‘What is needed now is the same attention to the form and decoration of the other early pottery of the Southwest Pacific, and to the archaeology of its field occurrences, as has been devoted over the last 20 or so years, with such rewarding results, to the Lapita phenomenon…’ (Golson 1992:165).

**Research background**

It is now more than fifty years since Father Patrick O’Reilly and Jacques Avias (Avias 1950:131) simultaneously and independently recognised that a distinctively decorated ceramic, later to become known as Lapita, could be shown to have direct parallels over vast areas of the Pacific (Watom and New Caledonia). Since that time a full ‘cultural complex’ has been identified, the geographical spread of which has now been extended from Aitape on the north coast of New Guinea to Samoa and Tonga in the east along with many of the islands in between (Anderson et al. 2001; Kirch 1997:55).

The 1950s and 1960s was a golden age for scientific archaeology in the Pacific (Fig. 1.1) with much of the attention being focused on Lapita sites in Remote Oceania (Kirch 1988a, 1997). Nascent theories as to what Lapita represented began to develop and these were inevitably tied up with the search for explanations which might account for the biological, linguistic and cultural diversity that is found across the contemporary Pacific and more specifically the Melanesian-Polynesian divide. This remains a central issue in Pacific archaeology today and one which has intrigued and perplexed observers and researchers since the first European explorers appeared on the horizon over 400 years ago and is still very far from being entirely understood.

Lapita clearly spanned the Melanesian-Polynesian divide and was seen at least beyond the end of the Solomons chain (later to be known as Remote Oceania [Green 1991a]) to represent the founding population which either pre-dated the arrival of ‘Melanesian’ cultures as in the case of New Caledonia or was seen as ancestral to the Polynesian populations east of Fiji (Golson 1961; Green 1963). But it was soon recognised, as the pace of excavations increased, that the picture might not be so simple, particularly as other ceramic traditions began to be identified which were thought
to be either contemporary with or even pre-dated Lapita, i.e. Paddle Impressed and Incised and Applied Relief traditions (Garanger 1971, 1972; Golson 1968). With the added ingredient of increasing evidence for Pleistocene settlement in mainland New Guinea (White 1971) and later in the Bismarck Archipelago and the Solomons (Gosden et al. 1989) a whole raft of other issues were raised and variables added to the increasingly complex picture that was beginning to emerge.

The origins of the Lapita Cultural Complex with its associated trappings (pottery, horticulture, pigs, dogs and chickens and an array of shell ornaments and distinctive adzes) were widely debated, and two opposing camps began to form in the 1970s. One (the Melanesian indigenists) argued that these developments could have largely occurred within the Bismarck Archipelago with little requirement for any migration or other significant input from Southeast Asia (White, Allen and Specht 1988). The other viewpoint argued for wholesale migration into the Bismarck area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975). The origin question was tackled more seriously with the intensive fieldwork program during the mid to late 1980s, entitled The Lapita Homeland Project, which was centred on the Bismarcks area from Southeast Asia (the intrusive model) (Bellwood 1978; Shutler and Marck 1975).}

Figure 1.1 South West Pacific
Over 50 years of scientific archaeological research, dating from Gifford’s pioneering work in Fiji in 1947 (Gifford 1951), is now coming to fruition and the Lapita Cultural Complex and what its represents is being more fully comprehended, the detailed elucidation of which can be found in numerous recent publications (Best 2002; Burley 1998; Clark et al. 2001; Green 2003; Green and Kirch 1997; Kirch 1997, 2000; Sand 1995, 2003; Spriggs 1997; Summerhayes 2000). The continued research focus on Lapita has radically altered many earlier perceptions and theories and, as with much of the rest of Pacific archaeology, has reached a pace where theories may be wholly or partially obsolete soon after being published (Spriggs 1997:13).

If Lapita research has made such great strides over the last 50 years, what of the other ceramic traditions first identified in the 1960s (paddle impressed and incised and applied relief ware) that had initially challenged theories which argued for Lapita being the primary ceramic tradition in the region? Most researchers nowadays, whether they favour the largely indigenous, the ‘Southeast Asian fast train’ or the ‘compromise model’ scenario (i.e. Triple I) for the origins of the Lapita Cultural Complex, tend to agree that it can be accepted as an entity (biological and cultural) associated with the initial colonisation and settlement of Remote Oceania, across to at least Tonga and Samoa. There is still however a lingering reluctance amongst some researchers in accepting this scenario. This reluctance is notably associated with those who either lean towards a greater indigenist input for the Lapita Cultural Complex and believe there is still a possibility that pre-Lapita evidence might be found in Remote Oceania (Allen and Gosden 1996; Gosden 1991) and others who argue more positively that there is indeed definitive evidence of pre-Lapita settlement or at least contemporary cultural groups settling Remote Oceania, and more specifically Vanuatu (Galipaud 1996a, 1996b; Gorecki 1992, 1996).

