at the cost of establishing deep relationships with particular places; a surveyor, for example, would have conceptualised the landscape very differently to the farmer who raised cattle in centuriated fields. The centuriated landscape would have been a key element in how these actors in the landscape conceptualised and experienced their surroundings. The very widespread

orthogonal field systems would have surely provided a sense of being part of a wider system, controlled and defined by the Roman state. The way that the Puyloubier plain and the valley of the Arc were dominated by this imperially imposed system and that this field system was linked to definitions of territory and place discussed above also implies certain characteristics about those areas where it was not present.

Occupation	Landscape context	Mobile?	Key activities
<b>Cremateur</b>	Outside; forest, cemetery	Yes	Ensuring funerary ritual through knowledge of trees / wood.
<b>Estate manager</b>	Inside or outside; fields and production sites	Yes	Maintaining knowledge and structures of production for elites
<b>Farmer</b>	Outside; fields	Partially	Agricultural production, animal breeding and care
<b>Hunter</b>	Outside; forest	Partially	Aiding elites in hunts; pest control; trapping.
<b>Labourer</b>	Outside; fields or construction	Partially	Farm labour; construction; landscape maintenance; terracing
<b>Merchant</b>	Urban / travelling	Yes	Negotiation; transport of goods
<b>Potter</b>	Inside or outside; production sites	Partially	Pottery production; clay extraction?; wood fuel selection?
<b>Shepherd</b>	Outside; pasture / upland / fields	Yes	Herd maintenance; moving herds
<b>Surveyor</b>	Outside	Yes	Division of landscape

**Table 17 - Occupations recognised in the landscape through analysis of this case study area. NB - this is not intended to be an exhaustive list, rather an indication of the diversity and complexity of experience and landscape interaction.**

Minimal evidence (one possible field boundary on the alignment of centuriation in the wider region) has been found for centuriation within the Cengle, and those moving around that landscape would have been able to use paths and tracks more suited to its complex terrain. It is possible that this area was to some extent marginal to the imperially defined and elite controlled landscape of the plains. This is borne out by the distribution of farmsteads discussed previously, which highlights the eastern half of the area enclosed by the Cengle as having seen a less intense scale or different means of production than the

plains. This is likely to also have been the case for northern slopes, perhaps even more so due to the isolation of the northern part of the case study area from the intensively settled southern plain. Those whose occupations would have entailed spending time in such areas, such as hunters, shepherds or perhaps cremateurs, could have had a wider understanding of the landscape beyond direct imperial control. Of course, elite power was exerted over these areas for particular purposes, such as hunting or the extraction of wood fuel for industry. In general, however, these landscapes saw less direct elite domination and contact than the plains.

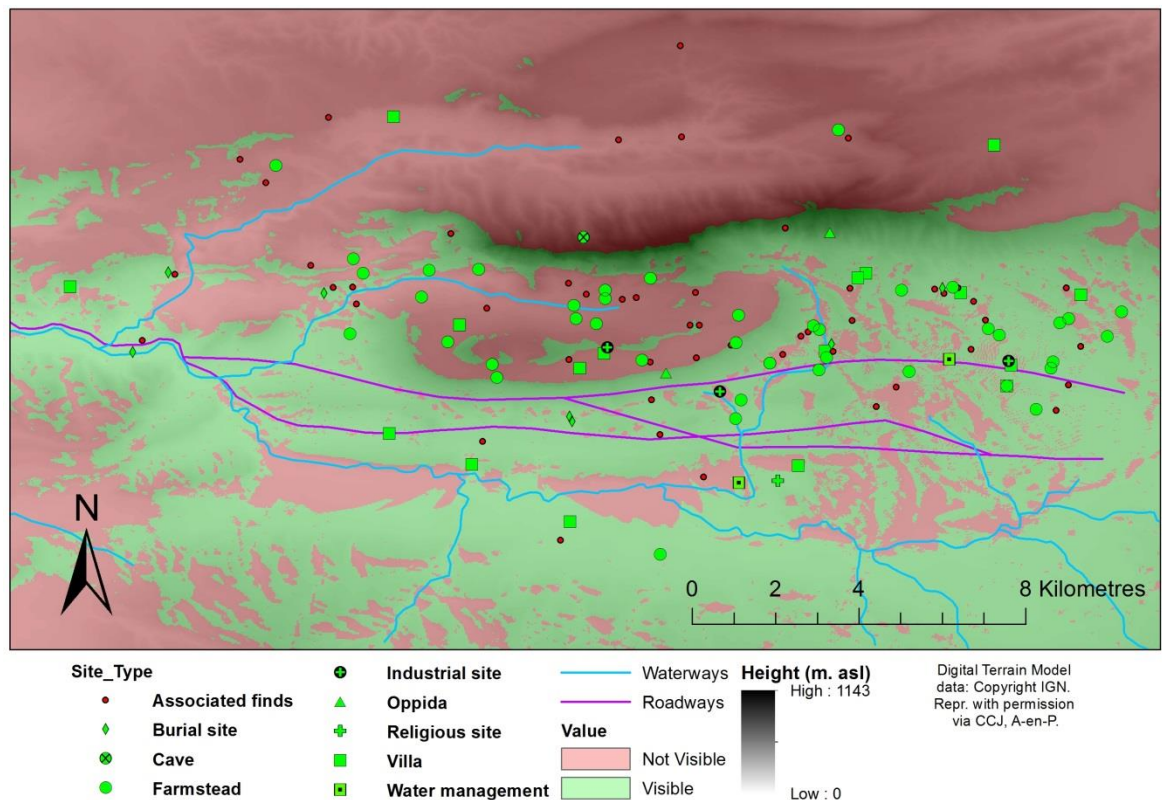
### **Encounters on the Plain**

The previous section considered how the landscape might have been encountered by those working within it. This section will consider how the study area may have been encountered by those travelling through it. Much of the courses of Roman roads in the study area have not been precisely defined, so this analysis follows those that are defined in CAG13/4. A simple viewshed analysis was conducted of which areas were visible from the Roman roads in the study area. Viewsheds from sites to roads and inter-site viewsheds were not calculated for two reasons. Firstly, the site dataset is less complete than the road dataset, and the analysis this way around will be somewhat less biased. Secondly, the roads imposed on the study area by the Roman state are a clear assertion of authority. Given the apparent importance of control in this landscape, this analysis is worthwhile in order to consider concepts of surveillance from structures of control. This produced clear cut results (Figure 80, Figure 81). The interior of the Cengele is almost entirely hidden from view from the road network, as is nearly all territory north of the Sainte-Victoire massif.

There are some patterns in the type of site visible from the road network (Figure 81). A slight majority of villas are visible, essentially all those villas on the Puyloubier plain and in the valley of the Arc. A majority of farmsteads are invisible from the road network, again generally reflecting the numbers hidden by the Cengele and on the northern slopes of the massif, although some on the plain of Puyloubier are also located in depressions or to the north of raised ground that prevents them being visible from the road. The contrast



between this and villa sites in this area is suggestive, but the pattern is hardly robust enough to support significant conclusions on this basis. The clearest result of this analysis is that every burial site in the study area is visible from the road network. The only known burials in the study area which are not visible from the road network are those at the villa of Maurély, within the Cengle. This result strongly suggests that burial sites were located partly because of the potential for display in those particular locations.



**Figure 80 - Areas of the landscape visible and invisible from the Roman road network.**

The earlier discussion of funerary ceremony at Richeaume demonstrated the importance of display, consumption and structured deposition at that site, but this evidence supports the idea that funerary rituals were not intended solely for the visual consumption of those in the immediate community, but also for those passing through the region. The road network was used by a wide range of people, but was definitely the route of officialdom and the imperial state. Perhaps demonstrating funerary practice to those integrated into the wider state and economic system was important in this landscape?

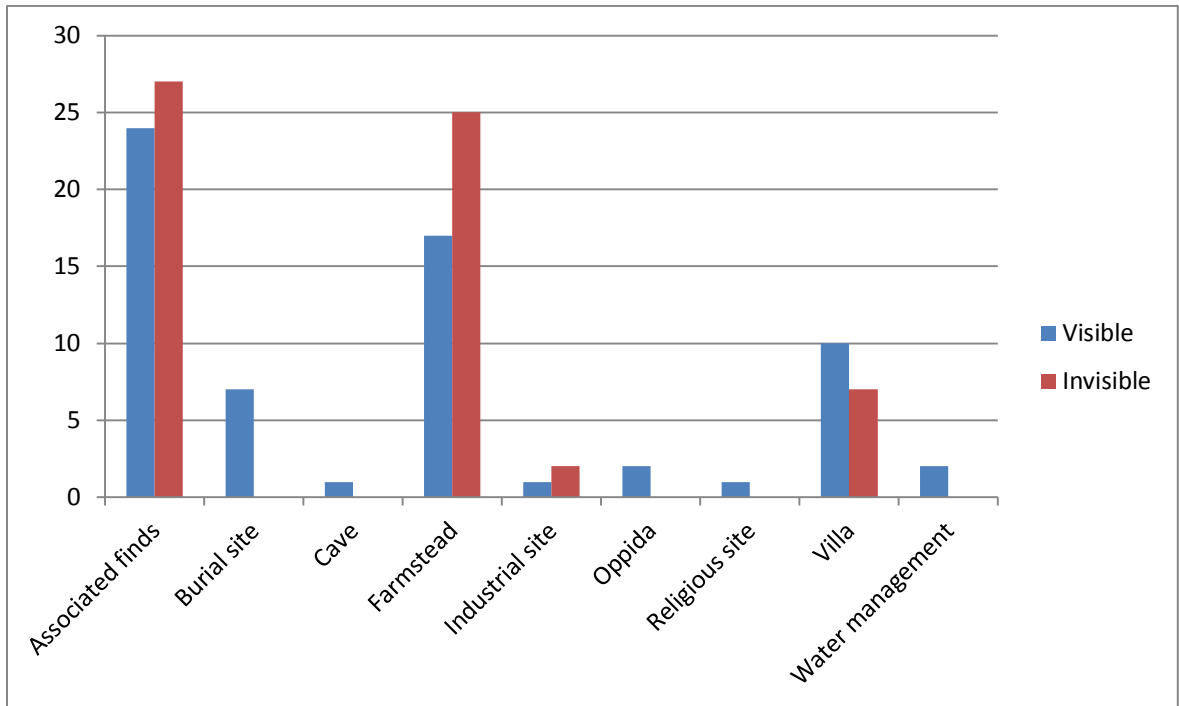


Figure 81 - Visibility of sites by type.

## Discussion

This chapter has analysed a wide range of interactions with landscape, and once again the research framework used has provoked a stimulating combination of analyses. The dataset has been shown to have limitations, particularly in two aspects. Firstly, the core fieldwalking dataset covers only some of the study area in detail, allowing us to be convinced of its archaeological representativeness only in Puylobier, Saint-Antonin-de-Bayon, and parts of Beurecueil and Le Tholonet. Secondly, there has only been one substantial modern excavation project in the study area, at Richeaume. Although this work covered both Richeaume I (the villa) and Richeaume XIII (the cemetery) in detail, demonstrating the importance of Cençon Salvayre's innovative anthracological work in particular, having only a single excavated site reduces the extent to which arguments for wide ranging patterns across the study area can be extrapolated. Indeed, the lack of plentiful excavation data and associated artefactual and environmental assemblages beyond Richeaume must certainly

cause the conclusions drawn here to be treated with caution. This is particularly the case with those heavily relying on this limited evidence, such as understandings of human-animal interaction, funerary practice and particular industrial processes such as the production of ceramics, oil and wine. These weaknesses should be addressed in future research in the region. Beyond this, however, the dataset has also proved to have significant strengths.

The fieldwalking dataset for the communes mentioned above is outstanding, and has enabled detailed analysis of site distributions, activity in the landscape, material culture use and distribution. The robust dataset for these areas has also allowed distinctions to be made within the sub-class of farmsteads defined in CAG13/4, demonstrating that a small subset of these sites are unlikely to be occupation sites, but may represent outdoor storage buildings or buildings that were used seasonally. The dataset also clearly demonstrates chronological change. Although only a relatively small proportion of sites have chronological information, those that do demonstrate a very clear pattern of contraction of settlement in Late Antiquity, with settlement continuing on the Puyloubier plain, and near-disappearing within the Cengele and in the west of the study area. This may reflect the concentration of settlement around the most agriculturally productive and intensively occupied part of the landscape.

The analyses undertaken in this chapter have also demonstrated that the Puyloubier plain was the most intensively used part of the landscape. The plain has a high concentration of farmsteads and villas within a centuriated landscape, and also demonstrates a high concentration of querns and oil and wine production in its eastern part. The plain and the sites in the valley of the River Arc are also more closely connected to and visible from the Roman road network than other parts of the landscape. The case study area cannot, however, simply be defined as an opposition between intensively occupied areas of villa-dominated and centuriated lowland landscapes and less intensively occupied upland landscapes.

The area bounded by the Cengele, although less intensively occupied than the plain, still contains several substantial villa establishments, focused in its western half. The eastern

half of the Cengle piedmont may have been a different form of landscape in the Roman period to the remainder of the study area south of the massif. The remains of hunted wild animals from Richeaume, just east of the Cengle, and concentration of pottery production at Domaine de Bayle in the centre of the Cengle may suggest that the eastern part of the Cengle was wooded in the Roman period. Pottery production with multiple kilns at Domaine de Bayle would have required substantial fuel, and it is logical that this site would be located close to a source.

The rough terrain of the Cengle piedmont is also not centuriated, suggesting that the area was not part of the agricultural landscape defined by the Roman state on the plain and in the river valley. Finally, cremation charcoal at Richeaume XIII demonstrates a range of tree species. Whilst some, such as scrub oak and vine, would have been available in the generally open landscape around the site, species such as stone pine and Aleppo pine are generally found in mountainous or piedmont environments. The lower slopes of the Sainte-Victoire and the piedmont of the Cengle could have provided such an environment. This area of woodland would have been populated by deer and boar, based on the faunal assemblage from Richeaume. Lynx may also have been active on the massif and in this woodland area. It is likely that the northern slopes were also heavily forested, and analysis has demonstrated that this area appears to have been isolated from the southern part of the case study area. Whilst data biases mean that these suggestions should be treated with caution, the clearly different characteristics of the terrain of the northern slopes do suggest a different set of potential interactions with landscape, less controlled by the Roman state and elite groups than the southern plains.

Domestic animals were also a key part of interaction with the landscape. There is reasonable evidence from Richeaume of the breeding of cattle and pig, partially to supply urban markets, and partially for local consumption. Sheep were also present in similar numbers on the site, although due to their smaller relative size supplied a relatively small proportion of meat consumed (Cool 2006). Horse breeding on a small scale may also have taken place on the estate. These animals required raising, feeding and their products

processing. A wide range of specialist knowledge was required to perform these tasks, and this was only one of many taskscapes present in the landscape. There is plausible evidence from these analyses for a diverse range of occupations in the Sainte-Victoire landscape, including cremateurs, estate managers, farmers, hunters, labourers, merchants, potters, shepherds and surveyors. Some of these occupations were mobile and would have provided a wider insight into the imperial society under which these individuals were living, whereas others may have been closely tied to the land or industrial site where they laboured.

The place of the Sainte-Victoire landscape in a wider imperial landscape has emerged as a theme in many parts of this chapter. Some structures, such as the road network, aqueducts removing water (particularly in drier years), centuriation and the legal restrictions on cultivating vines and olives make the dominating relationship of the Roman state with the landscape very apparent. Elsewhere, however, ambiguity remains over how that dominance was articulated in local, everyday terms. The relationship between farmsteads and villas is unclear, particularly given the variation in the status of ceramic assemblages at farmstead sites.

The structures of dominance listed above also only extend across the southern, lowland, part of the study area. The northern slopes of the massif, although extensively surveyed for standing remains, cannot be fieldwalked due to extensive forest and scrub cover. The character of settlement and interaction with nature in this part of the case study area is a key question for future work, with the interpretation discussed previously (extensive forest cover, exploitation for hunting and forestry) providing a hypothesis to test. Establishing the similarity or otherwise of the pattern of interaction with landscape in this area will allow the patterns observed south of the massif to be placed in their proper context; is the integrated landscape demonstrably present in the lowlands an anomaly, present only in the immediate zone around the Roman road system, or is it closely connected to areas that appear not to be centuriated? For example, could the northern slopes even have been used for extensive sheep pasturing and seasonal transhumance in the same way as in other parts of south-eastern France?

Overall it appears that the Montagne Sainte-Victoire during the Roman period was a landscape that was quite severely dislocated from Iron Age landscape territories, systems and, perhaps, practices. The lowland landscape was dominated by the Roman state and by elites who do not demonstrate any particular adherence to pre-existing cultural traditions. The imposition of centuriation in particular would have been a constant physical reminder of how the landscape was defined and controlled by the Imperial elite. Nonetheless, there was a diversity of practice in the landscape, although the extent to which any of the landscape activities or occupation sites considered here could be considered beyond the control of elites is highly questionable. Another challenge remaining is achieving a greater chronological resolution; although some sites have dating evidence by century, most do not, or are only defined via the Haut Empire / Antiquité Tardive division. This would allow more detailed interpretation of change over time. The cessation of pottery production at Cancelade in the 2<sup>nd</sup> century must represent a significant change in industrial focus in that part of the landscape, but there is little indication in the data of what this change might be.

Whilst many questions and gaps in the data remain after this attempt at a holistic analysis of the Montagne Sainte-Victoire landscape in the Roman period, this discussion has demonstrated the archaeological potential of the landscape, and the potential of this approach to understanding it. Through analysis of interactions with landscape in a spatially aware manner, a broad landscape narrative has been elucidated that demonstrates the diversity and complexity of society in the study area. Nonetheless, the weaknesses of the dataset mean that these conclusions should be treated as hypotheses to be tested through future research. Particular issues are the relatively small sample size from substantial areas of the landscape due to collection biases, the lack of chronological resolution and lack of an intellectually robust and clearly articulated schema for differentiating between high status farmsteads and low status villas. Although these settlements are in reality different parts of a continuum, current models in the archaeology of the region place great emphasis on these categories. In the following chapter, this landscape will be compared with that of south-west Wiltshire, a very different part of the western Roman Empire, and the overall effectiveness of the research framework evaluated.

## **Chapter 6 – Discussion**

### **Introduction**

Two case studies of interaction with nature and landscape in the Roman period have been discussed in previous chapters. The analysis of these case studies has been based on the research framework developed in chapter 3. This research framework attempted to provide a means to develop holistic understandings of landscape that take into account the different chronological and spatial resolutions at which interactions change. French and British archaeological theory and method contributed to this research framework, and the case studies of south-west Wiltshire and the Montagne Sainte-Victoire were selected to evaluate the research framework. These case studies have been extensively analysed, and wide-ranging conclusions drawn. This chapter will provide a broader discussion, comparing the case studies, placing them within a wider context, evaluating the research framework and setting out priorities for future work.

### **South-west Wiltshire and the Montagne Sainte-Victoire; a comparison**

#### **Archaeological datasets**

The two case studies have relatively high quality datasets and this was a key part of their selection for this study. Detailed evaluation has demonstrated that the datasets have a range of strengths and weaknesses that the analyses undertaken in chapters 4 and 5 have highlighted. The dataset for the Montagne Sainte-Victoire is highly robust for certain communes due to the extent of the fieldwalking projects of 1989-1994 (D’Anna and Mocci 1993, Mocci unpub. a, b, c) but is very sparse for others. The dataset also lacks excavation data for the Roman period beyond Richeaume I and XIII (Walsh and Mocci 2003, Mocci et al 2005, Cenzon-Salvayre 2009, unpub, Mocci unpub. d), reducing the detail in which some topics could be studied, and removing the potential for comparisons of excavation data within the study area. Contrastingly, very few areas of the south-west Wiltshire case study demonstrate the intensity of coverage present for communes such as Puylobier in the

Sainte-Victoire study area. The dataset overall is more dispersed, reflecting a patchwork of survey and intervention over time. This contrasts with the unified approach of the survey work carried out on the Sainte-Victoire landscape. Neither case study area has seen extensive commercial archaeology, reducing the opportunity for excavation data acquisition. A strong argument can be made that academic research excavation projects should focus on areas such as these, where data is seldom available from alternative sources, rather than in areas where there is substantial commercial development, in order to balance overall coverage.

The distribution of archaeological sites for both areas was found to be generally, although certainly not wholly, representative. However, the area of the south-west Wiltshire case study sampled for the potential for new data acquisition (Appendix 1) demonstrated that a wide range of features remain to be mapped via aerial photography and LiDAR, or have not previously been dated when this is possible on the basis of morphology. Similarly, the contrast between the field-walked and non-fieldwalked areas of the Sainte-Victoire landscape shows the potential for a large number of additional sites to be added to the dataset in areas not available for survey. Thus, although the datasets used in this study appear not to be significantly biased by taphonomy and land-use, they are not fully representative of the potential archaeological dataset.

It is rather unfashionable in academic archaeological discourse to call for the acquisition and collation of substantial additional primary field data, but this would clearly allow a fuller narrative of social and environmental change. In the south-west Wiltshire case study area a substantial step forward could be taken by the undertaking of a National Mapping Programme project in the area. Recent NMP results from north-west Wiltshire (Carpenter and Winton 2011, Evans and Carpenter in prep) demonstrated very large increases in the known number of archaeological features in the Avon valley / Verlucio and Vale of Pewsey regions of Wiltshire.

In the Montagne Sainte-Victoire a similarly exhaustive aerial survey would also be useful, although a much smaller area of the landscape is currently under arable crop or pasture,



and no LiDAR data is available. Further fieldwalking data acquisition may be possible in the communes of Châteauneuf-le-Rouge and Rousset, which were not included in the original fieldwalking surveys and have substantial areas of vineyards, which provide very good opportunities for fieldwalking (Walsh and Mocci 2003). Unfortunately much of the remainder of the study area remains in the same land use as in the early 1990s when the survey was conducted; the northern slopes of the Montagne Sainte Victoire are a key area for expanding our understanding, but are still heavily forested. Without LiDAR data or a second forest fire there remains little further promise of improved data in that part of the landscape.

Another important aspect of the two case study areas is the accessibility and detail of the data. The Sainte-Victoire benefits enormously from its recent coverage in the *Carte Archeologique de la Gaule* series (Mocci and Nin 2006). This magisterial volume covering Aquae Sextiae and a large portion of its hinterland to the east is the French equivalent to the archaeological gazetteers of the Victoria County History Series (e.g. Grinsell 1957). Unfortunately Grinsell's equivalent gazetteer for Wiltshire was published in 1957 and is substantially out of date, despite being an exhaustive work at the time. Wiltshire benefits from an outstanding Historic Environment Record, which provided a large part of the data used in this study. Nonetheless, very extensive background research and reading of primary material was required to form the dataset for this study. HERs are set up to provide information on the type, date and character of sites or findspots, and whilst the first two of these elements are well covered in Wiltshire, the extent of the latter is highly variable. Some sites (particularly recent excavations or surveys) benefit from detailed descriptions and references to the primary material. Others are vague or lack full references, often because little primary record exists. The location data for older excavations or discoveries in particular often lacks detail and accuracy, and this is also the case with the Montagne Sainte-Victoire data.

A major advantage of the south-west Wiltshire dataset is the availability of PAS data. Of a total of 2240 findspots in the study area, 1907 were PAS finds. Thus, PAS finds comprise

85.1% of all findspot data, and 79.3% of the entire dataset. Naturally, deriving such a large proportion of the dataset from one source, particularly one with as many biases as PAS data, necessitates a certain caution regarding interpretation and investigation of biases (Robbins 2013). However, the examination of data biases above suggests that the dataset is not statistically significantly biased. PAS data has proved exceptionally useful in characterizing landscape activity in the broadest sense and allowing the location of previously undiscovered sites. PAS data has also provided insights into particular practices in the landscape, although the very small sample sizes of particular artefacts limit the extent to which we can rely on interpretations such as those drawn in chapter 4 regarding writing and the use of weights and measures.

Beyond the scope of this thesis, PAS data has provided the impetus for the PAST landscapes project, based in south-west Wiltshire around a particularly outstanding group of assemblages of national significance. The project aims to investigate a landscape covering around 10km<sup>2</sup> in which around ten thousand finds of Bronze Age to Roman date have been made since 2010 and reported to the PAS, including fifteen hoards. Previously almost no sites of these dates were known in the area due to a lack of investigation. The project's desk-based analysis and some preliminary geophysical survey have already revealed over ten new occupation sites of Later Prehistoric and Roman date, including a nationally significant Roman shrine (Roberts 2014). Although the focus of this thesis has not been to demonstrate such potential, by using PAS finds as a starting point for analysis, rather than a dataset with little wider context, we can begin to advance research very rapidly. The lack of metal-detecting in France due to its illegality is in some respects unfortunate, although it must be acknowledged that it is the UK rather than France that is out of step with the rest of Europe on this issue (Bland 2011). Recent studies in Britain have demonstrated the enormous potential of the PAS dataset (Bland 2005, 2011, Leonard 2011, Brindle 2013), but significant biases remain, particularly regarding the level of reporting and coverage of the data (Robbins 2013).

