ROMANS, RUBBISH, AND REFUSE

THE ARCHAEOBOTANICAL ASSEMBLAGE OF REGIONE VI, INSULA I, POMPEII

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FOR DR. S. E. STEPHENSON

Contents

List of Figures	v
List of Tables	viii
Acknowledgements	ix
Glossary	xi
Chapter 1: Introduction	1
1.1 Pompeii: historical background	
1.2 Pompeii: a case study in urban archaeobotany	
1.3 Research aims and objectives	
1.4 Research questions	
1.5 Status, ethnicity and Romanisation	
1.6 City and hinterland	
1.7 Pompeii as a type site and economic models	
1.8 Situate environmental data	
1.9 Domestic space	
Chapter 2: Historical Background	
2.1 Introduction to the Mediterranean Environment	
2.1 Introduction to the Mediterranean Environment 2.2 Palynological evidence	
2.3 The modern environment	
2.5 Roman literary sources	
2.6 Ancient literary biases	
2.7 Viticulture and villas	
2.8 Latifundia	
2.9 The hinterland.	
2.10 Economy.	
2.11 Ceramic evidence from Pompeii	
2.12 Regione VI, Insula I: brief historical overview	
2.13 The House of the Vestals (Casa delle Vestali) (VI.IVII)	
2.14 The House of the Surgeon (<i>Casa del Chirurgo</i>) (VI.I.x)	
Chapter 3: Methodology	
3.1 Research methods.	
3.2 Recovery methods	
3.3 Sampling	
3.4 Distribution of sample number by type	
3.5 Identification	
3.6 Quantification	
3.7 Fruit	
Grape	28
Olives	
Fig	
Nutshells	
3.8 Cereals	29
3.9 Millet	30
3.10 Pulses	30
3.11 Limitations of the data	31
Taphonomy	31
Modern taphonomic factors	31
3.12 Historical factors	32
3.13 Current research	33
3.14 The field school	
3.15 Contexts	
3.16 Preservation	34

Carbonisation	
Mineralisation	34
Chapter 4: Results	27
4.1 Contexts examined from Insula VI.I	
4.2 Contexts by time period	
4.3 Total archaeobotanical remains	
4.4 Preservation	
4.5 Carbonised archaeobotanical remains from Insula VI.I	
4.6 Mineralised archaeobotanical remains from Insula VI.I	
4.7 Residue volume	
4.8 Unknowns/indeterminate archaeobotanical material from Insula VI.I	
Carbonised unknowns/indeterminate archaeobotanical material from Insula VI.I	
Mineralised unknowns/indeterminate archaeobotanical material from Insula VI.I	
4.9 Recovery method flot/residue/in situ/dry sieved	
House of the Surgeon (VI.I.x) (Casa della Chiurugo)	
House of the Surgeon (VI.I.x) 1st century BC	
House of the surgeon (VI.I.x) 1st century AD	
House of the Vestals (VI.I.vii) (Casa delle vestali)	
House of the Vestals (VI.I.vii) 1st century BC	
House of the Vestals (VI.I.vii) 1st century AD	
Shrine (VI.I.xiii)	
Shrine (VI.I.xiii) 1st century BC	
Shrine (VI.I.xiii) 1st century AD	
Soap factory (VI.I.xiv)	
Soap factory 1st century AD	55
Triclinium	56
Triclinium 1st century AD	56
Via Consolare	57
Via Consolare 1st century BC	57
Via Consolare 1st century AD	57
Vicolo di Narciso	58
Vicolo di Narciso 1st century BC	58
Vicolo di Narciso 1st century AD	
Comparison of archaeobotanical assemblage from roads	
Well	
Well 1st century BC	59
Well 1st century AD.	
4.10 Unique deposits from insula VI.I	60
Ritual deposit	
Latrine	
Drain	
4.11 Unique deposits from the House of the Vestals (VI.I.vii)	
Mineralised archaeobotaanical remains	
Carbonised taxa from the House of the Vestals (VI.I.vii)	
4.12 Summary	
•	
Chapter 5: Comparison of Archaeological Evidence	
5.1 Initial observations on plants at Pompeii	
5.2 Archaeological research on Pompeii	
Earliest evidence from outside of Pompeii	
Shops	
Bars	
Domestic houses within Pompeii	
The House of the Vestals (VI.I.vii)	69
The House of Amarantus (I.IX.xii)	
The House of Hercules' Wedding (VII.IX.xlvii)	
5.3 Villae	
Villae rusticae	71
5.4 Archaeobotanical evidence from outside Pompeii	
Herculaneum	

Oplontis	72
5.5 Garden evidence	
Garden evidence at Pompeii	
Pollen evidence from gardens.	
Garden evidence from the House of the Vestals (VI.I.vii)	
Garden evidence from outside of Campania	
Limitations	
5.6 Ritual botanical evidence	
Pompeii	
5.7 Medicinal drugs	
5.8 Charcoal analysis from Pompeii	
5.9 Trade	
5.10 Broad trends in archaeobotanical evidence from the Roman world	
Rome	
5.11 Summary	
Chapter 6: Food and Roman Culture	80
6.1 Roman agriculture	80
6.2 Food, ideology and Roman culture	80
6.3 Cuisine	80
6.4 Symbolism.	81
6.5 Cultural identity	
Wheats	
6.6 Late Republican to Early Imperial Period Dietary shifts in meat preference	
6.7 Dietary shifts in cereal preferences	
Dining	
Luxury	
6.8 Historical perspective on food.	
Cookery	
Gardens	
Cereals	
Einkorn	
Emmer	
Barley	
Free threshing/soft bread wheat	
Oats	
Millet	
6.9 Spices	
Opium	
Pepper	94
Sesame	
6.10 Fruit	
Olive	
Olive oil	97
Grapes	97
Peaches	97
Fig	97
Dates	98
Pomegranates	98
Apples	98
Citron	98
6.11 Nuts	
Hazelnut	
Walnut	99
Almond	
6.12 Pules	100
Peas	100
Lentils	
Chickpeas.	
Broad bean	

