

# Desert Peoples

*Archaeological Perspectives*

*Edited by*

Peter Veth

*(Australian Institute of Aboriginal  
and Torres Strait Islander Studies),*

Mike Smith

*(National Museum of Australia), and*

Peter Hiscock

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## NOTES ON CONTRIBUTORS

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# Global Deserts in Perspective

*Mike Smith, Peter Veth, Peter Hiscock,  
and Lynley A. Wallis*

## Introduction

For centuries, deserts have captured the public imagination as places of extremes. These are landscapes that might be perceived as impenetrable barriers to human occupation or instead as the domain entered into by individuals pursuing a revelatory experience. They are of course also the same terrain through which the Tigris and Euphrates Rivers passed and which, when hydraulically “tamed,” became the agricultural powerhouses of the Near East.

Desert societies have also been central to the anthropological imagination. The classic ethnographies of hunter-gatherer societies – of the *Ju'hoansi* (!Kung), the *Paiute* and *Shoshone*, the *Arrernte*, *Pitjantjatjara*, and *Pintubi* – all deal with desert peoples. Surprisingly, very few analyses have adopted a comparative perspective on a global scale (however, see Peterson 1979). This volume aims to bring together studies which, as a corpus, allow us to take a comparative approach to the emergence and diversity of global desert societies.

Over the last century, hunter-gatherer studies have moved from a social evolutionary perspective at the close of the nineteenth century (Spencer and Gillen 1899), to structural-functionalist or cultural ecology frameworks in the twentieth century (Gould 1969; Lee 1979; Steward 1938). The *Man the Hunter* symposium (Lee and DeVore 1968) promulgated a now popular model of hunter-gatherer society, the “generalized forager” model, which was based substantially on these desert hunter-gatherer groups. Under this model, generalized foragers shared five basic characteristics: egalitarian society; low population density; lack of territoriality; minimal food storage; and fluid band composition with changes in residential mobility used to maintain social ties and reduce intragroup conflict – though it remains to be determined whether these are characteristic of foragers in desert environments, rather than hunter-gatherers in general. The elements of this socio-economic model had been formulated in Steward's (1938) pioneering study of

Great Basin *Shoshone* and *Paiute* foragers. This model was reinvigorated during the 1970s, and at that time *!Kung* bushmen came to be seen as the quintessential hunter-gatherers. A review of social and behavioral variability in hunter-gatherers shows that there is a wide spectrum of hunter-gatherer societies if groups living in other types of habitats are included in the analysis (Kelly 1995). Over the last 20 years, hunter-gatherer research has shifted towards either behavioral ecology (Smith and Winterhalder 1992) or historical analyses of these societies (e.g., Schrire 1984; Wilmsen 1989). (For accessible interdisciplinary overviews of hunter-gatherer studies, see Lee and Daly 1999 or Panter-Brick et al. 2001.)

In putting this volume together, we felt that it was time to reframe questions about the structure and dynamics of foraging groups, using the desert environment as a frame of reference and comparison. Deserts have a special role in human evolution and adaptation. They appear to be the major terrestrial habitat that channeled early human dispersal, representing barriers at some times, corridors at others (cf. Gamble 1993). Studies of desert societies have also provided some of the most fertile ground for debates about human adaptability and how societies cope with marginal – often precarious – environmental circumstances, and about the effects of these environmental conditions on human land use, mobility, and dispersal (Kelly 1995). How do societies in marginal environments actually deal with risk in either a reactive or strategic sense? Many desert foragers in the ethnographic record appear to have responded by changing their diet-breadth and residential mobility. For others, such as in the Old World deserts of the Northern Hemisphere, the proximity of deserts to the major zones of plant and animal domestication appears to have provided a mutual ecology for change, in both the mode and relations of production. The long-term dynamics of both desert societies and the desert environment are not readily accessible to analysis using standard ethnographic or historical approaches. For this, the longer perspective provided by archaeology is necessary.

The emphasis of this volume is therefore squarely on deserts as a major world habitat, on hunter-gatherer peoples in deserts, and on the rapidly growing body of archaeological data on the deep history of these groups.