It must be said that these claims have neither been developed in a void nor were they particularly outlandish but can be partly traced to the initial research in both New Caledonia and Vanuatu which laid the foundations of doubt regarding the primacy of Lapita settlement in these archipelagos. This is coupled with the fact that there has been little subsequent research until recently in Vanuatu which has challenged earlier assertions. The anomalies initially identified in New Caledonia have been the specific focus of detailed research which has provided some clarification. The mysterious tumuli have now been assigned to the birds (Green 1988) and the paddle-impressed or Podtanean pottery, once seen as representing a separate cultural group (Green and Mitchell 1983), is now interpreted as the domestic component of the Lapita assemblages (Galipaud 1990; Sand 1995; Spriggs 1997:145).

Another complication which added further to an increasingly crowded group of ceramic entities was the initial identification, associated with a number of ceramic assemblages that were almost exclusively plainwares, of other separate but contemporary cultural groups to Lapita (Green 1985; Kirch and Rosendahl 1973; McCoy and Cleghorn 1988). However, with the further refinement of radiocarbon dates and many more excavations this scenario has been generally discounted and the plainwares, that are found throughout the Pacific from the Bismarcks across to Tonga, have been more convincingly ascribed to the Lapita Cultural Complex (Kirch 1997:146–150; Spriggs 1997:108–150). They are identified as the domestic component of Lapita assemblages which continued in use after dentate stamping had dropped out, an argument put forward long ago by Golson (1971).

What then of the discordant evidence in Vanuatu? This related principally to the pioneering research carried out in the 1960s by both Garanger (1972) and the Shutlers (M.E. and R. Shutler 1965, 1968) which had focused on the establishment of cultural sequences for the central and southern islands of Vanuatu (see Chapter 2 for a detailed discussion). From their work in the south the Shutlers proposed a tentative culture history that argued that horticulturists, accompanied by the pig, dog and chicken, had arrived in the islands some 3000 years ago (Shutler 1969:137). But most significantly there did not appear to be any evidence of ceramics in the archaeological record.
Garanger, on the other hand, recovered quite different evidence in central Vanuatu particularly in terms of ceramic remains. His excavations revealed the Mangaasi ceramic tradition, present on Efate and the Shepherd Islands, which he argued was in existence for 2000 years, was associated with a cultural group unrelated to Lapita and possibly pre-dated Lapita, at least in Vanuatu. Garanger noted that the Mangaasi tradition seemed likely to be related to a number of other incised and applied relief traditions that were found throughout the Southwest Pacific (Golson 1968; Specht 1969) and pointed to New Guinea as a possible source for its origin (Garanger 1972:124–125).

The apparently aceramic southern region of Vanuatu once again became the focus of research when Spriggs undertook fieldwork on Erromango in 1983 as part of the Tafea Culture History Project (Spriggs and Wickler 1989). Hypothesising that ceramics could be found on the uplifted eastern coast of the island Spriggs targeted a number of reef passages and fresh water sources. Ceramics were indeed identified at a number of sites and they were described as comprising principally a regional variant of Mangaasi with a minor Lapita component (Spriggs and Wickler 1989:82). The results from Erromango, along with a summary of artefact forms and a consideration of what he termed ‘transitional’ sites, inspired Spriggs to argue that rather than representing two separate pottery traditions and cultural groups there was a developmental sequence from Lapita to Mangaasi. In this he was following a hypothesis first canvassed as a Melanesia-wide phenomenon by Specht (1969) and Kennedy (1982). Spriggs (1984:217) also argued that there was evidence of widespread similarities in the form and decoration of the post-Lapita ceramic sequences, indicative of broadly synchronous change across the Southwest Pacific, which would have required a ‘continuing communication network’. This too was an extension of earlier theories that had argued for tentative connections across the Southwest Pacific that could be identified through the incised and applied relief tradition (Garanger 1972; Golson 1968; Specht 1969).

This revamped version of earlier syntheses initially had little effect on the status of the Mangaasi tradition in Vanuatu. Despite earlier challenges by Ward (1979) over its proposed chronology and now its relationship to Lapita (Spriggs 1984), the Mangaasi tradition continued to remain generally accepted as the unchanged entity first outlined by Garanger (1971, 1972).