Bitter vetch	101
6.13 Trees	102
cypress	102
Stone pine	102
6.14 Summary	102
Chapter 7: Discussion: Rubbish, Floors and Food	104
7.1 Interpretation of reults from Insula VI.I	
The roads	
Via Consolare	
Vicolo di Narciso	104
Commercial triangle	
Bar of Pheobus (VI.I.xviii)	
Bar of Acisculus (VI.I.xvii)	
Soap Factory/Metal workshop (VI.I.xiv)	106
North	107
Triclinium	107
INN	107
Inn Bar	108
Commercial properties	108
Domestic properties	
House of the Vestals (VI.I.vii)	108
Vestals bar	
House of the Surgeon (VI.I.x)	
Shrine (VI.I.xiii)	110
Well	111
7.2 Sampling recovery	
7.3 Indeterminates/unknowns	
7.4 Disposal	
7.5 Household changes	
7.6 Changes over time in Insula VI.I	
Pre-Roman to Roman	
Cereal by-products	
Evidence of cereal by-products	
Insula VI.I	
7.7 Evidence of Urbanisation	
7.8 City and country	
7.9 Preservation	
7.10 Lack of archaeobotanical remains	
7.11 Summary	118
Chapter 8: Conclusions	
8.1 Integration of results	119
8.2 Preservation	
8.3 Evidence of urbanisation	119
8.4 Shifts in food preferences	
8.5 Spatial distribution and patterns	
8.6 Future research	
8.7 Summary	
8.8 Final remark	121
Bibilography	122
Appendix	136

List of Figures

Figure 1: Pompeii and the surrounding region	1
Figure 2: Photomosaic of Insula VI.I from the Via Consolare	15
Figure 3: Map of the city of Pompeii	15
Figure 4: Insula VI.I (AAPP 2005 Resource Book p. 26)	16
Figure 5: House of the Vestals (VI.I.vii) frontage (Photomosaic © 2007 Jennifer F. Stephens · Arthur E. Stephens)	17
Figure 6: Map of excavation of Pompeii	17
Figure 7: The southern end of Insula VI.I	19
Figure 8: House of the Surgeon (VI.I.x) frontage	
Figure 9: House of the Surgeon (VI.I.x)	
Figure 10: House of the Surgeon (VI.I.x) entranceway with view into the hortus	
Figure 11: Timeline for Regione VI, insula I	
Figure 12: Total volume of residue (L) examined per property from Insula VI.I	26
Figure 13: Number of samples examined from different properties within Insula VI.I	
Figure 14: Number of Samples examined per property type	
Figure 15: Mineralised <i>Malus domestica</i> (Apple) seed from Insula VI.I	
Figure 16: a. Carbonised <i>Vitis vinifera</i> (Grape) pips and b. Mineralised <i>Vitis vinifera</i> (Grape) pips	28
Figure 18: SEM of carbonised <i>Vitis vinifera</i> (Grape) pip from Insula VI.I	28
Figure 19: a. Carbonised half fragment of <i>Vitis vinifera</i> (grape) pip and b. Carbonised grape pip	
Figure 20: SEM of carbonised <i>Vitis vinifera</i> (grape) petiole from Insula VI.I	28
Figure 21: Whole carbonised <i>Olea europea</i> (olive)	
Figure 22: Ficus carica (fig) carbonised mesocarp from Insula VI.I	20
Figure 23: a. and b: SEMs of carbonised <i>Ficus carica</i> (fig) mesocarp from Insula VI.I	29
Figure 24 a. and b: Mineralised <i>Ficus carica</i> (fig) from Insula VI.I	
Figure 25: SEM of one mineralised <i>Ficus carica</i> (fig) from Insula VI.I	
Figure 26: a. Carbonised <i>Pinus pinea</i> (pine nut) shell fragment a. inside view b. outer shell view from Insula VI.I	
Figure 27: a. Spikelet fork of <i>T. dicoccum</i> (Emmer) b. Spikelet fork of <i>T. dicoccum</i> (Emmer) from Insula VI.I	
Figure 27: d. Spikelet fork of <i>I. alcoccum</i> (crimier) b. Spikelet fork of <i>I. alcoccum</i> (crimier) from fissia VI.	30
Figure 28: a. <i>Hordeum vulgare</i> (Barley) (dorsal view) and b. <i>Hordeum vulgare</i> (Barley) (ventral view) from Insula VI.I Figure 29: SEM of carbonised <i>Hordeum vulgare</i> (Barley) (dorsal view) from Insula VI.I	30
Figure 30: Badly damaged carbonised <i>Triticum</i> sp. from Insula VI.I	30
Figure 31: a. Carbonised <i>Panicum</i> b. Carbonised Setaria both from Insula VI.I	30
Figure 32: Carbonised <i>Vicia</i> sp. from Insula VI.I	
Figure 33: a. Carbonised <i>Vicia sativa</i> and b. <i>Vicia faba</i> from Insula VI.I	
Figure 34: Total number of contexts examined grouped by time period	3/
Figure 35: Number of contexts examined by time period shown by property from Insula VI.I	
Figure 36: Total count of archaeobotanical remains (carbonised and mineralised remains) per property from Insula VI.I	
Figure 37: Percentage of total count of archaeobotanical remains recovered from Insula VI.I by property	
Figure 38: Total number of taxa (carbonised and mineralised) per property from Insula VI.I	
Figure 39: Number of mineralised and carbonised taxa from published sources on Vesuvian sites	
Figure 40: Total number of archaeobotanical (carbonised and mineralised) remains per context	38
Figure 41: Total volume of residue examined plotted	
Figure 42: Archaeobotanical remains (carbonised and mineralised)	38
Figure 43: Percentage of archaeobotanical remains recovered from Insula VI.I by preservation	39
Figure 44: Total count of charred botanical remains per property from Insula VI.I	
Figure 45: Total count of carbonised archaeobotanical remains per property from Insula VI.I	
Figure 46: Total count of charred botanical remains per property from Insula VI.I by time period	
Figure 47: Total count of carbonised botanical remains and total volume of residue examined per property from Insula VI.I	
Figure 48: Charred botanical remains per L of residue examined per property from Insula VI.I	
Figure 49: Number of carbonised taxa per property from Insula VI.I	
Figure 50: Histogram of carbonised taxa from Insula VI.I	
Figure 51: Number of carbonised taxa from Vesuvian Sites	41
Figure 52: Histogram of carbonised taxa from Vesuvian sites	
Figure 53: Carbonised archaeobotanical remains per context examined per property from Insula VI.IVI.I	
Figure 54: Histogram of recovered carbonised botanical remains per context from Insula VI.I	42
Figure 55: Total count of mineralised archaeobotanical remains per property from Insula VI.I	
Figure 56: Total count of mineralised archaeobotanical remains by property from Insula VI.I	42
Figure 57: Total count of mineralised botanical remains recovered per property from Insula VI.I by time period	
Figure 58: Total count of mineralised botanical remains recovered	
Figure 59: Mineralised botanical remains recovered per L of residue examined per property from Insula VI.I	
Figure 60: Number of mineralised taxa per property from Insula VI.I	
Figure 61: Histogram of mineralised taxa from Insula VI.I	
Figure 62: Number of mineralised taxa from Vesuvian sites	
Figure 63: Histogram of mineralised archaeobotanical remains from published sources on Vesuvian sites	
Figure 64: Mineralised botanical remains per context per property from Insula VI.I	
Figure 65: Histogram of recovered mineralised botanical remains per context from Insula VI.I	
Figure 66: Total volume (L) of residue examined per property from Insula VI.I	
Figure 67: Total residue volume (L) per property from Insula VI.I	