### **Deserts: A Modicum of Facts and Figures**

Deserts are one of the world's major habitats, forming large bands of drylands along the tropics in both the Northern and Southern Hemispheres (see Mares 1999 and Middleton and Thomas 1997 for overviews of world deserts). A recent map of the extent of world deserts has been produced by the United Nations Environment Program (UNEP) (see Middleton and Thomas 1997) and is reproduced here as Figure 1.1. Deserts cover around 25,500,000 sq km, approximately 20 percent of the land area of the world (see Table 1.1). The boundaries of these drylands are neither static nor abrupt: they have changed throughout the Quaternary in response to shifts in global climate and weather systems – and will no doubt change over the next century as human-induced global warming takes effect. The defining

GLOBAL DESERTS IN PERSPECTIVE

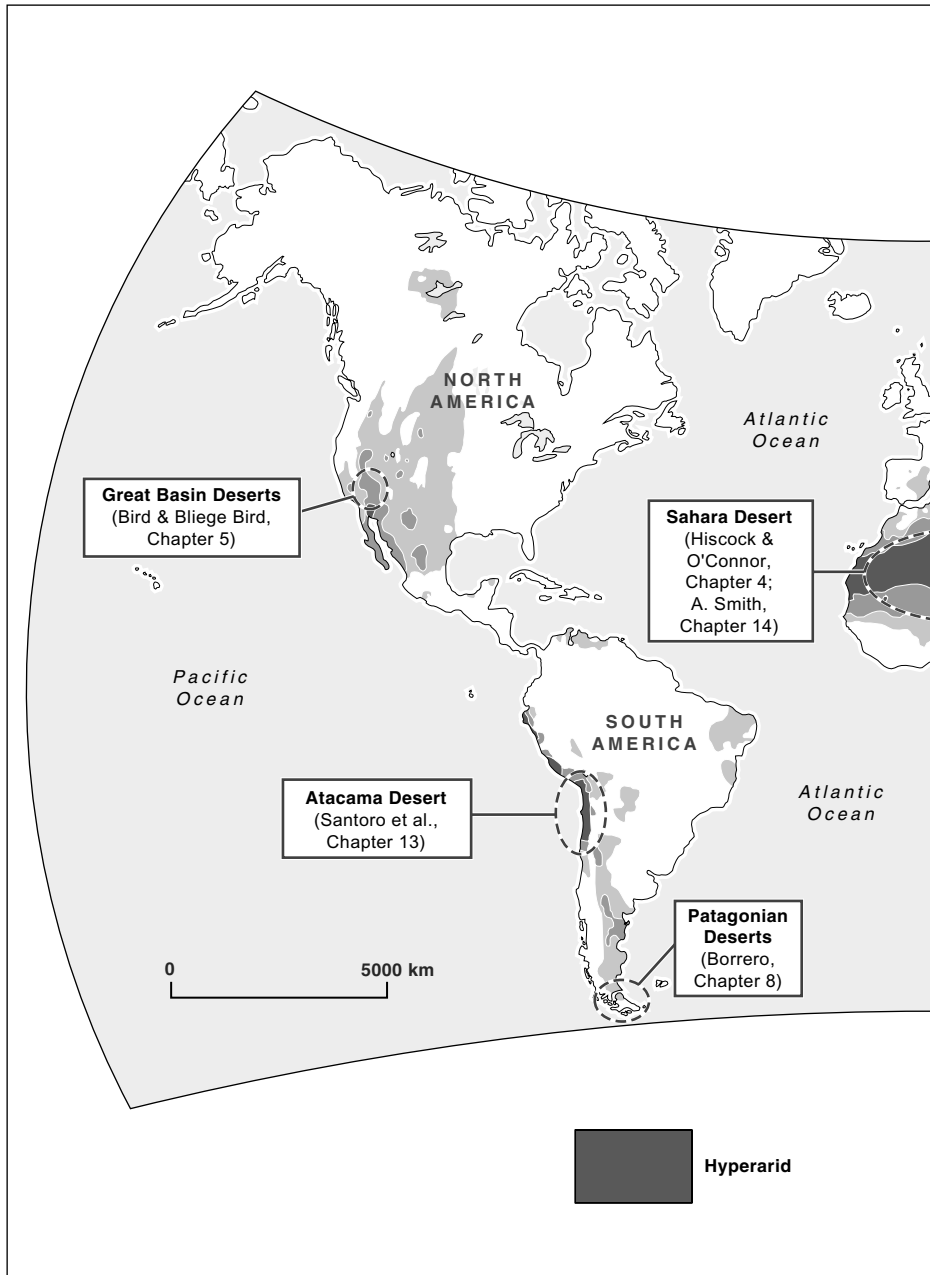
**Table 1.1** Area of world deserts by region and zone. Figures are square kilometers x 1,000,000 (after Middleton and Thomas 1997: table 1.1).