The metrics of site types for the two case study areas are also illuminating regarding the

differences between these landscapes. The case study areas were chosen due to their strong datasets, context in empire and research traditions, rather than to be of similar geographic size. It is important to note, however, that the Montagne Sainte-Victoire study area covers slightly under 20000ha, whereas the south-west Wiltshire case study covers slightly over 105000ha. When this is considered, the differences in site frequencies demonstrated in Table 18 become especially marked; Table 19 demonstrates notional frequencies for the two case study areas if the Montagne Sainte-Victoire frequencies are adjusted proportionately to the same land area as south-west Wiltshire. The landscape of the Montagne Sainte-Victoire is demonstrably very much more intensively settled than the landscape of south-west Wiltshire in terms of site frequencies. This contrasts strongly, however, with the landscape evidence. Both landscapes demonstrate widespread occupation of the landscape through field-systems covering much of their area, and the early to mid Roman periods in both areas display substantial continuity of settlement. If the overall frequency of sites in the Sainte-Victoire landscape is substantially higher, this suggests that the fields of that region were exploited much more intensively than those of south-west Wiltshire, that settlement in the south-west Wiltshire region was significantly more nucleated than in the Sainte-Victoire landscape, or that the settlements of the Sainte-Victoire landscape drew on a wider resource base to sustain activity in the region.

Both landscapes demonstrate good evidence for widespread landscape use over the majority of their area, although each has a sizeable area which may be either marginal, or under-investigated due to data biases. In south-west Wiltshire the area of claylands on the south-west county border with Dorset appears to have been a genuinely marginal area during the Roman period. However, this does not equate to wilderness; it is likely that the area was utilised at least to some extent for forestry, hunting and possibly clay extraction. On the northern side of the Sainte-Victoire massif there are very few sites or finds, but the area is almost entirely covered by forest. Although ground survey has been undertaken through this area, this will only find sites with standing earthworks or architectural remains and so this part of the landscape cannot be considered to have similar data quality to fieldwalked areas. We thus cannot be sure whether this area was marginal, and can merely

Site Type	Montagne Sainte-Victoire	South-west Wiltshire
Building	17	10
Finds	51	2240
Funerary site	7	33
Industrial site	3	2
Iron Age Fortified Site (occupied in the Roman period)	2	3
Religious site	1	4
Settlement	42	59
Urban site	0	1
Water management	4 (inc. 2 major aqueducts)	0

Table 18 - Site type frequencies in the case study areas. Categories for each case study were chosen on the basis of the particular research traditions and evidence, so some categories have been created or conflated here. For example, 'building' and 'villa' have been conflated, as have 'settlement' and 'farmstead'.

Site Type	Montagne Sainte-Victoire	South-west Wiltshire
Building	92	10
Finds	277	2240
Funerary site	38	33
Industrial site	16	2
Iron Age Fortified Site (occupied in the Roman period)	11	3
Religious site	5	4
Settlement	228	59
Urban site	0	1
Water management	21 (inc. 11 major aqueducts)	0

Table 19 – Proportionate site frequencies in the two case study areas if MSV case study area was as large as the south-west Wiltshire case study. Frequencies rounded to the nearest integer.

say that it cannot yet be investigated sufficiently. Despite this collection bias, there is a clear

topographic and vegetational contrast between the areas, providing a notably different set of potential interactions with landscape. As such, it is important to emphasise the probable diversity of landscape interaction between the northern and southern parts of the Montagne Sainte Victoire study area, but that the nature of landscape interaction in the northern area remains generally unknown.

How then can we explain the difference in site frequency between the two case study areas? Two possible explanations immediately occur. Firstly, that population differed between the two areas. Palaeodemography is notoriously difficult, if not impossible except within very broad margins of error, due primarily to a lack of data. Ancient census records are only available in detail for Egypt, and even these present a host of interpretative problems (Scheidel 2001). Furthermore, population figures have not yet convincingly been reconstructed from archaeological evidence in the Roman period, despite some attempts (see Chamberlain 2006). For example, population estimates for Roman Britain from the last hundred years of historical, archaeological and demographic scholarship vary between four hundred thousand and six million (Mattingly 2006), with Mattingly (2006, 368) adopting a “conservative estimate” of two million in his recent synthesis. It is possible that the Mediterranean fringes were more densely populated than Britain, but no reliable estimates are available (Scheidel 2001). Even if there was a significant proportionate difference in the populations of the case study areas, this would require an extraordinary difference in agricultural productivity, even if some grain was imported into Gallia Narbonensis (for which there is no evidence). As such, we must look elsewhere for an explanation for the substantial difference in settlement pattern between the two areas.

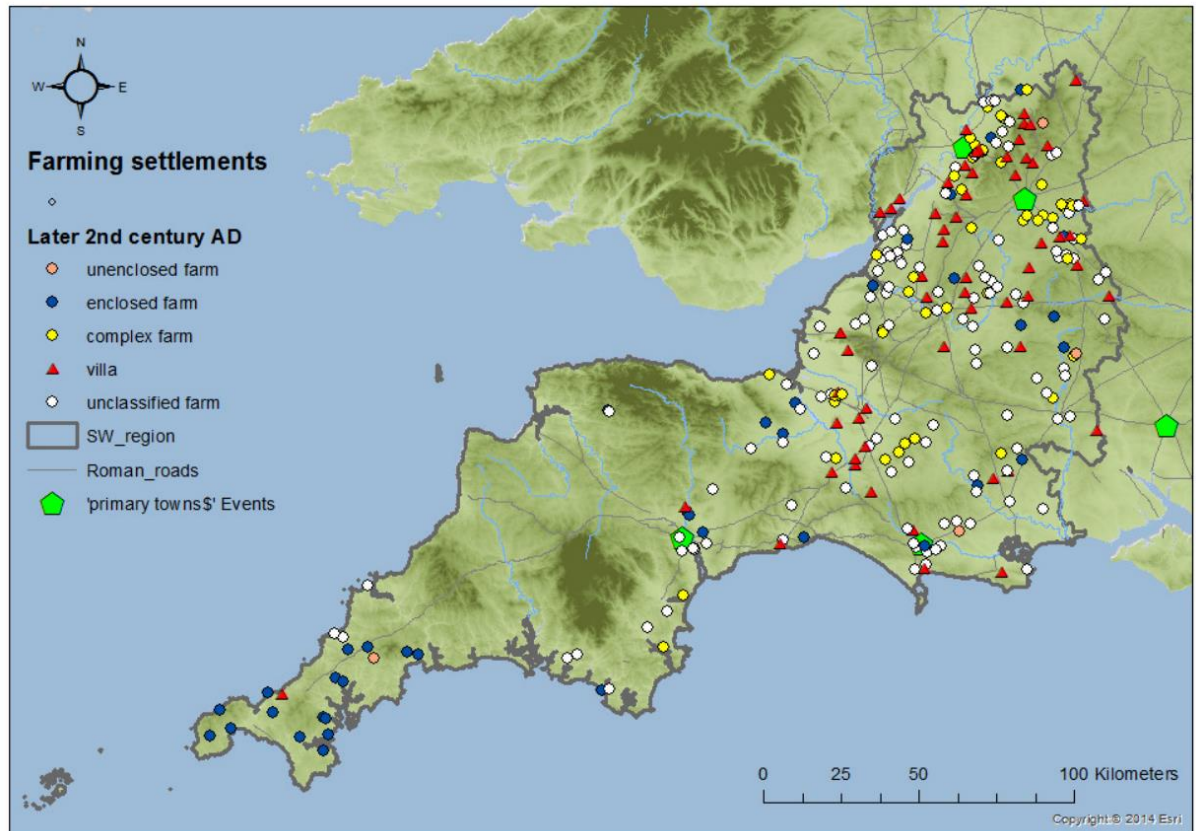
Returning to the settlement record itself may provide such an explanation. Although the overall frequencies of settlement sites are much smaller in the British case study, a key category of settlement identified in chapter 4 may explain this. Large rural settlements are a very significant part of the south-west Wiltshire dataset, with some examples covering very large areas (e.g. Stockton Earthworks at 70ha). These settlements existed throughout the Roman period and appear to participate in the monetary system (Moorhead 2001a), local

and regional networks (Draper 2006, James 2010) and longer term landscape practices revolving around agricultural production, knowledge and prestige (see chapter 4). These settlements must surely have been major centres of population, and it is possible that this nucleation is the key to the difference in settlement pattern. The substantially higher number of villas and small farmsteads in the Montagne Sainte-Victoire case study area represents a pattern of settlement generally dominated by villas, with small but numerous individual farmsteads or dwellings also distributed across the landscape. Contrastingly, south-west Wiltshire displays a pattern of large, semi-nucleated rural settlements, with numerous smaller rural settlements or farmsteads, and relatively small numbers of villas, many of which are in or around river valleys. The single small town in the study area, Sorviodunum, is important in some aspects of landscape interaction, but is not the dominant settlement within the overall pattern.

The initial results of the Roman Rural Settlement Project (RRSP henceforth; Smith 2014) for the south-west demonstrate an interesting comparative pattern (Figure 83). Within Wiltshire as a whole buildings are nearly twice as frequent, and settlements somewhat less frequent (Figure 83). The difference in frequencies of buildings in south-west Wiltshire in comparison to the rest of the county adds to the impression that large, semi-nucleated rural settlements were more important in this landscape than elsewhere in the region in comparison to villas. Industrial sites are also much more common in Wiltshire as a whole, reflecting the iron working and pottery production industries in the north of the county (Corney 2001, Timby 2001).

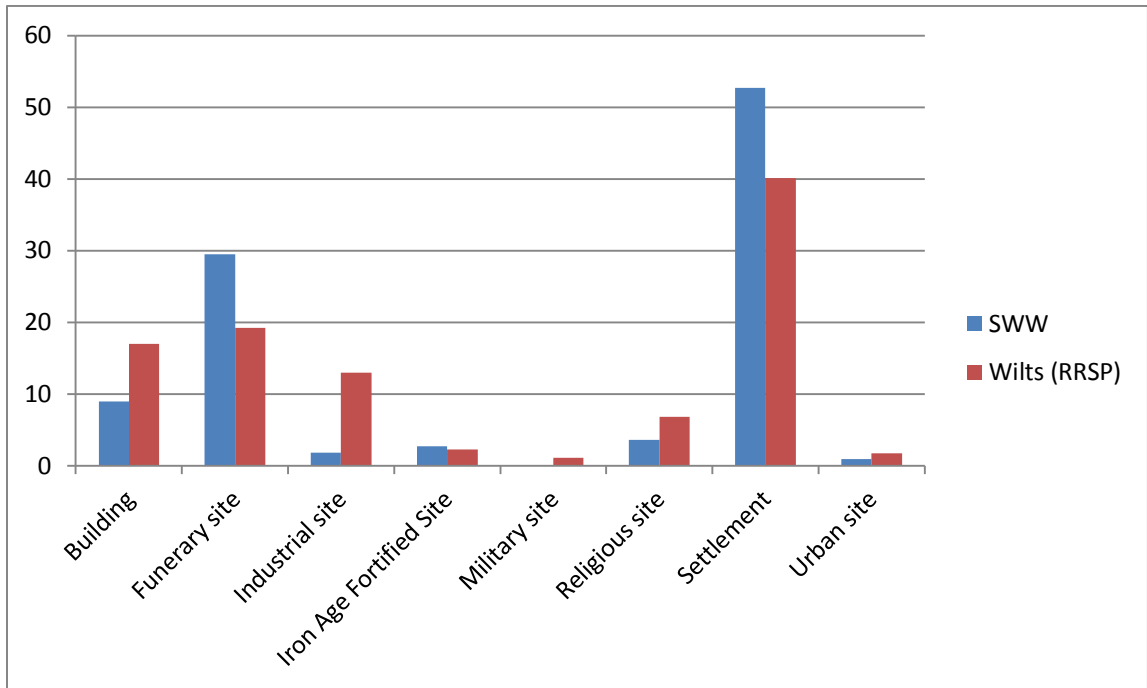
Figure 83 shows these comparative frequencies, and also demonstrates the results of differences in methodology between this study and the RRSP. Due to the size and scope of the RRSP it focuses on published data and grey literature, and cannot collate multiple strands of previous unpublished data in the same manner as this research. This means that the frequencies for this study area are much higher than they are for the same area in the RRSP (Smith 2014) because this study has been able to review existing data in greater depth and access some unpublished material. The contrast is especially evident in distribution

maps such as Figure 82, which show south-west Wiltshire as a near-empty region. This is not to suggest that the study area is an anomaly in this regard; all of the gaps in the RRSP distributions may have similar datasets, and areas with strong datasets already may have even more sites as yet not included. However, this cannot be explored further in the current study.



**Figure 82 - Farming settlements occupied in the later 2nd century AD excavated in the south-west of England. From Smith (2014).**

Other site types beyond settlement demonstrate different patterns across the study areas. Proportionate to land area there are quite similar numbers of funerary sites and religious sites, although few conclusions can be drawn from this probable coincidence, as funerary and religious traditions differed notably between the study areas (Foster 2001, Robinson 2001, Perez 2006, Cençon-Salvayre 2009). Both study areas display some continued occupation of Late Iron Age fortified sites (hill forts / oppida), but in neither landscape does this occur on anything more than a quite small minority of sites.



**Figure 83 - Comparison of percentages of overall settlement record comprised of each site type in the south-west Wiltshire case study, and in Wiltshire as a whole. Wiltshire data from the preliminary results of the Roman Rural Settlement Project (Smith 2014). NB - The RRSP does not consider walled Roman towns, reducing the frequency of urban sites in the RRSP dataset.**

The Montagne Sainte-Victoire landscape demonstrates a significantly higher frequency of industrial sites, but this is to be expected considering the overall pattern of large numbers of smaller sites. It is likely that industrial activity in the south-west Wiltshire case study area was integrated into larger settlements. Indeed, one of the only two examples from the Wiltshire case study area is a multiple grain dryer that is likely to be part of one of the very few possible examples of a villa estate in the study area, Rockbourne. There are no sites dedicated to water management in the Wiltshire case study area, while there are several in the Sainte-Victoire study area, in addition to substantial aqueducts. This is predominantly due to the demands of the substantial urban settlement at Aquae Sextiae for water, and the Sainte-Victoire's status as the most substantial nearby upland landscape. Of course, the relative scarcity of water in the Mediterranean landscape was certainly the key factor in the construction of rural water tanks such as that at Le Plantier.

Overall, the substantial differences in site frequency and character of domestic rural settlement between the study areas demonstrate that these regions saw very different



ways of living in the landscape during the Roman period. Indeed, in light of the preliminary results of the Roman rural settlement project for the wider region, south-west Wiltshire may have been unusual even within south-western Roman Britain.

Whilst the data has proved sufficiently robust for these broad resolutions of analysis, it has proved insufficient for some of the more detailed analyses demanded by the research framework as set out in chapters 2 and 3, and this will be considered further in the following discussions. Having examined the dataset at a broad level, the following sections will examine the results of the preceding case study chapters regarding interaction with wild, tame and encountered nature in the south-west Wiltshire and the Montagne Sainte-Victoire landscapes.

### **Interactions with nature**

In the preceding chapters the artificial categories of wild, tame and encountered nature have proven useful heuristic devices for prompting discussion of interactions with nature and landscape. This section will bring together the results of those discussions for the two case study landscapes and compare the overall narratives of interaction with nature produced in chapters 4 and 5.

Discussions of 'wild' nature have generally focused on marginality, water and wild animals. Little evidence has been found of catastrophic weather events, although this is certainly not to suggest that floods or droughts did not occur, merely that this study has not been able to discern such events. Similarly, no evidence has been found in this study of landscape interaction to contradict or especially complexify existing climatic narratives for the Roman period in these areas.

Marginality is a key concept in both understanding Roman landscapes, and understanding how Roman landscapes have been studied. The work of Walsh and Mocci (2003) has been central to this study, which has attempted to understand marginality through the distribution of settlements and material culture, as well as factors such as geology, mobility and structuring landscape features. In south-west Wiltshire an area of clay geology in the

south-west of the study area has been suggested to be marginal, as discussed above. This interpretation is made on the basis of a consistent lack of evidence for settlement, and very few finds from metal-detecting (despite several active detectorists in the area and surrounding region) or chance finds. A note of caution must be sounded, however, regarding the very poor potential for cropmarks on clay geologies (Riley 1996). The region's geology may have been a factor in its marginality, as clay can be difficult to plough. This would have contrasted with the light, although not yet nutritionally depleted, downland soils and alluvial areas in river valleys; these two types of landscape comprise most of the remainder of the study area. By the later Roman period in Britain, however, asymmetric ploughs were in use that would have allowed the ploughing of these areas (Lewit 2002). The lack of any later Roman material in these areas suggests that they were still not being ploughed at this time, despite the availability of technology to do so. It is possible that the south-western area of marginality in the south-west Wiltshire case study saw some limited landscape interaction, probably including forestry, hunting and perhaps clay extraction on a limited scale. The region is unlikely to have been a true wilderness, although there are also few sites of earlier date present, but would certainly have differed very significantly from the mixed 'tame' landscapes of the remainder of the study area.

The northern slopes of the Montagne Sainte-Victoire have been identified as apparently lacking in Roman settlement (although subject to data bias) and thus as an area of the landscape with different potential uses than the plains south of the massif. Additionally the eastern part of the commune of Saint-Antonin-de-Bayon has been shown to demonstrate a pattern of landscape interaction that is genuinely different from the surrounding areas. Whilst elsewhere the pattern of settlement is dominated by villas, associated farmsteads and centuriation, this is not the case in Saint-Antonin-de-Bayon. This landscape is divided from the centuriated landscape of the surrounding plains and Arc valley by the natural barrier of the Cengle, and has a different distribution of sites. In the western part of the commune there are several villas, but in the eastern part there are no villas and only a single farmstead displaying multiple types of non-local ceramics (these are common in the remainder of the study area). The evidence for deer and boar hunting and large scale

cremation at Richeaume, just beyond the eastern fringe of this area, and for pottery production (requiring substantial fuel) at Domaine de Bayle on the area's western fringe, strongly suggests that this part of the landscape was wooded (Columeau unpub., Mocci and Nin 2006). Ancillary to this issue is the question of how and where charcoal production took place in the study area, as this fuel was required in bulk for the production of high quality ceramics, and with a range of other uses in the ancient world (Wertime 1983, Cenzone-Salvayre unpub.).

Whilst this area of woodland was likely marginal to the everyday landscapes of the majority of the population in the case study area, perceptions of marginality would have changed depending on the individual. A wide range of occupations in the Sainte-Victoire landscape were plausibly identified in chapter 5. Some, such as hunters, foresters, and perhaps potters, shepherds and elite groups, would have had occasion to interact with this part of the landscape, and would not necessarily have perceived it as at all marginal to their lives. Others, such as labourers in the fields of the estates of the Puylobier plain, would have rarely had occasion to visit the woodland and may have perceived it as marginal. These perceptions may have been accentuated by the presence of dangerous animals such as wild boar, and the use of material from the wood in ceremonies marking the transition of some individuals (apparently elites at Richeaume) into the next world.

Such conclusions, based on a wide range of landscape interaction, are much more convincing explorations of 'marginality' in the landscape than the simplistic definition of areas without occupation sites as marginal. Such analysis is a sensible starting point for exploring marginality, and limited conclusions may be drawn as they are above for south-west Wiltshire's south-western claylands. However, if high quality evidence for a range of sites is available in the immediate surroundings of the possible marginal area, a much richer narrative can be built. The wider context demonstrated in this analysis allows us to characterise these 'marginal' landscapes as active places which still play a role in human society, albeit a different role to a farmland, urban or riverine landscape. It can thus be suggested that there was no part of either case study landscape that could be reasonably

characterised as wilderness, in the sense of being outside of the sphere of human interaction. Nonetheless, we can certainly use the concept of marginality as a key part in the iterative process of understanding landscape interaction.

An aspect of 'wild' nature that has been explored in both case studies is water, and how people living in these landscapes interacted with water sources, rivers, streams, wetlands and springs. The Montagne Sainte-Victoire displays more evidence than south-west Wiltshire for structures of water management, as discussed in the previous section. Both landscapes, however, have demonstrated evidence for a certain level of environmental knowledge regarding the management of water. In south-west Wiltshire, it appears that winterbournes and seasonal wetlands were exploited for grazing and the particular herb and plant species that flourished in such areas. Unfortunately, the direct evidence for this is quite limited, and generally inferred from proxies such as the integration of palaeochannels (former winterbournes in pre-modern eras when the water table was higher) into downland settlements and field systems, and the creation of embanked trackway at Teffont Evias to allow movement around a seasonal wetland (Roberts in prep. a).

The management of water in the Montagne Sainte Victoire landscape is much more directly attested by the archaeological evidence, with sections of Roman aqueduct remaining in the landscape today. The Aqueduc Saint-Antonin and the Aqueduc de Vauvenargues are enormous investments of resource by the Roman state and the city of *Aquae Sextiae*. The dominance of these structures in the landscape demonstrates the importance of a consistent water supply to *Aquae Sextiae*, and the value placed by the Roman state and elites on the stability of urban life. It is also important to note the sources of these aqueducts. The Aqueduc de Vauvenargues draws from the north-eastern slopes of the Montagne Sainte-Victoire, an area with little known occupation, and the Aqueduc Saint-Antonin draws its supply from the area of Saint-Antonin-de-Bayon that this analysis suggests is likely to have been wooded (Leveau 2006).

The fact that these aqueducts draw from areas marginal to the most intensively used (and elite-controlled) agricultural landscapes is very important for our interpretation of this case

study. Whilst these structures demonstrate the dominance of the Roman state through their construction and maintenance, their choice of source also demonstrates that their positioning was undertaken in a wider landscape context, showing understanding of the needs of the rural landscape.

Similarly, the age at death profiles of domestic animals at Richeaume I (Columeau unpub.) and from the butchery pit in *Aquae Sextiae* analysed by Leguilloux (1997) demonstrates the likely removal of some animals to the urban market, but not all those of prime meat-bearing age were sent to urban markets, and some old animals of no further use in a rural context were sent to urban markets. This suggests that relations between urban markets and elite rural estates were negotiated, rather than dominated by either party, although again the lack of a additional datasets from excavation makes this interpretation much less reliable than would otherwise be the case.

The placement of aqueducts supports this view of a negotiated (or perhaps integrated?) relationship between urban and rural elites. No doubt this is partially because these would often have been the same people; cities in the western Empire were considered to include the populations of their rural territories as citizens (Scheidel 2001), and the *Sainte-Victoire* landscape was almost certainly part of the territory of *Aquae Sextiae*. It is possible to suggest, therefore, that although these areas may have been marginal to their immediate rural surroundings, they were key parts of the urban landscape through their supply of fountains, drinking water and baths in *Aquae Sextiae* (Mocci and Nin 2006).

The final key part of human interaction with wild nature in this study is human interaction with wild animals. Both case study areas have evidence for wild animals on occupation sites. Unfortunately, however, there is only one faunal report available for the *Montagne Sainte Victoire* study area. Whilst this assemblage, derived from the villa at Richeaume (Columeau unpub.) demonstrates a range of wild species, interpretations of how the wider population interacted with wild animals, as with domesticates, cannot be reliably made for this case study. Columeau (unpub.) does demonstrate evidence for limited hunting at Richeaume, and probably some trapping and pest control of species living on the fringes of rural life

(rabbit, badger, lynx, etc). Although the evidence from the Sainte-Victoire of the social roles or values assigned by societies to wild animals is limited, it appears that their killing and consumption was an occasional part of everyday life, and some prestige may have been derived by elite groups from this practice.

In south-west Wiltshire there is a larger dataset due to a higher frequency of excavations. Whilst wild animals make up only small proportions of species on most sites with modern faunal reports, a range of species are fairly commonly present, including red and roe deer, corvids and several species of game birds. It appears likely that deer were occasionally hunted for food, and game birds can probably be similarly explained. Corvids produce little meat, however, and appear to have played a more complex role in society. Serjeantson and Morris (2011) demonstrate the importance of corvids in the creation of ritual deposits in the region through the Iron Age and Roman periods. They suggest that the value assigned to corvids in these contexts derives from their ability to interact with humans through their 'voice', and their scavenging role and the associations with death derived from it. A sceptre head in the form of a crow from Butterfield Down also suggests a wider social role for these birds (Henig 1996). The precise form of interactions with these birds before their deposition in 'ritual' deposits in this study area remains unclear, however, although Serjeantson and Morris (2011) provide several suggestions.

The discussion presented here, and earlier analyses of 'wild' nature in chapters 4 and 5 have shown that understanding the landscape beyond immediate human control (though not immediately beyond human interaction) is a fundamental part of understanding rural society in its landscape context. These explorations of marginality, water and relations with wild animals have also very clearly demonstrated, however, that analysis of human interaction with 'wild' nature only makes sense when integrated into a wider context. No 'wild' landscape or 'wilderness' can be defined in these case study areas, but this has not been the aim of the analysis. Landscape is a complex continuum of interaction of human and natural agents and processes, and the artificial structure of this research framework has allowed us to understand a range of issues from different perspectives through 'wild

nature', including rural-urban relations, differential landscape practice, ecology and belief at a range of spatial and chronological scales and resolutions.

