

# SAMOAN ARCHAEOLOGY AND CULTURAL HERITAGE

MONUMENTS AND PEOPLE,  
MEMORY AND HISTORY

**Helene Martinsson-Wallin**

ARCHAEOPRESS ARCHAEOLOGY

ARCHAEOPRESS PUBLISHING LTD

Gordon House  
276 Banbury Road  
Oxford OX2 7ED

[www.archaeopress.com](http://www.archaeopress.com)

ISBN 978 1 78491 309 0  
ISBN 978 1 78491 310 6 (e-Pdf)

© Archaeopress and H Martinsson-Wallin 2016

Cover: Photograph of Pulemelei mound 2003, (Helene Martinsson-Wallin)  
and Samoan Fine Mats (Galumalemana Steven Percival)

All rights reserved. No part of this book may be reproduced, in any form or  
by any means, electronic, mechanical, photocopying or otherwise,  
without the prior written permission of the copyright owners.

Printed in England by Holywell Press, Oxford  
This book is available direct from Archaeopress or from our website [www.archaeopress.com](http://www.archaeopress.com)

To my sons Thor and Erik

*Time is as thin as a fine Samoan mat,  
Time is as spacious as a fine Samoan mat,  
and Time is covered by a fine Samoan mat...*



# Contents

<b>Preface</b> .....	<b>vii</b>
<b>Chapter 1 Archaeology in Samoa – setting the stage</b> .....	<b>1</b>
The outline of a first prehistoric sequence .....	3
Background .....	3
The Natural environment .....	5
Accounts of early survey and excavations .....	6
Samoa Field Monuments and Finds .....	9
Chronology and Settlement Pattern .....	13
Research issues .....	14
<b>Chapter 2 The Pulemelei mound site investigations 2002-2004</b> .....	<b>16</b>
Introduction .....	16
The investigations had the following aims: .....	21
Clearing, mapping and test-excavation 2002 .....	21
The main mound .....	21
Connected mound to the north of Pulemelei .....	23
Test excavations at the site .....	24
Trench 1 .....	26
Collection of charcoal sample from the top platform .....	27
Clearing, mapping, excavation and ceremony 2003 .....	30
Ceremony at Pulemelei .....	30
The 2003 excavation .....	33
Main Mound: foundation excavation; Trench 1 .....	33
Trench 2 .....	34
Trench 3 .....	36
Trench 4 .....	37
Trench 8 .....	37
Excavation of umutī .....	37
Trench 5 .....	37
South house platform .....	37
Trench 6 .....	37
Trench 7 .....	39
Test pits and stone piles .....	40
Archaeological excavation and remote sensing 2004 .....	40
Main Mound: excavations of the west stairway and top platform .....	43
Trench 13 .....	43
Trench 16 .....	43
South platform extension .....	47
Trench 7B .....	47
Trench 9 .....	48
Trench 10 .....	49
Trench 11 .....	49
Trench 12 .....	49
Trench 14 .....	51
Test pits 12, 13, 14 .....	51
Excavation of the North mound .....	51
Trench 15 .....	51
Clearing and excavation at Pa Tonga .....	52
Trench 1 .....	53
Trench 2 and 3 .....	54
Summary of the geophysical survey .....	54
Conclusion and Results of the Investigations .....	60
The construction of the mound .....	60
Settlement activity (or activities) .....	61
The North mound and umutī .....	63

The Pa Tonga site.....	63
Finds.....	63
Pulemelei site history.....	64
Early settlement 200 BC-1100 AD.....	64
Mound construction 1100-1400 AD.....	64
<b>Chapter 3 Prehistoric settlement patterns in Samoa - the Letoloplatation revisited .....</b>	<b>67</b>
Settlement patterns in Samoa .....	68
A narrative of a possible proto-historic settlement pattern .....	72
Excavation of structures SS-Le, 709, 721, 724 and 725 at Letolo plantation .....	74
Stratigraphy, features and finds:.....	76
Test excavation of Umu SS-Le 724.....	79
Trench in SS-Le 725 .....	81
Test excavation of SS-Le 709.....	81
Conclusion of the excavations of platforms and an oven:.....	81
A re-assessment of the settlement pattern at Letolo plantation.....	82
Correspondence analysis of the Letolo settlement .....	83
The dynamics of settlement patterns.....	85
<b>Chapter 4 Star- and chiefly mounds and ‘the house of the octopus’ – investigations of various monuments in Samoa .....</b>	<b>89</b>
Malaefono star/council platform at Salei’ moa.....	89
Excavation of the platform .....	91
Interpretation of the site.....	94
Fale o le fee – ‘the house of the octopus’ .....	96
Background to research .....	96
Site visit and film documentary in 2006.....	97
The archaeological investigations 2007 .....	100
The aims of the investigation were: .....	100
Conclusion.....	101
The Sa’anapu Mound, Ana Seuao and a partly destroyed mound and settlement at Vaiuso-uta road cutting...101	
The mound(s) at Sa’anapu-uta and Ana Seuao (Safata) .....	101
Mound(s) at Sa’anapu-uta .....	101
Ana Seuao.....	102
Vaiuso-uta road section earthmound .....	102
The Laupule mound excavation 2010 .....	103
Research history.....	105
Test excavation at Laupule mound.....	108
Trench 1.....	108
Trench 2.....	108
Test pits 3 and 4.....	110
Conclusions and interpretation:.....	110
Temporal, Spatial and Social relationships of Monuments and People in Samoa - an interpretation.....	111
<b>Chapter 5 Archaeology, Cultural Heritage Management and Education in Contemporary Samoa .....</b>	<b>114</b>
Introduction .....	114
Archaeological sites, and land tenure in contemporary Samoan society .....	114
Archaeological sites, the legal protection and management practises.....	118
Committees and Policies: .....	120
Sites of Ambiguity – Two case studies .....	120
Pulemelei and Letolo Settlement-contested ownership .....	120
Fale Fono – The destruction of the ‘house of independence’.....	121
Archaeology and Education in Samoa .....	122
School curriculums.....	122
Higher Education.....	123
Mediating Archaeology and History to the public .....	123
‘Lest we forget’ – An oral history project.....	124
Documentary at Sa’anapu mound and Fale o le Fe’e .....	124
Museum of Samoa – Exhibitions and Repatriation of Archaeological finds.....	124
Tourism and Ancient Monuments.....	127

Discussion – Do ancient sites matter in Samoa?.....	129
<b>Chapter 6 Archaeology in Samoa - Synthesising the Past? .....</b>	<b>132</b>
Introduction .....	132
Material culture in the Samoan past: inter-island and West-Polynesian relationships .....	135
Adzes of interaction and decorated and non-decorated pots.....	135
Chiefly monuments for the living and for the dead .....	138
Landscape archaeology – static and dynamic interpretations of settlement patterns .....	140
The past in present Samoa .....	142
A discussion of the archaeologists’ vs. the Samoans’ perceptions (fa’a samoa) of the past.....	142
Historical Cultural Heritage vs Cultural Heritage.....	143
Archaeology in Samoa - Synthesising the past?.....	143
<b>Chapter 7 Conclusions, Further Perspectives and English and Samoan Summaries.....</b>	<b>145</b>
Conclusions.....	145
Further Perspectives:.....	145
SUMMARY: (Samoan translation by Vavao Fetui, lecturer in Samoan at University of Auckland).....	147
Chapter 1:.....	147
Chapter 2.....	149
Chapter 3.....	151
Chapter 4.....	152
Chapter 5.....	153
Chapter 6 .....	154
<b>Appendix I Table of Samoan Excavations .....</b>	<b>156</b>
<b>Appendix II Radiocarbon Dates.....</b>	<b>161</b>
<b>Appendix III.....</b>	<b>162</b>
Artefacts found at the Malaefono plantation .....	162
Artifact Analysis .....	167
Letolo 2006. Artefacts and samples found during the excavation.....	170
Pulemelei Lithics.....	172
Malaefono find list.....	174
Pulemeli Artifacts.....	175
Pulemelei catalogue 2003.....	176
Pulemelei catalogue 2004.....	177
<b>References .....</b>	<b>179</b>

## List of Figures

Figure 1.1. Map of the Samoan islands. ....	1
Figure 1.2. Map of the distribution of the various Lapita pottery groups. ....	2
Figure 1.3. The Prehistory room at the National Museum of Samoa ( <i>Fale mata'aga</i> ) re-furbishing 2013. From left Mikael Hannikanien, Ailini Ah Ken, Mainifo Nua Viliamu, Helene Martinsson-Wallin, Mira Lumbye, Lumepa Apelu .....	4
Figure 1.4. Map of the Independent State of Samoa showing areas of archaeological investigations. ....	7
Figure 1.5. The Letolo survey that was made by Gregory Jackmond in 1977-78. Original documentation is on file at Auckland War Memorial Museum. ....	8
Figure 1.6. Type I adze (occur both early and late) after Green and Davidson's definition 1969 b. ....	10
Figure 1.7. Type V adze (early type) after Green and Davidson's definition 1969b. ....	11
Figure 1.8. Type X adze (late type) after Green and Davidson's definition 1969b. ....	11
Figure 1:9a) Excavation at Laupule mound 2010, Archaeology students Samantha Kwan and Lafaeli Eli, 1.9b) Excavation at Fale o le fee 2007, Archaeology students, Akuso Kafe, Silau Vagai, and John Kalolo (photos Helene Martinsson-Wallin). ....	15
Figure 2.1. Survey map of archaeological remains in southern Savai'i and the location of Letolo plantation. Pulemelei mound is SS-Le-1 (after Scott 1969). ....	17
Figure 2.2. Detail of Letolo plantation. New plantation road is dashed and old road is the solid line (after Scott 1969). ....	18
Figure 2.3. a) Pulemelei 1965 (photo: Stuart Scott with permission from University of Auckland photo archive), b) Pulemelei 2001 (photo Paul Wallin), c) Pulemelei 2004 (photo Helene Martinsson-Wallin), d) Pulemelei 2013 (photo Helene Martinsson-Wallin). (1). ....	19
Figure 2.3. a) Pulemelei 1965 (photo: Stuart Scott with permission from University of Auckland photo archive), b) Pulemelei 2001 (photo Paul Wallin), c) Pulemelei 2004 (photo Helene Martinsson-Wallin), d) Pulemelei 2013 (photo Helene Martinsson-Wallin). (2). ....	20
Figure 2.4. Archaeological digital map of Pulemelei mound and surrounding features (2002-2004). ....	23
Figure 2.5. a,b 3D-models of Pulemelei mound based on digital mapping (worked out by Geoffrey Clark). ....	24
Figure 2.6. Pulemelei mound from the south side during extensive clearing in 2002 (photo Paul Wallin). ....	25
Figure 2.7. Pulemelei mound from the east side during extensive clearing in 2002 (photo Paul Wallin). ....	25
Figure 2.8. Plan and section drawing of test pit 1 with <i>umu</i> . ....	26
Figure 2.9. Plan and section drawing of test pit 6. ....	27
Figure 2.10. West section with ramp Trench 1. ....	28
Figure 2.11. Trench 1 wall of first platform and foundation stones (photo Helene Martinsson-Wallin). ....	28
Figure 2.12. Trench 1 section drawing, wall and foundation stones. ....	29
Figure 2.13. Trench 1 plan and section drawing with feature 1, <i>umu</i> . ....	29
Figure 2.14. Top platform section from clearing of tree stump. ....	30
Figure 2.15. Ceremony at Pulemelei mound in 2003, <i>si'a</i> lighting of fire at the North mound (photo Bengt Jonsson Sebra film). ....	31
Figure 2.16. Ceremony at Pulemelei mound, precession of chiefs from Palauli area (photo Helene M-W). ....	32
Figure 2.17. Sua presentation from the village of Asua at Tupua Tamaseses residence at Tuaeфу close to Apia (Photo Bengt Jonsson Sebra film). ....	32
Figure 2.18. Presentation of coconuts with <i>asi</i> (sandalwood) oil from ceremony at Pulemelei mound and Siapo (bark cloth from Tonga) in honour of late Thor Heyerdahl to the Heyerdahl family at the Kon-Tiki Museum in 2004. Tupua Tamasese and Helene Martinsson-Wallin. (Photo Paul Wallin). ....	33
Figure 2.19. Trench 1 B plan drawings of level 1-2. ....	34
Figure 2.20. Trench 2 a) section drawing of wall and foundation stones of the initial platform, b) photo of section and Helene Martinsson-Wallin (photo Paul Wallin). ....	35
Figure 2.21. Trench 3 entrance way to the west side of the mound/platform. ....	36
Figure 2.22. Adze preform of basalt found in trench 3 at the early entrance way. ....	37
Figure 2.23. a) North section of trench 3, b) east section of trench 3. ....	38
Figure 2.24. Samples of pot sherds from trench 3 (photo Bjørnar Storfjell). ....	39
Figure 2.25. Earth oven ( <i>umu</i> ) in trench 3 (photo Helene Martinsson-Wallin). ....	40
Figure 2.26. a) Section drawing of earth oven ( <i>umu</i> ) in trench 5, b) Photo of earth oven in trench 5 (photo Helene Martinsson-Wallin). ....	41
Figure 2.27. Plan drawing of South Platform. ....	42
Figure 2.28. a) Trench 6 plan drawing level 1 b) Trench 6 plan drawing cultural layer. ....	42
Figure 2.29. Trench 6 section drawing. ....	43
Figure 2.30. Trench 7 plan drawings, a) level 1 (0-10cm) with curb stones and part of pavement of house foundation of round ended house, b) level 2 (-10-20cm) pavement stones and scattered charcoal, c) level 3 (-20-40cm) early cultural layer with top of earth oven, d) level 4 (-40-60cm) early cultural layer with earth oven, e) level 5 (-60-117cm) bottom of cultural layer and earth oven and top of uneven bedrock. ....	44
Figure 2.31. Trench 7 section west and south drawings. ....	45
Figure 2.32. Excavation of trench 7 (photo Helene Martinsson-Wallin). ....	45
Figure 2.33. Chisel of basalt from early cultural layer in trench 7 (photo Helene Martinsson-Wallin). ....	46
Figure 2.34. Plan drawing of west part of Pulemelei complex with trench 3, 13 and test pits 4-6. ....	46
Figure 2.35. Photo of west entrance with line of <i>ili'ili</i> stones (indicated with arrow) that served as pavement of the first Pulemelei platform (photo Helene Martinsson-Wallin). ....	47
Figure 2.36a) Plan and section drawing of earth oven under the mound in trench 13. b) Photo of small earth oven in trench 13 under the mound on the west side (photo Helene Martinsson-Wallin). ....	48
Figure 2.37. Plan drawing of trench 13 ground level. ....	49
Figure 2.38. a) Top platform trench 16 with <i>ili'ili</i> pavement (photo Helene Martinsson-Wallin), b) excavation of trench 16, section (photo Helene Martinsson-Wallin). ....	50