<i>Zone</i>	<i>Africa</i>	<i>Asia</i>	<i>Australia</i>	<i>Europe</i>	<i>North America</i>	<i>South America</i>	<i>Total</i>
Arid	5.04	6.26	3.03	0.11	0.82	0.45	15.69
Hyperarid	6.72	2.77	0.00	0.00	0.31	0.26	9.78
Total	11.76	9.13	3.03	0.11	1.13	7.02	25.47

characteristic of world deserts – *aridity* – can be measured in a number of ways. The current UNEP definition is that it represents a moisture deficit under normal climatic conditions where  $P/PET < 0.20$ ; that is, where rainfall is less than 20 percent of potential moisture loss through evaporation. Several factors interact to determine the intensity of aridity:

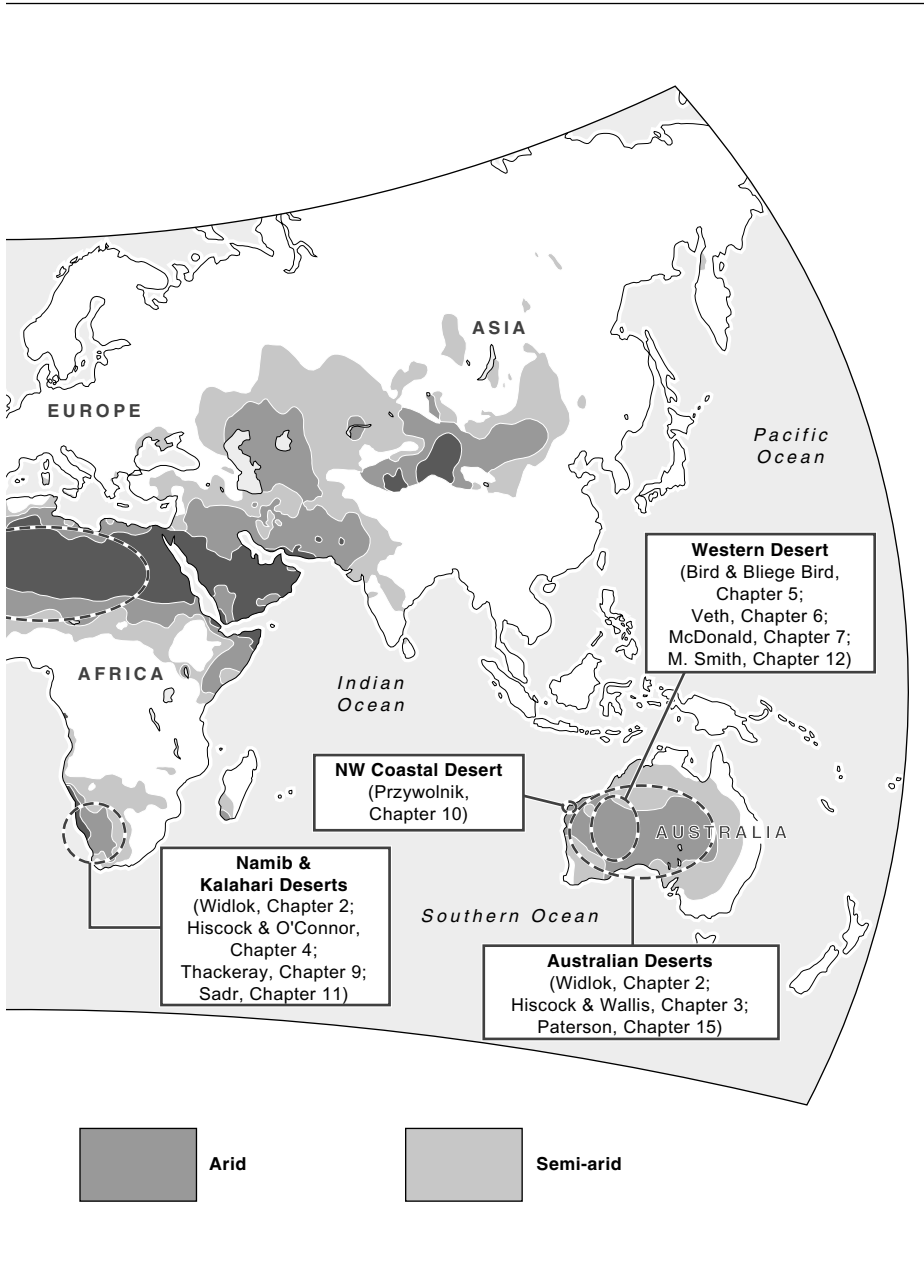
- *Atmospheric stability.* Most deserts are low latitude deserts, made of two latitudinal bands along the tropics ( $23^{\circ}N$  and  $23^{\circ}S$ ) produced by patterns of atmospheric circulation.
- *Continentality.* Deserts are often found in the interior of continents where the reach of maritime air masses is less pronounced. This is often accentuated by topography and by cold ocean currents.
- *Topography.* High mountain ranges can form barriers to moist maritime air masses and create rain-shadow deserts, as in the case of central Asia and Patagonia.
- *Cold ocean currents.* Low sea-surface temperatures along the west coasts of continents reduce sea-surface evaporation and contribute to aridity, such as along the Namib and Atacama coasts, by reducing the effectiveness of maritime air masses.