Figure 68: Breakdown of Residue Volume (L) by time period	45
Figure 69: Percentage of total carbonised archaeobotanical unknowns/indeterminates from Insula VI.I by time period	
Figure 70: Count of carbonised indeterminates/unknowns by property and time period from Insula VI.I	
Figure 71: Percent of carbonised archaeobotanical remains per property from Insula VI.I that were unknown/indeterminate	
Figure 72: Percent of total count of mineralised unknowns/indeterminates from Insula VI.I	
Figure 73: Total count of mineralised indeterminate by property by time period from Insula VI.I	
Figure 74: Percentage of unknown mineralised remains per property from Insula VI.I	40
Figure 75: Total count of carbonised and mineralised unknowns from Insula VI.I by time period	
Figure 76: Excavation areas for the House of the Surgeon (VI.I.x) (AAPP05 Resource Handbook p. 27)	
Figure 77: 1st century BC archaeobotanical remains from the House of the Surgeon	48
Figure 78: Count of archaeobotanical remains from the House of the Surgeon (VI.I.x) by category from the 1st century BC	48
Figure 79: Histogram of count of archaeobotanical remains from the 1st century BC from the House of Surgeon (VI.I.x)	48
Figure 80: Count of archaeobotanical remains from the House of the Surgeon (VI.I.x) from the 1st century AD	
Figure 81: House of the Surgeon (VI.I.x) areas where no archaeobotanical remains were recovered	
Figure 82: Ubiquity of archaeobotanical remains from House of the Surgeon (VI.I.x) from flotation	
Figure 83: shows the distribution of the total count of archaeobotanical (carbonised and mineralised) remains per room.	40
Figure 84: Excavation areas for the House of the Vestals (VI.I.vii)	
Figure 85: House of the Vestals (VI.I.vii) Room numbers	50
Figure 87: 1st century BC histogram of archaeobotanical remains from the House of Vestals (VI.I.vii)	51
Figure 86: 1st century BC archaeobotanical remains from the House of the Vestals (VI.I.vii)	
Figure 89: 1st century AD histogram of archaeobotanical remains from the House of the Vestals (VI.I.vii).	
Figure 88: Total count of archaeobotanical remains (mineralised and carbonised)	51
Figure 90: Excavation areas from the Shrine (VI.I.xiii) (AAPP05 Resource Handbook p. 27)	52
Figure 91: Archaeobotanical remains recovered from the Shrine (VI.I.xiii) from the 1st century BC or earlier	
Figure 92: Histogram of archaeobotanical remains from the Shrine (VI.I.xiii) from the 1st century BC or earlier	
Figure 93: 1st century AD archaeobotanical remains from the Shrine (VI.I.xiii)	
Figure 94: Histogram of archaeobotanical remains recovered from the Shrine (VI.I.xiii) from the 1st century AD.	
Figure 95: Excavation areas from the Soap Factory (VI.I.xiv) (AAPP05 Resource Handbook p. 27)	
Figure 96: Archaeobotanical remains from 1st century BC from the Soap Factory (VI.I.xiv)	
Figure 97: Histogram of 1st century BC archaeobotanical remains from the Soap Factory (VI.I.xiv)	
Figure 98: Archaeobotanical remains from 1st century AD from the Soap Factory (VI.I.xiv)	55
Figure 99: Histogram of count of archaeobotanical remains from the Soap Factory (VI.I.xiv) from the 1st century ADAD	55
Figure 100: Excavation areas from the Triclinium located within the Inn (AAPP05 Resource Handbook p. 27)	56
Figure 101: Archaeobotanical remains recovered from the Triclinium by preservation and general category from Insula VI.I	56
Figure 102: Carbonised archaeobotanical remains from the Triclinium from Insula VI.I	
Figure 103: Excavation areas from Via Consolare	
rigure 103. Excavation aleas from via Consolare	5/
Figure 104: Archaeobotanical remains from 1st century BC from Via Consolare	
Figure 105: Archaeobotanical remains from 1st century AD from Via Consolare	
Figure 106: Excavation areas from Vicolo di Narciso (AAPP05 Resource Handbook p. 27)	
Figure 107: 1st century BC archaeobotanical remains from Vicolo di Narciso	
Figure 108: 1st century AD count of archaeobotanical remains from Vicolo di Narciso	
Figure 109: Excavation areas from the Well	59
Figure 110: 1st century BC archaeobotanical remains from the Well from Insula VI.I	
Figure 111: Histogram of count of archaeobotanical remains from the Well from the 1st century BC	
Figure 112: 1st century AD archaeobotanical remains from the Well from Insula VI.I	
Figure 113: Mineralised Agrostemma githago L. (corn cockle) from Insula VI.I (not from the latrine deposit)	
Figure 114: Total count of mineralised botanical remains recovered from the late 1st century BC toilet	
Figure 115: Mineralised lentil recovered from Insula VI.I	
Figure 116: Total number of mineralised and carbonised taxa from the House of the Vestals (VI.I.vii)	
Figure 117: Archaeobotanical material recovered from Vicolo di Narciso from the 1st century BC BC	
Figure 118: Archaeobotanical material by category recovered from Vicolo di Narciso from the 1st century ADA	62
Figure 119: Mineralised Remains from the 1st century AD from Vicolo di Narciso	
Figure 120: Carbonised <i>Ornithopus perpusillus/sativus</i> seed from Insula VI.I	
Figure 121: Count of mineralised taxa from the House of the Vestals (VI.I.vii)	
Figure 122: Count of Mineralised Remains of Fruits and Nuts from the House of the Vestals (VI.I.vii)	
Figure 123: Mineralised taxa from specific contexts within the House of the Vestals (VI.I.vii)	
Figure 124: Mineralised weed seeds from specific deposits from the House of the Vestals (VI.I.vii)	
Figure 125: Carbonised taxa from the House of the Vestals (VI.I.vii)	
Figure 126: Carbonised taxa from specific deposits within the House of the Vestals (VI.I.vii)	
Figure 127: Count of carbonised taxa recovered from the House of the Vestals (VI.I.vii)	
Figure 128: Carbonised botanical remains per L from specific contexts from the House of the Vestals (VI.I.vii)	
-igure 129: Count of <i>I. dicoccum</i> from Insula VI.I	
Figure 129: Count of <i>T. dicoccum</i> from Insula VI.I	
Figure 130: Count of Hordeum from Insula VI.I	
Figure 130: Count of Hordeum from Insula VI.I Figure 131: Count of <i>T.aestivum/T.durum</i> from Insula VI.I	
Figure 130: Count of Hordeum from Insula VI.I	92
Figure 130: Count of Hordeum from Insula VI.I	92 93
Figure 130: Count of Hordeum from Insula VI.I	92 93 93
Figure 130: Count of Hordeum from Insula VI.I	92 93 93
Figure 130: Count of Hordeum from Insula VI.I	92 93 93
Figure 130: Count of Hordeum from Insula VI.I	92 93 93 93