Although considering wild nature provides valuable insights into rural society in the two case studies, it is in the analysis of interactions with 'tame' nature that the contrast between the two case study landscapes becomes clearest. Some aspects of this theme have been addressed in preceding discussions of 'wild' nature, demonstrating the permeability of these artificial interpretive divisions. Interactions with 'tame' nature were analysed in chapters 4 and 5 on the basis of the structuring principles of phase space theory (Jessop *et al* 2008), reviewing the sociospatial dimensions of territory, place, scale and networks. This has allowed quite clear narratives of interaction with 'tame' nature to emerge for the two case study areas.

Both case study areas saw extensive occupation and agricultural production in the pre-Roman period. In south-west Wiltshire, the predominant theme in landscape interaction from the Late Iron Age through the Roman period is continuity, and change in practice along (generally) pre-Roman trajectories. The Roman state invaded and conquered the region and imposed some structures of landscape dominance such as Roman roads, and probably the small town at Sorviodunum. Following this, however, elite domination of the everyday landscape through villa estates in the manner present in the Sainte-Victoire landscape did not occur in south-west Wiltshire.

Instead, pre-Roman semi-nucleated settlements and 'Celtic' field systems remained inhabited and in some cases grew substantially. Many smaller settlements also show continuity from the Iron Age throughout the Roman period and rural society generally appears to selectively engage with the Roman state. Site location is a clear example of this type of selective engagement. Burial sites, cemeteries and religious sites appear to have been deliberately sited beyond the view of travellers using the Roman road system, whereas domestic sites were generally visible from roads. Contrastingly, there is evidence (albeit based on a very small sample) for at least limited rural literacy and the practice of written communication in the rural landscape. The rural population was also integrated into

the monetary system, particularly in the later centuries of the Roman period (Moorhead 2001a). The analysis undertaken in chapter 4 also suggested that the Roman legal system was bypassed in some cases in favour of a practice of dispute resolution and commemoration more closely integrated into the landscape.

The post-conquest narrative in the Montagne Sainte-Victoire landscape is very different. The whole lowland area of the case study, including the valley of the River Arc and the plain of Puyloubier, was re-divided through centuriation, the imposition of orthogonal field system by the Roman state. Roads and aqueducts were visible reminders of the power of the state, and the lowland landscape was dominated by villas. It appears that these villas were associated with the smaller farmsteads within the centuriated landscape, although the socioeconomic basis for this association is difficult to articulate based on the limited available material evidence and lack of excavation of any sites beyond Richeaume. The settlement pattern was not uniform, however, with some lowland areas such as the Arc valley lacking evidence for farmsteads. Centuriation appears unlikely to have extended within the area bounded by the Cengle, and as has already been discussed the eastern half of this area appears likely to have been wooded. The western half of this area has a similarly high density of villas to the lowland areas, suggesting that although it is not centuriated, villas played a major role in interactions with nature in this part of the landscape.

The agricultural economy was multifocal, with stock raising, cereal cultivation, viticulture and oleiculture all well-evidenced in the archaeological dataset. Advanced agricultural technologies such as kilns, presses and water tanks are only found at, or very close to, villas, strongly suggesting that villa estates controlled much of the production in the landscape. This control was facilitated by access to technological knowledge and labour required to undertake production at larger scales, as well as a ban on anyone other than Roman citizens cultivating olives or grapes in the region in the early Roman period (Brun 2004). Villas were also producing these goods for urban markets – the assemblage of over forty dolia at Pascoun, associated with a large olive press and at the end of an off-shoot of the Via Aurelia is a highly convincing landscape context for rural production meeting urban demand.



Viticulture and oleiculture were not undertaken in south-west Wiltshire because of the colder, wetter climate and differing regional traditions of agriculture and consumption (although vineyards are increasing in numbers in southern Wiltshire today). The region was a highly important centre of cereal production, however, particularly in the later Roman period. The grain reforms of Emperor Probus coincide with an increase in settlement and intensification in agricultural production in the region, and southern Britain remained an important grain exporter to continental markets and the military into the Late Roman period (Moorhead 2009). Animal husbandry was also a major element in the agricultural economy of the region, with some local transhumance likely to have taken place between river valleys and downland (Lawson 2007).

An especially important aspect of these interactions across both study areas is the role of practice in society. Most of the activities discussed here required particular environmental and social knowledge (Walsh 2006), and whilst the importance of knowledge and practice in the rural landscape is beginning to be acknowledged in studies of Iron Age Britain (Giles 2007, Rainsford and Roberts 2013), little attention has yet been given to this aspect of society in Roman Britain, where social studies of rural landscapes have tended to focus on identity or ritual practice rather than everyday activities (Fulford 2001, Mattingly 2006, Rogers 2007, Serjeantson and Morris 2011).

This analysis has demonstrated the importance of everyday practice in the rural landscape. In both case study areas the demonstration of engagement with the landscape in non-everyday contexts such as cremations, the resolution of disputes, creation of foundation deposits and conspicuous consumption was only meaningful in terms of its relation to everyday practices. Without everyday use of a wide range of ceramics, of which samian was amongst the finest, how is the deposition of several samian cups in a cremation at Richaeume XIII meaningful? Without an understanding in local social groups of the knowledge and effort required to raise and maintain a herd of sheep, how is the sacrifice of a prime young lamb at the shrine in Upper Holt Wood meaningful? Certainly such deposits were to do with identity, both in expressing identities and changing and developing them,

but the weight and impact of these meanings derives from the wider context of rural society and practice (Roskams *et al* 2013). It is thus only by taking a holistic view of landscape interaction and practice that we can hope to form a properly contextualised view of identity in the rural landscape.

The trajectories of changing landscape interaction in the two case study areas are complex and composed of more narratives than simply interactions with the Roman state. The issues of practice outlined above are a particularly exciting perspective from which to begin further research. Nonetheless, the contrast between the dislocating impact of centuriation and the continuation of 'Celtic' field systems demonstrate not only the difference in the impact of the Roman state in these landscapes, but the difference in how people responded to such change. The only clear example of the Roman state imposing structures that cut across existing boundaries in the south-west Wiltshire case study is the manner in which the Roman road between Aquae Sulis and Sorviodunum cuts the prehistoric land boundary of Grim's Ditch. There is a significant difference between the imposition of a road and the reorganisation of an entire landscape via centuriation. Although centuriation, roads and aqueducts are often treated as a Roman 'package', and have to a great extent been treated as such in this study, this contrast begins to prompt the question of how related these construction processes really are. It must also be noted, however, that although centuriation would have been possible across the downland of south-west Wiltshire, the rolling topography and very large extant lynchets of 'Celtic' field systems would have made this substantially more practically difficult than would have been the case on the plains of the Arc valley, south of the Sainte Victoire massif.

The key contrast between centuriation in Provence and 'Celtic' land divisions in south-west Wiltshire echoes in the modern landscapes. Centuriation forms the basis of parts of the modern field system around Puylobier, whereas the Roman road is ignored in favour of Grim's Ditch by the ancient and modern parish boundaries of the Great Ridge area (Bonney 1972). There are, however, significant differences in landscape interaction within each of the study areas, and it would be incorrect to suggest that the villa-dominated landscape of

the Sainte-Victoire is in any way simpler to understand, or more normal for the western Roman Empire, simply because it equates more closely with traditional understandings of Roman society and landscape (e.g. Branigan 1982, Leveau 2002, Draper 2006, James 2010).

Although this discussion has compared the two case study landscapes chosen, the extent to which this comparative approach has been as useful as initially envisaged must be evaluated. It could very well be argued that the essential differences between the two broad narratives could have been fairly closely outlined prior to this research, with Provence generally accepted to be a quite heavily 'Romanised' landscape, and south-west Britain less integrated into the imperial system, to a great extent because of its contrasting geographical position away from the empire's Mediterranean core (e.g. Potter 2004). To do so would be to misunderstand the aims of this analysis. Whilst existing models articulate the difference between the 'core' and 'periphery' of empire through a range of evidence (see chapter 2), until recently they have generally focused on material categories of evidence as signifiers for 'Romanisation', or other identities. Contrastingly, this research framework has attempted to access interactions as the basis for developing understandings of society, exploring an interconnected landscape of socially significant exchanges, relations and responses to the natural world. As such, the comparison has proved useful in demonstrating the clear difference between societies in the Roman period in these two areas in terms of relations, as well as in material culture. The act of comparison has not greatly enhanced specific understandings of each landscape, but has demonstrated the highly diverse nature of social relations in different parts of the Roman empire. The following section will consider the methodology further, make recommendations for future work in the case study areas and draw together the conclusions of this analysis.

### **Summary and recommendations for future work**

This discussion has considered issues of 'wild' and 'tame' landscape, using the 'encountered' landscape as a way to bring together the narrative, and ensure that the study remains grounded in human-environment interaction. In sum, being able to provide such narratives is a key success of this study. The research framework used has prompted a wide

range of analyses of landscape interaction. Some analyses have focused on traditional themes, such as settlement and material culture distribution, whereas others have discussed themes that have seldom been addressed previously, such as the life cycle of places or dispute resolution in rural contexts. By taking a holistic approach to method and theory as well as evidence, this study has brought together issues such as the agricultural economy and landscape experience that are often dealt with separately in academic literature (e.g. Hingley 1989, Rogers 2007 Copeland 2009; see Mattingly 2006 for an exception). The flexibility facilitated by the socio-spatial framework laid out in chapter 2 has allowed the consideration of a variety of chronological and spatial scales and resolutions within the overall narrative. Although no study can hope to cover every aspect of interaction with landscape in maximum detail, this analysis has been able to select and analyse key themes to produce two overall narratives of landscape interaction.

This is not to claim, however, that this discussion has produced a complete understanding of landscape interaction in the case studies. Major research issues remain. For example, Walsh's (2013) important discussion of the false stability in Mediterranean landscapes resulting from large scale maintenance of terracing in the face of erosion has proven difficult to integrate. This process is essentially invisible, save for periods in the sedimentary record that show a lack of erosion during the Roman period. There are very few examples of this having been investigated beyond Walsh and Mocci's (2003) work at Richeaume and Walsh's work at Barbegal (Walsh 2004). A related issue is achieving a better understanding of erosion in the south-west Wiltshire case study. Almost no work has been undertaken on the rate, impact and mitigation of erosion in the Roman period in Wessex, despite the clear potential for movement of the downland soils in the region and apparently extensive alluviation in river valleys (Lawson 2007, Brown 2009).

Furthermore, if the narrative of landscape domination by centuriation and villas estates for much of the Sainte-Victoire that has been suggested by this analysis is correct, we need to move beyond the current static conception of centuriation to fully understand landscape interaction. There has been little research in Gallia Narbonensis on how centuriated field

systems changed or were altered, and how these field systems were actually used. For example, vines and olive trees are long term investments, remaining in place for decades (Brun 2004, Foxhall 2007). Cereals must be rotated with other crops such as legumes or with fallow and grazing periods in order to maintain soil nutrition and avoid crop pests, and there is good evidence for rotation elsewhere in the Roman period, including textual evidence (White 1970, Goodchild 2007, Goodchild and Witcher 2010). This suggests that the role of other crops may have been underestimated in this (and other) analyses of the region's agriculture. This thesis has not been able to review these issues in depth due to the lack of environmental data from excavation, and has been wary of applying textual sources from Italy to Gallic contexts.

Woodland also remains a key issue in forming a basic picture of the landscape in the Roman period. Its distribution and character is still not well understood in Roman Britain or Gallia Narbonensis, despite its fundamental importance for rural landscape interaction.

Anthracological studies such as those undertaken by Cenzon-Salvayre (2009, unpub.) should be undertaken in British contexts wherever possible, as the current dataset for Wessex is relatively limited; charcoal reports are often buried within the appendices of archaeological site reports (e.g. Challinor 2010) if they are undertaken at all, and an up to date synthesis of this data and other environmental evidence for the region would be a valuable contribution to a wide range of debates in Roman archaeology and beyond.

Both case study areas would also greatly benefit from focused primary data gathering. In the Montagne Sainte-Victoire landscape key priorities are LiDAR survey and the excavation of additional rural occupation sites, especially farmsteads, of which there are no excavated examples. The acquisition and publication of additional environmental, faunal and artefactual evidence should be a key priority for such excavations. Although the results of the Richeaume I and XIII excavations are of outstanding interest (Columeau unpub., Mocci unpub. d, Walsh and Mocci 2003, Mocci et al 2005, Cenzon-Salvayre 2009, 2012, unpub., Cenzon-Salvayre and Durand 2011, Walsh 2013), a significant proportion of the data has not yet been published, although is available as grey literature and in the case of Richeaume I, in

highly summarised form in CAG13/4. LiDAR survey is the quickest and cheapest way to acquire additional data on archaeological remains in the forested areas of the massif. A thorough aerial photographic survey of the remainder of the landscape would complement a LiDAR study, replacing the patchwork of aerial survey conducted to date (Mocci and Nin 2006), although the impact of photographic work would be lessened by the unsuitability of current agricultural regimes in the area for producing cropmarks. Overall, this remains a landscape where the acquisition of further primary data from sources complimentary to the current excellent field-walking dataset would be the most efficient use of archaeological resources.

In south-west Wiltshire the central priority must be the undertaking of an English Heritage National Mapping Programme project. Recent work in north-west Wiltshire (Carpenter and Winton 2011, Evans and Carpenter in prep.) has clearly demonstrated the potential of this work for the period and region in terms of the discovery and definition of new Roman sites and adding to our knowledge of existing sites. Furthermore, a trial study conducted for this thesis has demonstrated the specific potential of the area for the discovery of new features from LiDAR and aerial photography. Although further modern excavation in the region is certainly necessary to form a fuller picture of the landscape, especially in terms of investigating sites newly discovered via the work of metal detectorists and the PAS, a more pressing concern is achieving a better understanding of previously excavated sites such as Cold Kitchen Hill, Sorviodunum or Stockton Earthworks. Many such sites in the study area are currently under threat through ploughing (see land-use analysis in Appendix 1), and although defined in this study and others as a particular site type, are generally very poorly understood beyond their most basic characteristics due to the very early date of many excavations in the study area. This bulk of antiquarian excavation especially biases the dataset in the absence of widespread commercial archaeological work beyond a small number of sites close to Salisbury.

Whilst a range of other research issues urgently require addressing, achieving better understanding of geoarchaeological and environmental issues and the research-focused

acquisition of primary data are the most vital steps towards improving our understanding of landscape interaction in the case study areas. The first two issues have major implications for landscape interaction and change in a range of socio-spatial dimensions and chronological scales, and this study has demonstrated the potential of the existing datasets and necessity of supplementing them with the additional information set out here. Having explored the conclusions of this study and set out the priorities for future research into landscape interactions in the Roman period, and for primary work in the case study landscapes, the final section of this study will evaluate the methodology used.

### **Evaluation of Methodology**

This study has taken an innovative approach to understanding interactions with landscape in the western Roman Empire. A new research framework has been constructed, based on the structuring principles of phase space and archaeological understandings of landscape. Seeking to review landscape interaction holistically and at a range of resolutions, and synthesise the results of this analysis into a clear narrative relevant to modern society has presented difficulties and opportunities.

A primary challenge in implementing this methodology has been the datasets chosen as case studies. As chapter 2 sets out, these case studies were chosen because of the quality and quantity of their existing datasets, contrasting place in the Roman empire, and contrasting research traditions. This analysis has demonstrated that the scale at which these case studies were engaged with was insufficient for the higher resolution analyses and discussions necessary to fulfill the intellectual ambitions of the research framework set out. Whilst discussions of the most prominent forms of landscape interaction such as field systems have been successful, discussions of (for example) literacy, local vegetational environment and some aspects of human-animal interaction have been unsuccessful due to sample sizes which were too small for reliable conclusions to be drawn from them. As such, the research framework's focus on issues that require large quantities of data only generally retrieved by excavation required the selection of datasets with more plentiful excavation data. Whilst both datasets were at least in part excellent in terms of the overall distribution

of sites, the Montagne Sainte Victoire dataset in particular lacked sufficient excavation evidence to draw reliable conclusions regarding the social detail of many forms of landscape interaction. Although the evidence from Richeaume allowed a highly detailed discussion of landscape interaction at that particular site, the extent to which the understandings drawn from this analysis are more widely applicable is unknown. These problems were exacerbated by the lack of detailed published specialist reporting from Aquae Sextiae, despite the outstanding synthesis of structural and architectural evidence in CAG13/4.

These problems could be to some extent mitigated in future work by the greater integration into the research framework of work focused on historical ecology (Walsh 2013) and the use of geological or topographic evidence to suggest potential landscape interactions in the absence of other evidence, and wider use of comparative studies from elsewhere. The decision was taken not to include such work in this research framework due to the disjuncture between the use of proxies / wider comparanda in the absence of equivalent local evidence for comparison and the ambition of this research agenda to provide a fresh, integrated approach founded on a holistic view of the evidence from two particular landscapes. In the light of the weaknesses and strengths of the completed analysis, however, the successful implementation of this research agenda demands that either such landscape analyses solely focus on areas that have been the subject of extensive, numerous and published recent interventions, utilize proxies and comparanda to address limitations in the data, or both.

It must also be noted that the novelty of the approach taken here has been highlighted by engagement with current data sources such as CAG13/4 and Wiltshire HER. Perhaps the most significant difficulty with existing data has been the extent to which longstanding (and outdated) archaeological models of space and place are embedded in the raw archaeological data. For example, this research framework would seek to understand a farmstead in the context of the field systems it sat within, the ecology of the area and the detailed results of excavation at the occupation site itself. Unfortunately, because of the embedded division between 'sites' and 'landscapes' in both British and French archaeology,



the data necessary to perform such analysis is not associated.

An especially unfortunate demonstration of this division is the manner in which British HERs frequently provide a single point to locate a field system, when field systems in the region often extend for dozens of hectares, and are closely integrated with enclosures and boundaries at occupation sites. The fundamental importance of field systems to integrated rural landscape analysis is only beginning to be recognised in Roman Britain (Rippon *et al* 2013), despite a long history of their investigation in terms of their role as fields and boundaries (e.g. Crawford 1928, Bonney 1972, Fowler 1976). As this study has shown for the Sainte-Victoire landscape in particular, once the extent and character of field systems is established, the gaps in these systems can be particularly informative about landscape interaction.

The embeddedness of the separation of site and landscape may also be part of the reason that previous studies of the creation and maintenance of place, for example, (e.g. Woodward and Woodward 2004, Rogers 2007 Serjeantson and Morris 2011) have generally focused on sites, rather than landscapes. This has prevented a fully integrated approach being taken to understanding human interaction with landscape. Despite this, this research has proved that the research framework adopted has merit, developing wide-ranging discussions of human-landscape interaction. The sociospatial framework laid out in chapter 2 may appear unnecessarily complicated for the research questions at issue here. However, without this framework, the issues chosen to be investigated (for any study as broad-ranging as this necessitates choices between research topics) would be more subject to the interests of the individual scholar, and less likely to maintain some balance between different resolutions and dimensions of study.

This framework has not unquestioningly adopted the tenets of phase space scholars (Jessop *et al* 2008), but adapted these to archaeological research. The jargon of phase space methodology has been deliberately avoided in order to allow the integration of spatial concepts within the overall account; whilst the reuse of prehistoric monuments could justify terming them 'contingent nodes of permanence' (Jessop *et al* 2008), or the embedded

nature of Iron Age practices of crop rotation based on soil types and cultural traditions might be considered 'rhizomatic' (Jones, M 2010). Of course, examples of jargon can certainly be found in this discussion – sociospatial dimension, for example, - but where possible, this study has attempted to remain comprehensible to general audiences. It is useless to build holistic narratives if we cannot present them in a form relevant to audiences beyond academia.

As such, it is important that archaeological narratives retain relevance to wide debates, and chapter 1 set out the relevance of understanding interactions with nature to today's society, as well the importance of this topic in understanding the past. The focus of this research framework on producing a coherent narrative of landscape interaction that brings together a range of theory and evidence helps to make these archaeological topics relevant to wider audiences. This study has demonstrated the potential of this research framework for achieving this aim, providing a broad-ranging account of interactions with nature and landscape in two contrasting regions of the Roman Empire. Whilst the case studies selected have presented significant challenges to the fulfillment of the intellectual agenda of this thesis, these challenges have demonstrated the necessity for particular types of data if such analyses are to be undertaken, in particular the necessity of high quality and widespread excavation data. In conclusion, this thesis has analysed a wide range of interactions with nature and landscape, and generally successfully used these topics to access wider debates around human-environment interaction, colonial societies, human-animal relations and the nature of society in the Roman Empire.

# **Appendix 1 – Data normalization for south-west Wiltshire case study**

## **Introduction**

This appendix sets out the normalisation, processing and analysis of base data for the south-west Wiltshire case study. Sections set out the data sources used, the normalisation process, and then a statistical exploration of the data, considering clustering and taphonomic conditions including soil conditions and land use.

## **Data sources and processing**

There are a wide variety of data sources available for a landscape study such as this, but several key requirements of the study clearly emerge from Chapter 4 to provide a basis for analysis. A clear dataset of all Roman sites and findspots in the region is a necessity given the focus of this study of how the landscape is used. An incomplete dataset would at best prevent the full complexity of patterns of landscape use to be drawn out.

Beyond the archaeological evidence, it is important to include the base landscape data for the region, particularly geology, soil and topology. These datasets were acquired from a variety of sources, summarised in Table 20. Two datasets that blend archaeological and geographical data were also acquired. Historic Landscape Characterisation (HLC) data was also kindly provided by Emma Rouse at Cranbourne Chase and West Wiltshire Downs Area of Natural Beauty (CCWWD AONB). Although only covering part of the case study area, this is an important data source in terms of understanding biases in the dataset due to historic land use and landscape character. Dr Tim Farewell at the National Soil Resources Institute also kindly provided an excerpt covering the study area from a new archaeological preservation map he has created, which classifies archaeological preservation potential based on soil character to a finer degree than any currently publicly available data.

The geographic data sources listed in Table 20 were received in formats used by ArcGIS, and the archaeological data sources in Excel spreadsheets. The HLC data was received in several separate formats used by ArcGIS.

<b>Dataset</b>	<b>Acquired from</b>
<b>British Geological Survey (BGS) 1:50000 scale data.</b>  <b>Includes superficial deposits, bedrock geology, mass movement deposits and artificial ground data, as well as additional data regarding age and character of deposits.</b>	British Geological Survey, via Edina.  © Crown copyright/database right 2012. British Geological Survey/EDINA supplied service. FOR EDUCATIONAL USE ONLY.
<b>‘Profile’ digital terrain model (topography data)</b>  <b>1:10000 scale. Accurate to within +/- 2.5m ASL.</b>	Ordnance Survey, via Edina.  © Crown copyright/database right 2012. Ordnance Survey/EDINA supplied service. FOR EDUCATIONAL USE ONLY.
<b>National Soil Resources Institute National Soil Map (NATMAP) data.</b>  <b>1:250000 scale.</b>  <b>Archaeological Preservation Map data.</b>  <b>1:250000 scale.</b>	National Soil Resources Institute.  Soils Data © Cranfield University (NSRI) and for the Controller of HMSO [2012]’.
<b>Historic Landscape Characterisation Data</b>  <b>For area of Cranbourne Chase and West Wiltshire Downs Area of Natural Beauty only.</b>	© Cranbourne Chase and West Wiltshire Downs AONB.
<b>Historic Environment Record data</b>  <b>All recorded sites, find spots and archaeological features of Roman period from the study area.</b>	Wiltshire Historic Environment Record; Hampshire Historic Environment Record.
<b>Portable Antiquities Scheme data</b>  <b>All recorded finds of Roman period from the Portable Antiquities Scheme (data includes finds recorded up to and including October 2013, but not beyond)</b>	Portable Antiquities Scheme

**Table 20 - Main datasets used in analysis of south-west Wiltshire case study. Basic metadata on dataset content and acquisition, including copyrights.**

## **Normalisation of Geographic Data**

The geographic data, although in formats suitable for use in ArcGIS rather than Excel format, required normalising to reduce processing time and remove unnecessary or duplicate data. The BGS data in particular required extensive removal of duplicate data due to recent changes in the categorisation of data and geological lexicon of the BGS, which

have led to several versions of the same data being stored for each polygon. Only the most modern data was retained in each case of duplication. Certain irrelevant data was also removed for each dataset (except the OS Profile DTM), such as extensive definitions of geological age at various resolutions. The normalised datasets were then ready to be used in ArcGIS for analysis and combination with archaeological data (see below).

## **Normalisation of Archaeological Data**

In order for the archaeological (HER and PAS) data to be useful, extensive normalisation was required. This is because both the source datasets are for public use and preservation by record of finds and sites, and thus have a large number of fields, not all of which are relevant to this study. There are major commonalities between the datasets; both seek to associate spatial and archaeological information, together with some metadata regarding the recording, investigation and analysis process. Given the requirements of this thesis, the most relevant aspects of each dataset were the archaeological data regarding finds or sites of the Roman period, and their spatial location within the landscape. An attempt was made to review the data separately, but it was quickly apparent that a more coherent and holistic analysis would be possible if the two datasets were integrated. These core data requirements of integration of datasets and of archaeological data were supplemented by those resulting from the desire to provide a finer chronological resolution than simply all sites and finds dated to the Roman period. This necessitated the creation of a scheme of categorisation that could function across the two integrated datasets, in order to provide comparability.