Green (1985:222) questioned Spriggs’ assertions of cultural continuity in the ceramic records and argued that it had yet to be demonstrated. This was still a valid criticism ten years later (Green 1997:8), certainly at least in the case of Vanuatu. But with further archaeological research in the region the claim that the Mangaasi ceramic tradition was unrelated to Lapita and represented a separate cultural group contemporary with Lapita, began to be seen as increasingly problematic (Spriggs 1996a). Resolution of this issue, however, was put on hold in Vanuatu when archaeological and other social science research was banned by the government from 1984 until 1994. During the same period of the ban in Vanuatu the Lapita Homeland Project was undertaken in the Bismarck Archipelago (Allen and Gosden 1991). The spectacular results indicated that human occupation extended well back into the Pleistocene across the Bismarck Archipelago. Those results, combined with Wickler’s later demonstration of a 29,000 year prehistory for the Solomon Islands (Wickler 1995; Wickler and Spriggs 1988), again raised the question of whether Vanuatu too might have been settled pre-Lapita (Gosden et al. 1989).

During the period of the ban there was also renewed interest in Garanger’s original assertions of a possible New Guinean connection with Mangaasi (Garanger 1972:124), when ceramics were recovered from several sites in New Guinea claimed to be associated with dates of c. 5000 BP (Gorecki et al. 1991; Swadling et al. 1989). The reliability of the assertions of ceramics dating to such an early period in New Guinea has been challenged at some length (Spriggs 1996a, 1996b) and certainly in the case of the Ramu-Sepik sites (Swadling et al. 1989) the original dates associated with ceramics have been contradicted by further determinations (Swadling et al. 1991). Putative Mangaasi connections with these very early New Guinea ceramics have only been seriously
argued by Gorecki (1992, 1996) and Galipaud (1996a, 1996b). While these claims might seem a little far-fetched, Gorecki quite rightly pointed out that ‘answers to these questions can only be provided by archaeological investigation in Vanuatu’ (Gorecki 1996:64).

This background sets the research context and outlines a number of salient research issues that relate to the puzzle that comprises the linguistic, biological and cultural milieu that is contemporary Vanuatu. If further understanding of the underlying processes which have influenced the development of this diversity, found both in Vanuatu and across the Pacific, is to be realistically achieved through archaeology then the establishment and detailed comparison of regional sequences is essential (Clark 1999:252; Kirch and Hunt 1988; Hunt 1987:330; Weisler 1997:7). However in Vanuatu, right up to the mid-1990s fundamental questions relating to the initial colonisation and settlement of the archipelago and the succeeding changes which took place were still largely unanswered. Much of the country remained an archaeological terra incognita, the sum of the chronological information aptly described by Kirch and Hunt (1988:28) as ‘dreadful’. When the research ban was lifted in 1994, Matthew Spriggs received research permit number one and the Australian National University-Vanuatu National Museum Archaeological Project began (Bedford 2000b; Bedford et al. 1998, 1999; Wilson 2002). While this monograph focuses primarily on research carried out during the period of the above project (1995–1999), aspects of more recent significant research (2001–2003), carried out on a number of islands, particularly in northern Malekula (Bedford 2003) but also Efate (Bedford et al. 2004) will also be briefly mentioned.

Research objectives

This research focuses on the archaeology of Vanuatu (Fig. 1.2) and more specifically the timing and nature of initial colonisation and settlement and the later cultural transformations which ensued. Once some semblance of a regional sequence can be established for Vanuatu wider issues pertaining to the region in general can then be more closely scrutinised. One of the more pertinent issues and one which Vanuatu has played a central role, vis à vis the Mangaasi ceramic tradition, is the nature of the cultural change which occurred during the post-Lapita period which ultimately led to the conspicuous diversity that is found in the region. A widely accepted explanation for these changes in the Southwest Pacific, has been that it was related to a secondary wave or at least continued contact with Non-Austronesian populations further west, which contributed to the ‘Melanesisation’ of the region as far east as Fiji (Bellwood 1979; Golson 1961; Green 1963; Spriggs 1984). It has been argued that its most visible manifestation archaeologically is to be found in the ceramic record with some authors claiming that there is evidence of a Melanesia-wide Incised and Applied Relief tradition which demonstrated synchronous change from the post-Lapita period (Spriggs 1984, 1997; 2000) possibly lasting right up to 800 BP (Wahome 1997, 1999). Once detailed ceramic sequences from Vanuatu are established a re-appraisal of the ceramic assemblages which have been used to support the above claims can be carried out in order to further assess the validity of such a scenario.