Figure 139: Bar of Pheobus	105
Figure 140: Bar of Acisculus	105
Figure 141: Soap Factory/Metal workshop	106
Figure 142: North end of Insula VI.I	107
Figure 143: Inn	107
Figure 144: Inn Bar	108
Figure 145: House of the Vestals	108
Figure 146: Vestals Bar	109
Figure 147: House of the Surgeon	110
Figure 148: Shrine	110
Figure 150: House of the Vestals (VI.I.vii) presence of mosaic floors	113

List of Tables

Table 1: Results of Amphorae Study from the House of the Vestals (VI.I.7)	14
Table 2: Number of samples examined from properties within Insula VI.I	27
Table 3: Summary of results from Insula VI.I by property by time period	47
Table 4: Presence and Absence table for Roads from Insula VI.I	
Table 5: Presence and Absence table for Domestic properties within Insula VI.I	
Table 6: Presence and Absence table for Commercial properties within Insula VI.I	67
Table 7: Presence and Absence table for Ritual contexts from Insula	68
Table 8: Insula VI.I Presence and Absence	89
Table 9: Pompeii sites Presence and Absence	89
Table 10: Pompeii sites continued Presence and Absence	90
Table 11: Via Consolare	104
Table 12: Vicolo di Narciso	105
Table 13: Bar of Pheobus (VI.I.xviii)	105
Table 14: Bar of Acisculus (VI.I.xvii)	106
Table 15: Soap Factory (VI.I.xiv)	106
Table 16: Triclinium	107
Table 17: Inn Presence and Absence	107
Table 18: Inn bar Presence and Absence	108
Table 19: House of the Vestals (VI.I.vii)	109
Table 20: Vestals Bar	109
Table 21: House of the Surgeon	110
Table 22: Shrine (VI.I.xiii)	111
Table 23: Well	111
Table 24: Presence and Absence of common taxa from properties within Insula VI.I	112
Table 25: Presence of spikelet forks from Insula VI.I	

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Glossary

Atrium A formal anteroom for the reception of clients within the Roman house.

Cauponae A commercial shop which only served drinks.

Cella vinaria A fermentation room for grapes for the purposes of wine-making.

Cenacula Dining room, usually located on the upper storey, within the Roman house.

Cubiculum A small room traditionally defined as a bedroom within the Roman house.

Culina Kitchen

Dolia (plural) An underground large pottery vessel used for the storage of food or the fermentation of wine.

Dolium (singular)

Exedrae A small open side room within the traditional Roman atrium house.

Fauces The main narrow entrance hallway into the traditional Roman atrium house.

Hortus Roman garden.

Latifundia A large agricultural estate growing cash crops harvested by slave labour and owned by wealthy

Roman elite.

Oecil Large open room within traditional Roman house.

Oecus Main hall in Roman house.

Olea perforata Portable ceramic planting pots used to transport trees or other plants and used as a potting

vessel in gardens.

Opus quadratum A type of Roman construction style in which square blocks of stones of the same height

where laid in parallel courses without mortar.

Opus signinum A Roman building material which utilised broken fragments of tiles and pottery mixed with

mortar.

Otium Roman concept of total relaxation.

Penariae Where food was kept in Roman house.

Peristyle Garden and ambulatories within Roman house.

Taberna Bai

Tablinium Room in the Roman house off to one side of the atrium.