Figure 2.39 Trench 7B.....	51
Figure 2.40. Trench 9.....	52
Figure 2.41. Trench 10.....	53
Figure 2.42.Trench 12.....	54
Figure 2.43. Trench 14.....	55
Figure 2.44. Sections of South platform.....	56
Figure 2.45. Plan drawing of North mound area.....	56
Figure 2.46. Section through North mound trench 15 (photo Helene Martinsson-Wallin).....	57
Figure 2.47 Pa Tonga towards the east after clearing (photo Helene Martinsson-Wallin).....	57
Figure 2.48. Plan drawing of the location of trenches 1-3 at Pa Tonga.....	58
Figure 2.49. Mapping of Pa Tonga and its relationship to Pulemelei mound.....	58
Figure 2.50a. Applying the method of magnetometer Antoine de Biran on the left and Geoffrey Clark on the right (photo Helene Martinsson-Wallin).b. Georadar equipment at the top of Pulemelei and geophysicist Antoine de Biran (photo Helene Martinsson-Wallin).....	59
Figure 2.51a-b Georadar analyses. (1).....	60
Figure 2.51a-b Georadar analyses. (2).....	61
Figure 2.52 a) Construction phases of Pulemelei mound, b) section of Pulemelei and North mound.....	62
Figure 2.53. Montage of Stone Adzes found at Pulemelei excavation a) Adze from trench 2 which was given as a coronation gift to the former King of Tonga George Tupou V in 2008, b) Adze preform from trench 3, c) Adze from trench 15 North mound, d) Chisel from trench 7 (drawing Paul Wallin).....	64
Figure 2.54. Montage of some of the ceramic pot sherds found at Pulemelei excavation (drawing Paul Wallin).....	65
Figure 2.55. a) Samoan Crew in 2003; Aiolupo Setisefano (orman of the plantation, standing fifth from the right ) Latu Ageli (forman of the workers; sitting to the left) Helene Martinsson-Wallin (standing to the right): workers:Tuvale, Siaki, Fito, Sefo, Tuifaasina Iakopo, Taape, Fetauai Kesi, Mafoe, Aso, Tanu, Vi, Lafaniu, Vaauli, Simi, Vaovao, Lafonga, Taitai, Avia, Alatina, Aiuli and b) Samoan Crew in 2004 Aiolupo Setisefano (forman of the workers and the plantation, standing in middle), sitting to the left Geoffrey Clark and Olaf Winter and standing to the left Elin Brødholt and Ilse Vuijsters. Workers: Tuifaasina, Pei, Fetavia, Simi, Sa, Lima, Mafoe, Lafoga, Siumaga Pepe, Junior, Silvia, Kalepo, Kiki, Tauete, Talatetei.....	66
Figure 3.1. The location of the Mulifanua Lapita site and other areas that have been suggested by Green and Dickenson (1998) to be areas where other Lapita sites could be possible to locate.....	67
Figure 3.2. A representation of a household unit (HHU) (after Holmer 1980:79).....	68
Figure 3.3. Areas of excavated archaeological sites.....	69
Figure 3.4 The Letolo survey with 'ward' areas A-E.....	70
Figure 3.5. Districts of Independent State of Samoa (after Ward and Ashcroft 1998).....	71
Figure 3.6. Map of 'Upolu with districts and central places and Tamua group titles (based on Tuvale 1917).....	73
Figure 3.7. Map of Sava'i with districts and central places and Pule group titles based on Tuvale 1917).....	73
Figure 3.8. Map showing large mound sites. Note that on Savai'i no. 1 Pulemelei mound is close to Palauli /Satupaitea,, 5-6 is close to Safutu, no. 8 is close to Saleuala but this area also suffered from the lava flow in the eruptions 1905-1911 and no. 11-12 is close to Safutulafai. On 'Upolu no 16 is close to Leulumoega, no 15 is close to Afega and Malie, no. 13 is close to Safata . So far there is no indication of a large mound at Lufilufi but it is not unlikely that further research will show that there is a large mound here. Laupule mound no. 12 is not indicated to be tied to a central area and the Tamua institution indicated by Tuvale .	74
Figure 3.9. Detail of Jackmod's survey showing the location of the investigated structures 709,721, 724, 725.....	75
Figure 3.10. Map over the investigation area 2006.....	77
Figure 3.11. Section of trench 1 in platform 721.....	77
Figure 3.12. Type IV adze found under the platform 721.....	78
Figure 3.13. a)East section of umu 724, b) south section of umu.....	79
Figure 3.14. a)excavation of umu standing in the centre Mr. Selafi Purcell and standing to the right Mr. Gafa Gogo. b) Sections and bottom of umu (photo Helene Martinsson-Wallin).....	80
Figure 3.15. a) a grinding stone found at structure 709, b) an adze fragment found at structure 709.....	81
Figure 3.16. 200 m circular 'ward' catchment around Pulemelei mound.....	84
Figure 4.1. Map over Independent State of Samoa with the location of the monument places indicated in the text.....	89
Figure 4.2 Boulder at the entrance of the Malaefono organic plantation. The dotted back line show a grinding groove and the areas with the dotted white lines are grinding/polishing surfaces ( <i>foaga</i> ) (photo Helene Martinsson-Wallin).....	90
Figure 4.3. Malaefono platform when cleared in 2005 (photo Helene Martinsson-Wallin).....	91
Figure 4.4. Plan drawing of Malaefono platform.....	92
Figure 4.5. Photo of entrance at notch E trench 1 (photo Helene Martinsson-Wallin).....	93
Figure 4.6. East and south section drawing of trench 2.....	93
Figure 4.7. Table of radiocarbon dates from the Malaefono platform excavation.....	94
Figure 4.8. Map showing the location of Fale o le fee (modified after Freeman 1944a).....	96
Figure 4.9. The photo shows Dr. Schultz, Governor of German Samoa 1910-1914 on the stone seat at Fale o le fee called nofoa o le fe'e (photo by A.J. Tattersall Apia).....	97
Figure 4.10. Plandrawing of Fale o le fee in the 1940s (modified after Freeman 1944a).....	97
Figure 4.11. Digital mapping of Fale o le Fee in 2007 (Gustaf Svedjemo).....	98
Figure 4.12.a) Test pit excavation at Fale o le Fe'e with outcrop with prisms ( <i>analcite dolerite</i> ) in the back (photo Helene Martinsson-Wallin), b) Overview of cleared area of Fale o le Fe'e with fragmented column and disrupted pavement from the south (photo Helene Martinsson-Wallin).....	99
Figure 4.13. Partly destroyed mound at Vaioso-uta (photo Helene Martinsson-Wallin).....	103

Figure 4.14. a) Road section at Vaioso-uta (photo Helene Martinsson-Wallin), b)Section drawing of road section at Vaioso-uta....	104
Figure 4.15. Drawing of the Vailele earth mound (after Thompson 1928).....	105
Figure 4.16. Laupule mound in 1965 (photo William Dickenson). ....	106
Figure 4.17. Drawing of the Fagali'i area with Laupule mounds and the Tapuitea mound that was partly destroyed when the area was subdivided for housing in 2005. Based on mapping from the Land and Survey Department MNRE.....	107
Figure 4.18. The Vailele survey by Roger Green in 1963-64 (based on documents on file at Auckland War Memorial Museum). ....	109
Figure 4.19. Plan drawing of Laupule mounds during the archaeological investigation 2010 with the trenches. ....	110
Figure 4.20. Section drawing of trench 1 at Laupule mound excavation 2010.....	111
Figure 4.21. Trench 2, dispersed platform and post hole (photo Helene Martinsson-Wallin). ....	112
Figure 5.1. a) Talking chief ( <i>Tulafale</i> ) Fao Ualesi Malietoa and presentation of fine mat b)Presentation ( <i>Sua</i> ) of a fine mat ( <i>i'toga</i> ) at a chiefly bestowal, b) Presentation ( <i>Sua</i> ) of large tapa cloth at a chiefly bestowal c) Presentation ( <i>Sua</i> ) of boxes with tinned fish at a chiefly bestowal (photos Steven Percival). (1).....	116
Figure 5.1. a) Talking chief ( <i>Tulafale</i> ) Fao Ualesi Malietoa and presentation of fine mat b)Presentation ( <i>Sua</i> ) of a fine mat ( <i>i'toga</i> ) at a chiefly bestowal, b) Presentation ( <i>Sua</i> ) of large tapa cloth at a chiefly bestowal c) Presentation ( <i>Sua</i> ) of boxes with tinned fish at a chiefly bestowal (photos Steven Percival). (2).....	117
Figure 5.2. Cleared Pulemelei mound in 2004 (photo Helene Martinsson-Wallin).....	121
Figure 5.3. Poster to seminar on Archaeology and Cultural Heritage Management <i>Folauga Mai Anamua</i> ('The voyage to the past') (design by Steven Percival).....	125
Figure 5.4. The opening of the Prehistory room at Samoan Museum ( <i>Fale Mata Aga</i> ) in 2011 with students of Archaeology. From front to back Jordanna Mareko, Foketi Fuimaono, Leiloa Talosaga Asaasa and Maria Netzler Meredith (photo Helene Martinsson-Wallin).....	126
Figure 5.5. The opening of the Prehistory room at Samoan Museum ( <i>Fale Mata Aga</i> ) in 2011. From left to right. Janet Davidson, the museum director Sina Ahpoe (later Malietoa), Tautala Asaua and Helene Martinsson-Wallin (photo Helene Martinsson-Wallin).....	127
Figure 5.6. Helene Martinsson-Wallin deposit the Pulemelei finds to the Samoan State and the Prime Minister Tuilaepa Lufesoliai Sailele Malielegao at the Samoan Museum ( <i>Fale Mata Aga</i> ) in 2013. (photo Helene Martinsson-Wallin).....	128
Figure 5.7. Re-furbishing the Prehistory room at the Samoan Museum ( <i>Fale Mata Aga</i> ) in 2013 (photo Helene Martinsson-Wallin). ....	128
Figure 5.8. Me holding the Newspaper Samoan Observer 9 <sup>th</sup> of March 2012. Front cover article on the demolition of the 'Freedom <i>Fale</i> ' (photo Helene Martinsson-Wallin).....	129
Figure 6.1. A model of <i>fa'asamoa</i> including archaeology.....	134
Figure 6.2. A model of adze trade and negative reciprocity .....	136

## Preface

When I look back on my life, I'm very grateful to have had the opportunity to be part of the wonderful and interesting 'World of Archaeology' for the past 30 years. There have been many highpoints and exciting times while excavating ancient remains of Pacific and Scandinavian people, but there have also been some tough moments when I questioned my passionate engagement with past material culture. My colleague and friend, Rapa Nui Archaeologist Sonia Haoa Cardinali, always says that we are 'rock women', who can endure... So, I have chosen to study stone monuments and the way rocks were used by prehistoric people, always aiming to go beyond the 'rocks' to find the people behind these material expressions, and to convey the messages from past generations to future generations. Many 'rocks' later, I have had the good fortune to have time to write this book on Samoan Archaeology and Cultural Heritage Managements. When I came to the Independent State of Samoa for the first time in 2002, I knew very little of this place, but after 13 years of teaching and excavating there, I have started to feel more at home. The path has not always been straight, but The National University of Samoa and the Centre for Samoa Studies has now become a second home to me. My Samoan colleagues sometimes make me forget that I'm an ignorant *palagi* from the other side of the World, and they have included me as one of their own. I have enjoyed discussing education and research, chatting, and snacking with you all. I have been truly fortunate to have had the opportunity to be part of the pioneering efforts in initiating coursework in archaeology and cultural heritage management in Samoa. More than once, I have been baffled and confused by the fact that archaeology is a virtually non-existing concept in Samoa. The aim of my efforts has been, and continues to be, to provide a foundation for Samoan students that will enable them to become the custodians of the historical narrative based on archaeological research. I believe this is 'the other side of the coin' of the historical narrative based on oral traditions.

