

Acknowledgements

Jack Golson

This is a section where, on behalf of the editors and writers of this book, I acknowledge our appreciation of the contributions of other people who have made it possible. I do so in terms of the three major periods of activity dealt with in the book, and two subsequent periods during which it was written and approved for publication, Period 4, and then passed on to the *Terra Australis* team for copy-editing, Period 5. These acknowledgements follow the structure of Chapter 1.

The first three periods were:

1. The major fieldwork of the 1970s and the small-scale work undertaken in following years until the closure and effective abandonment of the Kuk Agricultural Research Station at the end of 1990, a year before my formal retirement.
2. The reoccupation of the Station land by its traditional owners, the Kawelka, a growing concern about the effects of renewed gardening on the integrity of the site and the negotiation of a second period of Kuk fieldwork in 1998 and 1999 for Tim Denham's doctoral research.
3. The building of a case for UNESCO World Heritage status for the site and the negotiation of local consent to its proposal.

Acknowledgements outside this framework are made by relevant people in relevant places throughout the book.

It is appropriate to start with Jim Allen, who, in 1969, a recent PhD graduate from The Australian National University (ANU) appointed to teach prehistory in the anthropology department at University of Papua New Guinea (UPNG), made a fieldwork visit to the upper Wahgi Valley. Here he was taken to Kuk and shown the finds made during drainage work at the infant Kuk Tea Research Station. He realised that this could be the site that I was looking for to investigate the history of highlands agriculture and passed the information over to me.

Period 1

This extended from mid-1972, three years before Papua New Guinea (PNG) Independence Day on 16 September 1975, until Kuk Station closed at the end of 1990.

A. Government, Research Station and upper Wahgi plantations

Acknowledgement is made of government authorities before and after Independence Day for permission to carry out the research and to the Department of Primary Industry/Agriculture, Livestock and Fisheries for allowing it to take place at one of its research stations. Ron Hiatt, Senior and Regional Highlands Local Government Officer 1965–72, Deputy District Commissioner–Western Highlands Province¹ 1972–78 and Deputy District Commissioner–Regional Inspector for all Highlands Provinces 1978–80, was unfailingly helpful as our immediate point of contact with the local administration.

¹ 'Province' replaced 'District' following Independence Day.

I thank the management of Kuk Tea, later Agricultural, Research Station for housing us there, treating us as members of the Station community and being at all times ready to discuss our plans and help with their implementation. All this began with John Morgan, the first Officer-in-Charge, who in 1971 secured the agreement of head office in Port Moresby for these arrangements. In general, they continued after his sudden death in 1974 under his successors, Doug Grace, Batley Rowson and Martin Gunther. Gunther was in charge during the final decade of the Station's existence, from three years after the end of our major fieldwork in late 1977 until the Station was closed at the end of 1990. The Station staff with whom we were the most engaged over Period 1 were Terry Aldous and Barry Blogg (office), Graeme Baker, John Bohn and Brian Thistleton (field and laboratory) and Alan McGrigor, who had designed the Station drainage plan.

The Research Station was an important part of the upper Wahgi scene as a source of information and advice on agronomic matters about and beyond tea. Visiting plantation owners and staff were interested to hear about the Kuk Project's work, which was making the same sort of discoveries of artefacts and structures that some of them had themselves made. This led to invitations to Project members to make visits to inspect sites and finds. Close to Kuk there was Mark and Nerida Fallon's property near Baisu and, at the head of the North Wahgi Swamp, Dick and Caroline Hagen's Gumanch Plantation. South of the Wahgi was John and Edith Watts' Ulya Plantation, not far from Ivor Manton's Warrawau tea estate where in 1966 the initial investigations had been done out of which the Kuk Project developed.