Thermopolia A public food and drink establishment.

Torcularium A wine press for crushing grapes for wine.

Triclinium The label given to the dining room within a traditional Roman atrium house.

Villae rusticae (plural) Large agricultural estates outside the city gates.

Villa rustica (singular)

Villa suburbana Agricultural Roman luxury residence located just outside the city gates.

Chapter 1

Introduction

Due to its catastrophic destruction and subsequent outstanding preservation, Pompeii has entered into the annals of history and archaeological lore, a relatively unimportant Mediterranean port city in southern Italy during its brief life span, it now rivals the fame of Rome itself. It has had a widespread and profound influence upon philosophy, art and culture in Western society and has sparked innumerable heated debates on a plethora of academic and popular subjects since its rediscovery, 250 years ago. Arising from its humble status as an early Italic village on a volcanic outcropping it is now regarded as the most famous and well-preserved UNESCO world heritage site due to the rare glimpse it offers to visitors and scholars alike, into a past way of life that was captured so precisely on the 24th of August 79 AD with the eruption of Mount Vesuvius. Despite the fact that Pompeii is the earliest continuously excavated Roman site and one of the most visited and well-studied archaeological sites there is still much that is not understood about it, especially in terms of its long-term development from pre-Roman times (Laidlaw 2007, 620).

Despite its world renown as an archaeological site, the past twelve years of archaeological excavations (1995-2006) by the Anglo-American Project in Pompeii (AAPP) provides one of the few examples of chronological depth in Pompeii. The analysis of all the recovered archaeobotanical material from the only triangularly shaped insula, Regione VI, insula I from Pompeii, adjacent to the Herculaneum Gate, provided a unique research opportunity of a highly documented case study of urban environmental analysis. This research is able to provide a diachronic analysis of wider patterns of food consumption and natural resource use though the approximate three hundred years of occupation of this insula and examine the cultural impacts that subsequent waves of immigration may have had on this multiethnic city with the invasion of the Samnites, the influence of the nearby Greek colonies of southern Italy and finally the colonization by the Romans after the Social Wars in 89 BC.

The ultimate goal of the Anglo-American Project in Pompeii is to reconstruct a holistic view of everyday life in the ancient city of Pompeii and to examine, in detail, issues of intensification, urbanisation and inequality using Regione VI, insula I as a lens through which to understand the complexity and changing nature of this provincial city through its entire period of occupation. The analysis of the archaeobotanical remains will assist in all these spheres of enquiry. As a highly documented case study of urban archaeobotany it has the potential to examine issues of economic and social differentiation as reflected in access to and processing of agricultural produce and food consumption.

1.1 Pompeii: historical background

The Sarno River supplied the entire fertile plain south-east of Mount Vesuvius and supported the agricultural villages which were situated along the upper reaches of its valley and near the mouth of the river around 700 BC. The original Oscan or Greek settlement at Pompeii dates back to the 6th century BC and was built on an isolated volcanic ridge about 39 metres above sea-level at the time (Jashemski 1979a, 4). Pompeii was beholden to and became the port city of *Nucceria Alfaterna*, or *Noceria*, a city situated at an important road conjunction and which dominated the southern region of Campania (Grant 2005, 17).

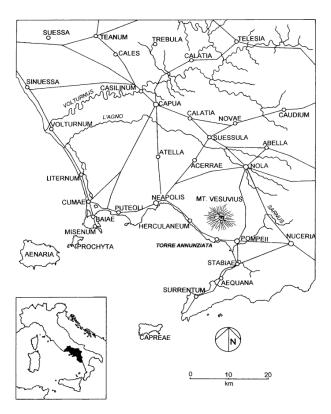


FIGURE 1: POMPEII AND THE SURROUNDING REGION (AAPP 2005 RESOURCE BOOK, P. 37)

During ancient times, the region of Campania (highlighted in black in the small map in the left-hand corner of Figure 1) has been argued to have been the chief granary of the peninsula. In some districts as many as three grain crops were produced each year, in addition to a crop of vegetables (Jashemski 1979a, 4). Ancient sources exclaim over the wonderful variety of crops grown throughout the year with harvests postulated to have been six times greater than the average crop yield for the rest of the Italian peninsula (Grant 2005, 15).

Recent archaeological evidence uncovered at the site of Capua has supplied evidence that Etruscan intrusions into the region of Campania begun circa 650 BC. It appears that towards the end of the next century the Etruscans extended their control over larger areas of the Campanian plain. Etruscans came into contact with the Greeks at the city of Cumae, thought to be the earliest Greek settlement in Italy dating to 750 BC, which subsequently became the Etruscans' main centre of Greek commerce (Grüger et al. 2002, 240). The Etruscans attacked the city of Cumae in 524 and 474 BC and were rebuffed each time. At this time it seems likely that Etruscans controlled the city of Pompeii, as inferred from known Etruscan trading contacts at Pompeii, Etruscan bucchero pottery which has been found throughout Pompeii and fragments of Etruscan inscriptions found on black vases excavated from beneath the Temple of Apollo (Grant 2005, 20).

By the mid- 5th century BC the Samnites, renowned as tough indigenous mountain people, swept down from their original homeland in the Apennines of central and southern Italy towards the coast. The Etruscans were defeated by the Samnites in 474 BC. In 423 BC, while mainland Greece was engaged in the Peloponnesian War and unable to send reinforcements, the Samnites attacked the Greek colony of Capua, which at the time was the most important Etruscan centre in Campania, and other Greek colonies along the coast. In 421-420 BC the Samnites took over the Greek colony of Cumae and subsequently moved into the Campanian plain and resettled Pompeii and Herculaneum.

The Samnite people spoke Oscan, one of the three main dialects, along with Latin and Umbrian, of the Italic branch from the Indo-European family of languages (Descœudres 2007, 15). This new 'Oscan' Campania, although probably still retaining traces of past Etruscan influences, formed itself into a separate federation of towns in 445 BC under the leadership of the city of Capua. Neapolis (Naples) located further north became a bicultural city with elements of both Greek and Samnite influence (Grant 2005, 20). Thus, by the 4th century BC Pompeii may have followed Stabiae, Herculaneum and the villages of the Sarno Valley as part of a loose confederation with controlling influence upon it from *Nuceria*.