I would not have been able to do this work, and write this book, without the support of several people. First, I'm very grateful to have been mentored by the late great '*ali'i mata'i*' Thor Heyerdahl and Professor Arne Skjølsvold at the Kon-Tiki Museum since the mid-1980s. This institution also gave the initial financial support to carry out excavations at Pulemelei mound. I'm also grateful for the collegial support and collaboration with Professor Ingjerd Hoëm and Associate Professors Geoffrey Clark and Paul Wallin during the initial stage, which included the Pulemelei excavations.

The project and educational exchange between The National University of Samoa and Gotland University in Sweden began in 2005, and would not have been possible without the support from the Swedish State (Swedish International Development Cooperation Agency) and their Linnaeus-Palme exchange grant. I'm also in debt to my colleagues at the Centre for Samoan Studies who have participated in the exchange; especially Professor and Vice Chancellor Asofue So'o, with whom I initiated this exchange. I'm also grateful to Professor Malama Meleisea, Associate Professors Unasa Felise Va'a, Penelope Schoeffel-Meleisea, Juliet Boon and Fonoti Dr. Lafita'i I. Fuata'i. I have had a great time and shared many laughs with HoD Seiuli Vaifou Aloalii Temese and Fiso Evelini Famoe, both lecturers in language and culture. Tautala Asaua Pesa, lecturer in Archaeology, has been a key person in teaching Archaeology and carrying out further development of the program. She is currently on leave to finish her doctoral degree in Archaeology, and I'm supportive of her initiatives and also grateful to Doctoral Fellow Lorena Sciucso who has temporarily filled Tautala's position. Lori is very dedicated, and has made contributions to development of the program. I have also had the opportunity to engage with other colleagues at CSS, among them Mona-Lisa Savealii Malietoa, who has given kind assistance in the Laupule excavation. In this respect, I'm also grateful to the landowner of Laupule mound Hon. Fa'amaslili Moli Maleitoa. I appreciate the professional knowledge and good company of Matiu Matavai Tautunu, a young man in the coming, and Naumati Vasa who always makes me smile. Both are language and culture teachers at NUS. The kind, smiling face of the late Telesia Lafontanoa will be greatly missed. She always encouraged the staff to do research and publish. She passed away much too early, and she is missed by many. I also appreciate the interaction with other colleagues and administration at NUS, especially the former secretary at CSS, Vaiotu-Fuao Lomialagi. Without your cheerful, helpful, kind assistance, this project could not have lifted off the ground. Fa'afetai tele lava Lagi!

From Gotland University, I appreciate the participation in the exchange of my colleagues Drs. Gustav Svedjemo and Joakim Wehlin. They were also very good company to me in Samoa. Associate Professor Paul Wallin has been an important person in the project. He was involved in the development of an Ethnoarchaeology course at Gotland University, which was linked to the exchange project.

Over the years there have been many Samoan and Swedish students involved in the exchange; Iosefa Percival, John Kalolo and Joakim Wehlin were the first L-P exchange students in 2007, but prior to the start of the exchange Ilse Vuijsters and Elin Brødholt were students from Gotland who got MFS (Minor Field work Studies grants from SIDA) and participated in Archaeological investigations in 2004. Moa Nord and Katrin Listfeldt got MFS grants in 2005, and Joakim Wehlin got an MFS grant in 2006. Marie Jonsson and Isabell Enström subsequently got MFS grants to do studies in Samoa in 2010. Two Samoan archaeologists, Epifana Soifua and Tautala Asaua, were assistants in the field at Pulemelei site 2003. In 2004, Doctoral Fellow Olaf Winter participated as an assistant in the field work at Pulemelei. You have all provided great support and produced interesting studies.

Additional Samoan students who studied for a semester at Gotland are; Rachel Ale, Cubitt Milford, Viveita Semu, Jimmy Evile, Mala Manusamoa, Pene Fereti, Samantha Kwan, Lafaeli Eli, Mohammed Sahib, and Esmey Tanilu. Swedish students studying one semester at NUS are Anders Bornfalk-Back, Therese Johansson, Annie Rosén, Siri Fosselius, Fanny Sommar, Sebastian Liahaugen, Mikael Hannikaninen, Mira Lumbye, and Michaela Eklöf. In addition there have been many other students involved in the courses in Samoa and in Sweden tied to this project. You have all inspired me in various ways over the years, and I hope that your international studies have extended your personal and professional experiences in positive ways.

In Samoa, I'm grateful to the former Board of directors of the O.F. Nelson Property Ltd.; the current head of State His Highness Tui Atua Tupua Tamasese Taisi Tupuola Tufuga Efi; Tuatagalaoa Joe Annandale, Tui Retzlaff, and late Patrick Moors for their kind assistance and interest in the our Pulemelei project at Letolo plantation. I also appreciate the collaboration with our foreman during the Pulemelei excavations, Aiolupo Setisifano. I particularly appreciate the collaboration with Lautafi Fio Selafi Purcell (currently Minister of Public Enterprises) who was the foreman of the Letolo plantation and participated in the Letolo excavation in 2006. You showed great interest in the archaeological research, and we have had some good conversations. I also appreciate the actions of Prime Minister Susuga Hon. Tuilaepa Lupesoliai Sailele Malielegao, since he intervened and assisted our archaeological team in 2004 when there were conflicts between landowners and Vailoa chiefs. He also supported the refurbishing of the prehistory room at Fale Mata'aga in 2013, when I deposited the Pulemelei finds there. I'm also grateful to Minister of Education Fiame Naomi Mata'afa, when she was head of MESC, for her demonstrated interest in our project to launch Archaeology at NUS. I also appreciate the collaborative efforts of the former Director of the Samoan Museum, Sina Ahpoe Malietoa for making an initial prehistory exhibition in 2011 possible. The good collaboration with the current Director of the Museum Lumepa Apeliu, and her dedicated staff Ailini Ah Ken and Mainifo Nua Viliamu, is greatly valued. Your friendly atmosphere always makes me and the students of Archaeology feel at home in your museum. Several of my Swedish students and I are also indebted to Fetalaiga ia Mata'afa 'Autagavaia Elia for information on oral traditions in Samoa, and we all respect and value your work with the *Samoa ne'i galo*.

I will always treasure the friendship and hospitality of Steven and Wendy Percival who have opened up their home to me, my Swedish students and colleagues. Steven's film documentaries on archaeological sites are very valuable, as well as the pottery classes that Wendy has provided for the archaeology students at NUS. The friendship and hospitality of Richard and Suela Cook at the Malefono organic plantation is also treasured, as well as the good collaboration and friendship with Ms. Akatsuki Takahasi, Programme Specialist for Culture at the UNESCO office in Apia. I'm in debt to all my colleagues, for the opportunity to go on sabbatical, which has allowed me to have time to write this book. I am particularly grateful for the support of HoD Lars Karlsson, Professors Neil Price and Paul Lane, and Associate Professors Paul Wallin and Christoph Kilger. The latter two took on my teaching load during my leave of absence from Campus Gotland. I'm also very happy to have received funding from the departmental Rydebergs foundation to cover some of the English proofreading of my 'Globish' English. Furthermore, I'm grateful to colleagues at the Department of Anthropology at University of Auckland who invited me as a visiting fellow during my sabbatical the first half of 2015. I'm especially grateful to Professional Teaching Fellow Vavao Fetui at Maori and Pacific Studies at UoA who teach Samoan. Mr. Fetui has translated the summary of this book to Samoan and he also opened my eyes for the complexity of the language when I attended some of his classes.

Without the support of my good friends Professor Atholl Anderson and Rosanne Anderson, I would not have been able to start writing this book. I'm happy that you are my friends, and I will never forget that you let me stay in your home and be part of your family during January 2015. After years of hard work at the Samoan and Swedish institutions alike, and being far away from my own family, I greatly appreciate your warm hospitality. You are both wonderful persons, and I greatly appreciate collaborations and inspiring collegial conversations on Pacific pasts with Atholl, as well as your general support and encouragement over the years. I have also enjoyed good sailing with Atholl, being in Rosanne's beautiful garden, and your great meals and thoughtfulness are much appreciated. The kind offer from Penny and Malama Meleisea to use their apartment in the centre of Auckland has been very valuable to me, as well as

your kind hospitality when I have stayed with you and your family on various occasions in Samoa. It has been great to take part of your knowledge about the Samoan past and present society. I would also like to thank Janet Davidson and Foss Leach for inviting me. Besides discussions on Samoan and Pacific Archaeology, Janet and I have inspected an old Samoan dog at Ta Papa Museum storage (hope it will be aDNA analysed!) and visited the interesting Washpool site. I also had a great time going to the Opera with in Janet in Wellington. You are both first class Pacific scholars in Archaeology, and I have always admired Janet's great knowledge and thorough work in Samoa and elsewhere in the Pacific.

Many of the words in this book have been produced while overlooking the Pacific Ocean at Onetangi beach on Waiheke Island. This was one of the most relaxing times of my life, and I really needed this time to regain my strength after years of hard work. I fell in love with this Island and the wonderful Onetangi beach and cherished the visits by my very good friend Pernilla Flyg and my sister Britt-Marie Martinsson, you make a difference in my life! Thank you sis for also helping out with proof reading. For the support and comments/proofreading on my manuscript I'm very grateful to Geoffrey Clark and Paul Wallin, with whom I started out the Samoan endeavour. I highly value your friendship, opinions, research, and writings on Pacific Archaeology in general; thank you! Last but not least, I could not thank my husband and colleague Paul Wallin enough for been there and organising daily life with our sons Thor and Erik when I have been off somewhere in the South Pacific and working hard to juggle administration, teaching and research at Gotland University or NUS. Without you and our sons' support this work would not have been possible.

Any errors and inconsistencies that might occur is my own responsible, but my hope is that my efforts in enhancing higher education in Archaeology and Cultural Heritage Managements in Samoa and this text will facilitate that Samoans to become the custodians of the historical narrative based on archaeological research. A step in this this direction is a the beautiful card that I have on my desk with nice greetings from my students in the classes of HAR 100/200 2012 where Mohammed has written; *Having you with us was indeed a grateful change to open our eyes in Archaeology, not as just a course but hopefully will become as effusions from us in the future...*



# Chapter 1

## Archaeology in Samoa – setting the stage

My involvement in Samoan archaeology started in 2002 when we initiated an archaeological project at the Letolo plantation in Savai'i. During the same time we were invited to give a paper at the Samoa I conference *Identifying Future Research Directions in Samoan Studies* at The National University of Samoa. The initial research was centred on the origin and development of the large scale Pulemelei mound and associated archaeological remains. The Pulemelei investigations were carried out during three seasons, 2002-2004 and I have previously published an edited volume on the results (Martinsson-Wallin 2007a). Since then, I have been involved in building up a programme for Archaeology and Cultural Heritage Management at the National University of Samoa. In combination with these efforts I have arranged field schools, in relation to my research on monuments in Samoa. The aim of this publication is to make available the extensive data from the Pulemelei excavations that previously has not been fully published, as well as data from my subsequent research, which focuses on the changes to Samoan society during the past two millennia, especially the development of monuments in the second millennium. A further objective is to provide an overview, analysis and discussion of the prehistory of Samoa and the current Culture Heritage Management, based mainly on the islands; 'Upolu and Savai'i belonging to the Independent State of Samoa.

The Samoan Chain of Islands is today divided into the Independent State of Samoa (formerly known as Western Samoa) and American Samoa (a United States territory) (Figure 1.1). The former includes the large volcanic islands of 'Upolu and Savai'i, the two smaller islands Manono and Apolima between them, and a few offshore islets beyond the south-eastern point of 'Upolu. The latter includes the larger island of Tutuila with its offshore islet Anunu'u and a group of smaller islands under the name of Manu'a, (Ofu, Olosega and Ta'u Islands). Of course the cultural landscapes on all these islands intersect and groups of people living on the various islands are related and have influenced each other over time. Here I focus on the archaeological remains in the Independent State of Samoa (hereafter referred to as Samoa) with references to research in American Samoa and the wider West-Polynesian area.