Dating from initial arrival in Vanuatu, human populations have experienced a metamorphosis over the last 3000 years from an arguably single broad ancestral Austronesian language and cultural complex to 110 distinct languages (Tryon 1996) and a profusion of cultural forms. The archaeological record in Vanuatu has in the past contributed both confusion and clarification to our understanding of that archipelago’s history and the wider region. A set of inter-related research objectives and strategies were established prior to the commencement of fieldwork and continued to develop throughout its progress. They were as follows:

1. Testing for evidence of pre-Lapita settlement. This followed on from the work of Spriggs on Erromango in 1994 where a series of caves in areas affected by tectonic uplift had been
targeted for excavation. The northern island of Malekula (the second largest in Vanuatu at some 2024 km$^2$) and more specifically the Northwest area was chosen as an ideal region to test for evidence of pre-Lapita settlement. It is an island that experiences periodic tectonic uplift with some of the highest rates in the whole of Vanuatu, particularly in the Northwest where uplift is estimated to be some 3m per 1000 years (Taylor et al. 1980:5369). The coastal landscape comprises a series of uplifted coral terraces riddled with caves and shelters. At the completion of an initial survey some fifty caves/shelters or overhangs were recorded at varying altitudes with fifteen being targeted for excavation.

2. Clarification of the pioneering work of the 1960s and 1970s (Garanger 1972; Hedrick nd; Ward 1979). This objective was tied up largely with establishing the timing and nature of initial settlement and succeeding transformations. The relationship of the Lapita and Mangaasi ceramic traditions was one of the key issues. This required the identification and
excavation of a number of sites which possessed lengthy cultural sequences dating from initial settlement. The two sites of Ponamla and Ifo on Erromango provided such data. Initially a similar research strategy was employed on Malekula during the 1995-1999 research period but no sites that had lengthy continuous cultural sequences were located. Excavations instead revealed two ends of the cultural sequence, one associated with first arrival on the northwest coast and the other with the last 500 years leading up to European contact in the eighteenth century. During subsequent research (2001–2003) on the small islands of northeast Malekula, sites with lengthy cultural sequences were identified and they have greatly increased our knowledge particularly of Lapita settlement in that area (Bedford 2003). A return to the eponymous Mangaasi site on Efate was also undertaken in light of both Ward’s initial (1979) questioning of the chronology of the site and its ceramics and new interpretations inspired by the ceramics originally recovered from Erromango in 1983 and in much greater quantity in the excavations of 1995 and 1996 (Bedford 1999; Spriggs and Wickler 1989). Seven seasons of excavation at areas adjacent, immediately inland of and along the coast from Garanger’s original site, carried out between 1996 and 1999 and again from 2001 to 2003, have provided a detailed picture of settlement pattern and subsistence and a lengthy well dated cultural sequence.

3. Establish the basic outlines of prehistoric subsistence patterns in Vanuatu. Information regarding prehistoric subsistence activities in Vanuatu has been largely restricted to research in the Banks Islands by Ward (1979) and on Aneityum by Spriggs (1981) who focused exclusively on the evidence for horticultural intensification. The prehistoric faunal record for Vanuatu was very poorly known. An attempt to close this large gap in the record and highlight any changing trends was a priority of this research.

4. The clarification of the history of settlement pattern in Vanuatu. By combining the results of earlier research with those from a new range of site types and varied geographical locations on different islands it was expected that at least provisional conclusions could be drawn regarding the nature of the archipelago’s settlement history.

5. An assessment of the evidence for a Melanesia-wide incised and applied relief tradition. Early theories of the existence of such a tradition (Golson 1968; Specht 1969) still retain considerable influence today (Spriggs 1997, 2001; Wahome 1999 [see Clark 2003 for an historical review]). These have often utilised Garanger’s Mangaasi tradition as a point of reference. Once ceramic sequences had been established for a number of different islands in Vanuatu, evidence for inter-archipelago and/or inter-regional interaction as evidenced by homologous ceramic traits could be more accurately assessed.