Around 358-354 BC the Samnites entered into a defensive alliance with Rome, possibly fearing an invasion by the Gauls from the north. Roman sources claimed that non-Samnite Campanian cities made an appeal to Rome fearing further Samnite invasion and thus triggered the First Samnite War, 343-341 BC, and the entrance of the Romans into Campania. During the Second Samnite War, 326-304 BC, in which the Romans' legendary defeat in 321 BC at *Caudine Forks* took place in the interior of the region, the Romans captured Neapolis in 327-326 BC. The Romans sacked *Nuceria*, and took Pompeii and possibly Herculaneum in 310-302 BC. By 300 BC the region of Campania was now wholly under the control of the Romans (Grant 2005, 22).

The 2nd century BC saw a period of construction in Pompeii in response to a major expansion in the local population and by the end of the 2nd century BC was an urban community ((Jashemski 1979a, 4). By the 2nd century BC, Pompeii is known to have had intense commercial contacts with several areas throughout the Mediterranean region (Ciaraldi 2001, 32). It was the expansion of trade in the Mediterranean in the later part of the 1st century BC and the subsequent expansion of the empire from Augustus onwards which allowed the 1st century AD Pompeii to have become a densely occupied urban centre (Parker 1990, 330).

Towards the end of the Republican period much of the land surrounding the city was farmed by villae rusticae, large farming estates in the country, or cash crops grown from market gardens. Along the coast of the Gulf of Baiae, the western section of the Gulf of Pozzuoli and the Bay of Naples were numerous luxury villas, owned by the upper classes, and this was an especially popular area when the Emperor Tiberius owned the entire island of Capri during the Early Imperial period (Grüger et al. 2002, 240; Jashemski 1979a, 289). However, recent archaeological discoveries suggest that small landowners continued to exist and farm in this area in the 1st century AD (Frayn 1979, 20; Lomas 1993, 118). In 91 BC, during the Social War in which the Italians attempted to gain equal rights and privileges granted to Roman citizens, the Vesuvian cities of Pompeii, Herculaneum and Stabiae defected from their previous allegiance with Rome (Descœudres 2007, 15). In 89 BC Pompeii was attacked by General Sulla and his army and archaeological evidence testifies to the damage caused by the siege-artillery. Ballista and sling bullet indentations on city walls have been found outside the vulnerable Herculaneum Gate (Jones and Robinson 2007, 395). At the end of the war Pompeii received Roman citizenship. However, a colony of Sulla's retired soldiers, known as Colonia Cornelia Veneria Pompeianorum, was imposed in 80 BC upon Pompeii (Grant 2005, 23). Cicero writes of the violent ill-will of the citizens of Pompeii against the newly imposed Roman colonists. However, other Classicists have argued that the land for the Roman soldiers was taken from the people of nearby ruined Stabiae rather than Pompeii (Grant and Forman 1976, 23).

As evident from the extensive building projects outside the city walls during the late 1st century BC with the *Pax Romana*, the inhabitants of Pompeii were no longer worried about invasions as the Romans had conquered the Italian peninsula by this time (Cooley 2003, 111; MacKendrick 1960, 200). Indeed, the early years of the Roman colony provided evidence of building and refurbishment of villas in the countryside surrounding Pompeii (Ling 2005, 63). At the time of its destruction, the city of Pompeii was approximately 167 acres (63.5 ha); elliptical in shape with a circumference of 2 miles (3km), (an average size for an Italian town at the time of the early Roman Empire), with a population of approximately ten to twenty thousand people (Cooley 2003, 33; Grant 2005, 33) with a more

conservative estimate of population of 8,000 to 12,000 (Jongman 2007, 513; Ling 2005, 98; Westfall 2007, 129).

1.2 Pompeii: a case study in urban archaeobotany

Although there was interest expressed in the later part of the 19th and the early 20th century in exploring Pompeii's pre-Roman roots, this was undertaken by studying the surviving standing masonry structures and changes in building techniques and materials. Paradoxically, despite Pompeii's parallel development with the discipline of archaeology, its potential as a case study for refining analytical methodologies of wider archaeological utility has been underexploited. Hence, Pompeii was regarded as a static single-layer site. This synchronic perspective, focusing mainly on the Roman period leading up to the destruction of the city in AD 79, is reflected in the limited archaeological investigations carried out in the recent past beyond the AD 79 destruction layer (Robinson 2002, 93). It was not until the early Pompeian archaeologist Maiuri, during the 1930s and 40s, began excavations beneath the AD 79 layer that its pre-Roman roots began to come to light (Cooley 2003, 113-114).

There has been a recent movement to allow full-scale major stratigraphic excavations below the AD 79 destruction layer, under the former leadership of Soprintendente Prof P. Guzzo, the Archaeological Superintendent of Pompeii, in houses and areas that have been disturbed by excavations in the recent past. During the course of the AAPP, excavations have taken place below the AD 79 destruction layer, where no substantial intact floors have survived, and in which a dated construction sequence based upon evidence from sealed deposits has been created. Along with other recent excavations (Wallace-Hadrill and Fulford 1999 with the British School at Rome, Carafa 1997, the Pompeii Forum Project directed by J. J. Dobbins 1994 and the Temple of Apollo by De Caro 1986) the overall result has been a growing trend towards understanding the complexity of the chronological sequence for urbanisation and the Roman influence upon the city of Pompeii (Robinson 2002, 94).

Practically this research is significant as an entire insula block within the city of Pompeii has never been excavated in its entirety to date. This research represents a unique opportunity to undertake a diachronic study of urban archaeobotany from a variety of different contexts. As a case study Pompeii has the potential to contribute to questions of economic and social differentiation as reflected in access to and processing of agricultural and trade products, on-site processing and preparation, the use of domestic and public space based upon the preserved archaeobotanical assemblage, differential food consumption in a complex urban society and the role that archaeobotanical analyses can contribute to these topics.