This highlights the extreme variability in these habitats, which range from great continental deserts (such as the Sahara, Kalahari, and Australian deserts) to basin-and-range or montane deserts (such as North America’s Great Basin or the *Puna* in northwestern Argentina), coastal deserts (like the Namib or Atacama), or regions where aridity is substantially increased by the rain-shadow effect of nearby mountains (such as in the central Asian deserts, or in the Patagonian deserts). There is also great variability in the intensity of aridity in world deserts. The eastern Sahara in North Africa, the Atacama in northern Chile, and the Namib in southwestern Africa all receive little or no rainfall today and are referred to as hyperarid regions. In these environments life revolves around springs or shallow groundwater seepages, stream flows from the Andes Cordillera (in the case of the Atacama), or moisture from coastal fogs (in the case of the Namib). Outside of the scattered oases or well-watered ravines, absolute desert has few resources for a hunter-gatherer population. In contrast, the Kalahari Desert receives relatively good rainfall (250–500 mm per annum) but the deep porous Kalahari sands mean that





GLOBAL DESERTS IN PERSPECTIVE



**Figure 1.1** Map of world drylands based on UNEP aridity index (after Middleton and Thomas 1997: figure 6). Hyperarid = areas that have very limited and highly variable rainfall amounts, both interannually and on a monthly basis; Arid = areas that have mean annual precipitation up to about 200 mm in winter rainfall areas and 300 mm in summer rainfall areas; interannual variability in the 50–100 percent range; Semi-arid = areas with highly seasonal rainfall regimes and mean annual values up to ca. 800 mm in summer rainfall areas and ca. 500 mm in winter rainfall areas; high (25–50 percent) interannual variability.

this is quickly lost: in effect, the Kalahari “thirstland” is an edaphic desert. The Australian deserts also receive comparatively good rainfall and like the Kalahari are well vegetated: the challenge here for people is the pronounced interannual and decadal variability in rainfall in such deserts, which are subject to a “boom and bust” cycle over decades.

### **Desert People: Some Issues**

Current UNDP/UNSO statistics indicate that around 313 million people (about 13 percent of the total population) currently live in the world’s arid zones, with 92 million alone residing in hyperarid deserts. These figures include significant urban populations, reliant on resources (and often water) imported from outside the zone, especially in Africa, South America, Arabia, and central Asia. It is likely that prior to the rise of cities and agricultural or pastoral communities, the proportion of world population in deserts would have been significantly greater.

Deserts are difficult environments for hunter-gatherers not just because scarcity of water and other resources are limiting factors. These are environments where resources are patchy and highly variable in both time and space. Often, small parts of the wider landscape – springs, groundwater discharge zones, run-on areas – are the key to utilization of the wider region. Rainfall events create pulses of biological productivity separated by long dormant periods and these are largely unpredictable in time and space. Desert environments are characteristically subject to high interannual, decadal, and millennial variability in rainfall. In deserts, much of the ecosystem is geared towards a pattern of “pulse and reserve” (a term coined by the desert ecologist Immanuel Noy Meir) or “boom and bust” that people also use and exploit for their own needs – social as well as economic. Deserts are also highly patchy environments in which nutrients and/or water are concentrated in patches within a larger, less productive landscape.

Most desert hunter-gatherers are water-tethered to some degree, but in the Australian and southern African deserts, where there are significant plant and animal resources thinly distributed throughout the desert, it is the distribution of small surface waters, seepages, wells, and springs that provides access to the desert hinterland and a means of stepping through the country; like navigating through islands on the sea (cf. Veth 1993). Hunter-gatherers in these environments have strategies which involve high residential mobility, broad-spectrum foraging, and a high degree of organizational and technological flexibility. Not all contemporary deserts, however, conform to this pattern. In the Atacama, for instance, the desert hinterland is absolute desert with no appreciable biological resources. All productivity is concentrated in the widely separated oases and ravines. Such an extreme environment favors greater investment in territoriality, “landesque” infrastructure such as semi-sedentary villages and storage facilities, and a higher level of management of wild herd animals and wild plant foods.