B. Launching the Project

The multidisciplinary fieldwork programme of the Project that was launched in mid-1972, and the people involved, comprised:

- archaeological investigation of drainage and cultivation systems in Kuk Swamp—Wal Ambrose, Jack Golson, Winifred Mumford, all ANU Department of Prehistory, and Mary-Jane Mountain from UPNG—with the emphasis in 1972 on the youngest systems, those of Phase 6, visible at the surface of the swamp after removal of the grass cover;
- interrogation of the oldest members of local communities as to their knowledge about drainage of wetland for cultivation, given the virtual lack of evidence for such in the 40 years of European contact—Ian Hughes, ANU New Guinea Research Unit;
- house site excavation, not an initial inclusion, but quickly added as removal of swamp vegetation revealed the frequency of house sites with the latest phase of cultivation—Ron Lampert, Department of Prehistory, ANU;
- geomorphological study of the stratigraphy of the swamp and its relationship with the natural and artificial processes taking place there over time—Russell Blong, Macquarie University, Sydney, some of it carried out with Colin Pain, who, after earning his PhD in the Department of Geomorphology and Biogeography in the Research School of Pacific Studies, ANU, joined the School of Geography at the University of New South Wales; and
- systematic sampling of the swamp deposits for the analysis of the included pollen to reconstruct the history of the regional vegetation and track the effects of human activities—Jocelyn Powell, who had worked at the Manton site with Ambrose, Golson and Lampert, and whose husband had begun teaching at UPNG.

There were many volunteers and visitors during the opening months of the first season, mainly people with ANU and/or PNG links and reason to be in the country, who helped with different aspects of the archaeological investigations:

- Jim Allen, Brian and Julie Egloff, Geoff Irwin, Johan Kamminga and Ron Vanderwal recorded a variety of surface features and ditch exposures;
- Sandra Bowdler, Murray Woods and Pamela Swadling helped Ron Lampert with his house excavations;
- Trish Barnes operated the flotation machine that Jocelyn Powell used for retrieving seeds from samples taken at different parts of the site;
- in mid-December 1972, Jim Bowler, then geomorphologist in the Department of Geomorphology and Biogeography, ANU, spent a week at Kuk taking aerial photographs (black-and-white and infrared) to improve our understanding of the images of drainage ditches and cultivation areas that were visible from the air; while
- during the period discussed above, Ray and Vicki Lehrer, Canberra friends of mine, saw to the welfare of members of our various working groups, including those hired locally.

Because our Project began in 1972 at an already operating and still developing Research Station, there were complications with the hiring of a workforce for the Project itself. As a result, the early wage books of the Project are full of the names of workmen who did not continue as employees and the same is true of later periods when there was need to hire extra men for specific tasks.

On the whole, the names that are listed below are those of men who were likely to be employed from season to season. Most were Kawelka, but from the beginning there were a few from other Melpa tribes, mainly Elti and Penambe. I apologise for any errors in the listing that follows:

Aris, Berim, Bosboi Kopen, Doa, Elua, Edward Kewa, Gor, Ivan Kuri, Joe, Josep, Kalg, Ketiba, Konga, Korowa, Kui, Kum, Kundil Umba, Kupalg, Mek Mel, Moni Mel, Nema, Neringa, Pep, Pik Ok, Simon, Thomas Pok, Timbi Kopen, Tipuka, Wai, Wama Kenken, Wap, William Thomas, Wingti.

These were the men who cut the grass and dug the drains as the focus of the investigations extended block by block north and east over the years. In 1974, Philip Hughes took over the stratigraphic record of these drain walls from Russell Blong, in the process moving from the School of Geography at the University of New South Wales to the Department of Prehistory at ANU.

Mal Gray of the Department of Lands and Survey in Mount Hagen set up the datum lines from which the N–S drains chosen to be dug in a particular block at a particular time were marked out by Siaoa, the Station's drain surveyor. By the end of intensive fieldwork at Kuk in late 1977, drain digging and recording had reached the northern and eastern boundaries of the Station. There followed short annual visits for specific purposes. In 1983, I made arrangements with Lands and Survey for renewed help at Kuk. By courtesy of Doug Millar, a small team under David Ward spent a week establishing the framework for a new map of the drains that had been dug following the initial survey by Mal Gray. The aim was to rerecord the location of the dug drains in relation to the road drain network and to each other, and to check the distances from individual drain datums of a few of the pegs used by Philip Hughes for his stratigraphic recording and by me for my archaeological feature record, as well as to take new level measurements on a few pegs per drain. The reason for the new survey was the arrival of John Burton, a doctoral candidate in prehistory in the Research School of Pacific Studies at ANU, who offered to computerise all of Hughes' stratigraphic records. The result is an integrated record across the site, both tabulated and displayed.