1.3 Research aims and objectives

The main objective of this research is the analysis of the archaeobotanical assemblage, the preserved seeds and

macro-botanical remains, with respect to the chronological and stratigraphic record, recovered over the course of the past twelve years from the excavation of Regione VI, insula I by the AAPP. The study of this one city block, Regione VI, insula I, is a unique opportunity to examine the preserved plant material both across contemporaneous households, from a variety of domestic and commercial contexts, and diachronically, over the three hundred years for which suitable data has been excavated. This research will offer a new view of Roman and pre-Roman households and local economies and how they developed over time. It will also provide a test ground for urban archaeobotanical methodology, an area which is largely underdeveloped since most environmental research has tended to focus on larger scale issues such as societal development and the origins of farming.

1.4 Research questions

Pompeii is well-situated as a firmly documented archaeological context from which to explore issues of food distribution and consumption in a complex urban society and the role that archaeobotanical analysis can contribute to studies of social differentiation through both food and agricultural economy. In the recent past, literary and art historical sources from frescos and mosaics from Pompeii and Herculaneum, have been used to study Roman cuisine and diet (Jashemski et al. 2002, 80-180). However, these are potentially elite-biased idealized representations and contrasting these constructed images against preserved food refuse (cereal grains and chaff, fruit pips, agricultural weeds, etc.) provides a more holistic view of the Roman diet from all levels of society.

1.5 Status, ethnicity and Romanisation

One of the aims of this research is to examine the archaeobotanical assemblage through time to see if there are changes in the socio-economic status of the inhabitants of Insula VI.I and explore any economic, political, ethnic and trade factors which may have influenced dietary changes over the occupation of the site.

Food in Greco-Roman society was a powerful and constant visible marker of ethnic and cultural differences. It repeatedly reinforced the social and economic distinctions between rich and poor. It served as a vehicle not only for communicating status, but also for maintaining familial, social and political relationships and served to maintain the rigid social hierarchy present within Roman society. Conspicuous consumption and displays of food in Roman society were powerful signifiers of wealth, status and power, especially when exotic or imported items were on the menu (Garnsey 1999, xi; van der Veen 2003, 405).

Roman-type ingredients and similar methods of procurement and preparation of food items have been employed as indicators of a Roman cuisine or lifestyle in previous studies and will be one aspect considered in this research (Jones 1991 cited in Meadows 1999, 105).

Although it has to be acknowledged that Roman veterans and citizens often came from disperate areas of the Roman Empire and were increasingly, during the Roman Imperial and Early Empire, exposed to new influences and cultures through warfare, trade and migrations of new and subjected peoples. This study will use Pompeii to examine aspects of ethnicity and the process of the incorporation of a Roman colony within Pompeii through the evidence of cuisine in the archaeobotanical record from Insula VI.I.

Previous studies have utilised the faunal evidence to examine the process of Romanisation. During the late Republican period in Italy, a high pork consumption pattern emerges as a feature of the Roman diet. Present faunal data suggests that a similar pig-dominated pattern emerged earlier, in the 3rd to 2nd century BC, in the region of Latium, north of Campania. This chronological distinction in meat consumption is most clearly seen in the Bay of Naples area. Thus, the cattle-dominant diet of the 1st century BC was replaced by the high pig pattern present in the Imperial period (King 1999, 169). Indeed, preliminary research on the faunal assemblage from Regione VI, insula I at Pompeii by Dr. J. Richardson (2006) revealed a similar high pig pattern indicating that dietary preferences appear to have shifted over time and class distinctions in differential meat consumption are noticeable in the archaeological record.

Historic sources discussing Roman agriculture such as Cato, Columella and Varro write of the general trend from mixed farming towards larger estates with specialized vine and olive cultivation, yielding higher profits, between the 2nd century BC and the 1st century AD. Archaeological evidence compiled by Lomas (1993, 118-119) also illustrates this shift from smaller farms in the early 2nd century BC towards larger specialized estates by the 1st century AD; with the caveat that significant numbers of smaller mixed farmsteads survive into this period (Rosenstein 2008, 3). Preliminary charcoal evidence by Veal and Thompson (2008, 10-11) found a decline in beech from the 1st century BC onwards and a corresponding increase in orchard and vineyard cuttings. This correlates with the above mentioned known archaeological evidence and suggests that the overall charcoal patterns reveal 'increasing penetration of Roman influences into the area over time' (Veal and Thompson 2008, 11). Following along these multiple lines of evidence this research will investigate if the process of the incorporation of previous Samnite and other native Italic peoples into an imposed Roman colony and the general trends in agricultural production can be observed through changes in vegetation, seasonality, exploitation of the natural environment, and the consumption and trade of different plant materials in the archaeological record.

1.6 City and hinterland

Another area of research to be investigated is the pattern of interconnections and economic changes over time between Pompeii and its rural hinterland and its participation in the

trade networks within the wider Mediterranean basin using the archaeobotanical assemblage from Insula VI.I. The ancient city in general was known to have encompassed both the rural hinterland and an urban centre, where the administration and its public cults were situated. The difficulty lies in integrating previous paleoenvironmental research on the Vesuvian cities of Pompeii, Herculaneum and the surrounding areas with the complexity of the archaeology and history of the region and the daily interaction between town and country (Ciaraldi 2007, 19). A town the size and complexity of Pompeii must have relied upon its surrounding hinterland for the majority of its food, fuels and other natural resources to maintain the population. Pompeii possessed excellent river connections with the towns of its economic hinterland. With the construction of the Roman harbour in 194 BC at Puteoli, Pompeii was well-situated to take full advantage of its position within maritime trade (De Caro 2007, 76).