The PAS data is predominantly numismatic, with a significant number of brooches, and the remainder of the dataset is made up of a variety of finds. The numismatic data is dated to a variety of resolutions, dependent on the preservation of the individual coin; many are dated to the reign of a particular emperor or usurper, a few (usually poorly preserved) to broad periods such as 50-200AD, and a very small number of heavily degraded coins could only be dated to the Roman period as a whole. Brooches are generally dated to the nearest century, although some are dated to slightly more precise ranges, such as 150-200AD. The remaining

finds have variable resolutions of chronological data, depending on preservation and the current level of knowledge regarding each particular category of artefact.

The HER data is, generally speaking, less closely dated than the PAS data due to its nature as a record of sites and chance finds, rather than as a predominantly numismatic dataset. The HER data is also more complex, as sites may have multiple phases, and particular features of landscape interaction may only be used for certain periods in the occupation of the site. The extent to which sites have been investigated is also extremely variable. Few sites have been excavated to a significant extent, or using sufficiently rigorous methods to provide closely dated chronologies that are representative of the site as a whole. Field systems in particular have only been very patchily identified and generally quite poorly dated, and although some have been dated through excavation (e.g. Longstreet Down (SMR)), many have been assigned to the Roman period through landscape stratigraphy or associations (e.g. Ebsbury, Russley Park (SMR)).

As a compromise between the relative strengths, weaknesses and complexities of the datasets, a scheme was devised wherein each site would be dated to individual centuries. So, a site occupied through the 2<sup>nd</sup> and 4<sup>th</sup> centuries AD would receive an 'X' in the column for each of those centuries in the database, whereas a coin dated to the reign of Hadrian (r. 117 – 138 AD) would receive an 'X' in the column entitled '1<sup>st</sup> century'. This scheme would allow broad chronological distinctions to be made within the Roman period without reducing the sample size below a statistically assessable level, or using the site occupation chronologies on a finer grained chronological scale than that for which they are suitable. Where no detailed site chronology was available sites were dated to the Roman period in general, with no attempt to access detailed archives of individual sites being made due to constraints of time and resources.

Other normalisation of the archaeological data included the removal of a variety of repetitive or irrelevant fields from the datasets, and the combination of the two datasets into a single Excel spreadsheet. This basic spreadsheet containing archaeological data from the HERs and the PAS was then imported into ArcGIS as point data in the same GIS file as

the geographic data. This allowed the addition of the geographic data characteristics to each point, including for example (amongst many other fields) data on the bedrock geology, height, preservation potential for metalwork and historic landscape character (where available) for each site and findspot. The new combined dataset was re-exported to Excel in order to be usable in the SPSS statistics package, and also retained in ArcGIS for further analyses as part of the hermeneutic cycle outlined in Chapter 4.

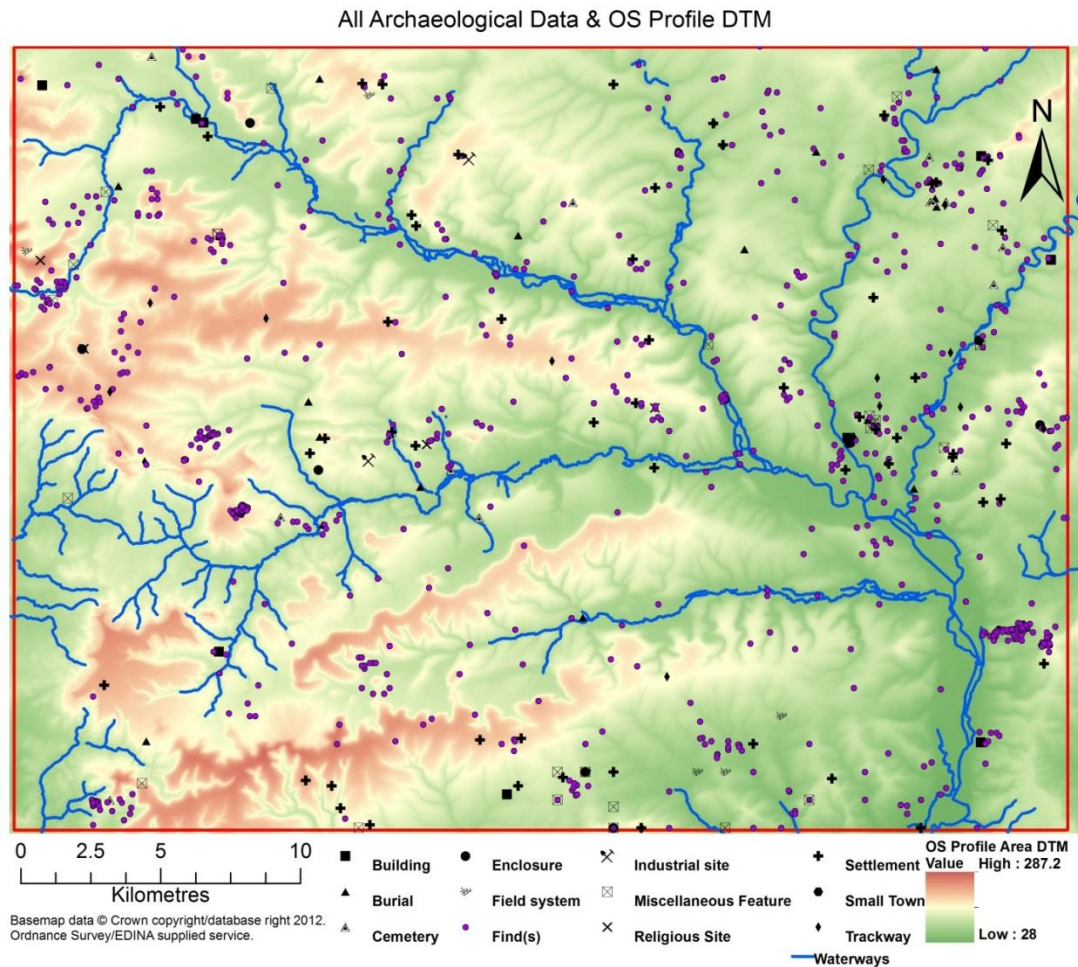
### **Exploration of data biases**

Prior to analysis it was important to understand the extent to which the data was biased by taphonomic factors and changing research agendas. This section attempts to detect such biases in the dataset so that they may be either adjusted for or taken into account during analysis.

### **Exploration of spatial statistics**

Basic statistical measures were used as an initial exploration of the data. Figure 22 shows the archaeological data overlaid on the OS profile digital terrain model. Figure 85, Table 21- Frequency of site types in south-west Wiltshire study area., Figure 86 and Figure 87 - Pie Chart summarising find subtypes within study area. Subtypes of finds of less than 1% of total assemblage were compressed into the 'other' category. summarise the dataset. There are many more finds than sites, and of the sites in the dataset, a substantial proportion are settlements. Naturally some categories overlap; for example, there are very few solely industrial sites, because many settlements include areas of industrial activity. Buildings are defined as nucleated settlements of primarily domestic function with apparently a single focus of activity and are usually at least partly constructed in stone. This category predominantly equates to settlements previously known as villas, but also includes some more ambiguous examples of settlement, where sites have not been fully excavated or conclusively functionally defined. It is important to note that only twenty six sites in the study area have been subject to significant excavation, with a significant proportion of larger sites (e.g. Stockton Earthworks and other sites on the Great Ridge) having never been

subject to a research led investigation, and known only from surface survey and the National Mapping Programme.



**Figure 84 - All archaeological data overlaid on OS Profile DTM.**

Average nearest neighbour analysis was used to determine whether or not the distribution of settlement sites (including settlements, buildings and small towns), archaeological finds and the dataset as a whole displayed clustering. Figure 88, Figure 89 and Figure 90 summarise the results, showing that statistically significant clustering was present in all three of these categories. Clustering was somewhat less pronounced in the dataset for settlements than in the finds dataset, or the dataset as a whole. The average nearest neighbour statistics for the dataset as a whole were weighted towards the statistics of the finds because there are many more finds records than settlement records in the dataset.



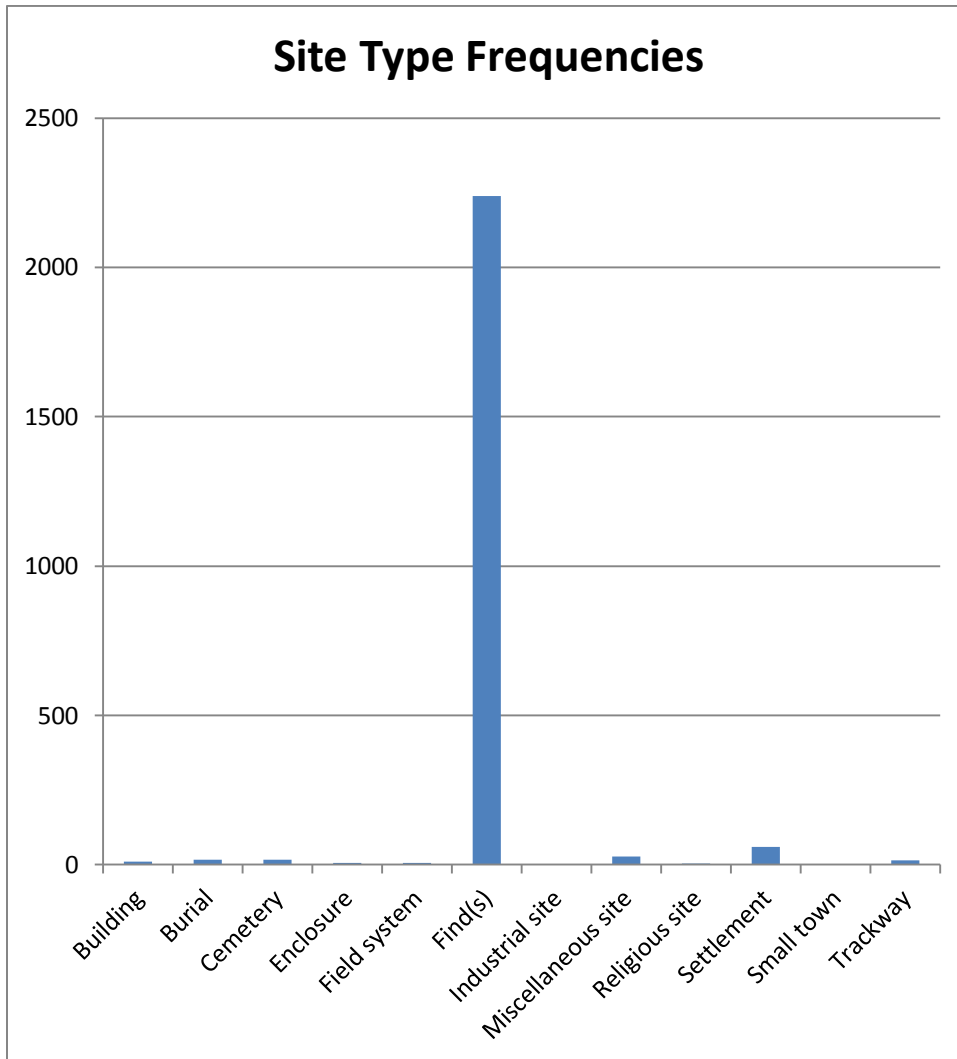


Figure 85 - Bar chart of frequency of traditional archaeological data categories in study area.

Clustering is expected in a dataset which includes finds because finds will naturally be more likely to be lost or discarded closer to areas of regular activity. Clustering of settlement sites may indicate the unsuitability of some areas of the landscape for settlement, the actual clustering of settlements in particularly desirable areas, or both. For the purposes of this stage of analysis, however, it is merely useful to know that clustering is present, and that there are likely to be some patterns to draw out through further analysis.

Site Type	Frequency	Percentage total frequency
Building	10	.4
Burial	17	.7
Cemetery	16	.7
Enclosure	7	.3
Field system	7	.3
Find(s)	2240	93.2
Industrial site	2	.1
Miscellaneous site	27	1.1
Religious site	4	.2
Settlement	59	2.5
Small town	1	.0
Trackway	14	.6
Total		100

Table 21- Frequency of site types in south-west Wiltshire study area.

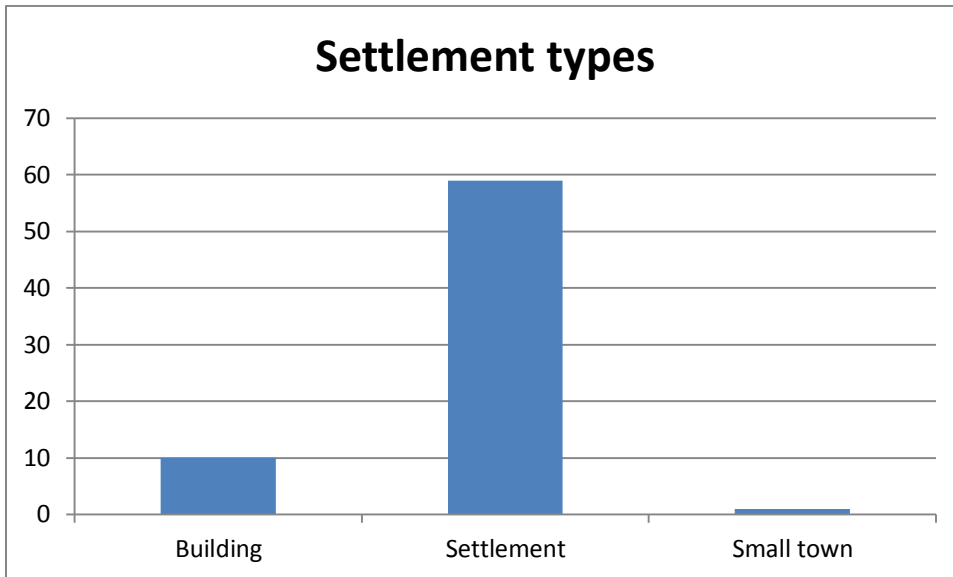


Figure 86 - Bar chart of domestic settlement types in study area by traditional category.

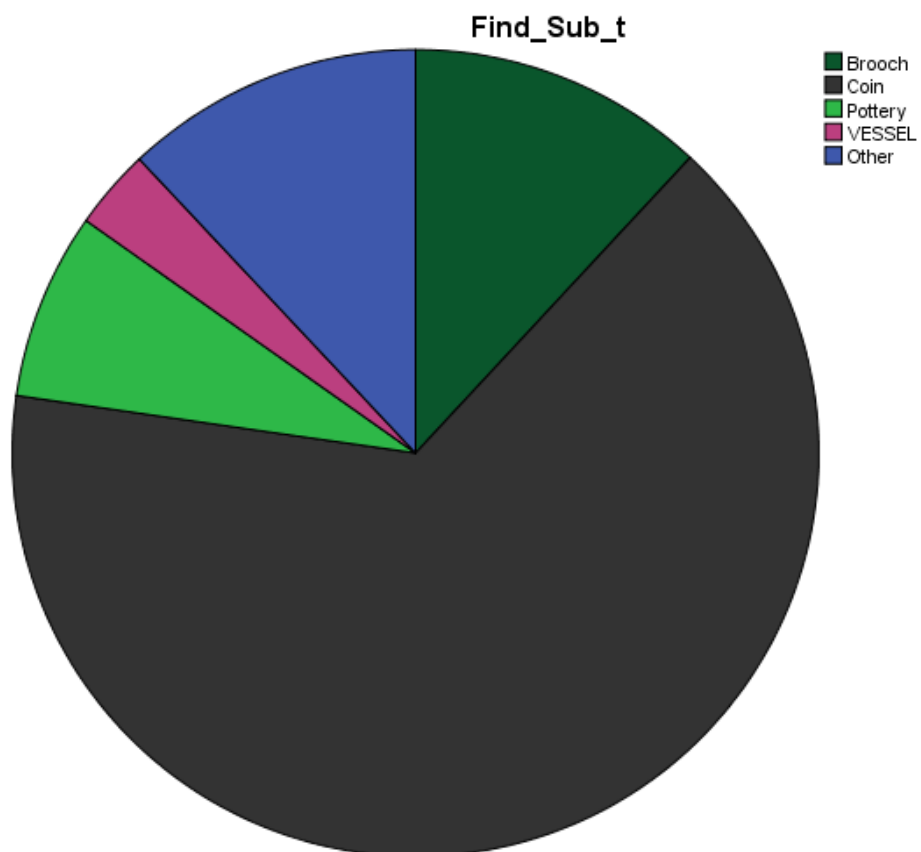


Figure 87 - Pie Chart summarising find subtypes within study area. Subtypes of finds of less than 1% of total assemblage were compressed into the 'other' category.

Average Nearest Neighbor Summary	
Observed Mean Distance:	102.939654
Expected Mean Distance:	322.729083
Nearest Neighbor Ratio:	0.318966
z-score:	-65.481143
p-value:	0.000000

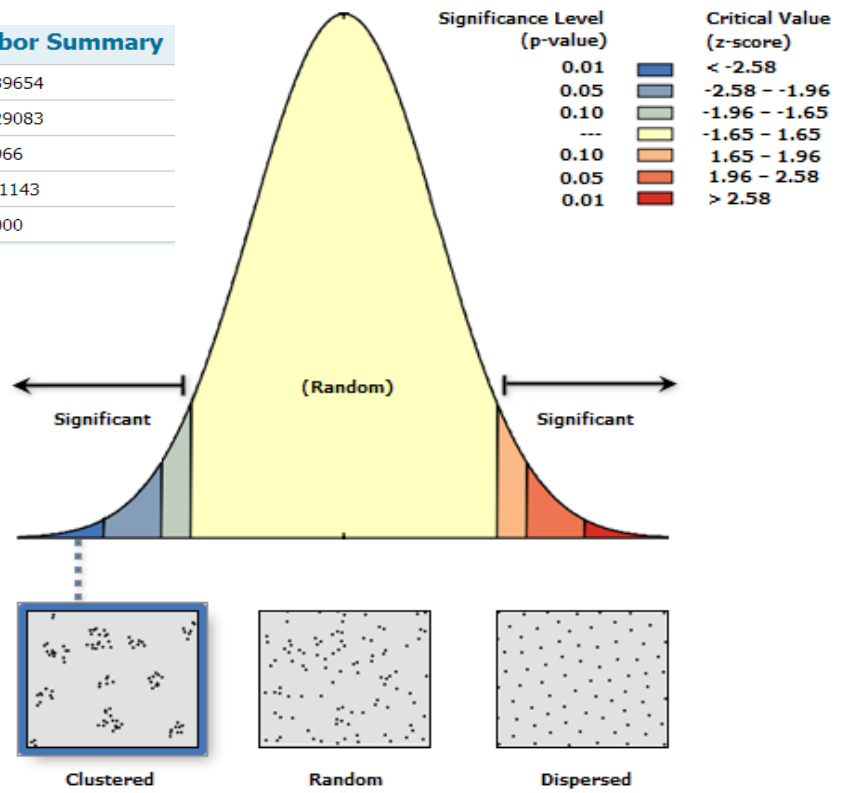


Figure 88 - Average nearest neighbour index test of the hypothesis that the entire dataset is not randomly distributed. Given the z-score of -65.48, there is a less than 1% likelihood that this clustered pattern could be the result of random chance, and the null hypothesis, that the data is randomly distributed, can be rejected. Graph created in ArcGIS.

Average Nearest Neighbor Summary	
Observed Mean Distance:	96.484356
Expected Mean Distance:	333.743748
Nearest Neighbor Ratio:	0.289097
z-score:	-66.096902
p-value:	0.000000

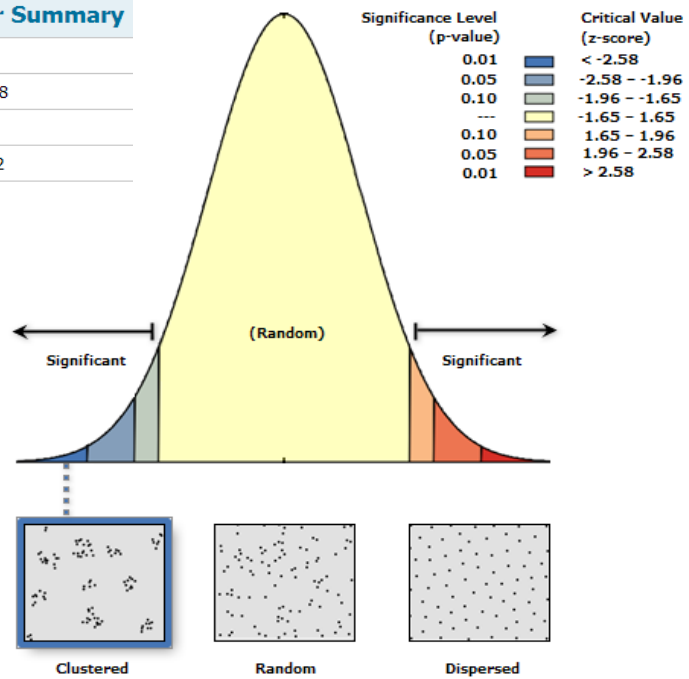


Figure 89 - Average nearest neighbour index test of the hypothesis that the dataset for all finds is not randomly distributed. Given the z-score of -66.10, there is a less than 1% likelihood that this clustered pattern could be the result of random chance, and the null hypothesis, that the data is randomly distributed, can be rejected. Graph created in ArcGIS.

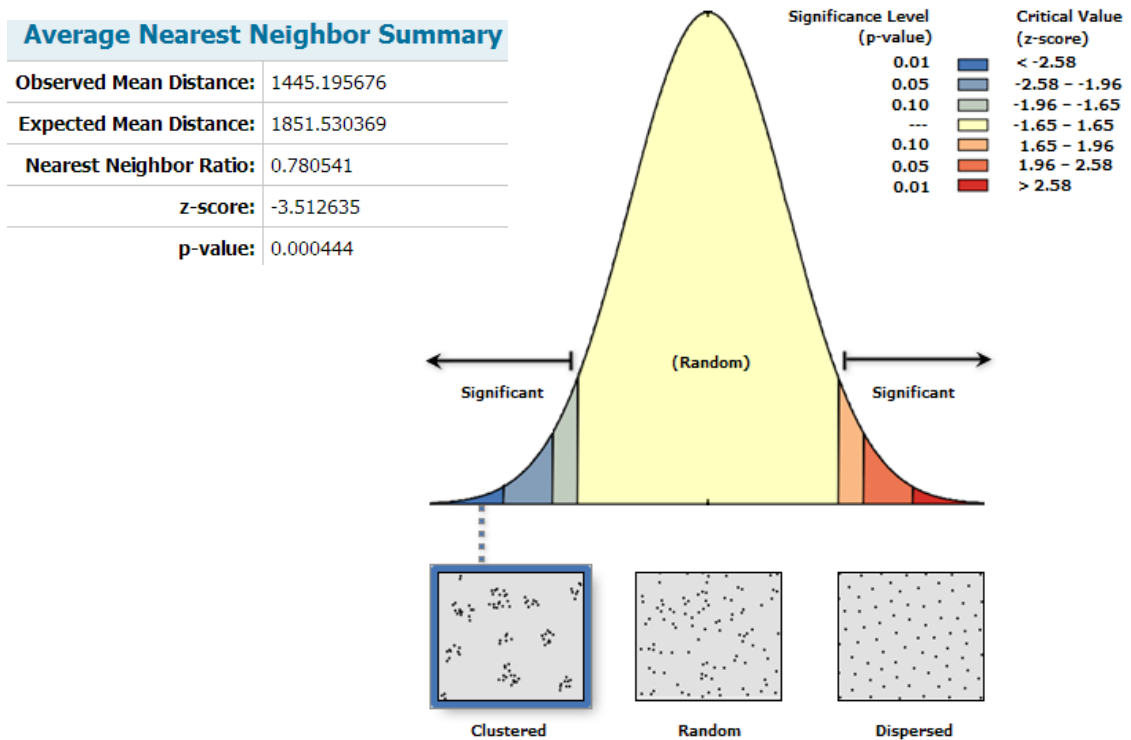


Figure 90 - Average nearest neighbour index test of the hypothesis that the dataset for all settlements, buildings and small towns is not randomly distributed. Given the z-score of -3.51, there is a less than 1% likelihood that this clustered pattern could be the result of random chance, and the null hypothesis, that the data is randomly distributed, can be rejected. Graph created in ArcGIS

## Taphonomic Conditions

The south-west Wiltshire study area has a variety of taphonomic conditions which may affect the preservation and discovery of archaeological materials. The preservation map provided by the NSRI allows the categorisation of the area by preservation potential for various archaeological materials. In order to evaluate the effects of these conditions, and the utility of the preservation map, all single finds data was extracted from the dataset, providing points of data where particular materials had survived. The distribution of individual finds is substantially less biased by development trends than the distribution of sites, but is still subject to other biases, such as ease of access, farming practices and levels of reporting of finds (Robbins 2013).