Generalities about the relationship between the economic/social strategies of human groups and the nature of deserts in which they live provide an insight into

the historical patterns of human existence in arid lands. However, the present is not simply an iteration of the past, and explorations of ancient human colonization and settlement of deserts must deal with at least two complexities. First, past environments in which humans lived were often different, sometimes radically so, to those where people were observed in recent times. The opportunities and constraints of those different ecosystems provided the context for early settlement strategies, and archaeological interpretations of past desert lifeways must therefore be set within a framework of the environmental history of each landscape. The second complexity involves the question of what adaptive strategies equipped people to move into deserts for the first time; what kinds of economic tactics had emerged in other landscapes that prepared human groups for survival in the variable and extreme conditions of a desert. A related question is when, and in what conditions, did the economic and social systems visible in historic desert settlement arise; and how far back in time can we recognize those forms of cultural organization?

When did people first settle these precarious environments? Archaeological evidence indicates that people have a long presence in the African deserts. Early Stone Age or Acheulian sites are reported from the Namib and Kalahari, where they are associated with ancient river courses, and in the eastern Sahara, where they are associated with artesian springs and lake deposits (e.g. at Bir Tarfawi). One of the perennial difficulties with the interpretation of such data is in determining whether this reflects exploitation of favorable patches within a desert environment or whether these areas were semi-arid savannas at that time. By the Middle Stone Age (ca. 60,000 years ago) there is good evidence for establishment of a resident hunter-gatherer population in the southern Namib Desert. The Australian deserts were widely occupied by 40,000–30,000 BP, though the nature of this occupation is still being worked out – and most researchers agree that early settlement may have been patchy.

Any discussion of the initial colonization of deserts now draws on a significant body of archaeological and biological theory about the likely pattern of dispersal into new environments and the use of patchy or mosaic environments such as deserts (for overviews, see Clobert et al. 2001; Forman 1995; Rockman and Steele 2003; Shigesada and Kawasaki 1997). In both the archaeological and biological literature, a distinction is conventionally made between the exploratory or pioneer phase of initial colonization and later establishment of a full settlement system. For instance, Beaton (1991) distinguishes between “transient explorers” and “estate settlers.” Where settlement of the desert took place early, this distinction is hard to isolate using current archaeological data. Our best chance of analyzing the process of settling a new desert is in the Americas, given the relatively short prehistory of these regions. A recent review of the early settlement of North America (Haynes 2002) suggests that this two-phase model of desert colonization may be applicable there. During the Clovis period, hunters used lake and spring sites within the desert southwest (including the Mojave Desert), but wider settlement of the desert – and adaptation to desert plant resources such as seeds – did not occur until later during the early Archaic phase. Most deserts have also seen periods of enhanced rainfall, fluvial activity, groundwater discharges, and greater biological activity in

the past. There is an opportunity here – provided we can get a clear definition and resolution of these changes in time and space – to look at how human societies have dealt with these periods of expanding or contracting living space and opportunities.

### Outline of this Book

The chapters in this volume help shape a fresh and more comparative perspective on desert archaeology. When approached by Blackwell Publishing to commission a series of comparative chapters on this topic we quickly found that, except for pockets of research, this was largely a new area. Much of the archaeological research in deserts has simply been framed in other terms – responding either to general questions embedded in national and regional prehistories, or dominated by wider debates (e.g. the great Kalahari debate; megafaunal extinctions; the emergence of complexity in hunter-gatherer society; interpretation of lithic assemblages, etc.). Only in Australia, the world's driest continent, with more than 3,000,000 sq km of desert or drylands, has the desert become an explicit focus for research into the dispersal and adaptation of humans, and the long-term dynamics of hunter-gatherer settlement in desert environments.

The chapters in this volume have been written to introduce a new generation of students and general readers to broad issues in the archaeology of desert hunter-gatherers, complementing an earlier book, *The Archaeology of Drylands* (Barker and Gilbertson 2000), that looked at the archaeology of agricultural societies in drylands. The focus here is on hunter-gatherers. Over half of the case studies presented draw on Australian data, reflecting the level of interest in desert research there. About half the chapters look at southern African or American deserts (the Great Basin, the Atacama, and Patagonia). The major gaps in global coverage are the Middle Eastern and central Asian deserts, despite the editors' attempts to commission material on these areas.