My research in the Pacific area has primarily focused on monuments and Cultural Heritage Management in Samoa in West-Polynesia (Martinsson-Wallin 2007a,b, 2011a,b; Martinsson-Wallin and Thomas 2014; Martinsson-Wallin *et al.* 2003, 2005, 2007a,b) as well as, the dating, origin and development of the ceremonial sites (the *ahu*) and early settlement in Rapa Nui (Easter Island) and East Polynesia (Martinsson-Wallin 1994, 2000, 2011c; Martinsson-Wallin and Crockford 2002; Martinsson-

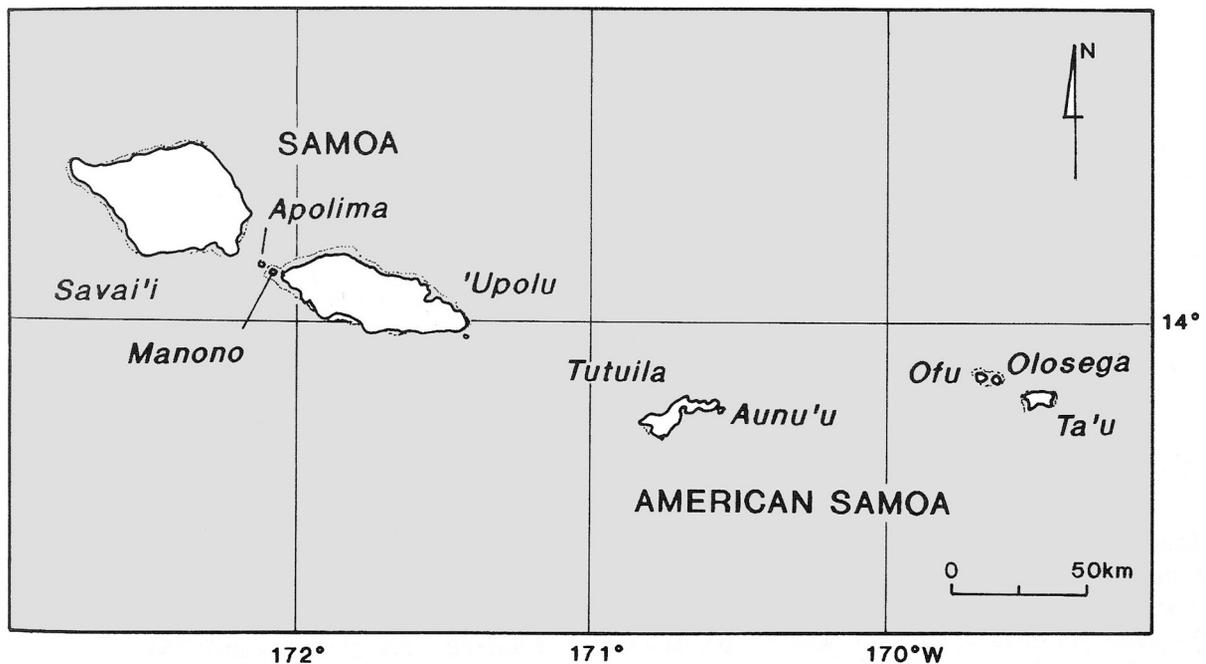


FIGURE 1.1. MAP OF THE SAMOAN ISLANDS.

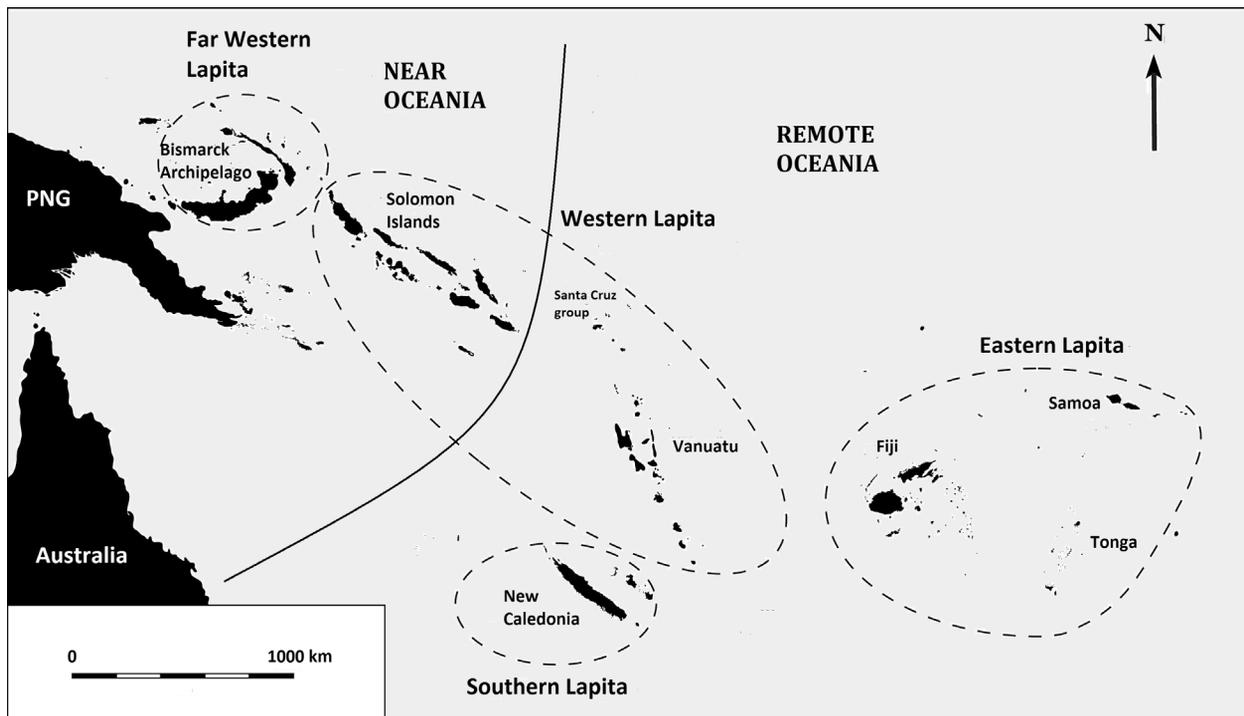


FIGURE 1.2. MAP OF THE DISTRIBUTION OF THE VARIOUS LAPITA POTTERY GROUPS.

Wallin and Wallin 1994, 1999; Martinsson-Wallin *et al.* 2013; Wallin and Martinsson-Wallin 2008; Wallin *et al.* 2010; etc.). This research have detected incredible amount of landscape modification and monument building in prehistory that needs further documentation, and most importantly, preserved for future generations.

Archaeological research has shown that West-Polynesia (e.g. Tonga and Samoa) were populated sometime around 2850 BP from the west following an expansion of maritime orientated groups of people who most likely had links with Island South East Asia as they made pottery and had knowledge of horticulture (for an overview of the development of archaeological research in the West-Polynesian area see Davidson 2008). Pottery with distinctive dentate-stamped designs, sometimes lime infilled and featuring a face/eye motif, has been found from Coastal New Guinea, Bismarck Archipelago, Solomon Islands, Vanuatu, New Caledonia, Fiji, Tonga and Samoa (Clark and Anderson 2009; Clark *et al.* 2001; Green 2000, Kirch 1997, 2001 etc.). The decorated ceramic is called Lapita pottery after the first site in New Caledonia (Gifford and Shuttler 1956). There is significant temporal and spatial ceramic variation which provides the base for the pottery division into Far Western Lapita (Bismarck, New Guinea), Western Lapita (Solomons, Santa Cruz and Vanuatu), Southern Lapita (New Caledonia), and Eastern Lapita (Fiji, Tonga and Samoa). Within 300-400 years Lapita groups migrated from already populated areas in Near Oceania (Bismarck and the Solomon) to previously uninhabited islands in

Remote Oceania (Figure 1.2), finally arriving in West-Polynesia and Samoa. The Eastern Lapita pottery has also been divided into early and late stages. The rapid change from using Lapita decorated to plain pottery that is locally made has for example been discussed caused by drift and isolation (Clark and Murray 2006).

Most Lapita sites in Tonga are found in Tongatapu and the islands of Ha'apai and moving north towards Samoa there are only a few sites found on Va'vau and Niutopatapu (Burley and Connaughton 2007: 132; Clark and Bedford 2008). Cochrane (2013) argues for that there is little evidence for cultural transmission between Samoa and Tonga. However, as only one Lapita site has so far been found in Samoa due to island subsidence and the removal of sites under alluvial or colluvial soils we know relatively little about Lapita in Samoa.

Previous research and new data, the latter including recent petrology analysis (pXRF, XRF, SEM-EDXA, LA-ICP-MS, and MC-ICP-MS analysis) of stone adzes and lithic assemblages from West-Polynesia (Clark *et al.* 2014) and genetic research of humans, animals and plants (e.g. Freidlander *et al.* 2008; Matisoo-Smith and Robins 2004; Roullier *et al.* 2013) provides new insight to migration and interactions patterns in the Pacific. The migration of humans to the Pacific islands mainly followed a west-to-east direction, but with some important variation such as the Polynesian re-population ('back-wash') of outlier islands in Melanesia probably from c. 1300 AD which followed an east-to-west direction.

Recent research on maritime technology and climate variations provide a deeper understanding of when maritime migrations to specific islands were favourable due to the prevailing wind and sailing technology (Anderson 2014: 18-22; Goodwin *et al.* 2014). The main population trend is that groups of people from West-Polynesia have provided the bulk of the founding population base of the East Polynesia. There are differences in material culture between the East and West-Polynesian area, which was highlighted already by Burrows in 1938, but similarities of language and culture show strong ties among all Polynesians. Pacific people's life has been shaped and re-shaped according to the prevailing and changing natural environment, cultural milieu and interactions/isolations on and among different islands and islands groups, in prehistoric times as well as during the historic European contact period. Recent genetic studies of the sweet potato (*Ipomoea batatas*) have, for example, shown that the variety that was found in Polynesia at European contact time originated from southern Ecuador (Roullier *et al.* 2013). This implies Polynesian contact with South American in prehistory. Other cultural traits such as the birdman cult and the stone technology of monuments like the *ahu* on Rapa Nui also suggest prehistoric contact between East Polynesia and South-America (Anderson *et al.* 2007; Martinsson-Wallin 1994; Martinsson-Wallin *et al.* 2013). Research also shows that Rapa Nui has had a cultural (Martinsson-Wallin 1994), and possibly also a genetic input from Pre-Colombian societies (Moreno-Mayar *et al.* 2014; Thorsby 2014; Thorsby *et al.* 2009), but the primary migration movements in the Pacific are from west-to-east.

My research in Samoa has mostly centred on the timeframe when the traditional chiefdom society emerged (*c.* 1000-300 BP). I have also touched on the research including the timeframe called the 'dark age' (*c.* 1500-1000 BP). The term was originally coined by Poulsen (1972) in Tonga, but was later popularised by Davidson (1979). Now, it is widely accepted as a time characterised by relatively few archaeological remains and pottery appears to have been abandoned in both Samoa and Tonga. However, migration to East Polynesia, monument building and the development of stratified chiefdom societies all occurred around the transition from the 'dark ages' to the 'chiefdom'. Our current knowledge of the prehistory during the last two millennia is limited but the so called 'dark age' were probably far from 'dark'.

Radiocarbon dates from Samoa point to a continuous occupation from the initial 'Lapita' colonisation dated to *c.* 2850 BP (Petchy 2001) until European contact in the 18th-19th centuries, but more research based on archaeological excavations is needed to understand the inter- and intra-island development in the Fiji/West-Polynesian area during prehistory. Davidson

(2008, 2012) has recently assessed archaeological research from the end of the 1950s to recent times in Samoa and West-Polynesia. She states that (2008: 24); *The disjunction between the early archaeological remains in Eastern Polynesia and what has been found in the west is still striking. This is a problem that must ultimately be solved by archaeology.* She further suggests (2008: 25) that more work should be done to understand the development of monuments as a part of the settlement pattern during the last 1000 years and the change brought about by European contact. I fully agree with this and the research presented in this volume, my Rapa Nui research on monuments and chronology (Martinsson-Wallin *et al.* 2013) and the development of a university programme for Archaeology and Cultural Heritage in Samoa are steps in this direction. The latter has been done to actively involve the researched people (i.e. the Samoans/Polynesians) in the process of researching and writing up prehistory based on archaeological research to create a platform to facilitate *Samoan involvement and ownership of the archaeological narrative.*

### The outline of a first prehistoric sequence

#### Background

It is common that Nation building and an interest to promote a National history go hand in hand. There are numerous examples of attempts to build an overarching common history and 'Nation builders' attempt to ally with, or usurp the narratives developed by other groups at different times. These meta-narratives are usually told in National Museums around the world, but it is probable that this 'sense of history' has played a role in many ancient societies as well as in the modern world. In Samoa, which is a traditional lineage-based chiefdom society as well as a modern democratic state, cultural traditions favour a prehistory told in the form of genealogies, myths and legends. Here, the extended family history is often more important than the 'global' Samoan history. To produce an overarching narrative of Samoan past has proven difficult since there are variations in the genealogies, myths and legends told depending on who is telling the story (Meleisea 1980: 21; Meleisea and Schoeffel-Meleisea 1987: vii). In the 1990s a project was initiated by the Ministry of Education, Sports and Culture (MESC) with the aim to write down oral traditions and this project is still ongoing. These stories have been collected in several volumes called; *Samoa Ne'i Galo* (Lest we forget). This is actually one way to write a *History* of Samoa. Another *History* of Samoa is the recording of the *fa'alupegas* (honorifics/salutations) that was initiated by the missionaries at European contact and published by the London Missionary Society (now Congregational Christian Church of Samoa) (Meleisea and Schoeffel-Meleisea 1987: 28).



FIGURE 1.3. THE PREHISTORY ROOM AT THE NATIONAL MUSEUM OF SAMOA (*FALE MATA'AGA*) RE-FURBISHING 2013. FROM LEFT MIKAEL HANNIKANIEN, AILINI AH KEN, MAINIFO NUA VILIAMU, HELENE MARTINSSON-WALLIN, MIRA LUMBYE, LUMEPA APELU (PHOTO HELENE MARTINSSON-WALLIN).

Archaeology, on the other hand, is tied to tangible historic remains and is based on evolutionary principles, which is a Western concept that could be seen as alien to a traditional Polynesian society. Especially a society that has wholeheartedly embraced the Christian faith and thinks of the prehistoric times as *O aso o le poululi*, (the time of darkness). The discipline of archaeology and the protection of historical tangible values have not been a priority in contemporary Samoan society, but this view is slowly changing due to modernisation, infrastructural changes and education. Currently the National University of Samoa is the only Pacific Island University with an established programme for Archaeology and Cultural Heritage. Together with staff at the National Museum (*Fale Mata Aga*) we also launched the first prehistory room in the year 2011 (Martinsson-Wallin 2011a), which was refurbished in 2013 (Figure 1.3).

