

NEW DIRECTIONS IN ARCHAEOLOGY

Editors

Françoise Audouze

Director, Centre de Recherche Archéologiques, Meudon, France

Richard Bradley

Professor of Archaeology, University of Reading

Timothy Earle

Professor of Anthropology, University of California,

Los Angeles

Joan Gero

Assistant Professor of Archaeology, University of South Carolina

Ian Hodder

Lecturer in Archaeology, University of Cambridge

Patrick Kirch

Professor of Archaeology, University of California, Berkeley

Colin Renfrew

Disney Professor of Archaeology, University of Cambridge,

and Master of Jesus College

Jeremy Sabloff

University Professor of Anthropology and the History and

Philosophy of Science, University of Pittsburgh

Andrew Sherratt

Department of Antiquities, Ashmolean Museum, Oxford

Norman Yoffee

Professor of Anthropology, University of Arizona

BAD YEAR ECONOMICS

© Cambridge University Press



BAD YEAR
ECONOMICS:
CULTURAL
RESPONSES TO
RISK AND
UNCERTAINTY

EDITED BY
PAUL HALSTEAD AND JOHN O'SHEA





PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS

The Edinburgh Building, Cambridge CB2 2RU, UK 40 West 20th Street, New York NY 10011–4211, USA 477 Williamstown Road, Port Melbourne, VIC 3207, Australia Ruiz de Alarcón 13, 28014 Madrid, Spain Dock House, The Waterfront, Cape Town 8001, South Africa

http://www.cambridge.org

© Cambridge University Press 1989

This book is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 1989 Reprinted 1995 by The Ipswich Book Company, Ipswich, Suffolk. First paperback edition 2004

A catalogue record for this book is available from the British Library

Library of Congress cataloguing in publication data

Bad year economics: cultural responses to risk and uncertainty/edited by Paul Halstead and John O'Shea.

p. cm.-(New directions in archaeology)

Bibliography: p.

Includes index.

ISBN 0 521 33021 1 hardback

1. Economic anthropology. 2. Food supply-Cross-cultural studies.

I. Halstead, Paul. II. O'Shea, John. III. Series.

GN448.2.B33 1989

306' .3-dc 19 88-30004 CIP

ISBN 0 521 33021 1 hardback ISBN 0 521 61192 X paperback



CONTENTS

	List of contributors	vi
	List of figures	vii
	List of tables	viii
	Preface	ix
1	Introduction: cultural responses to risk and uncertainty	
	P. Halstead and J. O'Shea	1
2	The spirit of survival: cultural responses to resouvariability in North Alaska	rce
	L. Minc and K. Smith	8
3	Saving it for later: storage by prehistoric hunter-gatherers in Europe	
	P. Rowley-Conwy and M. Zvelebil	40
4	The role of wild resources in small-scale agricultusystems: tales from the Lakes and the Plains	ıral
	J. O'Shea	57
5	The economy has a normal surplus: economic stability and social change among early farming communities of Thessaly, Greece	
	P. Halstead	68
6	Changing responses to drought among the Wodaabe of Niger	
	K. Legge	81

© Cambridge University Press



Contents

7	Of grandfathers and grand theories: the hierarchised ordering of responses to hazard in a Greek rural community H. Forbes	87
	11.10/063	07
8	Risk and the polis: the evolution of institutionali responses to food supply problems in the ancient Greek state P. Garnsey and I. Morris	
	•	70
9	Monitoring interannual variability: an example from the period of early state development in southwestern Iran H. Wright, R. Redding and S. Pollock	106
10	Public intervention in the food supply in pre-industrial Europe	
	W. Jongman and R. Dekker	114
l 1	Conclusion: bad year economics	
	J. O'Shea and P. Halstead	123
	References	127
	Index	140

vi

CONTRIBUTORS

Rudolf Dekker, Sub-faculty of Economic History, University of Rotterdam Hamish Forbes, School of Archaeology and Oriental Studies, University of Liverpool

Peter Garnsey, Faculty of Classics, University of Cambridge

Paul Halstead, Department of Archaeology and Prehistory, University of Sheffield

Willem Jongman, Sub-faculty of Economic History, University of Rotter-

Karen Legge, Centre for African Studies, University of Liverpool

Leah Mine, Museum of Anthropology, University of Michigan, Ann Arbor Ian Morris, Department of History, University of Chicago

John O'Shea, Museum of Anthropology, University of Michigan, Ann Arbor

Susan Pollock, Department of Anthropology, S.U.N.Y. Binghampton, New York

Richard Redding, Cranbrook Institute of Science

Peter Rowley-Conwy, Clare Hall, University of Cambridge

Kevin Smith, Museum of Anthropology, University of Michigan, Ann Arbor

Henry Wright, Museum of Anthropology, University of Michigan, Ann Arbor

Marek Zvelebil, Department of Archaeology and Prehistory, University of Sheffield