The book is organized into three parts, which are developed further as introductory comments before the relevant chapters. In summary, the parts are:

*Frameworks.* This part provides wide-ranging discussion of key temporal, ethnographic, and interpretive frameworks employed in studies of desert hunter-gatherer groups from around the world.

*Dynamics.* This part provides a range of archaeological perspectives on the long-term dynamics of desert societies. Archaeology now provides a finer-grained historical picture of desert hunter-gatherers, showing long-term shifts in economy and land use – but as these chapters caution, such changes are not necessarily incremental or directional.

*Interactions.* Clearly, there are a range of factors shaping desert societies that are not environmental. Some are social and/or political, and derive from the position of desert societies on the margins of demographically dominant populations surrounding the deserts, and their interactions with these groups.

Further themes which emerge from many of these chapters include the nature of early desert hunter-gatherer societies, the technological and organizational responses of such groups to encroaching aridity, the role of art as a mediating factor in desert occupation, the relationship between language spread and hunter-gatherer settlement patterns, and the timing of occupation of all desert habitats and the climatic backdrop against which people's estates became established.

One of the fundamental issues addressed by this volume is the degree to which landscapes were indeed "marginal" or challenging when first explored/occupied by humans (e.g. Chapters 3 and 5). We know from regional paleoenvironmental records in Australia that climate has changed significantly since colonization by anatomically modern humans approximately 50,000 years ago and importantly that phases of aridity have followed more lacustral regimes (and vice versa). The freshwater lakes of western New South Wales which once supported abundant fish and shellfish resources are now salt lakes bordered by shifting sand fields (Johnston et al. 1998). In many regions early colonists will likely have experienced desert landscapes which were less "marginal" than their contemporary configurations. Indeed, it has been argued that early colonists of Australia were competent exploiters of the interior portions of the world's most arid continent and were not effectively tethered to the coast (cf. O'Connor and Veth 2000).

Critical to any such review is the global timing for desert occupation and what this implies about the competencies of anatomically and culturally modern humans. Do in fact humans occupy deserts early on, or only where these were semi-arid and less "marginal" landscapes? Is there evidence for occupation of all desert habitats early on? Are these occupations as early as other modern behaviors, such as the first sea crossings (from the Wallacean islands to the landmass of Greater Australia) or the earliest dated expression of art? The complexities of addressing this question are raised in Hiscock and O'Connor's discussion (Chapter 4) of the ambiguities found in many identifications of modernity, revealing that this is not merely an issue that can be resolved by substantive investigations of the timing of desert occupation but which is additionally entangled in our conception of modernity in humans.

Another critical issue is the degree to which deserts are actually homogeneous and represent a uniform bloc of physical attributes. Do they have uniform characteristics both across subregions and through time? How real is the concept of the desert culture bloc and the conservative nature of the societies occupying such a monolithic construct? The chapters from Australia, Africa, and the Americas suggest that this assumption needs to be challenged at a number of levels.

When an ecological and biogeographic approach is taken in an examination of desert systems (after Smith 1989; Veth 1993) it becomes apparent that adjacent areas are likely to have presented a variety of optimal situations for hunter-gatherers to establish different kinds of habitation loci, to target varied prey, to engage in different forms of residential and logistical mobility patterns, and to engage in different rhythms of aggregation and dispersion depending on local and regional climate patterns. For Aboriginal groups to structure their use of the Lake Eyre Basin of Australia, which only receives floodwaters from the north on average

once every ten years, is a very different scenario to the persistence of human occupation in the central Australian ranges, where permanent water “oases” have been present since the Tertiary period (cf. Hughes and Hiscock in press).

Not only is physical variation across desert systems arguably of relevance to hunter-gatherers; there are also the different climate histories which will have impact at both the regional and local levels and which will serve to make conditions either more marginal and “risky” or increase the productivity and reliability of economic resources – both inviting changes in social and technological organization.

The need to accurately contextualize the archaeological record against an environmental framework has, in the past, been hampered by our rudimentary knowledge of the impacts of changing climatic conditions on arid regions across the world (Veth et al. 2000; see also Chapter 3, this volume). This is largely seen as a direct consequence of the general absence of appropriate, uninterrupted data-sets on which to base interpretations, and environmental conditions that are often not conducive to the preservation of organic materials. While dry, arid conditions can be excellent for the preservation of macroscopic organic remains in sheltered archaeological sites, they usually result in extreme degradation of fragile pollen grains in open contexts that otherwise would serve as vegetation markers allowing inferences to be made about climatic change. Reconstruction of climate based on pollen analyses in arid regions is further frustrated by the absence of useful indicator types and the generally non-specific nature of the grassland pollen types which usually dominate such assemblages. Nevertheless, in recent decades a more sophisticated understanding of environmental change in arid regions has begun to emerge.