By testing the taphonomic bias to see if there is at least a correlation between preservation potential and quantity of finds (adjusted for size of the overall proportion of the study area covered by each gradation of preservation potential) it should be possible to at least suggest whether the preservation map is generally correct. The null hypothesis for this statistical test, then, is that there is no statistically significant correlation between preservation of archaeological materials and the suggested preservation conditions for those materials where they are found in this study area. The alternative hypothesis is that there is a statistically significant correlation between these datasets. Figure 91 and

Figure 92 illustrates a test of this hypothesis for the preservation potential for bronze and the coin finds from the study area. There was no statistically significant correlation between the values, and the alternative hypothesis should be rejected. If the data is adjusted to include the frequency of coins, rather than the frequency of coin find locations (i.e. to include find spots with multiple coins, such as coin hoards, several of which have been excavated in the study area) Figure 91 is the result. A correlation coefficient of 0.137 again indicates a lack of statistically significant correlation. Including each individual coin from hoards and multiple findspots as a separate find moves the data further away from the expected correlation between poor preservation conditions and lack of finds, as some of the larger hoards have been found in areas of apparently poor general preservation (Figure 92). It is unclear, however, whether in this particular case the apparent increase in bias away from the expected data pattern is due to archaeological patterning, or to data quality issues.

Figure 92 displays the hoard at Ebsbury, the largest in the region, near the centre of the study area. The find-spot location given in the HER is based on antiquarian records, and is very close to the transition in soils from clays to chalk, and thus from poor to good preservation potential. If the antiquarian information is inaccurate, which is certainly possible, this would significantly alter the correlation between total coin finds and preservation potential. There is a further aspect of the preservation potential data which must be considered. The data only takes into account topsoil and subsoil conditions, and it is possible for archaeological deposits below subsoil to have significantly different

preservation conditions to subsoil depending on their taphonomic history. This may be more relevant for other find types, however, as most coin finds are the result of metal detecting, which does not often penetrate below topsoil, and only very rarely below subsoil.

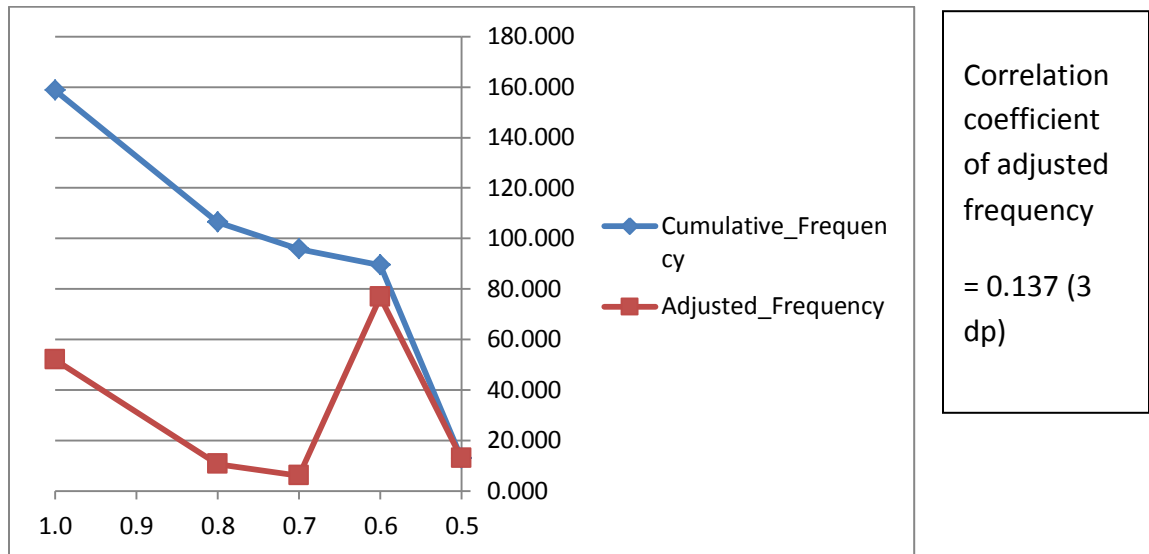


Figure 91 - Graph of frequency of coin finds (y-axis) against preservation potential for Bronze as given in NATMAP data (x-axis). Frequencies were adjusted to account for the areas covered by each category of preservation potential by dividing absolute frequency by percentages of total area covered by each category. Preservation potential worsens towards 1.

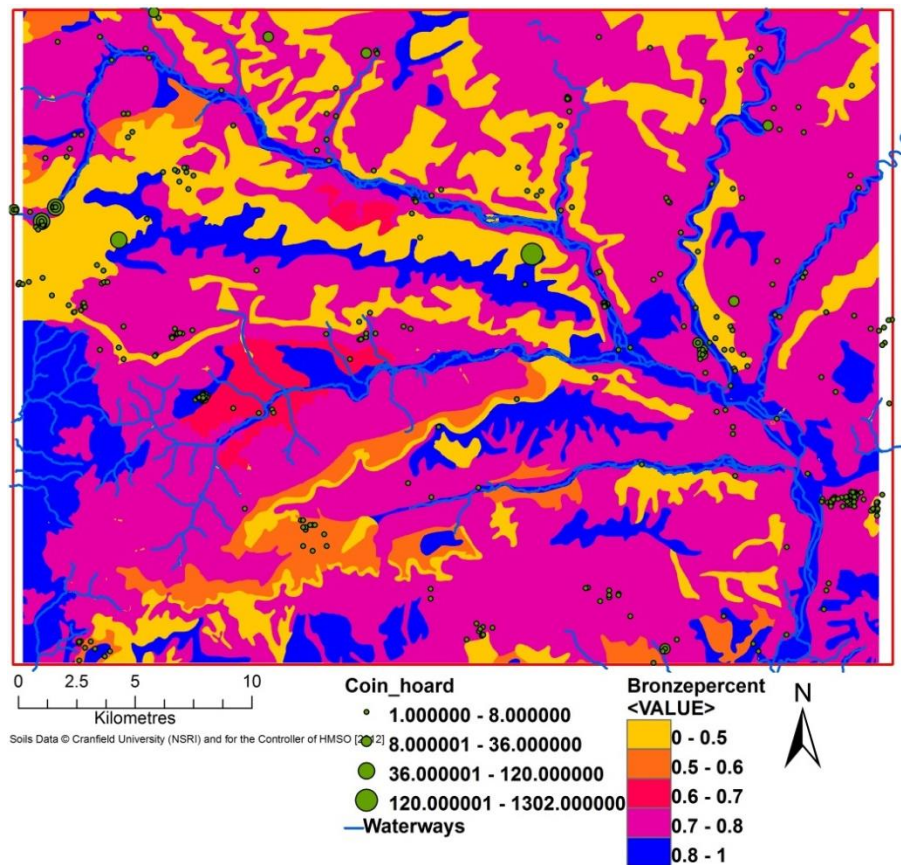
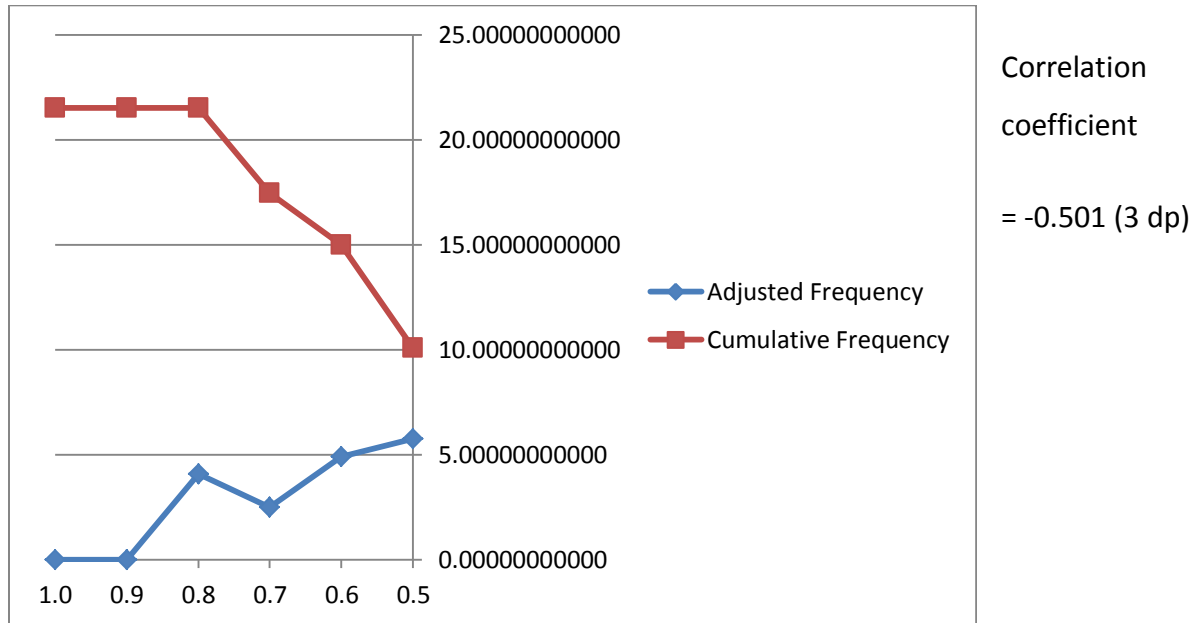


Figure 92 - Coin find locations with symbols scaled to represent number of finds at each location, overlaid on preservation potential map for Bronze.

The dataset was also tested for finds of pottery using an equivalent hypothesis and method, resulting in a correlation coefficient of -0.501 (3dp), indicating that pottery find locations in the study area also failed to correlate with the preservation conditions for pottery, although were slightly more correlated in general than for coin finds.



**Figure 93 - Graph of frequency of pottery find locations (y-axis) against preservation potential for pottery as given in NATMAP data (x-axis). Frequencies were adjusted to account for the areas covered by each category of preservation potential by dividing absolute frequency by percentages of total area covered by each category. Preservation potential worsens towards 1.**

These basic statistical assessments allow us to be reasonably sure that although preservation conditions will naturally contribute to the visibility and patterning of archaeological material, they are not a statistically significant bias in this dataset. The other biases that need to be taken into account are land use and biases resulting from changing research agendas or intervention patterns (Figure 94). Land use can be dealt with using a similar methodology to preservation data, although full land use data is only available for the part of the study area covered by the remit of the Cranbourne Chase and West Wiltshire Downs AONB (Figure 95). The NATMAP soil data includes data on cropping regimes for the entire study area, but this is often very generalised, as the data is a combination of the cropping regimes found in each polygon as defined by the soils of the area, rather than reflecting actual areas of land use as the AONB data does. The decision was therefore taken



to use the high quality AONB data at partial coverage, rather than the amalgamated NATMAP data at full coverage (Figure 95).

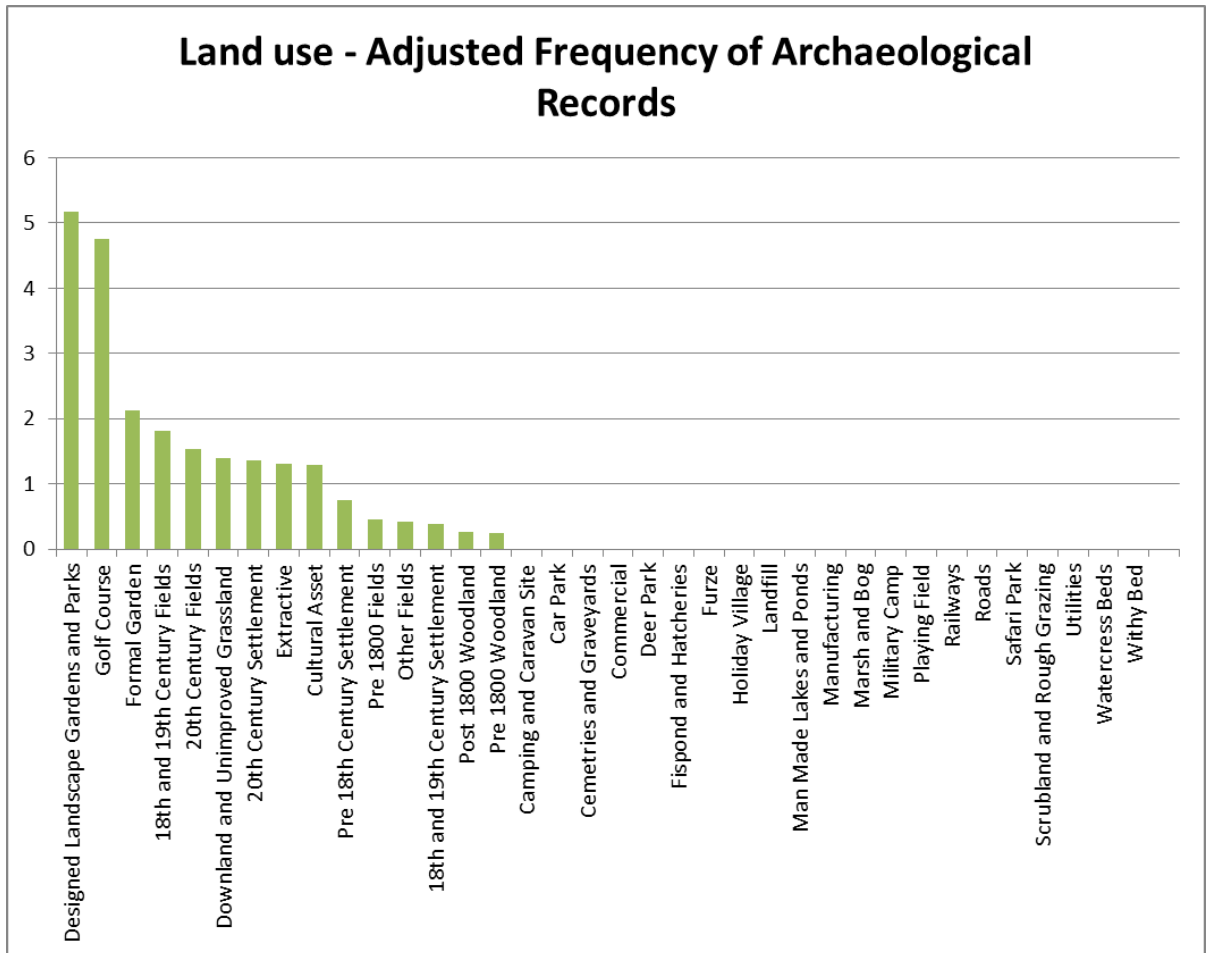


Figure 94 - Bar chart of the frequency of archaeological records per square km within the part of the study area covered by the CCWWD AONB. Calculated by dividing the absolute frequency of archaeological records for each form of land use (i.e. the total frequency of all sites and finds) by the total area (in km<sup>2</sup>) of each land use. NB – the categories of land use for which no bars are visible generally had no archaeological records associated with them due to the small area of those land uses.

Figure 94 shows that there is substantial variation in the average numbers of archaeological records for each form of land use in the study area. Parkland and golf courses display the highest average frequencies. The golf course adjusted frequency is an anomaly, as only 0.21km<sup>2</sup> of the AONB part of the study area is actually a golf course, with a single data point. The measure is particularly high for designed landscapes, gardens and parks, because an area of parkland near Tisbury in the western part of the study area contains a large number of Roman finds made by metal detectorists.

# All data overlaid on CCWWD AONB Current Land Use Data

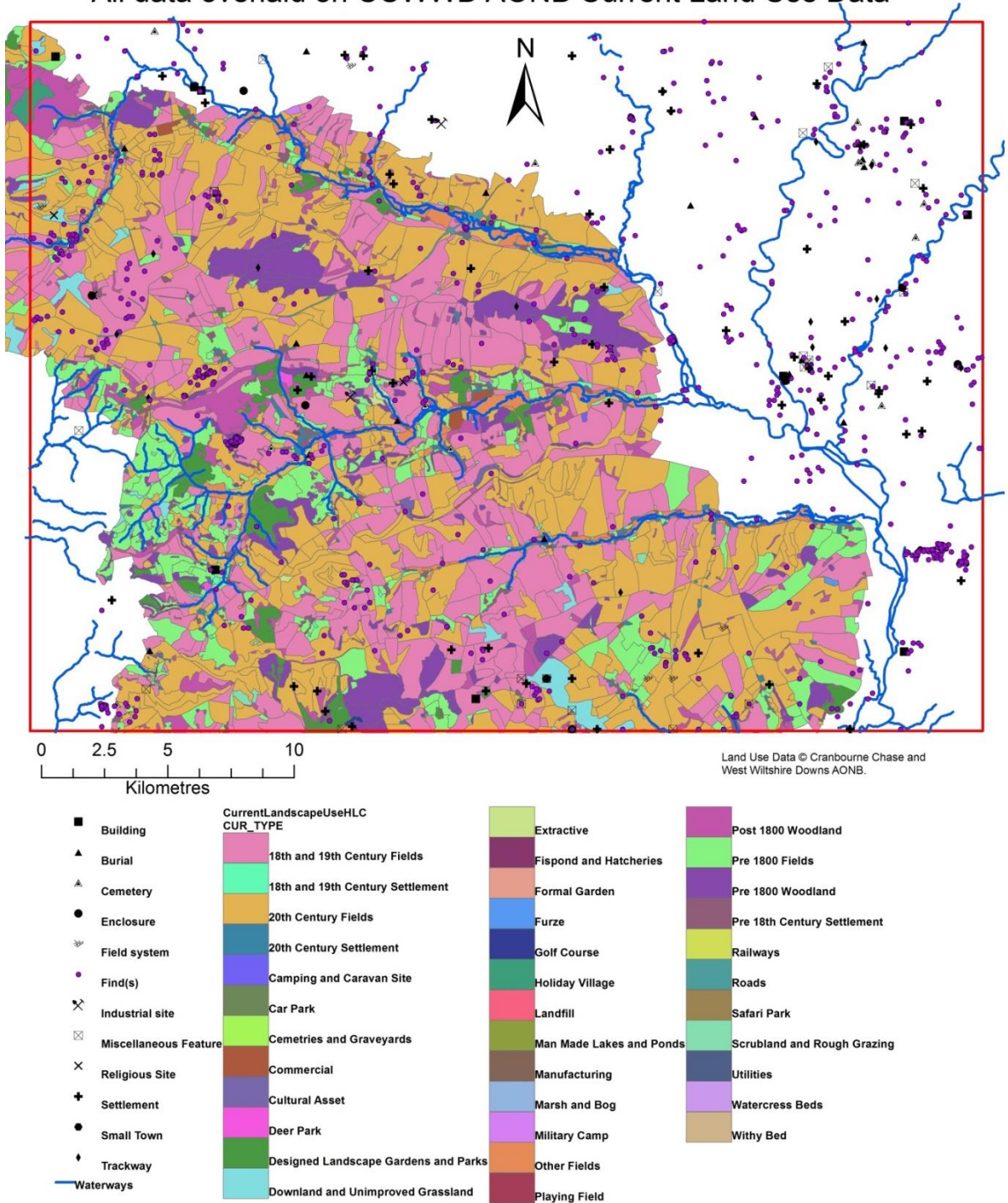
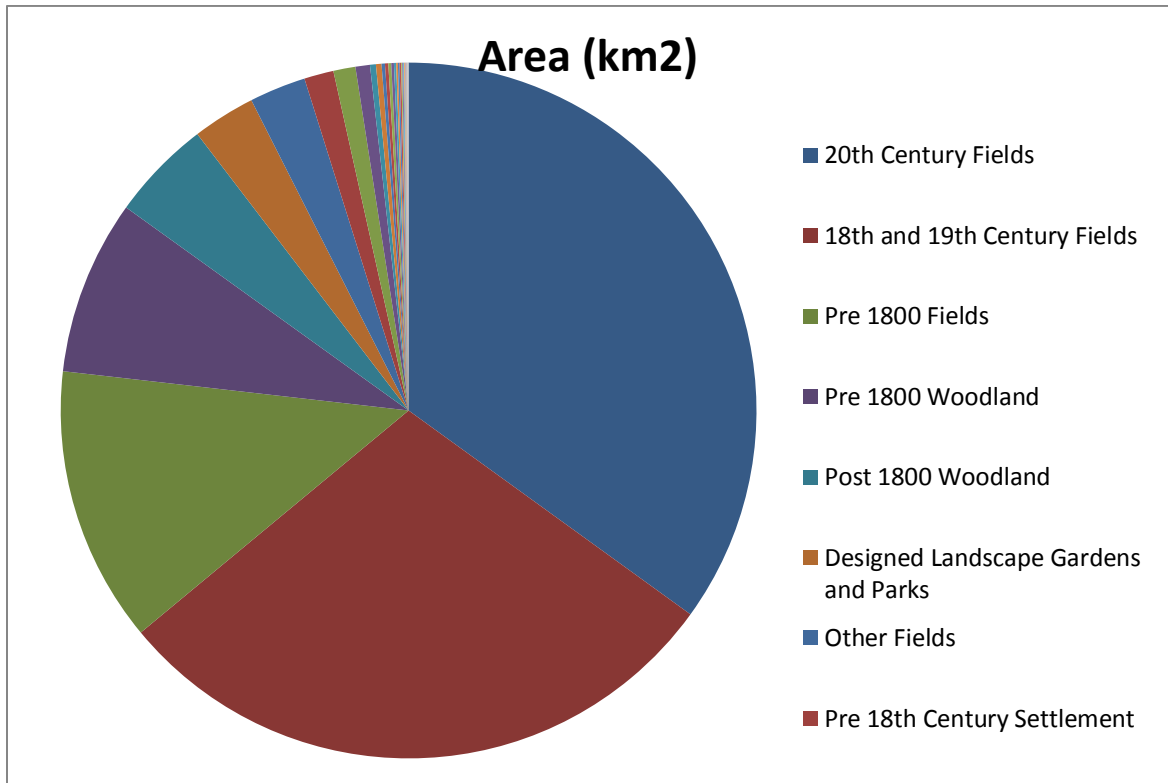


Figure 95 - All archaeological data overlaid on CCWWD AONB current land use data.



**Figure 96 - Pie chart of land use types by km<sup>2</sup>. NB - data only available for the part of the study area covered by the CCWWD AONB.**

Of the land use types covering larger proportions of the study area (Figure 96), it is interesting to note that although there is little difference in visibility between 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> century fields (generally post-enclosure), visibility is generally poorer in pre 18<sup>th</sup> century fields (Figure 94). No metal detecting finds were made in woodlands, which also contained several settlement sites, suggesting that woodland contains the best preservation or visibility for substantial sites. It seems likely that this is a reflection of visibility bias in terms of the preservation of standing earthworks in woodland. Downland and unimproved grassland areas also displayed comparatively good preservation and visibility of settlement sites, with little metal-detecting contribution to archaeological data-record frequencies in these areas.

### **Exploration of potential data**

In order to explore the representativeness of the dataset, a subsample of the study area was analysed in depth to question whether the data was representative of features visible

through this method. The nature of data derived from HER and PAS sources renders linear features of often uncertain dating that are likely to be of the Roman period difficult to represent, as these features often only make sense in their landscape context. Furthermore, although the HER also holds a great deal of more detailed data derived from aerial photography regarding landscape features, so little of this is dated that it is rarely possible to include this in regional analyses such as this thesis. An exploration of what is possible through analysis of existing sources is useful in elucidating the potential quality of the current dataset, as opposed to its actual quality, which has been assessed in the previous section.

### **Detailed study area**

The area chosen for this transect cover nine squares km at the western end of the Great Ridge, an area with little known archaeology of the Roman period. No records are present in the dataset collected for this study, with the exception of the Roman road that runs along the centre of the Great Ridge. LiDAR data and HER non period specific landscape feature data were collated for this area, and analysed. The available LiDAR data only covered the central, northern, north-eastern and eastern OS grid squares of the study area, and a small section of the south-eastern square. The HER data was reviewed in tandem with historic maps and modern maps, and any features likely to be of Roman date were retained, together with features characteristic of the Later Iron Age, given the apparent continuity of landscape use between these periods in the region. All other features were discarded.

The LiDAR data was analysed using a Local Relief Model (LRM) at 3m resolution. An LRM produces a visualisation of the difference between the background topography of an area and the relief of features present within small areas of the overall topography. In this case, the relief of each cell of the LiDAR derived digital terrain model (DTM) was compared to all cells within a 3m radius, producing a 3m resolution LRM. The original DTM resulting model was then subtracted from the LRM, revealing differences in local relief over a wide area, removing much of the influence of underlying topography (based on techniques developed by Hesse 2010). The LiDAR DTM was also processed using hillshade models to highlight low

lying features, and a slope model to highlight changes in slope that might indicate features. Features resulting from these analyses were digitised, and added to the HER features (Figure 97).

Figure 97 demonstrates that the area that previously appeared almost empty of archaeological features is densely populated with landscape features likely to date to the Roman period. Much of the slopes of the ridge are covered with 'Celtic' field systems, which in place cut each other, representing renegotiation of these boundaries at some point in Later Prehistory or the Roman period. There are at least eight circular or subcircular enclosures, predominantly on the southern side of the ridge, and one large rectilinear enclosure on the north side of the ridge. These enclosures are connected to the wider system of boundaries through trackways, which also link together areas of fields. The fields are generally rectilinear but display notable morphological differences. Fields on the upper slopes of the ridge are generally smaller, and more numerous, whereas fields on the lower slopes (particularly to the north) are larger and have fewer subdivisions. It is possible that this represents a difference in agricultural practice between the two types of field, perhaps a form of infield and outfield system.