C. Fieldwork seasons during 1973–77

From late 1973 things were much more orderly after work unfinished in 1972 was tidied up on a return visit in early 1973. In the late 1973 season, two University of Minnesota graduate students, Laurie Lucking and Jim Rhoads, were introduced to the Kuk Project by a staff Minnesota anthropologist, Eugene Ogan, with PNG research interests and ANU colleagues.

- In late 1973, Laurie Lucking worked with Ron Lampert on his second and last season investigating house sites in Kuk Swamp. In 1974, she joined Jocelyn Powell collecting samples from the swamp for seed extraction and analysis, as well as preserved wood for identification. She worked on the collected samples in PNG in 1974 and 1975 and in Australia in 1976, after Powell moved there in 1975.
- The second Minnesota student, Jim Rhoads, worked with me in 1973 and with Philip Hughes and me in 1974, when Hughes joined the Kuk team. He was involved with them in the necessary task of untangling the evidence of the major and minor disposal channels and field systems of Phases 4 and 5. In 1975, he went to ANU as a PhD scholar.
- Hughes' partner, Marjorie Sullivan, came into the field with him in 1974 and 1975 to help in the work, as did Barbara Greaves, a student of theirs when they were at the University of New South Wales. In 1975, they were joined by Simon Harrison who has been mentioned in Chapter 1 in connection with Jocelyn Powell's work on subsistence and swamp cultivation in Southern Highlands Province.

In the excavation of the earlier cultivation systems of Phases 1–3, which began in late 1975 and continued in 1976 and 1977, I was well served by the volunteers who were available:

- in 1975, the Australian Klim Gollan, back from MA studies at the University of London Institute of Archaeology, was well equipped to map and record the ditch networks of Phase 3 that were being widely exposed in area excavations;
- in 1976, Alistair Marshall, an Englishman with excavation experience in UK, then working at the School of Biological Studies at Flinders University, undertook excavation, mapping and photography of the evidence of Phase 2 mounded cultivation; and
- in 1977, the very experienced American archaeologist Art Rohn, at the University of Sydney on sabbatical leave from Wayne State University, Kansas, and his cartographically skilled wife Cherie took on Phase 1 and Phase 2 investigations; and
- also in 1977, as discussed in Chapter 17, there were substantial contributions to the understanding of Kuk settlement from two PhD students: Ed Harris of University College London, who was looking at the operation of the principles of archaeological stratigraphy in different cultural and field situations; and Paul Gorecki from the University of Sydney, who came to study agricultural and settlement site formation processes through observation of the activities of the modern community at Kuk.

The New Guinea School Services branch of the New Guinea Research Unit, ANU, in Port Moresby helped such recruits on their way to Kuk by providing accommodation and transport as they passed through Port Moresby and making a vehicle for long-term transport available to us all in Mount Hagen. The field managers at the time of the Kuk fieldwork were successively Jim Toner, Pat O'Connor and Tau Manega.

D. Fieldwork Funding

Up to the end of Period 1 of the Kuk Project at the close of 1990, its funding was almost entirely provided by ANU through the Research School of Pacific Studies. There were three other much appreciated contributions:

1. The Wenner-Gren Foundation for Anthropological Research (grant 3016) contributed to the labour costs in the 1974 and 1975 seasons;
2. Tony Sorrell, Area Manager of Shell, made a grant in 1976 for the carriage of archaeological material accumulated at Kuk by road from Kuk to Lae and onward by sea; and
3. Royal Australian Air Force aircraft returning empty from training flights to PNG brought archaeological material from Mount Hagen to Australia, especially wood requiring conservation treatment, on several occasions in 1975 and 1976.