© Cambridge University Press



vii

FIGURES

	P	age
1.1	Maize yields from southeastern Iowa 1925-45	5
2.1	Physiographic features of North Alaska and location of si	ites
	discussed	9
2.2	Tree-ring chronology of climatic variability	14
2.3	Parallel fluctuations in climatic patterns and caribou herd	
	size	16
2.4	Aboriginal whaling success at Barrow, Alaska	17
2.5	Measures of resource productivity/scarcity and resource v	a-
	riability/predictability from tree-ring chronology	17
2.6	Distribution of aboriginal societies in North Alaska,	
	1850-80	18
2.7	Representations of inua (species-spirit)	19
2.8	Representation of ilitkusiq (breath-spirit)	19
2.9	Representations of taktok (spirit doubles)	20
2.10	Archaeological phases for North Alaska	21
2.11	Distribution of published archaeological surveys in North	1
	Alaska	25
2.12	Distribution of reported archaeological sites for Period I	25
2.13	Distribution of reported archaeological sites for Period II	a 27
2.14	Distribution of reported archaeological sites for Period II	b29
2.15	Distribution of reported archaeological sites for Period II	I 33
2.16	Distribution of reported archaeological sites for Period IV	7 36
3.1	Map of the Rivers Dee and Clwyd, North Wales	41
3.2	Average monthly catches on the upper stretches of the De	e41



Figures

Cambridge University Press 052161192X - Bad Year Economics: Cultural Responses to Risk and Uncertainty Edited by Paul Halstead and John O'Shea Frontmatter More information

3.3	Macro-variation in salmon catches on the Dee and Clwye	d 42
3.4	Intermediate variation in salmon catches on the Dee	42
3.5	Intermediate variation in salmon catches, Dee vs Clwyd	43
3.6	Micro-variation in salmon catches on the Dee	43
3.7	Micro-variation in salmon catches on the upper Dee	44
3.8	Very local variation in salmon catches on the upper Dee	44
3.9	Long-term variation in salmon catches on the Dee	46
3.10	Long-term variation in numbers of caribou	47
3.11	Model of settlement variability	48
5.1	Principal alluvial plains and location of sites in Thessaly	71
5.2	Yields of three field crops in coastal Thessaly	73
6.1	Map of southwest and central Niger	82
6.2	Rainfall in southwest and central Niger	82
7.1	Peninsula of Methana	88
7.2	Distribution of total plots and trees owned by Household	d 2,
	Kosona	91
7.3	Projected wheat production of households, compared wi	th
	household requirements	93
9.1	Uruk sites mentioned in the text	107
9.2	Section of pit at Tappeh Sharafabad	108
9.3	Survivorship curves for sheep and goat at Sharafabad	109
10.1	Price fluctuations in the Antwerp region in the sixteenth	cen-
	tury	117
10.2	Relationship between income and necessary expenditure	on
	food in Antwern in the fifteenth and sixteenth centuries	117

TABLES

viii

P	a	g

2.1	Coping strategies vs. spatio-temporal scale of subsistence	•
	stress	10
2.2	Expectations of climatic variability and resource availab	ility
	from tree-ring chronologies	15
2.3	Values of ring-width growth indices by climatic period	16
2.4	Archaeological sites used in regional analyses	22-4
2.5	Period I: expectations for resource availability and subsis-	S-
	tence strategies	26
2.6	Period IIa: expectations for resource availability and sub	sis-
	tence strategies	28
2.7	Period IIb: expectations for resource availability and sub	sis-
	tence strategies	30
2.8	Period III: expectations for resource availability and sub	sis-
	tence strategies	32
2.9	Period IV: expectations for resource availability and sub	sis-
	tence strategies	35
3.1	Various aspects of salmon catches on the Dee and Clwyd	45
7.1	Annual productivity of wheat, Household 30, Kosona (e	ven-
	year rotation)	92
7.2	Annual productivity of wheat, Household 30, Kosona (c	dd-
	year rotation)	93
7.3	Annual wheat production compared with minimum hou	se-
	hold requirements, Household 30, Kosona	94
9.1	Bone counts and densities by taxa for two years	109
9.2	Sheep and goat fusion data by element for two years	110



9.3 Domestic artefact counts and densities by year 110
9.4 Chert artefact counts and densities by year 111
9.5 Administrative artefact counts and densities by year 112
10.1 Distribution of grain reserves in Pavia in 1555 120

PREFACE

The idea of a volume looking at cultural responses to uncertainty and scarcity across a range of social scales and economic systems had its origin in discussions between the editors and Peter Rowley-Conwy during an extended car journey in 1982. The idea was developed in more concrete form in a symposium entitled 'Cultural responses to risk and uncertainty' at the 1984 Theoretical Archaeology Group (TAG) meeting in Cambridge. The session brought together many of the present contributors and established an organisation that has been retained in this volume. Following the TAG session, the participants were asked to produce expanded versions of their papers, and a number of other researchers with similar interests were approached in an effort to broaden the scope of the volume. The present volume consists of nine studies, ranging in their focus from simple hunter-gatherers to modern states. We have added to these an introductory and concluding chapter, which attempt to draw the various studies together and to consider at a more general level the potential value and limitations of the study of risk and uncertainty.

The editors would like to acknowledge a number of individuals who helped make this volume possible. Todd Whitelaw bore much of the burden for organising the TAG session and we gratefully acknowledge his contribution to its success. Thanks are due to Glynis Jones, who compiled the unified bibliography, Amy Steffian, who created the index, and Kay Clahassey, who produced many of the illustrations for the volume. We would also like to thank the contributors for enduring our editorial interven-



Preface x

tions with remarkable patience and good humour and for producing a series of papers with which we are very proud to be associated.

Finally, we must thank Glynis Jones and Sue O'Shea who, by their encouragement, persuasion and threats, curbed our more glaring excesses and ensured our completion of this task.