It is difficult to suggest candidates for domestic settlements from the features discovered, with little resembling the complex village structures further east along the ridge, such as Stockton Earthworks. It is possible that the larger and more elaborate enclosures, particularly the two in the south-east of the study area, represent individual farmstead settlements. Alternatively, the differences in tree canopy thickness produced somewhat variable quality LiDAR results within the woodland, possibly disguising settlement features.

Finally, settlement features may be within woodland and beyond the area of the LiDAR coverage. These biases have contributed towards the pattern of features in Figure 97, especially the absence of features in the western and southern woodland areas.

Despite these limitations, it is clear from this example that there is a very significant potential for further data gathering from detailed analysis of existing landscape data.



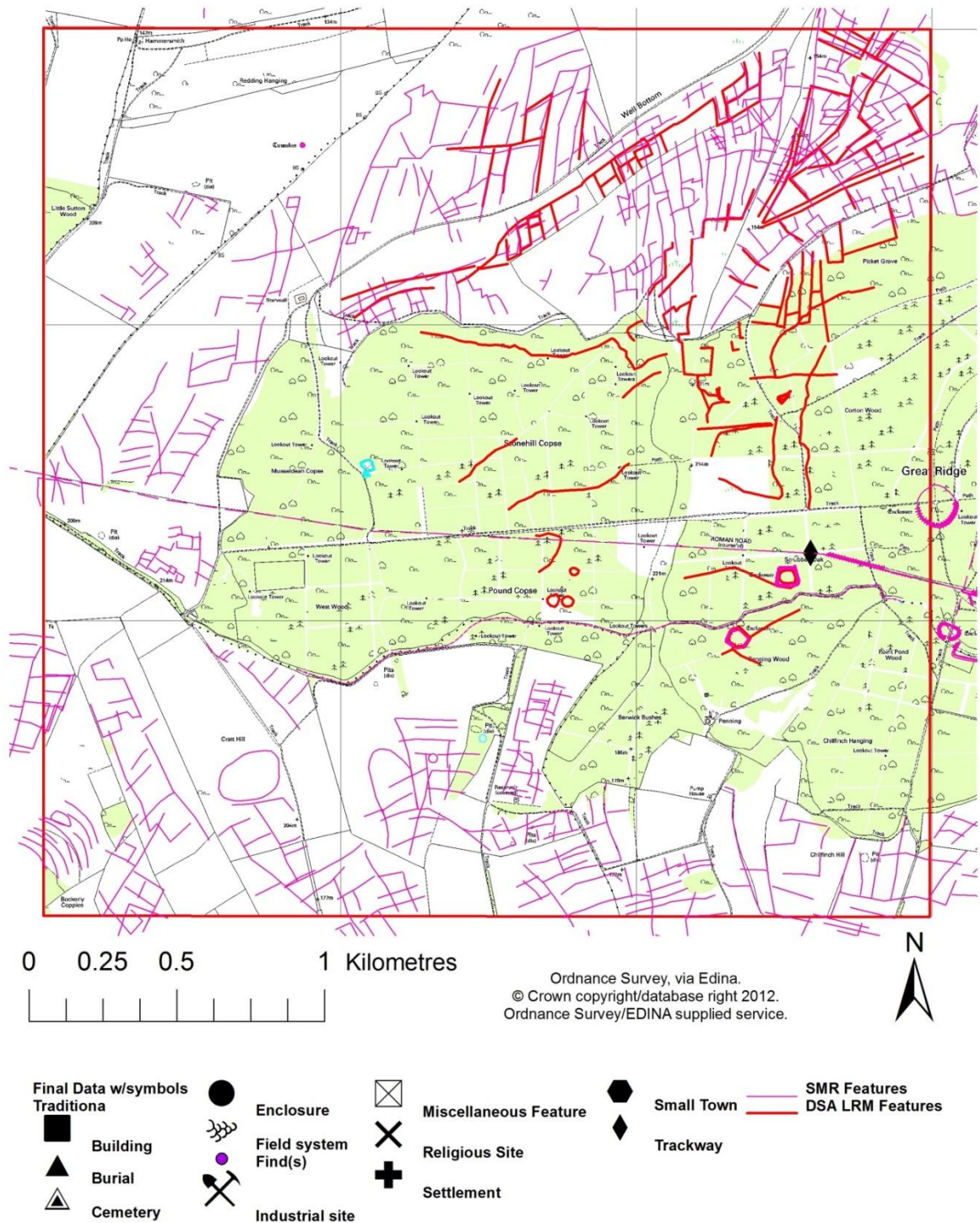


Figure 97 - Combined features from HER (AP-derived) and LiDAR analyses (predominantly LRM derived), on a modern OS basemap. The red box indicates the extent of the detailed study area.

Although still a relatively new technique, the recent change in cost of LiDAR data (it is now free to academics) means that this technique provides a very cost effective and time

effective method of survey with potential for accessing fine grained earthwork detail within woodlands, a common difficulty in landscape projects.]

## **Summary**

Having considered land use in terms of where particular types of archaeological sites and finds are visible, it is also important to consider what is not visible. Relatively few sites are located in areas of post-enclosure fields, which instead tend to be rich in metal-detecting finds, reflecting the ease of access to many of these regularly ploughed fields for metal detectorists. There has been relatively little formal archaeological intervention in these areas. This is predominantly due to a lack of commercial development in the region, resulting in comparatively few commercial excavations in rural areas. The metal detecting finds reflect that these fields do contain archaeological sites, and that those sites are being in some cases substantially damaged by modern deep ploughing. As stated in earlier chapters, the National Mapping Programme has only covered a small part of the north of the study area (Salisbury Plain), and this data has not been fully integrated into the relevant Historic Environment Records. As chapter 2 and 3 discuss at length, wider research agendas have also affected the dataset available for the study area, particularly the location of the study region between Cranbourne Chase and Salisbury Plain, and the regional emphasis on prehistory.

Overall, however, having explored the dataset more thoroughly, it appears that these academic research traditions have had a much less significant impact on the available dataset than taphonomic biases (land use and preservation conditions). These have also, however, been shown to not be statistically significant biases, although display correlations which suggest that preservation will have contributed to the overall pattern through taphonomy, and land-use to also have contributed to the overall pattern through preservation and visibility. An exploration of the potential for acquiring new data and re-dating existing data has also demonstrated the potential for large numbers of new discoveries were an extensive NMP survey undertaken. The conclusion of this initial exploration of biases must therefore be that the study area presents a generally robust

archaeological pattern, but one that is unlikely to reflect the majority of the archaeological sites and features that could be discovered.



## Abbreviations

**CAG 13/4** – *Carte Archeologique de la Gaule* series 13/4; Mocci and Nin 2006.

**CCWWD AONB** – Cranbourne Chase and West Wiltshire Downs Area Of Natural Beauty

**FLO** – Finds Liaison Officer

**GIS** – Geographic Information System

**ha - hectares**

**HANTS HER#XXXXXX** - Refers to a record number from the Wiltshire Historic Environment Record. Search facility available at <http://historicenvironment.hants.gov.uk/AHBSearch.aspx>

**km** – kilometres

**m** – metres

**NATMAP** – Refers to the national soil preservation mapping project undertaken by Dr Tim Farewell at the NSRI, Cranfield University.

**NMP** – National Mapping Programme

**PAS** – Portable Antiquities Scheme

**WANHM** – Wiltshire Archaeological and Natural History Magazine; references to articles in this journal will be given in full in the bibliography, but items without author details (annual excavation lists and finds lists, etc) will be referenced in text in the form *WANHM* 23, 102.

**WILTS HER#XXXXXX** – Refers to a record number from the Wiltshire Historic Environment Record. Search facility available at <http://www.wiltshire.gov.uk/artsheritageandlibraries/museumhistoryheritage/wiltshireandswindonhistoricenvironmentrecord>

## **Bibliography**

### **Ancient Sources**

*Dio*: Cassius Dio's History of Rome: The Project Gutenberg EBook of Dio's Rome, by Cassius Dio. Available online at <http://www.gutenberg.org/cache/epub/10890/pg10890.txt>

*Marcus Aurelius*: Fronto's Letters. Excerpts taken from Shelton, J-A (1988) *As the Roman did ; A sourcebook in Roman social history*. Oxford, Oxford University Press.

*Varro*: On Agriculture. Excerpts taken from Shelton, J-A (1988) *As the Roman did ; A sourcebook in Roman social history*. Oxford, Oxford University Press.

### **Modern Sources**

Agnew, J (2011) 'Space and place' in J Agnew and D Livingstone (eds) *Handbook of Geographical Knowledge*, 316-330. London, Sage.

Aitchison, N B (1988) 'Roman wealth, native ritual: coin hoards within and beyond Roman Britain.', *World Archaeology* 20 (2), 270-284.

Aldhouse-Green, M (2001) 'Cosmivision and metaphor; monsters and shamans in Gallo-British cult-expression', *European Journal of Archaeology* 4 (2), 203-232.

Allen, M and Sykes, N (2011) 'New animals, new landscapes and new worldviews; the Iron Age to Roman transition at Fishbourne', *Sussex Archaeological Collections* 149, 7-24.

Allen, M J (2008) 'Some thoughts on fields and field systems in the wider landscape' in B Cunliffe (ed) *The Danebury Environs Roman Programme; A Wessex Landscape During The Roman Era; Volume 1; Overview*, 50-52. Oxford, English Heritage and Oxford University School of Archaeology.

Allen, M J and Scaife, R (2007) 'A new downland prehistory: long-term environmental change on the southern English chalklands' in A Fleming and R Hingley (eds) *Landscape*

*History after Hoskins, Prehistoric and Roman periods*, 16-32. Oxford, Windgather Press.

Andreau, J (1995) 'Vingt ans d'après l'économie antique de Moses I Finley', *Annales : Histoire, Sciences Sociales* 50, 947-960. Reprinted 2002 (translation by A Nevill) in W Scheidel and S von Reden (eds) *The Ancient Economy*, 33-49. London, Routledge.

Andrieu-Ponel, V, Ponel, P, Bruneton, H, Leveau, P, and de Beaulieu, J (2000) 'Palaeoenvironments and cultural landscapes of the last 2000 years reconstructed from pollen and Coleopteran records in the Lower Rhone Valley, southern France', *The Holocene* 10, 341-356.

Antrop, M (2005) 'From holistic landscape synthesis to transdisciplinary landscape management' in B Tress, G Tres, G Fry and P Opdam (eds) *From Landscape Research to Landscape Planning; Aspects of Integration, Education and Application*, 27-50. Springer, Dordrecht.

Aston, M (1985) *Interpreting the Landscape; landscape archaeology in local studies*. London, Batsford.

Atha, M (2007) *Late Iron Age regionality and early Roman trajectories (100BC – AD200); a landscape perspective from eastern Yorkshire*. Unpublished PhD Thesis, University of York.

Ayala, G and French, C (2005) 'Erosion modelling of past land use practices in Fiume di Sotto di Troine river valley, north-central Sicily', *Geoarchaeology* 20 (2), 149-167.

Bachmann, R T and Edyvean, R G J (2005) 'Biofouling; an historic and contemporary review of its causes, consequences and control in water drinking systems', *Biofilms* 2, 197-227.

Barker, G (1995a) 'Approaches to Mediterranean landscape history' in G Barker (ed) *A Mediterranean Valley; Landscape Archaeology and Annales History in the Biferno Valley*, 1-16. London, Leicester University Press.

Barker, G (1995b) 'Retrospect: The evolution of a Mediterranean landscape' in G Barker (ed) *A Mediterranean Valley; Landscape Archaeology and Annales History in the Biferno Valley*,

308-315. London, Leicester University Press.

Barker, G (ed) (1996) *Farming the Desert; Volume 1, synthesis; The Libyan Valleys survey*. Paris, UNESCO.

Barker, G (2002) 'A tale of two deserts; comparing desertification histories on Rome's desert frontiers', *World Archaeology* 33 (3), 488-507.

Barker, G and Mattingly, D (1999) 'General editors' introduction: The POPULUS project' in P Leveau, F Trement, K Walsh, and G Barker (eds) *Environmental Reconstruction in Mediterranean Landscape Archaeology*, iii-ix. Oxford, Oxbow.

Beagon, M (1996) 'Nature and landscapes in Pliny the Elder' in G Shipley and J Salmon (eds) *Human Landscapes in Classical Antiquity; Environment and Culture*, 284-309. London, Routledge.

Bender, B, Hamilton, S and Tilley, C (2007) *Stone Worlds; Narrative and Reflexivity in Landscape Archaeology*. Walnut Creek (CA), West Coast Press.

Bennett, P, Riddler, I and Sparey-Green, C (2010) *The Roman Watermills and settlement at Ickham, Kent*. Canterbury, Canterbury Archaeological Trust.

Bessac, J-C and Sablayrolles, R (2002) 'Problématique archéologique des carrières antiques en Gaule', *Gallia* 59, 3-9.

Bevan, A and Connolly, J (2006) 'Multiscalar approaches to settlement pattern analysis' in G Lock and B Molyneaux (eds) *Confronting Scale in Archaeology: Issues of Theory and Practice*, 217-234. New York, Springer.

Bintliff (1991) 'The contribution of an Annaliste/structural history approach to archaeology' in J Bintliff (ed) *The Annales School and Archaeology*, 1-33. Leicester, Leicester University Press.

Bintliff, J (1996) 'Interactions of theory, methodology and practice', *Archaeological*

*Dialogues* 3 (2), 246-255.

Bird, D G (2004) *Roman Surrey*. Stroud, Tempus.

Bland, R (2005) 'A pragmatic approach to the problem of portable antiquities; the experience of England and Wales', *Antiquity* 79 (304), 440-447.

Bland, R (2011) 'Le *Treasure Act* et *Portable Antiquities Scheme* en Angleterre et au Pays des Galles', *Bulletin de la Société Française de Numismatique* 66 (10), 270-276.

Boissinot, P (2006) 'Réseaux antiques (voies, parcellaires) autour d'Aquae Sextiae' in F Mocci and N Nin (eds) *Aix-en-Provence, Pays d'Aix, Val de Durance; Carte Archeologique de la Gaule 13/4*. Paris, Académie des inscriptions et Belles-Lettres.

Bonney, D (1972) 'Early boundaries in Wessex' in P J Fowler (ed) *Archaeology and the Landscape; Essays for L V Grinsell*, 168-186. London, John Baker.

Bradley, R (2000) *An Archaeology of Natural Places*. London, Routledge.

Bradley, R, Entwistle, R and Raymond, F (1994) *Prehistoric Land Division on Salisbury Plain: the Work of the Wessex Linear Ditches Project*. London, English Heritage.

Branigan, K (1982) 'Celtic' farm to Roman villa' in D Miles (ed) *The Romano-British Countryside; Studies in Rural Settlement and Economy (Part i); BAR British Series 103(i)*, 81-96. Oxford, Archaeopress.

Braudel, F (1972) *The Mediterranean and the Mediterranean World in the Age of Phillip II, volume 1*. New York, Harper and Row.

Bravard, J-P, Le Bot-Helly, A, Helly, B, and Savay-Guerraz, H (1990) 'Le site de Vienne (38), Saint-Romain (69), Sainte-Colombe (69). L'évolution de la plaine alluviale du Rhône, de l'âge du Fer à la fin de l'Antiquité : proposition d'interprétation', *Rencontres internationales d'archéologie et d'histoire d'Antibes* 10, 437-452.

Breeze, D (2008) 'Frontiers of the Roman Empire', *Archaeological Dialogues* 15, 55-56.

- Brindle, T (2013) 'Making the most of PAS data: macro- and micro-level studies of Romano-British settlement', *Landscapes* 14 (1), 73-91.
- Brown, A G (2009) 'Colluvial and alluvial response to land use change in midland England: an integrated geoarchaeological approach', *Geomorphology* 108, 92-106.
- Brun, J-P (2001) 'La viticulture antique en Provence', *Gallia* 58, 69-89.
- Brun, J-P (2004) *Archéologie du vin et de l'huile ; de la préhistoire à l'époque hellénistique*. Paris, Errance.
- Bulleit, R W (1992) 'Annales and archaeology' in A B Knapp (ed) *Archaeology, Annales, and Ethnohistory*, 131-134. Cambridge, Cambridge University Press.
- Burnouf, J and Leveau, P (2004) 'Conclusions et perspectives' in J Burnouf and P Leveau (eds) *Fleuves et marais, une histoire croisement de la nature et de la culture*, 481-487. Paris, Comite de travaux historiques et scientifiques.
- Butzer, K W (2005) 'Environmental history in the Mediterranean world; cross-disciplinary investigation of cause-and-effect for degradation and soil erosion', *Journal of Archaeological Science* 32, 1773-1800
- Byrne, D R (2003) 'Nervous landscapes: race and space in Australia', *Journal of Social Archaeology* 3, 169-193.
- Carey, C J, Brown, T G, Challis, K C, Howard, A J and Cooper, L (2006) 'Predictive modelling of multiperiod geoarchaeological resources at a river confluence: a case study from the Trent-Soar, U.K.', *Archaeological Prospection* 13, 241-250.
- Carpenter, E and Winton, H (2011) *Marden henge and Environs, Vale of Pewsey, Wiltshire; National Mapping Programme Report*. Research Department Report Series 76-2011. Portsmouth, English Heritage.
- Cartledge, P (1998) 'The economy (economies) of Ancient Greece', *Diagolos* 5, 4-24.

Reprinted 2001 in W Scheidel and S von Reden (eds) *The Ancient Economy*, 11-32. London, Routledge.

Casana, J (2008) 'Mediterranean valleys revisited: linking soil erosion, land use and climatic variability in the Northern Levant', *Geomorphology* 101 (3), 429-442.

Cenzon-Salvayre, C (2009) *Nouvelles approches en anthracologie funéraire la nécropole Richeaume XIII (Puylobier 13)*. Unpublished MSc Thesis, Université de Provence.

Cenzon-Salvayre, C (2012) 'Burning issues ; an analysis of Roman funeral practices via charcoal analysis of a cremation', Conference Poster presented at EAA2012, Helsinki. Université de Provence.

Cenzon-Salvayre, C (unpub.) *Le bûcher funéraire dans l'Antiquité : une approche archéologique, bioarchéologique et historique d'après l'étude des structures de crémation en Gaule méridionale*. Unpublished PhD thesis, Université de Provence.

Cenzon-Salvayre, C and Durand, A (2011) 'The cremation structures of the Roman Empire: anthracological data versus historical sources' in E Badal (ed) *The charcoal as cultural and biological heritage; 5<sup>th</sup> International Meeting of Charcoal Analysis; Valencia, Spain*, 191-192. Valencia, Universidad de Valencia.

Chadwick, A (2013) 'Some fishy things about scales ; macro- and micro-approaches to Later Prehistoric and Romano-British field systems', *Landscapes* 14 (1), 13-32.

Challinor, D (2010) 'Charcoal' in K Powell, A Smith and G Laws (eds) *Evolution of a farming community in the Upper Thames Valley; Excavation of a Prehistoric, Roman and Post-Roman landscape at Cotswold Community, Gloucestershire and Wiltshire; Volume 1: Site Narrative and Overview*, 184. Oxford, Oxford Archaeology.

Chamberlain, A (2006) *Demography in Archaeology*. Cambridge, Cambridge University Press.

Chavaría Arnau, A (2004) 'Interpreting the transformation of late Roman villas: The case of

*Hispania*' in N Christie (ed) *Landscapes of Change; Rural Evolutions in Late Antiquity and the Early Middle Ages*, 67-102. Aldershot, Ashgate.

Chouquer, G (1993) 'Répertoire topo-bibliographique des centuriations de Narbonnaise', *Revue archéologique de Narbonnaise* 26, 87-98.

Christol, M (1996) 'La Narbonnaise dans l'Empire romain' in J-L Fiches (ed) *Le III<sup>e</sup> siècle en Gaule Narbonnaise*. Sophia Antipolis, CNRS.

Clayton, S and Opotrow, S (2003) 'Introduction: identity and the natural environment' in S Clayton and S Opotrow (eds) *Identity and the Natural Environment; The Psychological Significance of Nature*, 1-24. Cambridge (Massachusetts), Massachusetts Institute of Technology Press.

Coe, D, Jenkins, V and Richards, J (1991) 'Cleveland Farm, Ashton Keynes: second interim report; investigations May – August 1989', *WANHM* 84, 40-50.

Colas, O (2004) 'Les aménagements de berge et la protection contre les inondations à l'époque romaine à Lyon. Exemples et perspectives' in J Burnouf and P Leveau (eds) *Fleuves et marais, une histoire croisement de la nature et de la culture*, 437-448. Paris, Comité de travaux historiques et scientifiques.

Columeau, P (2001) 'Nouveau regard sur la chasse et l'élevage dans le sud et le sud-est de la Gaule, aux IV<sup>e</sup> et V<sup>e</sup> s. ap. J.-C. et l'exemple de Constantine (B.-du-Rh.)', *Revue archéologique de Narbonnaise* 34, 123-137.

Columeau, P (unpub.) *Etude préliminaire de la faune archéologique du site de Richeaume (13)*. Unpublished report. Aix-en-Provence, CNRS/MMSH.

Congès, G and Leguilloux, M with Brien-Poitevin, F (1991) 'Un dépotoir de l'Antiquité tardive dans la quartier de l'Espalande à Arles', *Revue archéologique de Narbonnaise* 24, 201-234.

Cool, H (2006) *Eating and Drinking in Roman Britain*. Cambridge, Cambridge University Press.



- Cooper, A and Edmonds, M (2007) *Past and Present: Excavations at Broome, Bedfordshire, 1996-2005*. Cambridge, Cambridge Archaeological Unit, University of Cambridge.
- Copeland, T (2009) *Akeman Street: Moving through Iron Age and Roman landscapes*. Stroud, History Press.
- Corney, M (2001) 'The Romano-British nucleated settlements of Wiltshire' in P Ellis (ed) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 5-38. Devizes, Wiltshire Archaeological and Natural History Society.
- Crawford, O G S (1928) 'Our debt to Rome?' *Antiquity* 2 (6), 173-188.
- Creighton, J (2000) *Coins and Power in Late Iron Age Britain*. Cambridge, Cambridge University Press.
- Cunliffe, B (1995) *Danebury, An Iron Age Hillfort in Hampshire, Volume 6, A Hillfort Community in Perspective*. London, Council for British Archaeology.
- Cunliffe, B (2008) *The Danebury Environs Roman Programme; A Wessex Landscape During The Roman Era; Volume 1; Overview*. Oxford, English Heritage and Oxford University School of Archaeology.
- Curchin, L A (2004) *The Romanization of Central Spain*. London, Routledge.
- D'Anna, A, Leveau, P and Mocci, F (1992) 'La montagne Sainte-Victoire de la préhistoire à la fin d'Antiquité: les rythmes de l'occupation humaine (prospection-inventaire 1989-1992)', *Revue archéologique de Narbonnaise* 25, 265-299.
- D'Anna, A and Mocci, F (1993) *Occupation des sols et evolution des paysages dans le massif de la Sainte Victoire (Bouches-du-Rhône); Prospection-Inventaire et évaluation du Patrimoine archéologique; Programme de recherché pluridisciplinaire*. Aix-en-Provence, LAPMO.
- D'Anna, A, Leveau, P, Mocci, F, Muller, A and Strobel, M (1993) 'Dix mille ans d'occupation

du sol dans le massif de Sainte-Victoire' in P Leveau and M Provansal (eds) *Archéologie et environnement: de la Sainte-Victoire aux Alpilles*, 443-466. Aix-en-Provence, Université de Provence.

Dainton, B (2001) *Time and Space*. Chesham, Acumen.

Dark, K R and Dark, P (1997) *The landscape of Roman Britain*. Stroud, Sutton.

Dark, P (1999) 'Pollen evidence from Roman Britain' *Britannia* 30, 247-272.

Davis, O (2011) 'A re-examination of three Wessex type sites: Little Woodbury, Gussage All Saints and Winnall Down', in T Moore and X-L Armada (eds) *Atlantic Europe in the First Millennium BC; Crossing the Divide*, 171-187. Oxford, Oxford University Press.

Deforce, K and Haneca, K (2012) 'Ashes to ashes. Fuelwood selection in Roman cremation rituals in northern Gaul', *Journal of Archaeological Science* 39, 1338-1348.

Derks, T (1998) *Gods, Temples and Ritual Practices; The transformation of religious ideas and values in Roman Gaul*. Amsterdam, Amsterdam University Press.

Dermody, B J, de Boer, H J, Bierkens, M F P, Weber, S L, Waffan, M J and Dekker, S C (2011) 'Revisiting the humid Roman hypothesis: novel analyses depicting oscillating patterns', *Climate of the Past Discussions* 7, 2355-2389.

Devereux, B J, Amable, G S and Crow, P (2008) 'Visualisation of LiDAR terrain models for archaeological feature detection', *Antiquity* (82), 470-479.