The first published article on archaeological remains in Samoa, appeared in the *Journal of Polynesian Society* already in the 1920s (Thomson 1927). Thomson describes the large Vailele earthmounds close to the capital of Apia. At that time, Western Samoa was under a League of Nations mandate of the United Kingdom and from 1946 was placed under the jurisdiction of New Zealand until independence in 1962. Jack Golson and Wal Ambrose, then at the University of Auckland, did the

first archaeological reconnaissance of Western Samoa in 1957. They also made archaeological excavations at some mounds in Vailele, where the first ancient pottery was recorded in Samoa (Davidson 2008: 11; Golson 1969a, 1969b). When Western Samoa became independent in 1962 a multi-year archaeological campaign was launched under the leadership of Professor Roger Green assisted by Ms. Janet Davidson from University of Auckland. Their excavations and survey, which was funded through US National Science Foundation and continued from 1963-1967 involved many types of sites and a number of graduate students participated. The results from this campaign have been published as reports in two extensive volumes; Green and Davidson (1969a, 1974a). The two volumes form the first outline of a prehistory of Samoa and in an agreement between New Zealand and the State of Western Samoa, the original find material and documentation from these investigations are safeguarded at the Auckland War Memorial Museum until Samoa has the appropriate storage and archive facilities, and the human resources to curate them.

A subsequent archaeological campaign was carried out under the leadership of Professor Jesse Jennings from University of Utah in 1974-1977, which targeted early pottery bearing sites on Manono Island and village settlement patterns of proto-historical and historical

origin on 'Upolu (Jennings and Holmer 1980; Jennings *et al.* 1976). Their finds and original documentation are also deposited at Auckland War Memorial Museum.

To date, there is only one Lapita site found in Samoa, the submerged Mulifanua site on the western side of 'Upolu (Green 1974c; Jennings 1974). This site was found in 1973 when the Mulifanua wharf was dredged to construct a ferry berth. At a water depth of *c.* 1.8 m, just below a hard coralline crust, which was of 0.9 m's thickness, there were over 5000 fragments of pottery and various worked stones and shell midden found in a narrow band *c.* 100 metre from the shore. The prehistoric activity has been dated to *c.* 2850 BP but the settlement activities probably continued here for several hundred years (Petchey 2001). Dickinson and Green (1998) have estimated that Samoa is submerging at a rate 1.4 mm/annually since the time of Lapita arrival. The submerging process has slowly sealed the site through the formation of beach rock in a shallow lagoon which then subsequently was covered by water. The site is probably the remains of an intensive settlement and large land areas were once exposed between western 'Upolu and the island of Manono. On Manono several plainware pottery sites have been found, which are *c.* 300 years younger than the early date from Mulifanua (Jennings *et al.* 1976; Reith and Hunt 2008; Sand *et al.* 2013).

The effects of tectonic movement and tsunami events in Samoa are complex (Williams 2014) and it might be difficult to locate other Lapita sites even if they could exist. Current research is targeting some promising sites at south-eastern 'Upolu, but so far only plainware sites been found (pers.comm. Ethan Cochrane February 2015). According to Cochrane, and based on previous finds at the Pulemelei site, coarse plainware suggests that pottery was not abandoned over 1500 years ago as suggested by Green (1974a), but may have been in limited use up to 600 years ago. The excavations of house platform at Pulemelei (Trench 6) revealed one coarse pot sherd that differed from the rest that could relate to the late phase of ceramic use (see discussion in chapter 2).

It is not surprising that the first outline of a prehistoric sequence in Samoa built on archaeological research was carried out by foreign archaeologists. A search for origins especially of the Polynesian 'homeland', has been a dominant paradigm for archaeology in the central Pacific region. Maybe this has been a way to 'speak the language of the Polynesians'. In some ways this could be seen as parallel to the indigenous Polynesian traditional '*hawaiki*' homeland idea, using myths and legends. In archaeological research the discussion has centred largely on the early Lapita settlements and their dispersal, and the subsequent development of Ancestral Polynesian Society (APS) in West-Polynesia (Kirch and Hunt 1993). Prior to archaeological excavation started in the Pacific area the Polynesian 'homeland' was discussed

as being found outside of Polynesia. When the APS was coined, the Polynesian 'homeland' was viewed as having developed within West-Polynesia. Triangulation of ethno-history, linguistics and archaeology has been used to build the APS idea. A migration model from west-to-east has been suggested based on these data sets, but it is in fact the linguistic evidences that have been used as the basis of the model (Kirch and Green 2001). The 'homeland' paradigm has lately come under discussion with a suggestion of two migrations to Samoa (Addison and Matisoo-Smith 2010; Addison and Sand 2008). However, this idea have been criticised (Davidson 2012) and is as yet not supported by archaeological data.

The distribution, after initial settlement, of Samoan adzes to Fiji, Tonga and central Polynesia suggests extensive interactions in West-Polynesia and beyond in prehistoric times (Clark *et al.* 2014). By late prehistoric times interaction seems to have involved marriage alliances and the exchange of sandalwood and red feathers amongst communities and high-status individuals (Clark 2002, 2004: 35-6; Clark and Martinsson-Wallin 2007). The West-Polynesian societies, which include what is now called the Independent State of Samoa, have certainly had a dynamic past and it can be questioned if it is still of interest to search for a Polynesian 'homeland' and perhaps it is more important to search for tangible evidence of the dynamic past(s).

### **The Natural environment**

To facilitate the understanding of the cultural setting it is also important to understand the natural environment and thus the possibilities and restrictions people have to consider in providing subsistence and survival of the group. The Samoan islands are of volcanic origin and essentially they are mountains and ridges sitting on the Pacific Plate just north of the Tonga-Kermadec trench. The larger islands in the west are older than those to the east. Volcanism is recent in the east where Ta'u (American Samoa) dates to around 100,000 years ago. The oldest flows on 'Upolu and Savai'i are the Fagaloa and Salani respectively. Fagaloa volcanics may be of Pliocene origin (*c.* 5,3-1,8 million years old) and Salani are probably late Pleistocene (*c.* 1,8 million-10,000 years old). The Mulifanua flow is presumed to be (*c.* 10,000-40,000 years old), and the Lefaga flow is post-Pleistocene, the Puapua flow is mid-Holocene (*c.* 5000 year old) and the Apo flows are from the historic period with its last eruption in the beginning of last century (Kear and Wood 1959). Volcanic activity covered part of the north coast of Savai'i during extensive eruptions in 1905-1911. These were devastating to the contemporary society, but the lava flow also probably destroyed or covered many archaeological sites.

Most Samoan soils are derived from *in situ* decomposed parent rock and places with alluvial soil are few. They

can for example be found on 'Upolu near Apia and in the Falefā district. There has also been indications of early sites being found buried under colluvial/alluvial deposits some distance inland (Clark 1996: 449). Palauli district in Savai'i is such a place but the deposits have shown to be thin and probably unevenly distributed due to the uneven bedrock. Two sand types are found, the Tafa'amanu at 1,52 m elevation and Nu'utele at 4,57 m elevation. These are probably dated to late Holocene and have previously been interpreted as remnants of higher sea levels than at present (Jennings 1976: 5). The tectonic conditions and complex geology of the Samoan islands seem to vary and are not yet fully understood (Clark 1996: 446). A research program towards the investigation of historical ecology in Samoa would be informative to reconstruct the past environment. Such efforts have recently been initiated on Olosega and Ofu in American Samoa (Quintus 2011).

### **Accounts of early survey and excavations**

Subsequent to Thompson's 1927 article in *The Journal of Polynesian Society* on the Vailele earthmounds there was no archaeological research in Samoa until 1944 when Freeman wrote a paper featuring plan drawings of the Vailele earthmounds in the same journal (Freeman 1944b). These first accounts of monumental architecture in Samoa described the sites in general terms and no scientific excavations were carried out. I have subsequently mapped and made test excavations at the largest of the mound (Laupule mound) in 2010, which is presented and discussed in chapter 4. Freeman also described other types of cultural remains and refers for example to a site called *O le fale o le fe'e* (the house of the octopus) situated close to the So'aga stream in the inland area above Apia on 'Upolu. I have also carried out clearing and minor excavation at this site in 2007 and the data and results are also discussed in a chapter 4. Freeman also explored caves at Falemaunga and Seu'ao (Freeman 1943).

Buck mentions (1930: 321-22) that cairns of unworked stones were graves and that one other type of mound was designated to snare pigeon, *tia seu lupe*, which was interpreted as a chiefly activity. Pigeon snaring mounds are also reported from American Samoa, but under the name of *tia'ave* and similar structures found in Tonga are called *sia heu lupe*. Abandoned villages with house platforms, walkways and raised rim ovens as well as strongholds and fortifications in the inland areas were reported by Wright (1963: 91-4) and Golson (1969a: 15-18).

Besides the minor excavations by Freeman in the 1940s the first serious attempt to carry out archaeological excavations was made by Golson and Ambrose in 1957 (Golson 1969a, 1969b). They surveyed and excavated sites on 'Upolu. One of their excavations was made in

a sea bank at Ti'avea village on the south-eastern side of 'Upolu, which exposed a number of layers of human occupation, but the deposits were not dated. The two cave sites (Falemaunga and Seu'ao) previously visited by Freeman were also revisited and investigated by Golson and Ambrose. An occupation in the latter was dated by a charcoal sample to 240±50 BP (Golson 1969a: 19), but traditional history dates this occupation to about 19 generations ago, approximately in the 16th century. A stone pile situated on a prehistoric settlement in the inland area of Aleisa was also excavated, but no finds were made and it was considered to be an agricultural clearance mound. The most extensive excavations were carried out in a large, partly bulldozed mound on the coast at Vailele (SU-Va-1). Here several occupation layers were uncovered, the earliest of which featured plainware pottery (Golson 1969b: 108-13). This was the first time prehistoric pottery was found in Samoa.

Subsequent to Golson's research two archaeological programmes by Green and Davidson and Jennings and associates were carried out. Green and Davidson's team excavated and mapped house platforms and terraces, fortifications and earth mounds on 'Upolu both close to the sea shore and at inland locations (Figure 1.4). They showed that most earth mounds were house platforms and that some of the investigated structures contained several layers of stone pebble floors, indicating several phases of house construction, while some appeared to be the result of a single phase of construction (Davidson 1974a: 227; Golson 1969b: 108; Green 1969a, 1969b; Terrell 1969: 158).

Besides excavations, Green and Davidson's team made extensive surveys, as with the Savai'i survey. Investigated areas covered a variety of natural and cultural settings and the major discoveries were that prehistoric settlements were found both inland and along the coast and that pottery was manufactured and used in the early settlement phase. In historic and present day Samoa the main bulk of settlement is found near to the coast. Davidson (1979: 102) has suggested a shift in the settlement pattern during the European contact phase, probably caused by a population decline, as well as better trading opportunities with Europeans. Further investigations of prehistoric remains would add greatly to the understanding of the prehistoric settlement pattern (see discussion on settlement pattern in chapter 3).

Further excavation of Golson's pottery site at Vailele was carried out by Green who confirmed that occupations with pottery dated within the range 2150±100 to 1660±80 BP. Both 'thin' fine tempered wares and 'thick' coarser tempered wares were found and, according to Green, the 'fine' ware was replaced by the 'thick' coarse ware and the ceramic tradition ceased to exist after the 3rd-4th centuries AD (Green 2002: 136-7). This stratigraphic pottery sequence was also recorded

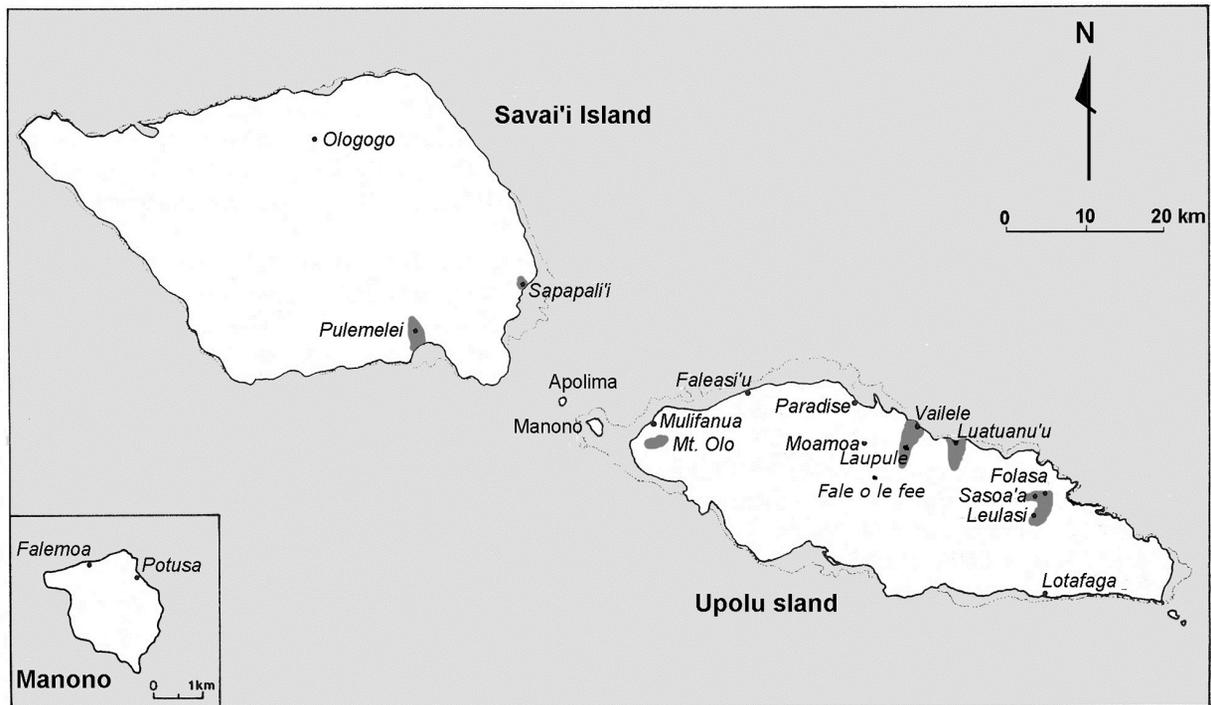


FIGURE 1.4. MAP OF THE INDEPENDENT STATE OF SAMOA SHOWING AREAS OF ARCHAEOLOGICAL INVESTIGATIONS.