Forced by necessity, paleoenvironmental researchers interested in the arid zone have focused on sedimentary, stratigraphic, geochemical, mineralogical, and geomorphological investigations of fluvial and lacustrine systems (e.g., Bowler 1998; Magee and Miller 1998; Vogel 1989). In addition, recent developments in luminescence and U-series dating have greatly assisted the study of aeolian sediments, tufa formations, and speleothems in arid landscapes (e.g., Brook et al. 1996; Brook et al. 1999). More novel data-sets relevant to paleoenvironmental research in low-altitude deserts within Australia, South America, and North America include botanical materials preserved in stick-nest rat middens (e.g., Betancourt et al. 1990; Latorre et al. 2002; Pearson and Dodson 1993). Tufa formations, speleothems, and mud-wasp nests have also been recently recognized for their value in preserving vegetation indicators, such as pollen and phytoliths, in arid regions of the world (e.g., Burney et al. 1994; Roberts et al. 1997; Wallis 2002, 2003).

Other data of relevance to reconstruction of desert environments may sometimes be available from offshore marine cores that preserve indicators such as diatoms, foraminifera, pollen, phytoliths, isotopes, and charcoal, as well as from high resolution coral records. Similarly, ice cores in or adjacent to high-altitude deserts offer unique insights into climate change, often at a much higher resolution than is typically afforded by the archaeological record (e.g., Shimida et al. 1991; Thompson et al. 1998).

Proxy data from archaeological cave sites (such as faunal remains, macrofloral material, phytoliths, and charcoal) may also provide valuable clues as to what the

environment was like in the past (e.g., Bowdery 1998; Esterhuysen and Mitchell 1996; McConnell and O'Connor 1997; Robbins et al. 1996; Smith et al. 1996; Wallis 2001). However, the interpretation of such assemblages in terms of paleoenvironmental reconstruction is considerably more difficult, owing to the potential bias in the materials present caused by anthropogenic behaviors. In summary, there is still an enormous amount of work to be carried out in placing archaeological sequences from what are now deserts in to accurately reconstructed past environmental contexts.

Overall, this book is intended as an issues-based volume, rather than a series of regional overviews, but each chapter includes extended case studies illustrating key issues. A similar interdisciplinary approach (but on a different topic) was successfully adopted in *The Archaeology of Prehistoric Coastlines* (Bailey and Parkington 1984) and we believe that a comparable examination of human life in deserts provides an equally productive and provocative framework for future work.

There is a strong international demand for knowledge about the dynamics of human settlement in arid regions. The history of humans in arid lands can be used as a tool for developing knowledge about the evolution of desert systems, and understanding environmental changes currently underway there or likely to take place in the near future. We hope this volume satisfies at least some of this demand.

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# Part I

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## Frameworks

The authors of part one provide a series of fundamental chronological, ethnographic, and interpretive frameworks that reveal patterns of desert hunter-gatherer life. The case studies are diverse, with Thomas Widlok (Chapter 2) employing African and Australian ethnographies; Peter Hiscock and Lynley Wallis (Chapter 3) focusing on the archaeology of Australian foragers; and Peter Hiscock and Sue O'Connor (Chapter 4) comparing the African and Australian archaeological sequences as a way of evaluating explanatory frameworks for tool assemblage changes in deserts and beyond.

Despite the different case studies presented in these chapters a series of underlying themes connect them, and these themes are reinforced by their presentation and representation in diverse explorations of desert life. For instance, each of the chapters contains an exploration of the reality of the “eternal character” (Widlok) so often attributed to deserts. The illusory nature of images of unchanging and invariant adaptations to uniformly harsh and static desert environments is clearly explicated in the different arguments of each chapter. While Hiscock and Wallis (Chapter 3) discuss the consequences of long-term climatic shifts for human occupation in the late Pleistocene, Widlok (Chapter 2) neatly explores the complex interaction of social alterations in hunter-gatherer practices in recent times and the nature of anthropological activities. Rejection of normative and fixed pictures of desert life is essential in our search to understand the complexity of human existence in deserts across the globe. In their consideration of cyclical archaeological phenomena, Hiscock and O'Connor (Chapter 4) raise critical questions about the explanation of archaeological changes and the complexities of employing ethnographic models for ancient archaeological materials. These contributions explicitly raise questions about the way in which ethnographic information can be employed in reconstruction of desert lifeways, and challenge archaeologists to develop a critical awareness of the issues involved in employing ethnographic information as an aid to archaeological interpretation. The themes of part

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one – awareness of the variability in desert life and of the intricacy of employing ethnographic images of that life in archaeological reconstructions – are also displayed in the chapters studying the long-term dynamics of human life in arid lands.