Dickinson, C (1990) 'Experimental processing and cooking of emmer and spelt wheats and the Roman army diet' in D Robertson (ed) *Experimentation and Reconstruction in Environmental Archaeology*, 33-39. Oxford, Oxbow.

Dietler, M (1997) 'The Iron Age in Mediterranean France; colonial encounters, entanglements and transformations', *Journal of World Prehistory* 11 (3), 269-358.

Draper, S (2006) *Landscape, Settlement and Society in Roman and Early Medieval Wiltshire*.

(*BAR British Series 419*). Oxford, Archaeopress.

Eagles, B (2001) 'Anglo-Saxon presence and culture in Wiltshire c. AD 450 – c. 675' in P Ellis (ed) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 199-233. Devizes, Wiltshire Archaeological and Natural History Society.

Eckhardt, H (2009) 'Roman barrows and their landscape context: a GIS case study at Bartlow, Cambridgeshire' *Britannia* XL, 65-98.

Edmonds, M R (1999) *Ancestral Geographies of the Neolithic; Landscape, Monuments and Memory*. London, Routledge.

Edmonds, M (2004) *The Langdales: Landscape and Prehistory in a Lakeland Valley*. Stroud, Tempus.

Edmondson, J (2006) 'Cities and urban life in the western provinces of the Roman Empire, 30BCE-250CE' in D S Potter (ed) *Companion to the Roman Empire*, 250-280. London, Wiley-Blackwell.

Ellis, P (ed) (2001) *Roman Wiltshire and After; Papers in honour of Ken Annable*. Devizes, Wiltshire Archaeological and Natural History Society.

Ellis, C and Powell, A B (2008) *An Iron Age settlement outside Battlesbury Hillfort, Warminster and sites along the Southern Range Road; Wessex Archaeology Report 22*. Salisbury, Wessex Archaeology.

Esmonde Cleary, S. (2005) 'Beating the bounds: ritual and the articulation of urban space in Roman Britain', in A MacMahon and J Price (eds) *Roman Working Lives and Urban Living*, 1–17. Oxford, Oxbow.

Estiot, S (1996) 'Le troisième siècle et la monnaie : crise et mutations' in J-L Fiches (ed) *Le III<sup>e</sup> siècle en Gaule Narbonnaise*, 33-70. Sophia Antipolis, CNRS.

Evans, J G and Vaughan, M P (1985) 'An investigation into the environment and archaeology

of the Wessex linear ditch system', *The Antiquaries Journal* 65 (1), 11-38.

Evans, S and Carpenter, E (in prep.) *National Archaeological Identification Survey Lowland Pilot Project: West Wiltshire. Aerial Investigation & Mapping Interim Report*. English Heritage Research Report.

Excoffon, P, Landure, C and Pasqualini, M (2004) 'Habitat et risqué fluvial dans le delta du Rhone au 1er siecle av. J.-C. Les Habitats de la Capeliere et du Grand Parc en Carmargue' in J Burnouf and P Leveau (eds) *Fleuves et marais, une histoire croisement de la nature et de la culture*, 213-234. Paris, Comite de travaux historiques et scientifiques.

Farbe, G, Fiches, J-L and Leveau, P (2005) 'Recherches récentes sur les aqueducs romains de gaule méditerranéenne', *Gallia* 62, 5-12.

Favory, F, Raynaud, C and Roger, K (1996) 'Les Romanisation des campagnes autour L'Etang de l'Or (Hérault) ; hiérarchie dynamique et réseaux de l'habitat du IIème siècle av. au Ier siècle ap. J. C.', *Revue archéologique de Picardie* 11, 305-308.

Field, D (1999) 'Ancient water management on Salisbury Plain' in Pattison, P, Field, D and Ainsworth, S (eds) *Patterns of the Past; Essays on Landscape Archaeology for Christopher Taylor*. Oxford, Oxbow.

Figeuiral, I, Fabre, L and Bel, V (2010) 'Considerations on the nature and origin of wood-fuel from Gallo-Roman cremations in the Languedoc region (southern France)', *Quaternaire* 21 (3), 325-331.

Fincham, G (2002) *Landscapes of imperialism; Roman and native interaction in the East Anglian fenland; BAR British Series 338*. Oxford, Archaeopress.

Finley, M I (1985) *The Ancient Economy; Revised edition*. London, Hogarth.

Fitzpatrick, A P (1991) *Butterfield Down: from Prehistory to the present day*. Salisbury, Wessex Archaeology.

- Fitzpatrick, A P and Crockett, A D (1998) 'A Romano-British settlement and inhumation cemetery at Eyewell Farm, Chilmark', *WANHM* 91, 11-33.
- Fleming, A (1999) 'Phenomenology and the megaliths of Wales: a dreaming too far?' *Oxford Journal of Archaeology* 18, 119-125.
- Fleming, A (2005) 'Megaliths and post-modernism: the case of Wales', *Antiquity* 79, 921-932.
- Fleming, A (2006) 'Post-processual landscape archaeology: a critique', *Cambridge Archaeological Journal* 16 (3), 267-280.
- Fleming, A (2007) 'Don't Bin Your Boots', *Landscapes* 8 (1), 85-99.
- Fleming, A (2009) 'Review: landscape of the megaliths: excavation and fieldwork on the Avebury monuments, 1997–2003, by Mark Gillings, Joshua Pollard, David Wheatley & Rick Peterson, 2008. Oxford: Oxbow Books', *Cambridge Archaeological Journal* 19 (2), 289-290.
- Foster, A (2001) 'Romano-British burials in Wiltshire' in P Ellis (ed) (2001) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 165-178. Devizes, Wiltshire Archaeological and Natural History Society.
- Fowler, P J (1976) 'Farms and fields in the Roman west country' in K Branigan and P J Fowler (eds) *The Roman West Country; Classical Culture and 'Celtic' Society*, 162-182. London, David and Charles.
- Fowler, P J (2000) *Landscape Plotted and Pieced: Landscape History and Local Archaeology in Fyfield and Overton, Wiltshire*. London, Society of Antiquaries.
- Fowler, P J (2001) 'Wansdyke in the woods: an unfinished Roman military earthwork for a non-event' in P Ellis (ed) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 179-198. Devizes, Wiltshire Archaeological and Natural History Society.
- Fox, C (1923) *The Archaeology of the Cambridge Region; A Topographical Study of the*

*Bronze, Early Iron, Roman and Anglo-Saxon Ages, with an Introductory Note on the Neolithic Age.* Cambridge, Cambridge University Press.

Foxhall, L (2007) *Olive Cultivation in Ancient Greece; Seeking the Ancient Economy.* Oxford, Oxford University Press.

Frere, S S (1974) *Britannia; A History of Roman Britain.* London, Book Club Associates.

French, C (2003) *Geoarchaeology in Action.* London, Routledge.

French, C, Lewis, H, Allen, M Green, R Scaife and J Gardiner (2007) *Prehistoric landscape development and human impact in the upper Allen valley, Cranbourne Chase, Dorset,* Cambridge, MacDonald Institute for Archaeological Research.

Fulford, M (2001) 'Links with the past: pervasive 'ritual' behaviour in Roman Britain', *Britannia* 32, 199-218.

Fulford, M G, Powell, A B, Entwistle, R and Raymond, F (2006) *Iron Age and Romano-British Settlements and Landscapes of Salisbury Plain.* Salisbury, Wessex Archaeology.

Fuller, B T, Molleson, T I, Harris, D A, Gilmour, L T, and Hedges, R E M (2006) 'Isotopic evidence for breastfeeding and possible adult dietary differences from Late/Sub-Roman Britain', *American Journal of Physical Anthropology* 129, 45-54.

Furley, D (1989) *Cosmic Problems; Essays on Greek and Roman Philosophy of Nature.* Cambridge, Cambridge University Press.

Furse, M T (1977) 'The ecology of the Gussage, a lined winterbourne', *Report of the Freshwater Biological Association* 45, 30-36.

Gaffney, V L, Stancic, Z and Watson, H (1996) 'Moving from catchments to cognition: tentative steps toward a larger archaeological context for GIS' in M Aldenderfer and H Maschner (eds), *Anthropology, Space and Geographic Information Systems*, 132-154. Oxford, Oxford University Press.

- Gardiner, J and Allen, M J (2009) 'Peopling the landscape; prehistory of the Wylve valley, Wiltshire' in M J Allen, N Sharples and T O'Connor (eds) *Land and People; Papers in memory of John G Evans*, 77-88. Oxford, The Prehistoric Society and Oxbow.
- Gateau, F and Mocci, F (1995) 'Recherches sur un parcellaire centurié en basse Provence (chaîne de la Nerthe et bassin d'Aix-en-Provence)' in P Gros (ed) *Villes et campagnes en Gaule Romaine*, 115-127. Paris, CTHS.
- Gerrard, C and Aston, M (2007) *The Shapwick Project, Somerset; A rural landscape explored*. Leeds, Society of Medieval Archaeology.
- Gerrard, J (2007) 'The temple of Aquae Sulis at Bath and the end of Roman Britain', *The Antiquaries Journal* 87, 148-164.
- Gerrard, J (2008) 'Feeding the army from Dorset: pottery, salt and the Roman state' in S Stallibrass and R Thomas (eds) *Feeding the Roman Army; The Archaeology of Production and Supply in NW Europe*, 116-127. Oxford, Oxbow.
- Gibbon, E (1776) *The history of the decline and fall of the Roman Empire; second edition, volume one*. London, Strahan and Cadell
- Gietl, R, Doneus, M and Fera, M (2008) 'Cost distance analysis in an alpine environment: comparison of different cost surface modules' in A Posluschny, K Lambers, and I Herzog (eds) *Layers of Perception: Proceedings of the 35<sup>th</sup> international conference on Computer Applications and Quantitative methods in Archaeology (CAA) Berlin, Germany, April 2-6, 2007*, 342-350. Bonn, Dr. Rudolf Habelt GmbH.
- Giles, M (2007) 'Good fences make good neighbours? Exploring the ladder enclosures of late Iron Age East Yorkshire' in C Haselgrove and T Moore (eds), *The Later Iron Age in Britain and Beyond*, 235-249. Oxford, Oxbow Books.
- Gillings, M and Goodrick, G T (1996) 'Sensuous and reflexive GIS: exploring visualisation and VRML', *Internet Archaeology* 1.

- Gillings, M, Pollard, J, Wheatley, D, and Peterson, R (2008) *Landscape of the Megaliths; Excavation and Fieldwork on the Avebury Monuments, 1997-2003*. Oxford, Oxbow.
- Goodchild, H (2007) *Modelling Roman Agricultural Production in the Middle Tiber Valley, Central Italy*. Unpublished PhD thesis, University of Birmingham.
- Gosden, C and Lock, G (1998) 'Prehistoric Histories', *World Archaeology* 30 (1), 2-12.
- Green, C M C (1996) 'Did the Romans hunt?', *Classical Antiquity* 15 (2), 222-260.
- Greider, T and Garkovich, L (1994) 'Landscapes: the social construction of nature and the environment', *Rural Sociology* 59 (1), 1-24.
- Grinsell, L V (1957) 'Archaeological gazetteer' in R G Pugh and E Crittall (eds) *Victoria County History of Wiltshire Vol 1*, 21-272. London, Oxford University Press.
- Hall, A R, Kenward, H K and Williams, D (1980) *Environmental Evidence from Roman Deposits in Skeldergate; The Archaeology of York: The Past Environment of York; AY 14/3*. York, Council for British Archaeology.
- Hanson, W S and Connolly, R (2002) 'Language and literacy in Roman Britain; some archaeological considerations' in A Cooley (ed) *Becoming Roman, Writing Latin; Journal of Roman Archaeology Supplementary series 38*, 151-164. Portsmouth, Rhode Island, Journal of Roman Archaeology.
- Harvey, D (1996) *Justice, nature and geography of difference*. Oxford, Blackwell.
- Haverfield, F (1923) *The Romanization of Roman Britain (4<sup>th</sup> edition)*. Oxford, Clarendon Press.
- Henig, M (1996) 'Sceptre head' in M Rawling and A P Fitzpatrick (1996) 'Prehistoric and Romano-British Settlement at Butterfield Down, Amesbury', *Wiltshire Archaeology and Natural History Magazine* 89, 35-36.
- Henig, M (2010) *The Heirs of King Verica; Culture and Politics in Roman Britain; Revised*



edition. Stroud, Amberley Publishing.

Hesse, R (2010) 'LiDAR derived local relief models; a new tool for archaeological prospection', *Archaeological Prospection* 17 (2), 67-72.

Himmelfarb, G (1987) *The new history and the old*. Cambridge, Mass., Belknap Press of Harvard University Press.

Hingley, R (1989) *Rural Settlement in Roman Britain*. London, Seaby.

Hingley, R (2000) *Roman Officers and English Gentlemen; The Imperial Origins of Roman Archaeology*. London, Routledge.

Hingley, R (2006) 'The deposition of iron objects in Britain during the later prehistoric and Roman periods: contextual analysis and the significance of iron', *Britannia* 37, 213-257.

Hingley, R (2007) 'The Roman landscape of Britain: from Hoskins to today' in A Fleming and R Hingley (eds) *Prehistoric and Roman Landscapes; Landscape History after Hoskins, Volume 1*, 101-112. Macclesfield, Windgather Press.

Hitchner, R B (1993) 'Olive production and the Roman economy: the case for intensive growth in the Roman Empire', in M-C Amouretti and J-P Brun (eds) *La production du vin et de l'huile en Méditerranée*, 499-503. Athens, École Française d'Athènes. Reprinted 2002 in W Scheidel and S von Reden (eds) *The Ancient Economy*, 71-83. London, Routledge.

Hodder, I R (1972) 'Locational models and the study of Romano-British settlements' in D L Clarke (ed) *Models in Archaeology*, 887-907. London, Routledge.

Hodder, I R and Millett, M (1980) 'Romano-British villas and towns; a systematic analysis' *World Archaeology* 12, 69-76.

Hood, B C (1988) 'Sacred pictures, sacred rocks; Ideological and social space in the North Norwegian Stone Age', *Norwegian Archaeological Review* 21 (2), 65-84.

Hopkins, K (1995/6) 'Rome, taxes, rents and trade', *Kodai: Journal of Ancient History* VI/VII,

41-75. Reprinted 2001 in W Scheidel and S von Reden (eds) *The Ancient Economy*, 190-230. London, Routledge.

Horden, P and Purcell, N (2000) *The Corrupting Sea; A study of Mediterranean history*. Oxford, Blackwell.

Hoskins, W G (1955) *The Making of the English Landscape*. London, Hodder and Stoughton.

Howard, A J (2005) 'The contribution of geoarchaeology to understanding the environmental history and archaeological resources of the Trent Valley, U.K', *Geoarchaeology* 20 (2), 93-107.

Howard, A J and Macklin, M G (1999) 'A generic geomorphological approach to archaeological interpretation and prospection in British river valleys: a guide for archaeologists investigating Holocene landscapes', *Antiquity* 73 (281), 527-541.

Hunter-Blair, P (1969) *Roman Britain and Early England; 55BC-871AD*. London, Nelson and Sons.

Ingold, T (1993) 'The temporality of the landscape', *World Archaeology* 25 (2), 152-174

Isaksen, L (2008) 'The application of network analysis to ancient transport geography: A case study of Roman Baetica', *Digital Medievalist* 4.

Jackson, R (1990) 'Water and spas in the classical world', *Medical History* 10, 1-13.

James, D J (2010) 'Settlement in the hinterland of *Sorviodunum*: a review', *WANHM* 103, 142-180.

James, S (2001) "'Romanization' and the peoples of Britain' in S Keay and N Terrenato (eds) *Italy and the West; Comparative Issues in Romanization*, 187-209. Oxford, Oxbow.

James, T B and Gerrard, C M (2007) *Clarendon: Landscape of Kings*. London, Windgather

Jeskins, P (1998) *The Environment and the Classical World*. Bristol, Classical Press.

- Jessop, B, Brenner, N and Jones, M (2008) 'Theorizing sociospatial relations', *Environmental Planning D: Society and Space* 26, 389-401.
- Johansen, P G (2010) 'Site maintenance practices and settlement social organisation in Iron Age Karnataka, India: inferring settlement places and landscape from surface distributions of ceramic assemblage attributes', *Journal of Anthropological Archaeology* 29 (4), 432-454.
- Johnson, M H (2007) *Ideas of Landscape*. Oxford, Blackwell.
- Jones, J E (2009) *The Maritime and Riverine Landscape of the West of Roman Britain; Water transport on the Atlantic coasts and rivers of Britannia; BAR British Series 493*. Oxford, Oxbow.
- Jones, M (2009) 'Phase space: geography, relational thinking and beyond', *Progress in Human Geography* 33 (4), 487-506.
- Jorda, M and Provansal, M (1993) 'Des Alpilles a la Sainte-Victoire : un espace physique original' in P Leveau and M Provansal (eds) (1993) *Archéologie et environnement: de la Sainte-Victoire aux Alpilles*, 13-16. Aix-en-Provence, Université de Provence.
- Karl, R (2008) 'Random coincidences or: the return of the 'Celtic' to Iron Age Britain', *Proceedings of the Prehistoric Society* 74, 69-78.
- Keay, S and Terrenato, N (2001) 'Preface' in S Keay and N Terrenato (eds) *Italy and the West; Comparative Issues in Romanization*, ix-xii. Oxford, Oxbow.
- Keay, S, Earl, G, Hay, S, Kay, S, Ogden, J and Strutt, K (2009) 'The role of Integrated Geophysical Survey in the Assessment of Archaeological Landscapes: the case of Portus', *Archaeological Prospection* 16, 154-166.
- King, A (1999) 'Meat diet in the Roman world; a regional inter-site comparison of the animal bones', *Journal of Roman Archaeology* 12, 168-202.
- King, A (2005) 'Animal remains from temples in Roman Britain', *Britannia* 36, 329-369.

- Knapp, A B (1992) 'Archaeology and *Annales*: time, space and change', in A B Knapp (ed) *Archaeology, Annales, and Ethnohistory*, 1-22. Cambridge, Cambridge University Press.
- Knappett, C & Malafouris, L (eds) (2008). *Material Agency: Towards a Non-Anthropocentric Approach*. New York, Springer.
- Lake, J and Edwards, B (2006) 'Farmsteads and landscape: towards an integrated view', *Landscapes* 7 (1), 1-36.
- Land Use Consultants (2003) *Cranbourne Chase and West Wiltshire Downs AONB; Integrated Landscape Character Assessment*. London, Land Use Consultants.
- Latour, B (2005) *Reassembling the Social; An Introduction to Actor-Network theory*. Oxford, Oxford University Press.
- Laurence, R (1994) *Roman Pompeii; Space and Society*. London, Routledge.
- Lawson, A J (2007) *Chalkland; an archaeology of Stonehenge and its region*. Salisbury, Hobnob.
- Leech, R (1982) 'The Roman interlude in the south-west: the dynamics of economic and social change in Romano-British Somerset and North Dorset' in D Miles (ed) *The Romano-British Countryside; Studies in Rural Settlement and Economy (Part i); BAR British Series 103(i)*, 209 – 229. Oxford, Archaeopress.
- Leguilloux, M (1997) 'A propos de la charcuterie en Gaule romaine; un exemple à Aix-en-Provence (TAC Sextius-Mirabeau)', *Gallia* 54, 239-259.
- Lenssen-Erz, T and Linstädler, J (2009) 'Resources, use potential and basic needs; a methodological framework for landscape archaeology' in M Bollig and O Bubenzer (eds) *African Landscapes; Interdisciplinary Approaches; Studies in Human Ecology and Adaptation*, 159-197. Dordrecht, Springer.
- Leonard, A (2011) 'Vikings in the Prehistoric landscape : studies on mainland Orkney',

*Landscapes* 12(1), 42-68.

Leveau, P (1983) 'La ville antique et l'organisation d'espace rural : villa, ville, village', *Annales. Economies, Sociétés, Civilisations* 38 (4), 920-942.

Leveau, P (1984) *Caesarea de Maurétanie; Une Ville Romaine et ses Campagnes*. Rome, French School at Rome.

Leveau, P (1990) 'L'occupation du sol dans les montagnes méditerranéennes pendant l'Antiquité: apport de l'archéologie des paysages à la connaissance historique' in G Fabre (ed) *La montagne dans l'Antiquité: actes du colloque de la SOPHAU, Pau, mai 1990; Cahiers de l'Université de Pau. vol. 23*, 5-38. Pau, Publications de l'Université de Pau.

Leveau, P (1999) 'L'hydrologie du Rhône, les aménagements du chenal et la gestion territorial et ses plaines en aval d'Orange', *Gallia* 56, 99-108.

Leveau, P (2000) 'Du site au réseau. Archéologie, géographie spatial ou géographie historique' in M Pasquinucci and F Trément (eds) *Non-Destructive Techniques Applied to Landscape Archaeology; The Archaeology of Mediterranean Landscapes 4*, 272-276. Oxford, Oxbow.

Leveau, P (2002) 'L'habitat rural dans la Provence antique ; villa, vicus et mansio. Etudes de cas', *Revue archéologique de Narbonnaise* 35, 59-92.

Leveau, P (2003) 'L'oléiculture en Gaule Narbonnaise : données archéologiques et paléoenvironnementales. Présentation – interprétation', *Revue archéologique de Picardie* 1 (2), 299-308.

Leveau, P (2004a) 'La cité romain d'Arles et le Rhône: la romanisation d'un espace deltaïque', *American Journal of Archaeology* 108 (3), 349-375.

Leveau, P (2004b) 'Le Rhone et les Romains, 'terrassiers infatigables, hydrauliciens habiles'. La geoarchéologie et le renouvellement d'un paradigme' in J Burnouf and P Leveau (eds) *Fleuves et marais, une histoire croisement de la nature et de la culture*, 85-91. Paris, Comite

de travaux historiques et scientifiques.

Leveau, P (2005) 'L'archéologie du paysage et l'antiquité classique', *Agri Centuriati* 2, 9-24.

Leveau, P (2006) 'Les aqueducs d'Aquae Sextiae et la gestion de l'eau sur le territoire de la cité' in F Mocci and N Nin (eds) *Aix-en-Provence, Pays d'Aix, Val de Durance; Carte Archeologique de la Gaule 13/4*, 93-109. Paris, Académie des inscriptions et Belles-Lettres.

Leveau, P (2008) 'La ville Romaine alpine dans son contexte environnemental : géoarchéologie et histoire du climat dans les Alpes' in P Leveau and B Rémy (eds) *La ville des Alpes occidentales à l'époque Romaine*, 47-99. Grenoble, Cahiers du CRHIPA.

Leveau, P and Palet-Martinez, J M (2010) 'Les Pyrénées romaines, la frontière, la ville et la montagne. L'apport de l'archéologie du paysage', *Pallas* 82,171-198.

Leveau, P and Provansal, M (eds) (1993) *Archéologie et environnement: de la Sainte-Victoire aux Alpilles*. Aix-en-Provence, Université de Provence.

Leveau, P, Tremont, F, Walsh, K and Barker, G (eds) (1999) *Environmental Reconstruction in Mediterranean Landscape Archaeology*. Oxford, Oxbow.

Levick, B (1987) 'Urbanization in the eastern Empire' in J Wachter (ed) *The Roman World*, 329-344. London, Routledge.

Lewit, T (2002) *Agricultural production in the Roman economy, AD 200-400. BAR International Series 568*. Oxford, Archaeopress.

Liebshuetz, J H W G (1987) 'Government and administration in the late Empire (to AD 476)', in J Wachter (ed) *The Roman World*, 455-469. London, Routledge.

Llobera, M (2003) 'Extending GIS based analysis: the concept of visualscape', *International Journal of Geographic Information Science* 1(17),1-25.

Llobera, M (2007) 'Reconstructing visual landscapes', *World Archaeology* 39 (1), 51-69.

- Llobera, M (2011) 'Order in movement: a GIS approach to accessibility', *Journal of Archaeological Science* 38, 843-851.
- Lolos, Y, Gourley, B, and Stewart, D (2007) The Sikyon survey project: a blueprint for urban survey, *Journal of Mediterranean Archaeology* 20 (2), 267-296
- Macphail, R I, Cruise, G M, Allen, M J, Linderholm, J and Reynolds, P (2004) 'Archaeological soil and pollen analysis of experimental floor deposits; with special reference to Butser Ancient Farm, Hampshire, UK', *Journal of Archaeological Science* 31, 175-191.
- Manning, B. (1972) "Ironwork hoards in Iron Age and Roman Britain", *Britannia* 3, 224-250
- Manning, S W (1988) 'The Bronze Age eruption of Thera: absolute dating, Aegean chronology and Mediterranean cultural interrelations', *Journal of Mediterranean Archaeology* 1 (1), 17-82.
- Manning, S W (1999) *A Test of Time; The Volcano of Thera and the chronology and history of the Aegean and east Mediterranean in the mid second millennium BC*. Oxford, Oxbow.
- Margary, I D (1973) *The Roman Roads of Britain; 3<sup>rd</sup> Edition*. London, J Baker.
- Marty, F, Mocci, F and Walsh, K (2005) 'Le Pays d'Aix à l'Age du Fer; Montagne Sainte-Victoire et haute vallée de l'Arc', *L'Archeologue* 79, 27-30.
- Mason, J (2007) 'Animals: from souls and the sacred in Prehistoric times to symbols and slaves in antiquity' in L Kalof (ed) *A Cultural History of Animals in Antiquity*, 17-46. Oxford, Berg.
- Mattingly, D (1988) 'Oil for export? A comparison of Libyan, Spanish and Tunisian olive oil production in the Roman Empire', *Journal of Roman Archaeology* 1, 33-56.
- Mattingly, D (ed) (1997) *Dialogues in Roman Imperialism; Power, discourse and discrepant experience in the Roman Empire*. Portsmouth (Rhode Island), Journal of Roman Archaeology.

