

## 1 INTRODUCTION

In a series of papers between 1971 and 1977 three fundamental questions for archaeological research in the arid zone were defined (Golson 1971; Mabbutt 1971; Gould 1971, 1977; Allen 1972, 1974; Bowler 1976; Bowdler 1977). These concern the timing of human dispersal and colonisation in the region, the adaptations that were necessary for this to take place and the subsequent maintenance of human groups in a marginal environment. More specifically these studies posed the following questions. Was the arid interior of the Australian landmass settled as part of an initial dispersal of humans into the continent from the Indo-Malaysian region; or did the aridity of the region pose particular problems for these early human groups? To what extent did the ability to use the new plant resources of the region, such as grass and acacia seeds, affect the timing of initial settlement; and what was the role of these resources in the ecology of subsequent settlement? Can we identify an ebb and flow of population across the region in response to the climatic pulses that periodically reactivated its fossil river systems and lakes; or was settlement of the region stable and narrowly circumscribed by the limited opportunities of a desert environment?

These are basic questions about the human biogeography of the Australian arid zone. But they are of more than just regional importance as the arid zone encompasses nearly 60% of the

Australian landmass. As Jones (1987:666) has succinctly put it, having mastered the capacity to cross water, the true barrier to the colonisation of the Australian continent lay not in the occupation of the tropical north but in the ability to establish and maintain human settlement in the arid country to the south.

Both Gould (1971, 1977) and Bowdler (1977) framed answers to some of these questions. Together their respective theories provide a rather elegant account of desert prehistory. Bowdler's view was that the first human movements into the arid zone took place as late as 10-12,000 yrs BP and she noted that this neatly intermeshed with Gould's account of a distinctive desert culture, already in place by 10,000 yrs BP and stable throughout the Holocene. Mabbutt (1971) and Bowler (1976) provide quite a different perspective. Bowler assumed that colonisation of the continental interior would have taken place before the last glacial maximum, at a time when the wetter conditions of the lacustral phase offset any problems that might have been posed by aridity. Given a palaeoenvironmental record showing periodic intensification and relaxation of arid conditions both Mabbutt (1971) and Bowler (1976) argued that there would have been significant fluctuations in population density in the arid zone and also changes in the distribution of the human population about the better watered ranges and riverine tracts.

One result of Bowdler's influential 1977 paper was to direct further fieldwork towards the search for evidence of Pleistocene settlement in the arid zone. Apart from the work presented in this thesis the most systematic pursuit of this question has been by Lampert and Hughes in the southeastern part of the arid zone (Hughes and Lampert 1980; Lampert and Hughes 1980, 1987; Lampert

1985). However concern with the timing of settlement has also drawn attention away from the other items on the research agenda, notably the development of an economy focussed upon the intensive use of wild seeds, and the question, initially raised by Gould (1971), of long term cultural stability in the desert.

An empirical foothold on these issues has been hindered by the practical difficulties attached to fieldwork in the region. Foremost amongst these is the difficulty of establishing a chronological framework in circumstances where material for radiocarbon dating is often absent, where the stone artefacts show broad technological continuity and where stratified archaeological deposits are rarely found.

When I began my fieldwork in 1982 the Central Australian ranges were widely regarded as having the best prospects for investigating some of these research questions. The ranges consist of a comparatively well watered upland isolated in the centre of the arid zone. They were known to have supported relatively high ethnohistoric population densities and they could be presumed to have been remote from the complicating effects of events on the periphery of the arid zone.

As it turns out, the results of my research bear on all three aspects of desert prehistory. I will present evidence to show that the central part of the arid zone was occupied by 20,000 yrs BP and to show that the subsequent settlement has not been as stable as portrayed by Gould (1977) in his Desert Culture model. In particular, there is evidence for a substantial increase in population at about 1400-600 yrs BP. In the published papers that support this thesis I also present my research into the antiquity

of seed-gathering economies. I argue that they are a late Holocene development unconnected with the first human moves into the desert.

Some comments on the structure of the thesis are warranted. Chapter 2 reviews the various ideas about desert prehistory in more detail and looks at the processes that may have operated to bring about changes in the economy and population density of human groups occupying the arid zone. The core of the thesis is essentially made up of a series of excavation reports - in chapters 4-9 - presenting details of the stratigraphy, chronology and sequence of occupation at 16 sites - 10 of which I excavated under the aegis of this project. These chapters have a common format and focus upon changes in site use. I have also set out to summarise what I have been able to learn of the cultural landscape surrounding the excavated sites as this is important for understanding the significance of these changes. Chapter 3 is the key to using the excavation reports. In it I have set out my rationale for the analysis and have described the methods used in the fieldwork. It also includes a description of the research area and the environmental setting of the sites. In the final chapter I have set out to integrate the Central Australian sequence with the archaeological evidence presently available from other parts of the arid zone.