In theoretical terms much of the archaeological research that has been carried out in the Pacific to date can be broadly positioned within the culture-historical paradigm. It is an approach that in the past has been criticised for producing ‘just so stories’ (Clark and Terrell 1978) and one that lacks any detailed consideration or explanation of the processes that lead to cultural or social change. But as eloquently stated by Sharp, ‘criticising a program of constructing accurate cultural sequences as ‘mere’ culture history is something of a luxury that can be indulged in only after culture history has been done, and done well’ (Sharp 1991:326). Moreover the culture history methodology that has been criticised relates more to the paradigm as practiced in the first half of the twentieth century (Lyman et al. 1997) but which has since that time seen significant transformation. No longer do culture histories comprise simple artefact inventories. They are now more often utilised in a complementary or supportive fashion in conjunction with newer approaches in archaeology (Green 1982:17; Lyman et al. 1997:231) that incorporate a wide range of variables which can include environmental and socio-economic factors and evolutionary theory.

Theoretical models constructed without detailed examination of empirical evidence or in the absence of such evidence can be shown to be fundamentally flawed (Green 1982). In fact either
without the other can lead to less than secure conclusions. Vanuatu is a classic case where early theories based on pioneering fieldwork remained unchallenged because little further archaeological research focusing on cultural sequences was carried out. As outlined above, Vanuatu’s archaeology has remained stuck in the pioneering phase for many years, lacking basic empirical data to facilitate further progress. This fundamental gap in the archaeological record of Vanuatu has necessitated that this research is heavily empirically orientated, in an attempt to redress the deficiency of fundamental data which ultimately provides the background to a more informed engagement of the theoretical issues.

Much of the archaeological research that has been carried out in the Pacific to date has been data-driven, largely because so little is actually known of the region. With the extraordinary volumes of new information that have been generated over the last 10-15 years, it has often been simply a matter of attempting to make some sense of the information as we endeavour to further understand the deep human history of the region. Theories are often outmoded soon after publication, or cannot be tested due to a total lack of pertinent basic data (Spriggs 1997:13). Simply collecting new data however is not in itself justification for research. Researchers need to be continually reassessing previously collected data in the light of new information and it must be continually integrated into new and changing interpretative frameworks (Denham and Ballard 2003:132; Felgate 2003:21; Gosden 1991:260).

Outline

This monograph comprises another ten chapters with related figures and the appendices. Chapter 2 outlines the history of archaeological research in Vanuatu and how it has contributed to the understanding of the archipelago’s longue durée (Braudel 1980). A number of conclusions which were gleaned from the pioneering research are detailed along with later reassessments that have been partly inspired by subsequent work. All the radiocarbon dates presented through the text include the uncalibrated date followed by the laboratory number and then the calibrated date at two standard deviations using the Calib program REV 4.1.2 of Stuiver et al., 1998 with delta R as 0 for marine samples (see Appendix 1 for a detailed list of radiocarbon and AMS dates associated with this research).

Chapter 3 outlines the excavation strategy and details the individual site stratigraphies and chronologies for the excavations at Ponamla and Ifo on Erromango, the series of cave sites and open areas on Malekula, and Mangasaï and Arapus on Efate. At a number of the sites both areal and test pit excavations were undertaken. Data from the individual test pits from the sites of Ponamla, Ifo, Mangasaï and Arapus are presented in detail in Appendix 2. Some assessment of regional settlement patterns is also presented at the conclusion of this chapter.

Chapter 4 deals with the methodology utilised for the analysis of the recovered ceramics which primarily focused on a combination of vessel form and decoration and to a lesser degree on fabric analysis through petrography. Various petrographic reports completed by Professor William Dickinson relating to this research are to be found in Appendix 3. Chapter 5 discusses the recovered ceramics from the sites of Ponamla and Ifo on Erromango. Chapter 6 outlines in detail the recovered ceramics from the recent excavations (1996-1999) at the Mangasaï site on Efate, while Chapter 7 focuses on the excavated and surface collected ceramics from Malekula. A full inventory of all the distinctive decorative motifs identified from the recovered ceramics that were assigned a numeric is given in Appendix 4.

Chapter 8 presents a synthesis of the proposed ceramic sequences from the various islands and makes further inter-island Vanuatu comparisons and inter-regional/archipelago comparisons. Sites and ceramic assemblages outside Vanuatu that were specifically targeted were those that
have been argued previously as having parallels to the Vanuatu assemblages in terms of homologous ceramic traits.

Chapter 9 deals with the non-ceramic items of material culture recovered from the excavations. Attention is focused both on a detailed discussion of the composition of the recovered non-ceramic items and an attempt to determine if there were any changing temporal trends through time. Chapter 10 presents the faunal remains which, as noted, have to date been poorly documented. Emphasis is again focused on presenting a basic outline of the recovered faunal remains which is then used to establish patterns of subsistence. Any temporal change or regional variation is highlighted. Chapter 11 presents the conclusions of the study and discusses its implications and points to potentially productive avenues for future research.