E. Backup at ANU

The Department of Prehistory provided support for dealing with the data that were being brought back to Australia. This included secretarial work successively from Lois White, Jill Johnston and Gabrielle Braun; editorial work from Maureen Johnson; photographic work from Dragi Markovic; cartographic and illustrative work from Winifred Mumford.

Increasingly, however, the considerable cartographic and illustrative load was taken over by the then Cartographic Unit in the Research School, headed by Keith Mitchell, who steered most Kuk work to Anthony Bright. Later Kay Dancey became head, with Jenny Sheehan inheriting Kuk, in a unit now known as CartoGIS. The photographic burden of Kuk was similarly heavy and Wal Ambrose took it up. He kept a catalogue of site photographs to be considered for publication in the core chapters of the book (numbers 6 and 11–17 here) and made scans of them for selection.

Another labour-intensive task was the registration and storage of archaeological finds. Two undergraduate students, Kieran Hotchin and Peter May, helped me with the stone finds, while the wooden items were largely Wal Ambrose's responsibility, since they had to go through prior conservation in his laboratory. At first Stella Wilkie looked after the stone and wood records, but was needed increasingly to do office work for Henry Polach in the radiocarbon laboratory.

In 1983, Axel Steensberg, a leading Danish scholar of peasant life whose connection with Kuk is discussed in Chapter 1, came to ANU as a departmental visitor to make a catalogue of the wooden artefacts from Kuk, and some from elsewhere, which are the subject of Chapter 19.

In the later 1980s, Tom Loy, a pioneer in the study of organic residues on the working edges of stone tools, was appointed to set up a residue laboratory in the Department of Prehistory with Barry Fankhauser, who had worked on chemical residues from Maori earth ovens at Otago University. Before he left ANU for the University of Queensland in early 1995, Loy made a selection of some 58 stone tools from the Kuk collection with promising signs of use wear or residues. These were inherited by Tim Denham when he joined ANU as a PhD scholar in 1997 (see Chapter 20).

Identifiable bones found where Station drains cut across two old drainage ditches were identified by Colin Groves, of the ANU School of Archaeology and Anthropology, as pig. There was hope that they might give some hint of the age of the animal's arrival in the highlands, but two radiocarbon dates run on bone from the two occurrences, one at the Kiel laboratory (KIA) in north Germany, the other at the New Zealand Waikato laboratory (Wk), were disappointingly recent (see footnotes 7 and 8 of Chapter 15). Each date, as we see there, was kindly sponsored by a colleague with whom we were linked by an interest in the spread of people, plants and animals across the Wallace Line into the Australia/Pacific region, Keith Dobney and Elizabeth Matisoo-Smith, at the time located respectively at Durham University and Auckland University.

Carbonised plant and animal remains were excavated from hearths and ovens at houses excavated by Ron Lampert and his helpers in 1972 and 1973. Johanna Pask, who had been a laboratory technician in the ANU Research School of Biological Sciences, worked on the plant remains after

moving to do joint honours in prehistory and geography in the early 1990s. The name of the person to be thanked for the sheet of faunal identifications—mainly, if not totally, of pig—seems unfortunately to have been lost.

There was continuous need for radiocarbon dates during Period 1 of the Kuk Project, which supplied 78 samples for dating, including 13 from the exploratory years 1970 and 1971 before the Project had been formally launched. They were processed in a laboratory that was part of the Research School of Earth Sciences, while its staff were listed as members of the Department of Prehistory in the Research School of Pacific Studies. Henry Polach was head until 1992, with John Gower and John Head as Technical Officers (61 out of the 78 samples dealt with); and Rainer Grün head until the end of 1997, with John Head and Steve Robertson (a further 10 of the original 78 samples processed). The last seven samples were dealt with after John Chappell took over as head of the laboratory in 1998 and its affiliation moved with him and his staff, Abaz Alimanovic and Steve Robertson, to the Research School of Earth Sciences.

The final important development in Period 1 was the recruitment of the University of Cambridge geographer Tim Bayliss-Smith, who went to Kuk in 1980 and made it his base for the study of existing cultivation systems in the region and an understanding of their equivalents and predecessors at Kuk.