- Mattingly, D (2006) *An Imperial Possession; Britain in the Roman Empire*. London, Penguin.
- Mattingly, D (2011) *Imperialism, Power and Identity; Experiencing the Roman Empire*. Princeton, Princeton University Press.
- Mattingly, D and Salmon, J (2001) 'Introduction; the productive past' in D J Mattingly and J Salmon (eds) *Economies Beyond Agriculture in the Classical World*, 1-14. London, Routledge.
- McCarthy, M R (1995) 'Archaeological and environmental evidence for the Roman impact on vegetation near Carlisle, Cumbria', *The Holocene* 5, 491-495.
- McOmish, D, Field, D and Brown, D (2002) *The Field Archaeology of the Salisbury Plain Training Area*. Swindon, English Heritage.
- McWhirr, A (1987) 'Transport by land and water' in J Wachter (ed) *The Roman World*, 658-667. London, Routledge.
- Mellor, I (2005) 'Space, society and the textile mill', *Industrial Archaeology Review* 27 (1), 49-56.
- Meskell, L (1998) 'An archaeology of social relations in an Egyptian village', *Journal of Archaeological Method and Theory* 5(3), 209-243.
- Mitcham, J (2002) 'In search of a defensible site: a GIS analysis of Hampshire hillforts' in D Wheatley, G Earl and S Poppy (eds) *Contemporary Themes in Archaeological Computing*, 73-81. Oxford, Oxbow.
- Mocci, F (unpub. a) 'Prospection-inventaire et évaluation du patrimoine archéologique; Rapport 1992, Programme 1993-1994'. Consulted digital copy forwarded by F Mocci, 2012.
- Mocci, F (unpub. b) 'Rapport ATP 1993'. Consulted digital copy forwarded by F Mocci, 2012.
- Mocci, F (unpub. c) 'Prospection-inventaire et évaluation du patrimoine archéologique sur la commune de Puyloubier; Rapport ATP 1994'. Consulted digital copy forwarded by F Mocci, 2012.



- Mocci, F (unpub. d) *Richeaume XIII ; Opération Archéologique Pluriannuelle 2010-2012 ; Rapport Intermédiaire 2011*. Unpublished interim report, CNRS.
- Mocci, F and Nin, N (eds) (2006) *Aix-en-Provence, Pays d'Aix, Val de Durance; Carte Archeologique de la Gaule 13/4*. Paris, Académie des inscriptions et Belles-Lettres.
- Mocci, F, Walsh, K and Dumas, V (2004) 'Perception d'un paysage marginal en Basse Provence: las montagne Sainte-Victoire et ses piémonts méridionaux, de la Protohistoire à la fin de l'Antiquité', *Mediterrannée* 1-2, 85-94.
- Mocci, F, Walsh, K, Dumas, V, Gassend, J-M, Allinne, C, Badie, A, Miramont, C, Paillet, J-L and André, C (2005) 'Aqueduc et structures hydrauliques de la villa de Richeaume I à Puylobier (Bouches-du-Rhône)', *Gallia* 62, 147-160.
- Moore, T (2011) 'Detribalizing the later prehistoric past; concepts of tribes in Iron Age and Roman studies', *Journal of Social Archaeology* 11 (3), 334-360.
- Moorhead, T S N (2001a) 'Roman coin finds from Wiltshire' in P Ellis (ed) (2001) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 85-106. Devizes, Wiltshire Archaeological and Natural History Society.
- Moorhead, T S N (2001b) '*Roman Coin Finds from Wiltshire*' Unpublished MPhil thesis, UCL.
- Moorhead, T S N (2009) 'Three Roman coin hoards from Wiltshire terminating in coins of Probus (AD 276-82)', *WANHM* 102, 150-159.
- Mudd, A (2007) *Bronze Age, Roman and later occupation at Chieveley, West Berkshire; The archaeology of the A34/M4 road junction improvement; BAR British Series 433*. Oxford, Archaeopress.
- Murphy, P, Albarella, U, Germany, M and Locker, A (2000) 'Production, imports and status: biological remains from a late Roman farm at Great Holts Farm, Boreham, Essex, UK', *Environmental Archaeology* 5, 35-48.

- Nicolet, C (1988) *L'inventaire du monde: géographique et politique aux origines de l'Empire romain*. Paris, Fayard.
- Neill, S (2008) *The archaeology of destruction: a Roman perspective*. MA Thesis. Ann Arbor, MI, UMI.
- Nieto-Moreno, V, Martinez-Ruiz, F, Giralt, S, Jiménez-Espejo, F, Gallego-Torres, E, Rodrigo-Gamiz, M, Garcia-Orellana, J, Ortega-Huertas, M, and de Lange, G J (2011) 'Tracking climatic variability in the western Mediterranean during the Late Holocene: a multi-proxy approach', *Climate of the Past* 7, 1395-1414.
- O'Connor, T (2013) *Animals as Neighbours: the past and present of commensal species*. East Lansing, Michigan State University Press.
- Parker, A, Lucas, A S, Walden, J, Goudie, A S, Robinson, M A, Allen, T G (2008) 'Late Holocene geoarchaeological investigation of the middle Thames floodplain at Dorney, Buckinghamshire, UK; An evaluation of the Bronze Age, Iron Age, Roman and Anglo-Saxon landscapes.', *Geomorphology* 101, 471-483.
- Parker-Pearson, M (1999) 'Food, sex and death: cosmologies in the British Iron Age with particular reference to East Yorkshire' *Cambridge Archaeological Journal*, 9 (1), 43-69.
- Parker-Pearson, M and Richards, C (eds) (1994) *Architecture and Order; Approaches to Social Space*. London, Routledge.
- Pearson, A F (2006) *The work of giants: stone and quarrying in Roman Britain*. Stroud, Tempus.
- Percival, J (1987) 'The villa in Italy and the provinces' in J Wachter (ed) *The Roman World*, 527-554. London, Routledge.
- Perez, B (2006) 'Etat de la documentation et des connaissances sur les pratiques funéraires du val de Durance et du Pays d'Aix' in F Mocci and N Nin (eds) *Aix-en-Provence, Pays d'Aix, Val de Durance; Carte Archeologique de la Gaule* 13/4, 121-123. Paris, Académie des

inscriptions et Belles-Lettres.

Perring, D (2005) 'Domestic architecture and social discourse in Roman towns' in A MacMahon and J Price (eds) *Roman Working Lives and Urban Living*, 18-28. Oxford, Oxbow.

Peterson, J W M (1988) 'Roman cadastres in Britain 1: south Norfolk A', *Dialogues d'histoire ancienne* 14, 167-199.

Pitts, M (2005) 'Pots and pits: drinking and deposition in late Iron Age southern Britain', *Oxford Journal of Archaeology* 24 (2), 143-161.

Pitts, M (2008) 'Globalizing the local in Roman Britain; an anthropological approach to social change', *Journal of Anthropological Archaeology* 27, 493-506.

Poblome, J (2004) 'Comparing ordinary craft production; textile and pottery production in Roman Asia Minor', *Journal of the Economic and Social History of the Orient* 47 (4), 491-506.

Pott, J (1977) *Old Bungalows in Bangalore*. London, Self-Published.

Potter, D S (2004) *The Roman Empire at Bay*. London, Routledge.

Powell, K, Smith, A and Laws, G (eds) (2010) *Evolution of a farming community in the Upper Thames Valley; Excavation of a Prehistoric, Roman and Post-Roman landscape at Cotswold Community, Gloucestershire and Wiltshire; Volume 1: Site Narrative and Overview*. Oxford, Oxford Archaeology.

Provansal, M (1995) The role of climate in landscape morphogenesis since the Bronze Age in Provence, southeastern France', *The Holocene* 5, 348-353.

Provansal, M (2000) 'La Vallée des Baux dans ses relations avec le Rhone' in P Leveau and J P Saquet (eds) *Milieu et sociétés dans la Vallée des Baux ; études présentées au colloque de Mouries; Revue Archéologique de Narbonnaise – Supplément 31*, 9-14. Montpellier, l'Association de la Revue Archéologique Narbonnaise.

Purcell, N (1996) 'Rome and the management of water: environment, culture and power' in

- G Shipley and J Salmon (eds) *Human Landscapes in Classical Antiquity; Environment and Culture*, 180-212. London, Routledge.
- Rackham, O (1996) 'Ecology and pseudo-ecology' in G Shipley and J Salmon (eds) *Human Landscapes in Classical Antiquity; Environment and Culture*, 16-43. London, Routledge.
- Rahtz, P and Morley-Hewitt, A T (1963) 'A Roman villa at Downton, Wiltshire', *WANHM* 58, 303-41.
- Rainsford, C and Chipping, E (unpub.) 'Teffont excavations 2012 & 2013: the faunal remains', Unpublished interim assessment report, Teffont Archaeology Project.
- Rainsford, C and Roberts, D (2013) 'Taboo or not taboo? Fish, wealth and landscape in Iron Age Britain', *Archaeological Review from Cambridge* 28 (2), 32-47.
- Rawling, M and Fitzpatrick, A P (1996) 'Prehistoric and Romano-British settlement at Butterfield Down, Amesbury', *WANHM* 89, 1-43.
- Redfern, R C, Hamlin, C, Athfield N B (2010) 'Temporal change in diet: a stable isotope analysis of late Iron Age and Roman Dorset, Britain' *Journal of Archaeological Science* 37, 1149-1160.
- Redfern, R C, Millard, A R and Hamlin, C (2012) 'A regional investigation of sub-adult dietary patterns and health in Late Iron Age and Roman Dorset, England', *Journal of Archaeological Science* 39, 1249-1259.
- Rees, S (1987) 'Agriculture and horticulture' in J Wachter (ed) *The Roman World*, 481-503. London, Routledge.
- Retallack, G J (2008) 'Rocks, views, soils and plants at the temples of ancient Greece', *Antiquity* 82, 640-657.
- Retief, F and Cilliers, L (2006) 'Lead poisoning in ancient Rome', *Acta Theriologica* 26(2), 147-164.

- Reynolds, P J (1999) 'The nature of experiment in archaeology' in Harding, A F (ed) *Experiment and Design in Archaeology; Papers in honour of John Coles*, 156-162. Oxford, Oxbow.
- Reynolds, P J and Langley, J K (1979) 'Romano-British corn-drying oven: an experiment', *Archaeological Journal* 136, 27-42.
- Richards, M P, Hedges, R E M, Molleson T I and Vogel, J C (1998) 'Stable isotope analysis reveals variations in human diet at Poundbury Camp cemetery site', *Journal of Archaeological Science* 25, 1247-1252.
- Richmond, I A (1963) *Roman Britain (2<sup>nd</sup> Edition)*. Harmondsworth, Penguin.
- Riley, D (1996) *Aerial archaeology in Britain*. Princes Risborough, Shire.
- Rippon, S (2000) *Transformation of Coastal Wetlands; exploitation and management of marshland landscapes in north-west Europe during the Roman and Medieval periods*. Oxford, Oxford University Press.
- Rippon, S, Smart, C, Pears, B and Fleming, F (2013) 'Fields of Britannia; continuity and discontinuity in the *pays* and regions of Roman Britain', *Landscapes* 14 (1), 33-53.
- Robbins, K (2013) 'Balancing the scales: exploring the variable effects of collection bias on data collected by the Portable Antiquities Scheme', *Landscapes* 14(1), 54-72.
- Roberts, C (2009) *Human Remains in Archaeology: a handbook*. York, Council for British Archaeology.
- Roberts, D (2010) *Developing a sampling strategy to obtain data for a holistic GIS landscape methodology*. Unpublished MA thesis, University of York.
- Roberts, D (2014) *PASt Landscapes Project Design*. Unpublished project design, PASt Landscapes Project.
- Roberts, D (in prep. a) 'Teffont Archaeology Project interim report on fieldwork conducted

in 2012'. Unpublished interim report, Teffont Archaeology Project.

Roberts, D (with contributions from Venn, R, Rainsford, C, Griffiths, R, Stewart, J, Robson, H J, and Radini, A E) (in prep. b) 'A Roman settlement in Glebe field, Teffont Evias'.

Robinson, P (2001) 'Religion in Roman Wiltshire' in P Ellis (ed) (2001) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 147-164. Devizes, Wiltshire Archaeological and Natural History Society.

Roebuck, D (2006) 'The Prehistory of dispute resolution in England', *Arbitration* 72, 93-103.

Rogers, A (2007) 'Beyond the economic in the Roman fenland: reconsidering land, water, hoards and religion' in A Fleming and R Hingley (eds) *Prehistoric and Roman Landscapes; Landscape History after Hoskins, Volume 1*, 113-130. Macclesfield, Windgather.

Rogers, A (2008) 'Religious place and its interaction with urbanization in the Roman era', *Journal of Social Archaeology* 8 (1), 37-62.

Roskams, S (2006) 'The urban poor; finding the marginalised', *Late Antique Archaeology* 3 (1), 487-531.

Roskams, S (forthcoming) 'Food for thought; the potential and problems of faunal evidence for interpreting Late antique society', *Late Antique Archaeology* 9, 513-552.

Roskams, S, Neal, C, Richardson, J and Leary, R (2013) 'A late Roman well at Heslington East, York; ritual or routine practice?', *Internet Archaeology* 34.

Rosser, J J (1981) 'Wine and oil processing at Roman farms in Italy', *Phoenix* 35 (4), 345-361.

Rudling, D R (1982) 'Rural settlement in late Iron age and Roman Sussex' in D Miles (ed) *The Romano-British Countryside; Studies in Rural Settlement and Economy (Part ii); BAR British Series 103(ii)*, 269- 287. Oxford, Archaeopress.

Rywert, J (1976) *The idea of a town: the anthropology of urban form in Rome, Italy and the*

*ancient world*. London, Faber and Faber.

Scheidel, W (2001) 'Progress and problems in Roman demography' in W Scheidel (ed) *Debating Roman Demography*, 1-82. Leiden, Brill.

Segard, M (2009a) 'Pastoralism, rural economy and landscape evolution in the western Alps', *Journal of Roman Archaeology* 20 (1), 170-182.

Segard, M (2009b) *Les Alpes Occidentales Romaines; développement urbain et exploitation des ressources des régions de montagne (Gaule Narbonnaise, Italie, provinces alpines)*, Aix-en-Provence, Bibliothèque d'Archéologie Méditerranéen et Africaine.

Serjeantson, D and Morris, J (2011) 'Ravens and crows in Iron Age and Roman Britain', *Oxford Journal of Archaeology* 30 (1), 85-107.

Shelton, J (2007) 'Beastly spectacles in the ancient Mediterranean world' in L Kalof (ed) *Cultural History of Animals in Antiquity*, 97-126. Oxford, Berg.

Sherratt, A G (1992) 'What can archaeologists learn from Annalistes?' in A B Knapp (ed) *Archaeology, Annales, and Ethnohistory*, 135-142. Cambridge, Cambridge University Press.

Sherratt, A G (1995) 'Reviving the grand narrative: archaeology and long term change', *Journal of European Archaeology* 3, 1-32.

Sherratt, A G (1996) 'Why Wessex? The Avon route and river transport in later British prehistory', *Oxford Journal of Archaeology* 15 (2), 211-234.

Simmons, I G (1993) *Interpreting Nature: Cultural Constructions of the Environment*. London, Routledge.

Sindbæk, S M (2007) 'Networks and nodal points. The emergence of towns in early Viking Age Scandinavia', *Antiquity* 81, 119-132.

Smith, A (2014) 'Roman Rural Settlement project; preliminary results from the south-west; settlement forms and architecture' Powerpoint presentation, accessed online at

[http://www.reading.ac.uk/web/FILES/archaeology/SW\\_seminar\\_settlement\\_Smith.pdf](http://www.reading.ac.uk/web/FILES/archaeology/SW_seminar_settlement_Smith.pdf) on 20/9/14.

Smith, A H V (1996) 'Provenance of coal from Roman sites in Britain in U.K. counties bordering River Severn and its estuary and including Wiltshire', *Journal of Archaeological Science* 23, 373-389.

Sorensen, M L S (2008) 'How are we Europeans? At the crossroads of discourse and practice', *Archaeological Dialogues* 15, 53-55.

Stevens, C (2003) 'An investigation of agricultural production and consumption models for Prehistoric and Roman Britain', *Environmental Archaeology* 8, 61-76.

Swenson, E (2012) 'Moche ceremonial architecture as thirdspace: The politics of place-making in the ancient Andes', *Journal of Social Archaeology* 12 (1), 3-28.

Sykes, N (2004) 'Worldviews in transition: the impact of exotic plants and animals on Iron Age / Romano-British landscapes', *Landscapes* 10 (2), 19-36.

Sykes, N (2010) 'Deer, land, knives and halls; social change in early Medieval England', *The Antiquaries Journal* 90, 175-193.

Taylor, C C (1982) 'The nature of Romano-British settlement studies – what are the boundaries?' in D Miles (ed) *The Romano-British Countryside; Studies in Rural Settlement and Economy (Part i); BAR British Series 103(i)*, 1-15. Oxford, Archaeopress.

Taylor, J (2011) 'The idea of the villa. Reassessing villa development in south-east Britain' in N Roymans and T Derks (eds) *Villa Landscapes in the Roman North; Economy, culture and lifestyles*, 179-194. Amsterdam, Amsterdam University Press.

Temin, P (2001) 'A market economy in the early Roman Empire', *The Journal of Roman Studies* 91, 169-181.

Temin, P (2004) 'The labour market of the early Roman Empire', *Journal of Interdisciplinary*



*History* 34 (4), 518-538.

Temin, P (2006) 'The economy of the early Roman Empire', *Journal of Economic Perspectives* 20 (1), 133-151.

Tereso, J P, Ramil-Rego, P, Pires de Carvalho, T, Almeida da Silva, R, and Costa Vaz, F (2013) 'Crops and fodder; evidence for storage and processing activities in a functional area at the Roman settlement of Monte Mozinho (northern Portugal)', *Veget. Hist. Archaeobot.* 22, 479-492.

Tilley, C (1994) *A Phenomenology of Landscape: Places, Paths and Monuments*. Oxford, Berg.

Timby, J (2001) 'A reappraisal of Savernake ware' in P Ellis (ed) *Roman Wiltshire and After; Papers in honour of Ken Annable*, 73-84. Devizes, Wiltshire Archaeological and Natural History Society.

Thomas, A C (1966) *Rural Settlement in Roman Britain; CBA Research Report 7*. London, Council for British Archaeology.

Thomas, J (1993) 'The politics of vision and the archaeologies of landscape' in B Bender (ed) *Landscape, Politics and Perspectives*, 19-48. Providence (RI), Berg.

Touflan, P, Talon, B and Walsh, K (2010) 'Soil charcoal analysis: a reliable tool for spatially precise studies of past forest dynamics: a case study in the French southern Alps', *The Holocene* 20, 45-52.

Toynbee, J M C (1971) *Death and Burial in the Roman World*. London, Thames and Hudson.

Tress, G, Tress, B, Fry, G, Opdam, P, Ahern, J, Antrop, M, Hartig, T, Hobbs, R, Miller, D, Silbernagel, J, Winder, N (2005) 'Considerations for future education in integrative landscape research' in B Tress, G Tress, G Fry and P Opdam (eds) *From Landscape Research to Landscape Planning; Aspects of Integration, Education and Application*, 423-432. Springer, Dordrecht.

Unger, R W (2004) *Beer in the Middle Ages and the Renaissance*. Philadelphia, PA, University of Pennsylvania Press.

Wainwright, G (1968) 'The excavation of a Durotrigian farmstead near Tollard Royal', *Proceedings of the Prehistoric Society* 34, 102-147.

Wallerstein, I (1974) *The Modern World-System: Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century*. New York, Academic Press.

Walsh, K (2004) 'Caring about sediments: the role of cultural geoarchaeology in Mediterranean landscapes', *Journal of Mediterranean Archaeology* 17, 223-245.

Walsh, K (2005) 'Risk and marginality at high altitudes: new interpretations from fieldwork on the Faravel Plateau, Hautes-Alpes', *Antiquity*, 79 (304), 289-305.

Walsh, K (2008) 'Mediterranean landscape archaeology; marginality and the culture-nature 'divide'', *Landscape Research* 33 (5), 547-564.

Walsh, K (2013) *The Archaeology of Mediterranean Landscapes: Human-Environment interaction from the Neolithic to the Roman period*. Cambridge, Cambridge University Press.

Walsh, K and Mocci, F (2003) 'Fame and marginality: the archaeology of the Montagne Sainte Victoire (Provence, France)' *The American Journal of Archaeology* 107 (1) 51-70.

Webster, J (2001) 'Creolising Roman Britain' *American Journal of Archaeology*. 105 (2), 209-225.

Webster, J (2005) 'Archaeologies of slavery and servitude: bringing 'new world' perspectives to Roman Britain', *Journal of Roman Archaeology* 18 (1), 161-179.

Wertime, T A (1983) 'The furnace versus the goat; the pyrotechnologic industries and Mediterranean deforestation in antiquity', *Journal of Field Archaeology* 10 (4), 445-452.

Wheatley, D and Gillings, M (2000) 'Vision, perception and GIS; developing enriched approaches to the study of archaeological visibility' in G Lock (ed) *Beyond the Map:*

*Archaeology and Spatial Technologies*, 1-27. Amsterdam, IOS Press.

Wheatley, D, and Gillings, M (2002) *Spatial Technology and Archaeology; The Archaeological Applications of GIS*. London, Taylor and Francis.

White, K (1970) 'Following, crop rotation and crop yields in Roman times', *Agricultural History* 44 (3), 281-290.

Willcox, GH (1977) 'Exotic plants from Roman waterlogged sites in London', *Journal of Archaeological Science* 4, 269-282.

Williams, H (1997) 'Ancient landscapes and the dead; reuse of prehistoric and Roman monuments as early Anglo-Saxon burial sites', *Medieval Archaeology* 41, 1-32.

Williams, H (1998) 'The ancient monument in Romano-British ritual practices' in C Forcey, J Hawthorne and R Witcher (eds) *TRAC 97; Proceedings of the Seventh Annual Theoretical Roman Archaeology Conference*, 71-87. Oxford, Oxbow.

Williams, H (2004) 'Potted histories; cremation, ceramics and social memory in early Roman Britain', *Oxford Journal of Archaeology* 23 (4), 417-427.

Willis, S. (2007) 'Sea, coast, estuary, land and culture in Iron Age Britain', in C Haselgrove and T Moore (eds) *The Later Iron Age in Britain and Beyond*, 107-29. Oxford, Oxbow.

Witcher, R E (1998) 'Roman roads: phenomenological perspectives on roads in the landscape' in C Forcey, J Hawthorne and J Witcher (eds) *TRAC 97; Proceedings of the Theoretical Roman Archaeological Conference, Nottingham, 1997*, 60-70. Oxford, Oxbow.

Woodward, P and Woodward, A (2004) 'Dedicating the town; urban foundation deposits in Roman Britain', *World Archaeology* 36 (1), 68-86.

Woolf, G (2001) 'Regional productions in early Roman Gaul' in D J Mattingly and J Salmon (eds) *Economies Beyond Agriculture in the Classical World*, 49-65. London, Routledge.

Van Andel, T H, Zangger, E and Demitrack, A (1990) 'Land use and soil erosion in prehistoric

and historical Greece', *Journal of Field Archaeology* 17 (4), 379-396.

Van der Veen, M (2007) 'Food as an instrument of social change; feasting in Iron Age and early Roman southern Britain' in K C Twiss (ed) *The Archaeology of Food and Identity; Centre for Archaeological Investigations Occasional Paper 34*, 112-129. Carbondale, IL, Centre for Archaeological Investigations.

Van der Veen, M and Jones, G (2007) 'The production and consumption of cereals: a question of scale. In C Haselgrove, and T Moore (eds) *The Later Iron Age in Britain and Beyond*, 419-429. Oxford, Oxbow.

Van Dommelen, P and Prent, M (1996) 'The history, theory and methodology of regional archaeological projects', *Archaeological Dialogues* 3 (2), 137-139.

Van Leusen, M (2002) Pattern to process: methodological investigations into the formation and interpretation of spatial patterns In archaeological landscapes. Unpublished PhD dissertation, Rijksuniversiteit, Groningen.

Vipard, P (2007) 'Maison á péristyle et élites urbaine en Gaule sous l'Empire', *Gallia* 64, 227-277.

Vita-Finzi, C (1978) *Archaeological sites in their Landscape*. London, Thames and Hudson.

Ziolkowski, A (1993) 'Between geese and the auguraculum; the origin of the cult of Juno on the Arx', *Classical Philology* 88 (3), 206-219.