at the inland settlement at Sasoa'a in Falefā Valley in an early occupations dated to  $1840 \pm 100$  to  $1800 \pm 80$  BP (see further discussion in chapter 3). The inland area also showed later occupation phases with curb-outlined oval-to-rounded houses placed on modified earth terraces (McKinlay 1974: 13-35). Under or in the vicinity of some of the houses at Sasoa'a and Folasa, human burials were found in shallow pits (McKinlay 1974: 23). The burials were not dated. Excavations by Davidson at the coastal site of Lotofaga on the south side of 'Upolu also indicated that humans had been buried in the vicinity of the ancient settlement. Here also was part of a dog and rat bones (*Rattus exulans*) found, and a radiocarbon sample of charcoal from the context yielded a date of  $735 \pm 85$  BP (Davidson 1969a: 230). Human remains were also found by Jennings team at Jane's Camp in Faleasi'u on the north coast of 'Upolu, but as in Lotofaga these bones were reburied in the vicinity without further investigations (Smith 1976b: 67-8). The Faleasi'u site was dated by shell artefacts to *c.* 2500 BP.

Although largest in land area (1820 sq. km) and according to traditional information an important political centre in the past, relatively little is known about prehistoric Savai'i. Archaeological knowledge of Samoa has centred so far largely on 'Upolu and the smaller islands of American Samoa. However, extensive surveys were carried out on Savai'i by Buist and Scott (part of Green's team) 1964-1966, which included mapping of the large Pulemelei mound at the Letolo plantation (Buist 1969: 34-68; Scott 1969: 69-90). Large parts of the extensive prehistoric settlements at

Letolo and the Sapapali'i plantation were subsequently surveyed by Gregory Jackmond in 1977-78 (original documentation at Auckland War Memorial Museum) (Figure 1.5). These surveys combined with surveys and excavation results from the prehistoric inland settlement at Mount Olo on 'Upolu, have been used by Jennings *et al.* (1982) in discussions concerning the prehistoric settlement pattern in Samoa. The first extensive archaeological excavations in Savai'i was not carried out until our three-year campaign at Pulemelei site in 2002-2004 (Martinsson-Wallin *et al.* 2007a)

Trevor Hansen was the first archaeologist who identified Lapita pottery at the Mulifanua site (Green 1974c: 170-1). The Mulifanua site was further discussed by Jennings and his team who also surveyed remains of old settlement complexes at Mount Olo on the north-west side of 'Upolu and excavated some stone platforms, including a 'star-mound', and house platforms at this site (Holmer 1976a: 23-28). Two beach sites on Manono were also excavated by Jennings team where plainware pottery was found and dated to *c.* 2100-1600 BP.

The excavations and surveys in Samoa that were initiated in the early 1960s and onwards in American Samoa, have provided a firm foundation for a first outline of Samoan prehistory from an archaeological perspective (Clark 1996; Clark and Herdrich 1993; Clark and Michlovic 1996; Clark *et al.* 1997; Davidson 1979; Green 2002; Green and Davidson 1969a, 1974a; Hunt and Kirch 1988; Jennings *et al.* 1976, 1982; Jennings and Holmer 1980; Kirch and Hunt 1993 etc.).

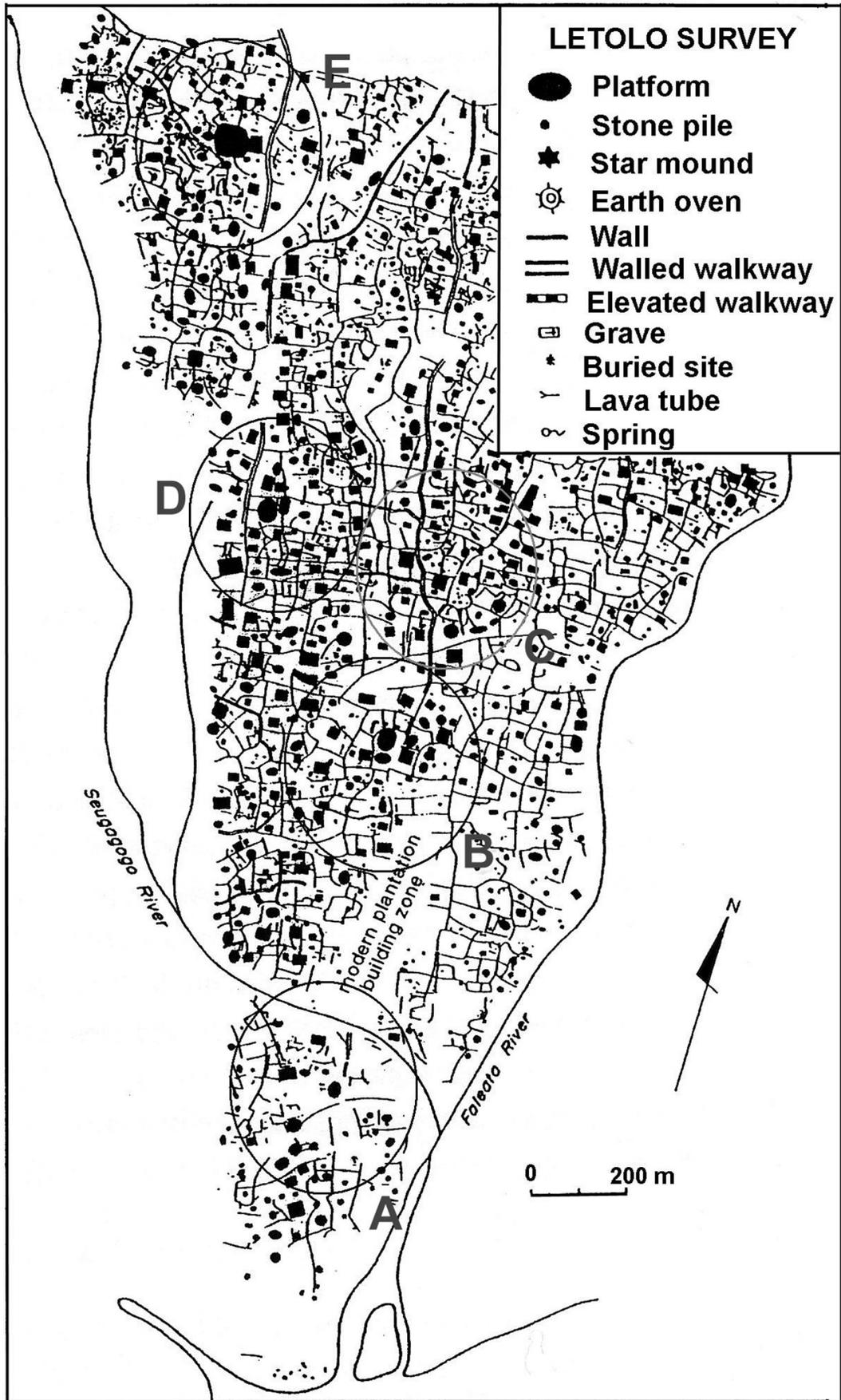


FIGURE 1.5. THE LETOLO SURVEY THAT WAS MADE BY GREGORY JACKMOND IN 1977-78. ORIGINAL DOCUMENTATION IS ON FILE AT AUCKLAND WAR MEMORIAL MUSEUM.

### **Samoa Field Monuments and Finds**

The survey and investigations in the 1950s by Golson and Ambrose, described field monuments as graves (*tu'ugaman*), star/pigeon mounds (*tia seu lupe*), house platforms (*tia/tulaga maota*), villages (*nu'u*), strongpoints (*olo*), circular pits with raised rim (*umutū*), walls and rows (agricultural evidences) and roads (*ala*) found in Apia district, on the alluvial flats around Falevao and in the Vaigafa and Fagatoloa valleys (Golson 1969: 14-20). Holmer divided this category into: *platforms*, *star-mounds* and *stone piles* (Holmer 1980a: 13-16). Other archaeological remains seen above ground consist mainly of *walls*, *roads*, *fortifications*, *terraces* (residence and agriculture), and *raised stone rim ovens* (*umutū* ovens). The walls and roads have been further divided by Holmer into: *fences*, *raised walkways*, *walled walkways* and *trenched walk ways* (Holmer 1980a: 13-17).

Ethno-historical accounts recorded in the 19th century suggest that monumental platforms were house foundations built with communal labour when senior lineages were joined by marriage (Stair 1897:111-12), or were the base of god houses (*fale aitu*) where the principal chiefs of a community met (Davidson 1974a: 229; Holmer 1976b: 49; Hougaard 1969: 254). Larger mounds of earth and stone were interpreted as house foundations for distinguished chiefs (Davidson 1974a: 229; Martinsson-Wallin *et al* 2007a; Martinsson-Wallin 2014b). The mounds were mainly rectangular in plan, and evidence from traditional history indicated that the peak periods of occupation of these large mounds was fairly recent in the sixteenth and seventeenth centuries (Davidson 1974a: 232; Martinsson-Wallin *et al* 2007a; Martinsson-Wallin 2014b). Excavations have shown that some earth mounds over 30 m in length at Vailele on 'Upolu Island were house foundations constructed in a single phase, while others contained a non-residential sub-mound, which was later expanded for residential use (Davidson 1974a: 226; Green 1969c: 151). Our excavations at the large Pulemelei mound and test excavations of Laupule mound at Fagali'i have revealed further information on large mounds in Samoa (see chapter 4 and 6 and Martinsson-Wallin 2014b; Martinsson-Wallin *et al.* 2007a,b).

A study of a large stone mound (c. 44x35x12 m) at Sa'anapu on south 'Upolu was made by Epling and Kirk in 1972 (see chapter 4). The cave had, as mentioned above, been investigated by Golson and Ambrose in 1957 (1969a: 19), and it was visited by us in 2006 (see chapter 5).

Another monument type in Samoa is the 'star-mound' and Davidson (1974a: 227) reported that they found 27 star-mounds on 'Upolu in the 1960s, but subsequent surveys have located many more such sites. A large star-mound at Manono with dimensions (30.5x30 m) and twelve

'arms' has been referred to as the 'star house' (Davidson 1974a: 228). A 12-hectare area around the hill-top on Manono has recently been cleared and mapped and according to Sand *et al.* (2013: 59) 15 star-mounds have been found. Among them was one star-mound of Tongan style (*sia heu lupe*), which is rounded with a pit in the centre. Around 80 star-mounds (*tia 'ave*) have been reported on Tutuila (Clark 1996: 433) and recent survey on the southern part of Olosega by Quintus (2011: 159) has located 21 star-mounds and there are indications of ten additional mounds towards the northern ridge. These structures have been interpreted as pigeon snaring mounds and excavations by Green's and Jennings's teams indicate that this type of feature is late prehistoric and (Hewitt 1980a: 41; 1980b; Holmer 1976a: 25; Peters 1969: 221). The pigeon mounds structures are also seen as late-prehistoric structures on Tutuila and Ta'u, as well (Clark 1996: 453; Herdrich 1991: 390). A star-mound/council platform at Salei'moa on 'Upolu have been subjected to excavation by us in 2006 (see chapter 4) and star/pigeon mounds in general have been discussed by Herdrich (1991) and Martinsson-Wallin and Wehlin (2010).

