

# **Environment, Archaeology and Landscape**

Papers in honour of  
Professor Martin Bell

edited by

Catherine Barnett and Thomas Walker



ARCHAEOPRESS PUBLISHING LTD

Summertown Pavilion  
18-24 Middle Way  
Summertown  
Oxford OX2 7LG

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

ISBN 978-1-80327-084-5

ISBN 978-1-80327-085-2 (e-Pdf)

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Front cover: Goldcliff Pill and Lagoons, Gwent Levels, 2010. The lagoons are shallow freshwater and saline ponds created in the 1990s and form the eastern part of the Newport Wetlands National Nature Reserve. The area shows traces of a medieval landscape, with the Monks Drain, to the east of the lagoons, perhaps being constructed in the thirteenth century. Goldcliff Point on the coast is the focus of much prehistoric, Roman and medieval activity. See Chapters 1, 2 and 18 for discussion of this area of Wales (photo: T. Driver; © Living Levels).

Back cover: Martin with his iconic 'Red foreshore box', April 2021. The intertidal zone at Goldcliff has been Martin Bell's principal focus of research for the last 30 years. Evidence of human presence from the Mesolithic onwards has been found, and is one of the best-known areas in Britain for human footprints, a topic explored in Chapter 2 of this volume (photo: T. Walker).

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## Editors' foreword

This volume reflects on some key current research themes in archaeology and landscape: coastal and intertidal archaeology, mobility and routeways, experimental archaeology, sustainability, nature conservation, rewilding and community engagement. They are all themes which have featured in the research of Martin Bell and the volume has been assembled to mark his retirement in 2021 as Professor of Archaeological Science at the University of Reading.

The papers presented reflect Martin's remarkably varied but interwoven interests, each has been written specifically for this book and collectively they showcase the research directions and recent developments in archaeology, environmental and landscape studies to which Martin has contributed. When we asked potential authors whether they would like to be involved in this project, they jumped at the chance. We did not 'commission' the papers but left each contributor to decide how best they wished to reflect Martin's varied interests. It was difficult to select just a few of his colleagues and friends, and we apologise to the many who might also have been asked to contribute, but space is limited.

There is however one paper notably missing. Martin's great friend, collaborator and advocate of the hand lens, Professor John Allen, who sadly passed away soon after we started this journey. We know he would have contributed a splendid paper if he had been able, and also that he would have appreciated the solid science-led basis of the papers presented.

This book includes the work of Martin's former students, colleagues and, importantly, from those involved in significant initiatives and projects outside traditional academia which he has innovated or supported, including the Living Levels Project and Butser Ancient Farm, or those where he has supported a meld of academics, professional archaeologists, ecologists and policy makers such as the Kennet Valley Predictive Mapping Project and Somerset Wetlands Research, ensuring real world relevance and use to the approaches and outputs.

The book opens with a brief review of Martin's life and career, written by his friend and former colleague Professor Mike Walker. They collaborated in 1992 to produce *Late Quaternary environmental change: physical and human perspectives*, the second edition of which, published in 2005, remains a standard reference work on environmental archaeology. We have then divided the book into three broad themes, with an attempt to span Martin's wide-ranging interests and those of his colleagues, whose collective approach crosses disciplines and ways of thinking to great benefit.

The first theme, **FROM LAND TO SEA: COASTAL AND INTERTIDAL ARCHAEOLOGY**, explores the dynamism and opportunities offered through time by the marine, coastal and intertidal zones to people who settle or exploit these challenging environments. Recognition of the periodic, sometimes catastrophic nature of flux in areas prone to sudden shifts in location or submergence is important in the context of current global challenges and sea level rise. Geoarchaeology and environmental archaeology has a key role to play in measuring and characterising that change over the long term and in exploring the mechanisms of adaptation (or not) by people and processes such as food acquisition and transport.

**Steven Rippon** opens the theme with a discussion of how access to the Severn Estuary wetlands has changed over time from simple resource procurement in prehistory to modification and then transformation as the coastal marshes were reclaimed during the Roman and medieval periods. **Kirsten Barr** describes her work on the footprints of Mesolithic people and fauna at Goldcliff, bringing movement and gathering of resources in prehistory to life. **Michael Grant and colleagues** return to Westward Ho! in Devon, a site Martin investigated in the early 1980s, where stratified organic deposits and evidence of submerged forests associated with archaeological remains continues to be a source of interest and an opportunity to test emerging geoarchaeological techniques. **Thomas Walker** explores

the changing landscape during prehistory and beyond with establishment of precarious agricultural land in the context of shifting sand dunes at Gwithian in Cornwall. **Scott Timpany** explores the timing and pattern of submergence and settlement at two coastal sites through analysis of pollen and wood remains associated with re-exposed submerged forests and peats in Southern England and the Outer Hebrides. **Richard Bradley** explores how our changing coastlines have influenced maritime movement and landing places in prehistory in comparison to the medieval period, elegantly drawing together key evidence. This theme closes with **Johan Linderholm and colleagues** report their geoarchaeological investigations of Oslo Harbour, Norway, revealing massive delta front slumping during the medieval period. Their work highlights the need for detailed analytical work to identify the complex formation processes of the maritime archaeological record and at the same time provides evidence of maritime pollution in the medieval period.