Bayliss-Smith thanks Martin Gunther, manager Barry Blogg and entomologist Brian Thistleton, at Kuk, John Dubai at Baisu Corrective Institution and Aregina Mengge-Nang at Tambul High Altitude Experiment Station. He also set up taro cultivation plots at Kuk and Tambul and thanks Jean Kennedy, then of UPNG, for help in harvesting them in 1981.

This led to Bayliss-Smith's joint authorship of Chapters 14–16 and the appearance there of work by members of the cartographic section of the University of Cambridge Department of Geography to which he belonged, specifically Philip Stickler, Ian Agnew and David Williams.

Period 2

This extended from the close of 1990 until the completion of Tim Denham's thesis in 2003, and early in this period the Research School of Pacific Studies (RSPacS) became the Research School of Pacific and Asian Studies (RSPAS).

The first half of Period 2 saw the essential abandonment of the Station by the PNG central government that had bought the land for it, followed after a few years by its repossession by its traditional owners, who allocated it to tribal members for settlement and cultivation.

Then, at a UNESCO meeting at the Fiji Museum in Suva in mid-1997, the Director of the PNG National Museum nominated the Kuk site for World Heritage listing. The nomination was made on the grounds that '[t]he archaeological finds at Kuk indicate that Pacific Islanders were amongst the world's first gardeners' and took place on the eve of the investigations that provided the most convincing evidence to date for the claims. These were the work of Tim Denham over the years 1998–2003 in the field and the laboratory and by way of the specialist analyses that he sought for his material.

What follows until the end of Period 2 is taken, essentially verbatim, from the Acknowledgements section of Tim Denham's 2003 thesis (volume 1: vi–ix), where a wider range of obligation is acknowledged than here, as is proper for the thesis as a whole.

The fieldwork at Kuk in 1998 and 1999 was made possible by the National Research Institute (NRI) in Port Moresby, PNG National Museum and Art Gallery, Western Highlands provincial government and the Kawelka communities at Kuk. Fieldwork was greatly assisted by several individuals at institutions in Papua New Guinea, including Michael Laki (NRI), Nick Araho, Herman Mandui, John Dopp and Andrew Moutu (all PNG National Museum) and Dr Thomas Webster and Father Lak (formerly Western Highlands provincial government). Additionally, John Muke greatly assisted in getting the fieldwork started. Many thanks to all the Kawelka at Kuk who aided the running of the project, and in particular Ru Kundil, William Pik, Joe Ketan, Nicholas Namba, Anis, Berim, Dennis, Elua, James, Jackson, John Kanga, Ketepa, Korowa, Sandy Lo, Matthew, Mek, Nixon, Timba, John Ulg, John Wai, Waia, and Wingti patiently worked with me during the excavations. Assistance in the field was provided by Dr Thomas Wagner in 1998 and 1999 (formerly UPNG) and by Dr Robin Torrence (Australian Museum), Dr Peter White (University of Sydney) and Dr Tim Bayliss-Smith (University of Cambridge) in 1999. Many thanks to George Leahy for his advice during both field seasons.

The multiscale and multitechnique investigation of the stratigraphy would not have been possible without the assistance of Dr Alain Pierret, CSIRO Land and Water (conducted X-ray absorption imaging and provided advice on the translation of Dr Marc Latham's text from the French); Russell Blong (provided X-radiographs in original and digital form associated with his 1970s investigations); Dr Mac Kirby, CSIRO Land and Water (advice on X-ray absorption imaging); Dr John Vickers, Department of Geology, ANU (thin section preparation); Dr Anthony Ringrose-Voase, CSIRO Land and Water (advice on thin section preparation and description); Dr Kate Welham, School of Conservation Sciences, Bournemouth University (technical support for optical microscopy and digital camera operation); Dr Leah Moore, University of Canberra (processed many of the X-ray diffraction samples and provided preliminary interpretations of the results); and Dr Ulrike Troitzsch, Department of Geology, ANU (provided assistance with the compilation of composite diffraction images).