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# Theoretical Shifts in the Anthropology of Desert Hunter-Gatherers

Thomas Widlok

## **Introduction: Hunter-Gatherer Studies and Anthropological Theory**

Hunter-gatherer studies have been critical to anthropological thinking in different ways and at various points in the history of the discipline. There have been discernible shifts in the relationship between hunter-gatherer studies, anthropological theory, and public imagery for well over 150 years (Barnard 1999). Hunter-gatherers played an important role in the imagination and theorizing of many thinkers of the enlightenment period and more specifically in the development of various kinds of evolutionary theories. These emerging relationships were fueled and intensified through early ethnographic work on hunter-gatherers, such as that of Boas (1888) and Spencer and Gillen (1899). However, by the time that the practice of extended fieldwork was firmly established in social and cultural anthropology, interest had moved away from hunter-gatherers to the study of villages or segmentary clan structures.

None of the classic ethnographic monographs in the “golden age” of British social anthropology, for instance, deal with a hunter-gatherer group (for example, Radcliffe-Brown’s 1922 study on the Andamans is far less widely read than his other work). This was due to the mutually reinforcing relations between the early twentieth century theoretical focus on social and cultural structures and the preparation of village case studies exemplifying these structures. Scholarly fascination with hunter-gatherers seems to have only returned in full force towards the latter half of the twentieth century. Although this shift was initially against dominant anthropological interests in issues such as complex symbolic systems and lineage structures, it became increasingly informed by new theoretical interests in process, flexibility, and the dynamics of social and cultural forms.

There are good historically oriented surveys that outline this broad pattern of the shifting role of hunter-gatherer studies within anthropology (e.g., Barnard 1983; Bender and Morris 1988). This chapter will highlight some of the key features that characterize theoretical shifts in the anthropology of desert hunter-gatherers and the ways in which these are linked to more general developments in hunter-gatherer studies and in anthropology.

### Entering the Field – Leaving the Desert

When anthropological work based on long-term ethnographic field research became the standard research strategy in the early twentieth century, ironically many desert hunter-gatherers were moving in the opposite direction, leaving their home habitat and coming to live as fringe dwellers at the margins of the colonized world. At the same time many anthropologists, and especially those who relied on diffusion to explain the spread and change of culture, continued to talk about desert hunter-gatherers as “retreating” into the desert. The characterization as *Rest-und Rückzugsvölker* (remaining and retreating peoples), as they were known in German anthropology (cf. Schott 1956), led to one of the first major theoretical debates in the study of desert hunter-gatherers. In the first Kalahari Debate, branches of the German culture history school of anthropology were divided on the issue of whether or not the Bushmen of the Kalahari were “secondary primitives.” Were the Bushmen dislocated remnants of a more complex original hunter-gatherer culture in the ecologically more fertile areas of the Cape or, instead, “original” hunter-gatherers (see Szalay 1986)? The original scenario that Bushmen had retreated to previously uninhabited desert regions was seriously flawed mainly because there was no evidence that the communities of living hunter-gatherers of the Kalahari had moved there in recent times. Indeed, there is archaeological evidence to clearly show that the opposite was the case (see Chapter 11, this volume). What remains a critical issue to this day, however, is to what extent their desert dwelling lifestyle is representative for a hunter-gatherer way of life more generally, especially with regard to the hunter-gatherers who have inhabited the moderate and cold zones in Europe in the remote past. The fact that most hunter-gatherers in more moderate climates were culturally and physically destroyed or absorbed before systematic ethnographic field research began is one of the major and given limitations for research in this field. The question of representativeness is therefore one that can only be resolved in small steps with an investigation into the details of various aspects of hunter-gatherer life and with full recognition of the large spectrum of historical and regional variation that has undoubtedly occurred.

Speculations about a “retreat” of hunter-gatherers into the remote deserts notwithstanding, many hunter-gatherers *de facto* moved out of the desert as ethnographers began to move into the field to gain a better understanding of this way of life. For instance, one of the most influential representations of desert hunter-gatherers, namely Ian Dunlop’s *oeuvre* of films, was made possible only because the filmmakers took two Aboriginal families back into the desert that they