Three ovens with raised-rim were excavated by Green's team and referred to by Davidson as *umutū* ovens. These ovens were probably community ovens for cooking the *tī* root, which according to Davidson (1974a: 236-38) was used as food for large gatherings. Subsequently, several raised rim ovens, interpreted as *umutū*, were excavated by Jennings's team (Jackmond 1980; Janetski 1976) and I have excavated two such large ovens at Letolo plantation (see chapter 2 and 3). According to Carson (2002) the use of all raised rim ovens as *umutū* ovens cannot be determined. A number of factors have to be considered as; the size of the oven, the amount of burned combustible fuel, type of wood used, heat-induced alteration of surrounding soil and the condition of component heating stones, to confirm this interpretation (Carson 2002: 349). From this point of view it is uncertain if all the raised rim ovens excavated can be labelled as *umutū* and it is doubtful if the cooked and metamorphosed *tī* root was used as a staple food. Based on ethnographic evidence the *tī* plant (*Cordyline fruticosa*) was cooked at high temperature in order to be caramelized, and through this metamorphosis it may have contributed to ritual ceremonies (Ehrlich 2000). The raised-rim ovens, like the star/pigeon mounds, in Samoa generally date to the last 400 years (Davidson 1974b: 184; Green and Davidson 1974b: 214-15 Table 23; Jackmond 1980: 53; Jennings 1980: 7 Table 2, Martinsson-Wallin *et al.* 2007a). The raised rim ovens are found throughout Polynesia, but the *umutū* most likely originated in Samoa or the Fiji-Tonga-Samoa region (Carson 2002: 359). Radiocarbon dates of what presumably could have been *umutū* ovens range according to Carson (2002: 357) from c. 1100 AD up to modern times. I argue that large platforms in close connection with large raised rim ovens could be interpreted as a sign

of a high-status settlement and/or as community house areas (see chapter 4 and Martinsson-Wallin 2007a). Large mounds and large raised-rim ovens are however absent in American Samoa (Clark 1996: 452).

Amongst other field monuments, fortifications or defensive walls are found mainly in the interior. Two types of defensive structures are evident on 'Upolu, the earthwork 'ditch and bank' (often as series across a ridge) and walls of stone (*Pa Tonga*). However, Green has suggested that the latter served as demarcations of territorial divisions between inland and coastal districts and not as defensive structures (Roger Green Pers. Comm. March 2005). The fortification structures are described as both ancient and recent (Scott and Green 1969: 209). Traces of ditches and banks and defensive scarps found in Tutuila in connection to settlements and star-mounds on hilltops and ridges have been interpreted by Best (1993) as to be part of fortified complexes. Recent clearing and survey reported by Sand on Manono show that the hillsides of the island specially the north side overlooking 'Upolu has numerous walls that can be interpreted as defensive walls (Sand *et al.* 2013). The presence of such structures might reflect late prehistoric large-scale warfare and/or increasing stratification. However, their temporal status, function and use need to be investigated further.

Among artefacts, adzes comprise the major category. Those collected from Samoa have been found in excavations and as surface finds. A typology of adzes was worked out by Green and Davidson (1969b: 21-32) on the basis of previous classifications by Buck (1930) and Suggs (1961). The criteria are based on the finish of the adze surface, its cross-section, different angles, and whether it is thin or thick (see Green and Davidson 1969b: 21 and Martinsson-Wallin 2007a: 18). Ten types were classified on the basis of these criteria and the type definitions and figures are found in Green and Davidson (1969b). Type I (Figure 1.6) is the most common and type II is rather common as well (both with quadrangular cross section). According to Green and Davidson it was difficult to establish a firm temporal sequence but type IV and V (Figure 1.7) were rare finds in surface collections and type IVa was present at two early sites featuring pottery (Green and Davidson 1969b: 32). They report that all types except VIII and IX appear to be present at early levels, but no strong conclusions could be reached in regard to the temporal status of the various types. Subsequent detailed studies by Green concluded that type V plano-convex and type I trapezoidal section adze occur in early West-Polynesian contexts but type I continued to be used later. Other types that occur in later prehistory are types II, IX/X (Figure 1.8) and VI (Green 1974a: 253-67). The chronology of the types of adzes found in subsequent excavations is not clear, but the most common type is type I, which occurs through the whole prehistoric sequence (Hewitt 1980c: 136-7).

Nearly all Samoan adzes are made from olivine basalt (Leach and Green 1989: 323). A large number of quarry sites have been found on Tutuila in American Samoa (Clark 1996: 453; Leach and Witter 1990; Winterhoff 2007). Quarry sites could possibly also be found in Samoa but this needs further investigation. The good quality of basalt found in the current quarry site at Malefono plantation in Salei'moa ('Upolu) and the remains of an abandoned quarry site in the area paired with finds of grinding groves for adze polishing/sharpening and old settlements could indicate prehistoric use as a quarry site (personal observations March 2006 and see chapter 4). Adzes of fine-grained, black basalt found at the coastal site called Jane's camp have been subjected to chemical analysis and appear to be of local 'Upolu origin (Smith 1976b: 70). Subsequent geochemical analyses including adzes and stone samples from the *Tataga Matau* quarry in American Samoa, point to that source being used to manufacture Samoan adzes from c. 2200 BP and onwards (Best *et al.* 1992: 57-8, 65 and Winterhoff 2007).

Two adzes were found from the early site at Mulifanua and one showed hammer-dressing, which is not a common characteristic among later Samoan adzes, but is more common in Tongan adzes and adzes made of non-olivine basalts. Based on this observation and the geochemical analysis it was suggested by Green that the adzes with hammer-dressing from Mulifanua were more similar to

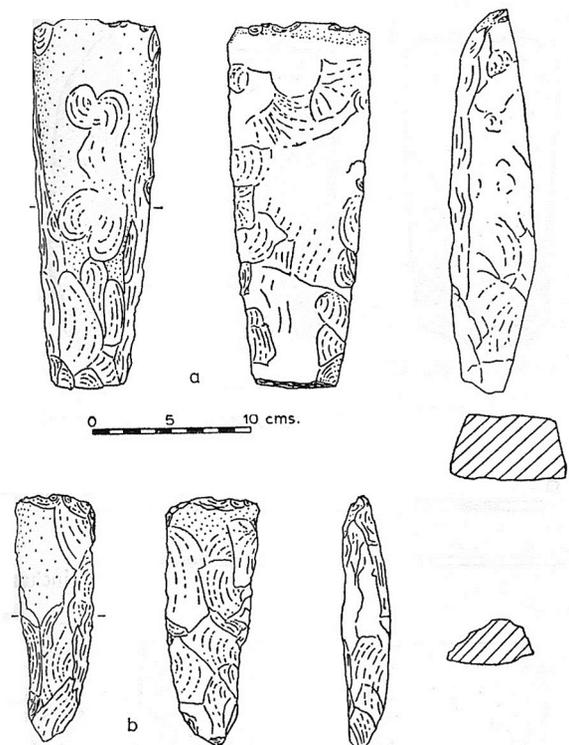


FIGURE 1.6. TYPE I ADZE (OCCUR BOTH EARLY AND LATE) AFTER GREEN AND DAVIDSON'S DEFINITION 1969 B.

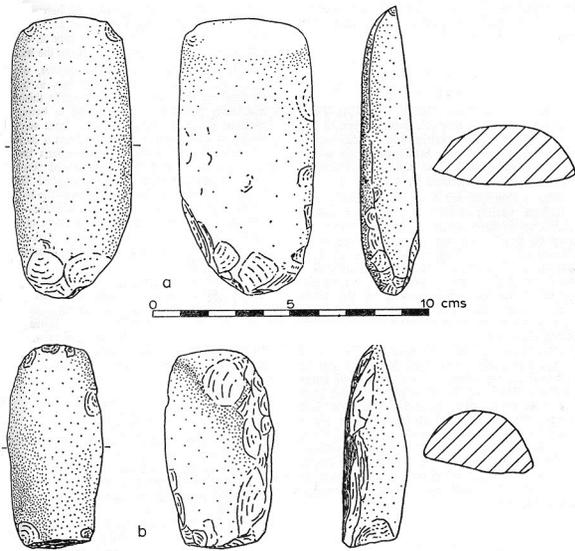


FIGURE 1.7. TYPE V ADZE (EARLY TYPE) AFTER GREEN AND DAVIDSON'S DEFINITION 1969B

the East Lapita adze form and probably arrived by inter-island transport (Leach and Green 1989: 323). The other adze was reported as more typical of Samoan adzes of early type V, but both types occur in the Lapita tradition (Leach and Green 1989: 326). Geochemical analyses on adzes from the To'aga site on Ofu in American Samoa have demonstrated that 50% of the adzes and other artefacts with polished surfaces originate from *Tataga Matau* on Tutuila, but non-polished and unground flakes were from local stone (Weisler 1993: 185). Geochemical analyses between *Tataga Matau*, *Malaelo* and the *Maloata* quarries in Tutuila show that the basalt has a different composition at these sites. When compared with adzes found on 'Upolu at least one adze was indicated to be made from stone found in the *Malaelo* quarry, but the other five adzes from 'Upolu did not match any of the investigated quarry sites (Winterhoff 2004: 237). Recent studies of adzes from Tonga show that there was significant inter-archipelago movement of adzes and lithic material from Tutuila (Clark *et al.* 2014).

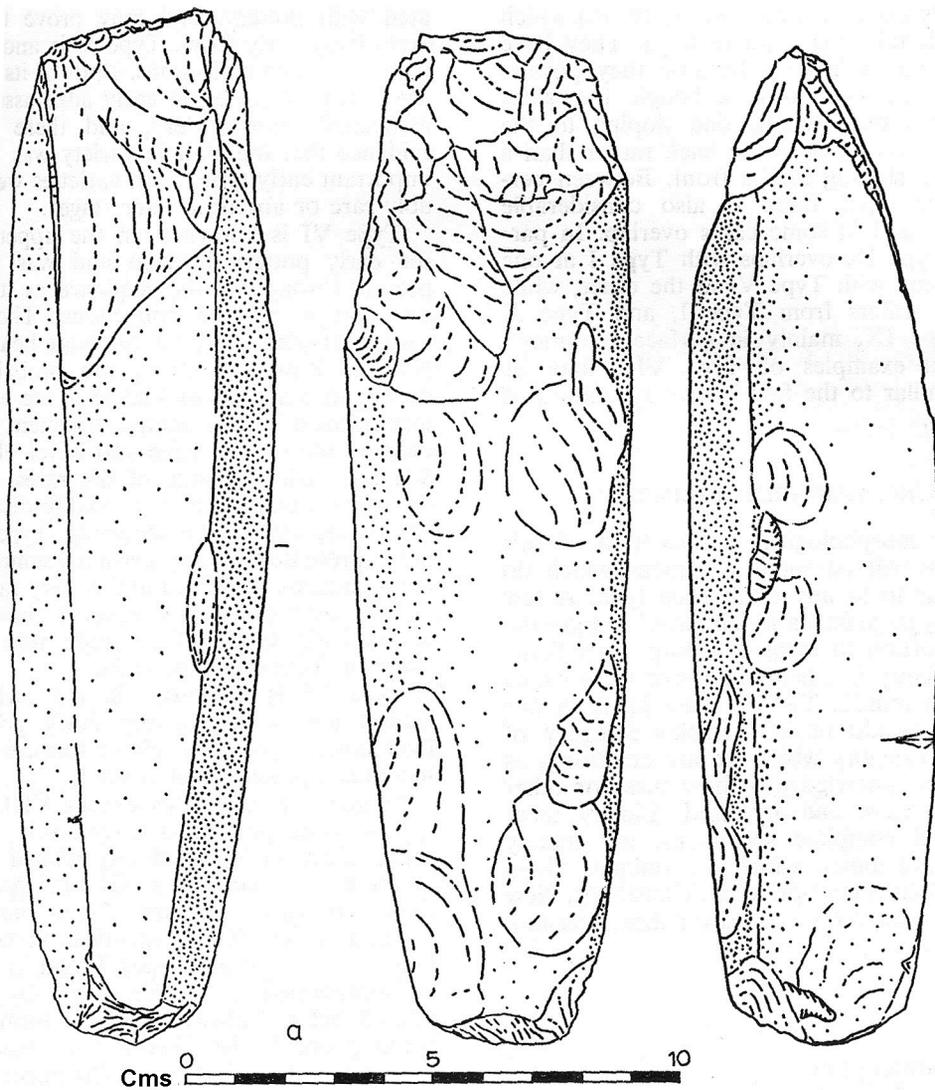


FIGURE 1.8. TYPE X ADZE (LATE TYPE) AFTER GREEN AND DAVIDSON'S DEFINITION 1969B

Another important artefact type is pottery. At the early Mulifanua site, Lapita pottery was found. The pattern on the sherds indicated that they belong to the Eastern Lapita tradition, but the pottery was considered to be locally made (Dickinson 1974: 180). However, according to Green, one piece originated in Fiji (1996: 122). Over 5000 sherds were found in the dredge tailings from the submerged site of which *c.* 5-7% were decorated (Green and Richards 1975: 312; Leach and Green 1989: 321). Three other sites that have been investigated on 'Upolu, Vaialele, Saso'a and Pulemelei sites, showed an abundance of pottery. The pottery found at these sites has been categorised as plainware. In American Samoa the To'aga site on Ofu (Manu'a), 'Aoa site on Tutuila and the Alega site on the offshore islet Aunu'u have disclosed an abundance of plainware pottery (Hunt and Erkelens 1993: 123-49).

According to stratigraphical evidence from Green's excavations, 'thin' fine ware seems to precede a 'thick' coarse type of ware. Green concludes that pottery is rare after the 2nd century and had ceased to be manufactured by *c.* 500-600 AD (Green 1974a: 248). Green's 'thick' and 'thin' ware has subsequently formed the 'templet' for research on ceramics in Samoa. Hunt and Erkelens (1993) has set a division between 'thick' and 'thin' pottery at 7,5mm. A recent study of pottery from five sites on 'Upolu (Teele 2011: 150), has not confirmed that this method is productive to understand the chronology of plainware sherds. Teele (2011: 152) propose a re-classification based on technological variables as temper density, temper size and type of temper which according to him also have chronological relevance and show that manufacture techniques deteriorated over time. Early pottery has lower temper density, smaller size and selection of ferromagnesian basaltic, calcareous and glass tempers. The assumption that pottery was abandoned in Samoa *c.* 1500 years ago can also be questioned. Subsequent excavations at Pulemelei site (Martinsson-Wallin *et al.* 2007a) and recent excavations in Alipata by Ethan Cochran (personal communication February 2015) indicate that pottery was in use up to 600 years ago- A later re-introduction of pottery should not be ruled out.