Accelerator mass spectrometry (AMS) dating was undertaken by the Australian Nuclear Science and Technology Organisation (ANSTO) as part of two grants awarded to Jack Golson in 1998 and 2000. Conventional radiocarbon (under the auspices of the Centre for Archaeological Research, ANU) and AMS dating of organic samples were conducted by Abaz Alimanovic and Prof. John Chappell, Research School of Earth Sciences (RSES). I am indebted to both for their time, efforts and advice on the submission, processing and interpretation of dating results. I would like to also thank Dr Mike MacPhail (RSPAS, ANU), Dr Janelle Stevenson (RSPAS, ANU) and Dr Sophie Bickford (CSIRO) for processing, or assistance with processing, of organic samples prior to submission.

All multidisciplinary palaeoecological analyses were undertaken by experts in their respective fields: diatoms (Dr Barbara Winsborough, Winsborough Consulting), phytoliths (Carol Lentfer, Southern Cross University), pollen (Simon Haberle, RSPAS, ANU), residue analyses (Dr Richard Fullagar, Michael Therin, Dr Judith Field, University of Sydney and Carol Lentfer). I am greatly indebted to all of these individuals who found space in their hectic schedules to invest enormous amounts of time in processing, analysis and reporting for little financial reward. Many thanks also to Gill Atkins and Dr Lynley Wallis (RSPAS, ANU) for assistance with the preparation of phytolith and pollen samples at RSPAS, ANU, and to Dr Doreen Bowdery (ANU) and Robin Torrence for initial advice on the use of phytolith and starch grain analyses, respectively. Many thanks also to Dr Huw Barton (Department of Archaeology, Leicester University), Dr Mike Bourke (Department of Human Geography, RSPAS, ANU), Dr Anita Diaz (Department of Geography, Bournemouth University) and Dr Peter Matthews (National Museum of Ethnology, Osaka) for illuminating discussions on asexual reproduction, vegiculture and plant use in New Guinea and the tropics.

Dr Soren Blau (Flinders University), Prof. Colin Groves (School of Archaeology and Anthropology, ANU) and Tom Heinsohn (National Museum of Australia) kindly examined a mandible fragment. Dr Melinda Allen and Dr Judith Robins (University of Auckland) kindly undertook molecular analysis of the specimen.

Kay Dancey (Cartography Unit, RSPAS, ANU), Rob Patat (formerly MGT Architects, now Patat Consulting) and Dahlia Enoch assisted with graphics. Pam Berg (formerly MGT, now Pamille Berg Consulting) kindly coordinated Patat's participation. Dr Malcolm Ross (RSPAS, ANU), Pam Swadling, Russell Blong and Paul Brugman, Alex Lee and Tess McCarthy (all Resource Management in the Asia-Pacific (RMAP) Program in the Department of Human Geography in RSPAS, ANU) provided graphics that have been used for this thesis.

The Australian National University funded this research by providing two scholarships for 3.5 years (ANU and Overseas Postgraduate Research) and a fieldwork grant in 1998. Additional assistance, grants and awards for fieldwork and analyses were obtained from the Pacific Islands Development Program (1999), Pacific Science Foundation (two awards to Jack Golson in 1998 and 1999), ANSTO (two awards to Jack Golson in 1998 and 2000), Department of Archaeology and Natural History (ANH) in the Research School of Pacific and Asian Studies (RSPAS, ANU), Resource Management in Asia-Pacific (RMAP) in the Department of Human Geography in RSPAS and the ANU Centre for Archaeological Research (CAR).

Within the School of Archaeology and Anthropology, ANU, Kathy Callen was exceptionally supportive throughout the period of research. Within the same school, Dave McGregor provided much-needed logistical support on an as-needed basis. The Research Students and Scholarships Office, ANU, facilitated the completion and submission process.

Period 3

This period starts with the submission of Tim Denham's doctoral thesis in June 2003, not long after the Canberra bushfires of January 2003 that destroyed the off-campus storage of the Prehistory Department's collections at Weston.