Theme two, **PATTERNS IN THE LANDSCAPE: MOBILITY AND HUMAN-ENVIRONMENT RELATIONSHIPS**, is deliberately a broad one, enabling our contributors to explore and elucidate human activity in the full suite of terrestrial, riverine and estuarine landscapes. Movement, flexibility in settlement and mobility is a key strategy for humans to both overcome environmental adversity and exploit opportunities. Archaeological investigation, coupled with detailed palaeoenvironmental studies allows us to examine past patterns, successes and failures to adapt and make the most of our environment. Our allied disciplines have much to offer in providing a context for current global challenges and in informing future choices in this context.

**Richard Brunning** begins, demonstrating the dynamism of the Somerset Levels inter-tidal mudflats, peatlands and many frequently overlooked islands of hard geology through palaeoenvironmental investigation. He considers and contrasts investigation of wooden structures exposed in the inter-tidal zone with attempts to preserve and record the prehistoric trackways, ritual structures and wetland settlements of the inland moors. **Keith Wilkinson and colleagues** remain in the Levels, using geoarchaeological and multi-proxy palaeoenvironmental techniques to elucidate the Early–Middle Holocene of the River Parrett, examining the potential of these deeply buried deposits for informing our understanding of landscape change and Mesolithic–Neolithic settlement in the area. **Michael Allen** looks at the geoarchaeological record of wetland and dryland sites on the South Downs, Sussex, as revealed by a series of three small-scale investigations on dry chalk, highly localised wetlands, and the foreshore. **Catherine Barnett and colleagues** discuss the detailed investigation and mapping of patterns of late glacial and early Holocene landscapes in the Kennet valley and of the exceptional concentration of Upper Palaeolithic and Mesolithic sites. They discuss how those investigations can inform future methodologies, modern nature conservation, environmental management and development control agendas. **Jim Leary** closes this theme, providing a rich, experiential paper that discusses different modes of movement through varied landscapes and the influence of weather on human perception and experience.

The final theme, **ARCHAEOLOGY IN OUR CHANGING WORLD: HERITAGE RESOURCE MANAGEMENT, NATURE CONSERVATION AND REWILDING**, explores the relevance of archaeology to contemporary challenges of heritage management and environmental sustainability. It includes some of the topics brought to the fore by Martin's most recent research, several being highly relevant to tackling present day problems. As archaeologists, geoarchaeologists and palaeoecologists we have the tools to provide insights into, for instance, landscape evolution, feedback mechanisms, degradation and preservation of remains and to inform management strategies, introduce environmental resilience and support efforts to steer the course of habitat protection or regeneration.

**Rowena Banerjea** explores how geoarchaeology helps us to understand the frontier landscapes of the Middle Ages with reference to 'castlescapes' and how we might project that understanding into the establishment of geoparks and heritage and tourist trails, this concept of routeways being a particular interest of Martin's. **Jen Heathcote** discusses the shifts in the way in which Historic England and others have targeted and used research over the past 40 years to understand the processes that pose a risk to

the long-term preservation of archaeological and palaeo-environmental remains in wetland areas, including climate change, and those related to land management practices. **Petra Dark** explores the variability and the influence of human activity in past woodland development in Southern England using palynological and macrofossil analysis, and discusses what that knowledge means for approaches to landscape conservation and restoration currently so heavily influenced by the concept of ‘rewilding’ with an implicit return to a more ‘natural’ state. **Terry O’Connor** considers the problems associated with ‘passive wilding’ to allow land and biota to find its own trajectory versus ‘interventionist wilding’ by which species and landforms are actively restored, the latter potentially informed by the establishment of baselines using landscape-scale environmental archaeology giving a series of different snapshots through time, as exemplified by molluscan evidence from northern England. He explores critical themes such as developing an understanding of the time-depth of today’s ‘natural world’, the rate and complexity of changes and encouraging public appreciation of our environment. **Chris Speed** reviews his experimental work in the Butser Ancient Farm Project (see also Milton, this volume). Sites like Butser play a significant role in education and heritage outreach. This chapter also demonstrates that reconstructed structures can play an valuable part in understanding formation processes and that understanding can also feed back into, and enhance, their educational mission. Such studies demonstrate how patterns of soil chemistry and micro-artefact distribution can aid interpretation of archaeological sites and patterns. Our final paper, by **Alison Offord**, gives a wonderful, personal view of the important work of the Living Levels Project in Gwent, in reconnecting people to the heritage, wildlife and wild beauty of the Gwent Levels in South-east Wales , thus bringing us neatly full circle back to our first papers, by looking at the area of Britain that has been closest to Martin’s research and heart for the last 30 years or so.