Recent research into archaeobotany within the vicinity of Mount Vesuvius (Borgongino 1999, 2006; Ciaraldi 2001, 2007; Jashemski et al. 2002; Meyer 1980, 1988, 1994; Robinson 1999, 2002) has revealed a change in the number and diversity of plants recovered and this represents a significant change in the economic history of Pompeii and pre-Roman regional trade. Exotic goods discovered at Pompeii by Ciaraldi, such as black pepper and *citrus* fruit, suggest that some of the items may have passed through the main Italian port city of Puteoli, on the Campanian coastline, implying that Pompeii may have been engaged to some degree with the trade networks throughout the Mediterranean basin (Ciaraldi 2001, 32).

1.7 Pompeii as a type site and economic models

This study will attempt to use the archaeobotanical evidence from Insula VI.I to address some of the issues surrounding trade and the economy at Pompeii. For decades there has been an ongoing debate amongst Classicists and Romanists regarding the appropriateness of theoretical models used to study the ancient economy of the Roman city. Pompeii, due to its chance preservation, has erroneously in the past, been labelled and perceived as a 'type-site' of Roman urbanism and economy. However, Pompeii's economy was unique in the sense that it was closely integrated into the luxury villas on the Bay of Naples and within the wider Campanian economy of trade centred upon Puteoli (Laurence 1994, 53). Rostovtzeff (1957) argued for the use of modern economic models, using the cities of 20th century Western Europe and North America in which the increase in traded goods resulted in the rise of a middle class, to understand the Roman economy in general and the ancient economy of Pompeii in particular (Laurence 2007, 9).

The initial academic debate began with Finley's adaptation of the Greek polis as the ideal ancient city as a 'consumer city' economy model based upon Werner Sombart and Max Weber's description of the evolution of the ideal Western capitalist city (Jongman 2007, 502; Lomas

1995, 1), which was never intended for application to the ancient city. As opposed to the 'producer city', in which agricultural produce from the surrounding countryside was purchased in part through the manufacture and export of luxury goods to the countryside and external markets, the 'consumer city' is defined as a city which is economically parasitic upon the agricultural production of its hinterland (Finley 1973, 131; Jongman 2007, 502; Laurence 1994, 51). This model was used in the recent past as the accepted theoretical framework for understanding the economy of the Roman city. Within the Weberian model no economic growth or development occurred (Jongman 2007, 502; Wallace-Hadrill 1992, 241).

Environmental data is another area of study being used to examine the economy of the city of Pompeii. Veal and Thompson (2008, 10) argue that the majority of the taxa identified from the charcoal evidence from the House of the Vestals (VI.I.vii) was believed to have grown in the lower level managed montane deciduous forests or the higher altitude natural forests surrounding the city of Pompeii; with the majority of the surrounding plain given over to cereal cultivation (Jongman 2007, 502; Lomas 1993, 118-119; Veal 2009, 229; Veal and Thompson 2008, 10). The low diversity of wood recovered from an environment with a diversity of ecosystems and different woods to choose from suggests that strong human selection was occurring. Six different taxa are observed in the 2nd century BC, nine in the 1st century BC and ten in the 1st century AD (Veal and Thompson 2008, 6). The trend by the 1st century AD revealed that Fagaceae (Beech) diminished in importance in comparison with other woods, such as fruits and vines, which while relatively scare in the 2nd and 1st centuries BC appears in greatest numbers during the 1st century AD, increasing to 20% of the assemblage.

Veal and Thompson (2008, 7) argue that significant cultural and economic implications can be inferred from the continued dominance of beech in the analysed charcoal assemblage through time. With its preferred ecological niche, some 800 metres above sea level, the nearest source of beech would have been at least 15 km from the city. Transport of raw timber or charcoal down the Sarno River, which originates in the Apennines, was a known major trade route linking Pompeii to the inland cities. However, lower montane managed taxa such as hazel and oak increased along with orchard and vineyard cuttings through time towards the 1st century BC. This increase in taxonomic diversity within the charcoal assemblage over time, with the use of highly managed woods and an increase in orchard and vine cuttings, Veal and Thompson (2008, 1) argue (that this selection of wood) represents a 'developed market structure for wood supply to the city'. This evidence correlates well with archaeological evidence from Pompeii which suggest increasingly sophisticated consumption and greater efficiency of production by the 1st century AD.

1.8 Situate environmental data

Another research goal is to situate and compare the known environmental data from the Vesuvian region, including recent wood charcoal analysis from Pompeii, with the current archaeobotanical results from Insula VI.I. Interestingly, no Olea sp. (olive) charcoal was recovered for the entire occupation of the House of the Vestals (VI.I.vii) (Veal and Thompson 2008, 7). Yet, the archaeobotanical background noise of the House of the Vestals (VI.I.vii) is largely composed of charred olive stones which increase through time towards the 1st century AD. Similarly, Walnuts and Peaches, which are eastern imports, have been recovered from the 2nd century BC onwards (Ciaraldi 2007, 149). Thus, one may ask if the trends elucidated from the charcoal data are visible in the archaeobotanical assemblage and question if the developing and increasingly sophisticated market system was influencing the food items being brought into and consumed within the city of Pompeii.

1.9 Domestic space

This study hopes to examine the spatial distribution of the archaeobotanical material recovered from Insula VI.I in order to contribute to the understanding of the use of space within an urban setting. Spatial analysis of Roman domestic space by Wallace-Hadrill (1990, 1995), Zanker (1998) and Laurence (2007) and recent work by Allison (2007) on the material cultural remains from the Insula of Menander, Regione I, insula IX, have challenged traditional concepts of Roman domestic space in Pompeii. Allison (1999, 2004, 2007) highlights her concerns regarding the unquestioned assumptions about Roman domestic household behaviour. Based upon her assessment of the Insula of Menander (I.X.iv) she argues that food preparation and storage within the Roman house appears to have been flexible in terms of location. Therefore, by examining all phases from every room within the different properties within Insula VI.I this study hopes to further examine the question of Roman domestic behaviour and attempts to test Allison's more flexible concept of food preparation, consumption, storage and disposal within the Roman household through comparison of the different assemblages both spatially and chronologically from Insula VI.I.