A. After the bushfires

The most conspicuous archaeological damage done by the fire was to the surface of hundreds of stone items from Kuk on which catalogue numbers written in ink had been rendered virtually unreadable. The department recruited Adam Black, a former student who had had some success in photographically enhancing the clarity of images of Australian rock art, to see whether he could improve the legibility of the affected catalogue numbers, but he had very little success (see Chapter 18, 'The aftermath of the Weston fire', and the paragraph immediately preceding it, and the introductory section of Chapter 20).

Adam Black also helped Golson with a new inventory of wooden artefacts after those at Weston that had survived the fires were reunited with those that had remained on the ANU campus and were now transferred to the university property to which all the collections salvaged from Weston had been moved (see Table 18.1).

Beginning in 2011, the storage of collections as a whole was rationalised, on campus and off, under the direction of Jack Fenner, who took on research laboratory management in addition to the normal requirements of his academic position.

B. After the submission of Tim Denham's thesis

This period was concerned with the problem of completing an agreed nomination plan for Kuk for World Heritage status, given the failure to achieve this in the years following the Suva meeting. After PNG signed the World Heritage Convention in 1997, a National Commission for UNESCO was set up under the chairmanship of Regina Kati and assumed a leading role in the promotion of Kuk as a World Heritage site.

There was activity at the national, provincial and local levels, as discussed in Chapter 25, in the section headed ‘The nomination process: The first phase’. Responsibility for the nomination document was delegated to a study team with John Muke and Joe Ketan, both from UPNG, as head and deputy, two archaeologists from the National Museum, Nick Araho and Herman Mandui, and three consultants from ANU, Denham, Golson and Swadling. By mid-2004, however, despite the fact that a number of draft plans had been produced, the National Commission for UNESCO was ready to close the nomination process down on grounds of lack of progress.

As Chapter 25 explains, in the section ‘The nomination process: The second phase’, a solution was found through the efforts of Vagi Genuropa of the Protected Areas Branch of the Department of Environment and Conservation (DEC), who marshalled support for the acceptance of DEC as the proper agency for matters to do with World Heritage.

With UNESCO support, DEC organised a National World Heritage Planning Workshop in Port Moresby in March 2006 not only to look at the Kuk case but also the general problem of institutional arrangements for the nomination and management of World Heritage sites.

As for Kuk, Denham and Muke were asked to take on the remaining tasks. Muke invited Jo Mangi, a former student with him at UPNG and now a member of the same Port Moresby consultancy, to join him in the necessary fieldwork and community consultation. Denham, then based at Monash University in Melbourne, took on responsibility for the coordination, writing and production of the final document, which was submitted to UNESCO in January 2007 and approved in July 2008.

Period 4

Here I look at the help that was needed as the present book was being planned, written and assembled. The aim of Chapter 1 is to put the Kuk work in its historical and interdisciplinary context, based on the testimony of the main actors, most of whom are still alive, and the archives where relevant documents have been stored.

I am grateful for the input of Frank Oldfield about his years of PNG research when head of the Department of Geography at the University of Liverpool, and that of his one-time colleague, Donald Walker, who, as Professor of Biogeography in the Department of Biogeography and Geomorphology in the Research School of Pacific Studies, was a colleague of mine at ANU. Oldfield and graduate student Ann Worsley (née O’Garra) visited the upper Wahgi in the course of Oldfield’s 1979 fieldwork season, as described below.

Oldfield had accepted my invitation for him to study, sample and comment on the Kuk stratigraphy on his 1979 visit, as had the soil scientist Marc Latham of the Office de la Recherche Scientifique et Technique Outre-Mer in Noumea. Though, to his regret, the two reports did not play the role that I had had in mind for them, both were used by Tim Denham in his dissertation (see Denham 2003a, vol. 2: Appendix E6 for Latham, Appendix E7 for Oldfield).

The complex story of Tibito Tephra and Long Island that linked Oldfield’s work with that of Ian Hughes, Colin Pain and Russell Blong has been told with the help of Rachel Wood and Stewart Fallon of the Radiocarbon Facility of the ANU Research School of Earth Sciences. The Facility houses, among other things, the application forms and report sheets that provide information about the numbered samples dated by the ANU laboratory and copies of those that were relevant to the Tibito Tephra problem were provided on request.