The ceramic-bearing occupational layers on the To'aga site at Ofu (Manu'a) have been dated from 1250 BC to the first 200-300 years AD (Hunt and Erkelens 1993: 124) but recent excavations at the Vai'oto site at Ofu have yielded plainware pottery that according to the excavator Clark is contemporaneous with the Mulifanua pottery. According to Clark, (1996: 145) there is no uniform abandonment of pottery on the Samoan islands and results from excavations at the 'Aoa site on Tutuila show an extended time range of pottery use even after *c.* 500 AD and maybe as late as *c.* 1350 AD. When assessing radiocarbon dates from West-Polynesian sites Smith (2002: 180) concludes that it 'is not possible to ascertain

...[the chronology for pottery disappearance]... from the present available data'.

The Samoan pottery (based on the Saso'a pottery) was categorised by Green on the basis of: 1. Colour, texture and treatment of sherd surface. 2. Finer variations within the three main categories of temper and 3. By sherds that fitted together, especially using pieces of the rim. Most of the vessels were considered as belonging to rounded bowls and the thick coarse ware vessels were divided into nine different categories with bowls 30-40 cm in diameter. This ware type is almost always associated with a simple flat rim of an open bowl. The 'thin' fine ware is divided into ten categories ranging from 10-40 cm in diameter. This type includes a broader variety of rim forms. The vessels have been interpreted as drinking cups, kava bowls and cooking jars. Quantifying analyses on pottery were subsequently carried out by Smith (1976a) and refined by Holmer (1980b). By undertaking a principal components analysis using a range of variables it was shown that the early Lapita ware and the later plainware were generally homogeneous in character (Smith 1976a: 92). However, the two distinct types of plainware (thick and thin ware from Jane's camp, Falemoa and Mulifanua) were noticed in the assemblages but no distinct pattern concerning temporal or spatial intra- or inter- site distribution could be seen (Smith 1976a: 92). The variety of vessel shapes became restricted with time (Smith 1976a: 94). Further research by Holmer (1980b: 108) derived seven statistically defined types of Samoan ceramics (Holmer 1980b; figure 41), and showed that Samoan pottery is developed from Lapita types. The pottery from the To'aga site in American Samoa has been analysed extensively and the result of microanalyses shows that most of sherds were manufactured from local material, except for the red-slipped pottery which is exotic and represents inter-island exchange (Hunt and Erkelens 1993: 146). A relative change over time from thin ware to thick ware is indicated, but both thick and thin wares are represented at To'aga in the early occupation phase with the decline of thin ware seen over time (Hunt and Erkelens 1993: 147). Subsequent excavations in American Samoa uncovered early sites with plainware pottery, for example at the 'Aoa site on Tutuila (Clark and Herdrich 1993; Kirch and Hunt 1993), and at Vai'oto site on Ofu, which seems to confirm the pattern of early pottery manufacture discovered by Green and then confirmed by Jennings, and its general trend from fine-to-coarse ware. As indicated above, recent study of the pottery from 'Upolu supports a classification based on temper type, size and amount, which is related to manufacturing and not the thickness of the sherds. The variety of forms and shapes of bowls area more extensive in the early Lapita pottery at Mulifanua compared with the later plainware pottery. The latter basically showed a reduction of forms to comprise of three different bowl types (Teele 2011: 104).

Amongst other portable artefacts of interest are a few obsidian flakes that have been found in both early and later contexts on 'Upolu at Sasoa'a, SU-Sa 3 (one core) (McKinley 1974:33) at Vailele SU-Va 4, (74 pieces) (Terrell 1969: 168-9) and at Lotofaga, Su-Lo 1 (1 piece) (Davidson 1969a: 250). The obsidian was analysed and considered as deriving from a source in Samoa, possible in the Fagaloa valley (Terrell 1969: 169; Ward 1974: 167-9). Two pieces of chert found from early contexts at SU-Sa3 and SU-Le12, could, according to Green, be imported (Green 1974a: 267). Obsidian flakes found at the To'aga site are suggested to be local (Kirch 1993: 165). Obsidian flakes have also been found in recent excavations at Apolima (personal communication Asaua 2012).

Basalt flakes are common. According to Green the majority seem to be waste from adze making and their primary use as tools is not very likely (Green 1974a: 266). However, in our excavation at Pulemelei site we could see that some re-used flakes from polished adzes showed use-wear and were probably used as scrapers or cutting tools. Ethno-historic accounts suggest that tools such as scrapers, cutters, graters, peelers and drills were made of perishable material such as wood and bamboo (Green 1974a: 268). Finds from coastal sites indicate that shell has been used for such tools as well (Green 1974a: 268; Smith 1976b: 71). At the few investigated coastal sites there are surprisingly few finds of fishhooks as well as a low frequency of fish bone recovered and only a few files, mainly made of sea urchin spines and coral (Davidson 1969a: 245-6; Smith 1976b: 73). Smith concluded that the discovery of a shell ring along with a branch coral file, worked bone and *Conus* shell scrapers in an early deposit at the coastal Jane's camp site, SU-F11, showed a resemblance to the early Tongan tool kit. The To'aga site on Ofu showed a similar tool kit as the coastal sites on 'Upolu and Manono, but a larger number of *Turbo* shell fishhooks was recovered there (Kirch 1993: 160-1).

It was suggested by Green and Davidson that archaeological evidence indicates that the portable objects associated with early occupation layers in Samoa originated in the Lapita tool kit. This is especially clear concerning the adzes and the plainware pottery (Green 1974a: 275). However, in her review of non-ceramic artefact assemblages from West-Polynesia, Anita Smith concludes that the small size of the material culture assemblage studied limits interpretation of the spatial and temporal pattern and derivation (Smith 2002: 164).

### **Chronology and Settlement Pattern**

The first and so far the only Lapita site at Mulifanua was dated to *c.* 2850 BP (Petchey 2001: 65-6). Plainware pottery sites were found and dated to *c.* 2300-1650 BP by Green and Davidson (1974b: 214-16) but pottery

could still have been used up to 600 years ago. Green advocates a continuous cultural sequence from the Mulifanua Lapita settlement to the Polynesian plainware sites and the abandonment of pottery around the 2-5th centuries AD, but this has recently been challenged (see chapter 6 for further discussion).

Both coastal and inland locations were used for human occupation during the last two millennia as indicated by house foundations earth ovens and fire pits (Green and Davidson 1974b: 224; Martinsson-Wallin *et al.* 2007a). In regard to house structures, Davidson concluded that *throughout the known Samoan sequence, Samoan houses have been oval in shape, with river gravel floors and associated stone pavements* (Davidson 1974a: 243) The excavation of the Vailele earth mounds and other earth mound/platforms in Falefā valley indicated that platforms have been used for residential purposes around the 10-11th centuries (Green and Davidson 1974b: 224), but it is after this time that large sized mounds were made. These raised high stone and earth mounds for occupation, or as platforms for god houses, appear to be confined to the second millennium AD (Martinsson-Wallin 2007, 2014). Associated with the large mounds are ceremonial roads and stone walls, but many stone structures such as raised pathways, star/pigeon mound and large earth ovens (probably used as *umu'i*) were probably constructed in the last 400 years (Martinsson-Wallin and Wehlin 2010; Martinsson-Wallin *et al.* 2007a). Star/pigeon mounds are unique to Samoa and American Samoa (a variety occurs in Tonga i.e. *sia heu lupe*) and they are associated with the late settlement pattern featuring large mounds (Davidson 1974a: 227, 243; Herdrich and Clark 1993; Martinsson-Wallin and Wehlin 2010).

A stable long term settlement pattern is suggested by Davidson (1979: 99), Holmer (1980c: 93) and Jennings *et al.* (1982) A templet for the settlement pattern in Samoa was developed by Jennings and associates, based on archaeological research and ethno-historical records. This is divided into; *Household unit* (HHU) individual house platforms and a cooking area separated from other units by walls or walk ways with a possible garden area within the enclosure. *Pitonu'u* (village ward/hamlet) consists of several household units clustered, and within this area a larger platform was indicative of a chief's dwelling. A *nu'u* (village) is made up by several *pitonu'u* and is characterised by a common *malae* (village green) and a *fale tele* (community house). Jennings *et al.* (1982: 86) suggest that a stable social organisation can be inferred during the last 800 years and they suggest that there are similarities between the prehistoric inland settlements at Mount Olo on 'Upolu and at Letolo and Sapapali'i on Savai'i. These settlements were compared with a modern coastal settlement of Fa'aala on Savai'i, which according to Jennings *et al.* (1982) showed a similar pattern. A change in the settlement pattern can be seen in late prehistoric times when the majority of

inland settlements were abandoned. A rapid and far reaching change in the re-distribution of the settlements to the coastal region was probably caused both by a population decline in connection to European contact and the introduction of Christianity (Green 2002: 148). Despite these changes, Davidson (1979: 102) argues that there is no evidence for any major changes in the social organisation. New analysis of the surveyed remains (Wallin and Martinsson-Wallin 2007) and minor excavations at the Letolo plantation challenge the idea of an unchanged settlement pattern during the prehistoric sequence (see chapter 3 for further discussion). The prehistoric settlement pattern in American Samoa differs from Samoa since only a few and small occupations are found in the rugged inland areas. No large mounds or raised rim ovens have been found but an abundance of star-mounds, walls and ditches have been located (Clark 1996: 452; Quintus *et al.* 2015).

### Research issues

The main bulk of archaeological research in the Samoan Islands has been conducted within the established temporal framework of prehistory. The change from decorated Lapita pottery to plainware pottery has been central to discussion. Analyses of ceramics show that they are locally made and Green (2002) has interpreted this as representing a continuous tradition originating from Lapita colonisation. His view of the main events of Samoan archaeology is, in summary: 1. Initial arrival/settlement of people to Samoa *c.* 2850 years before present (BP). 2. The development of the Ancestral Polynesian Culture (APS) *c.* 2500-1800 BP. 3. The rise of the chiefdom, and development of mounds and interactions (with Tongans etc.) *c.* 1000 BP – present. In between the APS and Chiefdom the ‘dark ages’ float around as a ‘ship without captain’. Green’s model of the Samoan past is questioned and assessed further in this volume (see chapter 3 and 6).

I suggest that it is important for future research to move beyond a static framework and discuss the relationships of prehistoric material culture, people and environments in dynamic ways. This pertains especially to the development of what has been named Ancestral Polynesian Culture, the so called “dark age” and the rise of complex societies. It is questionable if we still should centre the discussion on whether a Polynesian ‘homeland’ developed within West-Polynesia since cultures always evolve and change and the notion of ‘homeland’ depends on your perspective. I suggest that one fruitful area for

future research should be a better understanding of the intra-and inter island and networks that have developed paired with detailed studies of local archaeological sites.

The overall scope of this volume is to provide a deeper and more detailed understanding of the Samoan prehistoric sequence origin and especially the development of monuments in Samoa and their relationship to the rise of complex West-Polynesian societies through archaeological study. The results from archaeological investigations of several types of monument are presented, analysed and discussed. Another research theme concerns the contemporary Cultural Heritage Management and the education and awareness of cultural and natural sites in Samoa, and the situation regarding the legal protection, preservation and management of archaeological sites. Specific research questions are;

- Is the settlement pattern stable over time or are there major shifts?
- Can central places be detected and are certain areas more important than other areas during certain times?
- What are the chronological status, spatial relationships and function of monuments found in Samoa?
- Does archaeological and historical material culture matter in contemporary Samoa?

Detailed accounts and results from archaeological excavations at the large Pulemelei mound at the Letolo plantation on Savai’i in 2002-2004, some of which have not been published before, is presented in chapter 2 and discussed in chapters 2, 4 and 6 (Martinsson-Wallin 2007). Research carried out as field schools at various monuments as the Malaefono plantation star-mound and Letolo plantation (Martinsson-Wallin *et al.* 2006) *Fale o le Fe’e site* (Martinsson-Wallin 2007c), Laupule mound (Martinsson-Wallin 2011d, 2014b), (Figure 1.9 a,b), are presented and discussed in chapter 4 and 6. Recent archaeological studies on the settlement pattern are also discussed and evaluated in chapters 3 and 6. The question if archaeological remains matter in contemporary Samoa is explored and discussed in chapter 5. A summary in English and Samoan is provided in the end of this volume. Appendix I present a list of sites that have been subjected to archaeological excavations and appendix II a list of radiocarbon dates from my excavations. Appendix III presents find lists from my archaeological excavations that are presented in chapter 2 and 4.

**A**



**B**



FIGURE 1.9A) EXCAVATION AT LAUPULE MOUND 2010, ARCHAEOLOGY STUDENTS SAMANTHA KWAN AND LAFaelI ELI, 1.9B) EXCAVATION AT FALE O LE FEE 2007, ARCHAEOLOGY STUDENTS, AKUSO KAFE, SILAU VAGAI, AND JOHN KALOLO (PHOTOS HELENE MARTINSSON-WALLIN).