In the discussion of matters related to Kuk, World Heritage and PNG's signing of the World Heritage Convention, three members of the Commonwealth Government's agency for Environment and Heritage, Richard Morrison, Sarah Titchen and Elizabeth Williams, were very helpful with information and advice over the years. Titchen worked at the UNESCO World Heritage Centre in Paris, the administrative agency for the World Heritage Convention, at the time of the Suva meeting of 1997, which she organised and Williams attended as Australian representative. They have been able to supply a context for PNG and other Pacific Island states in World Heritage matters, alerting us to documents publicly available through the website of the World Heritage Centre.

I wish to thank Bruno David of the Monash Indigenous Centre, Monash University, Melbourne, who read Chapters 14 and 15 to see whether statements made about the chronology of lowland influences on the PNG highlands, including the appearance of the pig, were compatible with the latest findings of the large-scale Caution Bay project that he and colleagues, in particular Ian McNiven, Matthew Leavesley, Thomas Richards, Ken Aplin, Robert Skelly and Bryce Barker, have been conducting on the Papuan south coast, 20 km to the northwest of Port Moresby, since 2009. Similarly Jim Specht (Anthropology, Australian Museum, Sydney) and Stuart Bedford (Archaeology and Natural History, School of Culture, History and Language, College of Asia and the Pacific, ANU) kindly commented on the same two chapters from the standpoint of the appearance of Lapita in the Bismarck Archipelago and Remote Oceania.

I wish to thank Damian Cole, Reference Librarian, Pictures and Manuscripts Branch, National Library of Australia (NLA), for advice about the acknowledgement of the library for our use of four photographs, two in Chapter 19 and two in Chapter 21, from the Michael Leahy Photographic Collection, of which the NLA is custodian.

I now turn to the backup provided by ANU Archives, my initial guide to which was Sarah Lethbridge, now Acting Associate Director, Records and Archives. A small part of the Kuk archive has been taken into ANU Archives because of lack of departmental space and is being worked on by Christine Bryan, Pacific Research Archivist. Independently, Russell Blong has deposited with ANU Archives a geomorphological report that he did on the North Wahgi Swamp for a group of consultants carrying out a feasibility study for its drainage in 1971 (see Chapter 1, footnote 2, the catalogue information for which was supplied by Christine Bryan).

The ANU Pacific Manuscripts Bureau (PMB) has material deposited by two Kuk Project members when Ewan Maidment was in charge:

- there are copies of five maps annotated by Ian Hughes when he was questioning older people of the upper Wahgi in 1972–73 about whether swamp was being drained for agriculture there at and before European arrival in the early 1930s (see Chapter 16, footnote 1, where the cited catalogue numbers have been checked with the PMB's current Executive Officer, Kylie Moloney);
- Russell Blong has deposited manuscript material from his enquiries into legends of a Time of Darkness caused by the volcanic ash from an eruption in the AD 1660s that covered large areas of the PNG highlands (see footnote 3 of Chapter 1, where the PMB reference was provided by Kylie Moloney).

Acknowledgement is made of the services of the staff across ANU library system, at its Chifley, Hancock and Menzies branches, with particular note of help with the New Guinea collection from Deveni Temu, Information Access Coordinator at Menzies.

Tracy Harwood is thanked for making a consolidated bibliography out of 25 separate and at times markedly overlapping ones.

Thank you also to the two unnamed readers who recommended the work for publication and in addition made a series of suggestions whose adoption has improved it.

I wish to thank the Department of Archaeology and Natural History, the School of Culture, History and Language and the College of Asia and the Pacific for their support by way of an office and access to facilities over the long period after my retirement that the Kuk research has continued and been written up.

Period 5

This is the period in which the text was handed over to the Terra Australis team for copy-editing and styling by Ursula Fredrick, assisted by Sally Brockwell and Katie Hayne. Philip Hughes assumed responsibility for final checking and updating of the chapters as they were returned from the copy-editors and Tim Denham prepared the final illustrations for publication. I thank all five of them for their efforts during this crucial final stage of preparing the manuscript for publication.

My personal thanks

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