Between these chapters, we have included pictorial exemplars of work in which Martin has been involved at numerous sites, some historical, some showing a side of Martin not often revealed. All are connected in one way or another to his research interests.

When we first conceived this collection of papers we asked each contributor for a paragraph detailing their connection to Martin. These **Personal reflections** have been collected together at the end of the book, and demonstrate the regard in which Martin is held by his friends and colleagues, both personally and in the academic world.

Finally, we offer a **bibliography** of Martin’s remarkable academic output. Of course, this only includes published material, and cannot hope to take account of the vast number of lectures he has given at national and international conferences, nor presentations to learned bodies and organisations. However, Martin has also contributed to numerous television programmes and series, and these are listed at the end of the bibliography.

Thank you to all our contributors; you have been a pleasure to work with and we have thoroughly enjoyed reading your work. To our readers, welcome and we hope you find the breadth and direction of inter-disciplinary research included here interesting and thought-provoking.

A handwritten signature in black ink, reading "Cathie Tom". The signature is written in a cursive, flowing style.

## Editors' acknowledgements

It would have been impossible to produce this *Festschrift* without the unstinting help of many people, who we wish to acknowledge here. It is inevitable that there will be omissions, and for those we offer our apologies.

First, we thank Hella Eckart who, with Jennifer Foster, thought that a book would be a fitting way to honour the occasion of Martin's retirement. We humbly thank them both for inviting us to edit the work.

As editors, we faced the daunting task of selecting a small number of Martin's numerous friends and colleagues whom we asked to contribute. We could have filled a book many times the present size without difficulty, but we made our choices and we hope our selection meets with approval. We thank all those who have so willingly given their time to write the papers included in this book, and can only apologise to those not included but who may feel they should have been!

Next, we offer thanks to all those who responded to our call for photographs which we have used for our pictorial pages; including Mike Allen, Richard Brunning, Jennifer Foster, Sarah Lambert-Gates, Jonathan Last, Fergus Milton from Butser Experimental Farm, Sarah Orr, Alison Offord and the Living Levels Team and Sarah Orr.

We would particularly like to thank Michael Grant and Jen Heathcote who have offered invaluable assistance in bring this work to publication.

Special thanks go to Jennifer Foster who not only so capably proof-read all the papers, somehow without letting her husband know what she was doing, but also prepared the Index, such a vital part of any publication.

A draft of this book was presented to Martin at his retirement gathering. He has since offered helpful suggestions and personal insights to the authors on a number of the papers, which have been incorporated in addition to those stemming from review. We, the editors, and the authors thank him for his sage advice and input.

Finally, we thank David Davison at Archaeopress who generously agreed to publish this volume, and Mike Schurer who took on the role of putting it into print.



## Martin Bell: a personal appreciation

Mike Walker<sup>1</sup>



*Professor Martin Bell.*

Sir Mortimer Wheeler, one of the most famous British archaeologists of the twentieth century, once remarked that ‘... archaeology is a science that must be lived, must be “seasoned with humanity.” Dead archaeology is the driest of dust that blows.’ This description of the subject is no better exemplified than in the career of Martin Bell who, while adopting a science-based approach to the archaeology of historic and prehistoric environments, has invariably retained as his central theme the activities of people in these landscapes of the past. Indeed, the leitmotif running through all of Martin’s work has been the bringing alive of past human communities to show how they have interacted with each other and with their surroundings. No-one who reads Martin’s books and research papers, or listens to his lectures, or spends time with him in the field, could regard his archaeology as being ‘dead’. It is, and always has been, ‘seasoned with humanity’.

Martin Bell was born in Brighton in 1953. He went to school in Rottingdean and then attended Cardinal Newman Secondary School in Brighton. In 1972 he was accepted to study Environmental Archaeology at the Institute of Archaeology in London and graduated with a First Class Honours Degree in 1975. He then worked for a year as a Research Assistant in the Institute before beginning his doctoral research on valley sediments and prehistoric land-use in the dry valleys of the South Downs and was awarded his PhD in 1981. He was employed for two years (1978–80) as a Part-time Lecturer in Archaeology at North London Polytechnic, before taking up research posts (Research Assistant and then Research Fellow) in the Department of Geography at Bristol University. In 1983, he was appointed to a position in the University of Wales, Lampeter, initially as a Lecturer in the Department of Geography and subsequently in the newly-created Department of Archaeology, where he became a Senior Lecturer in 1993. He left Lampeter in 1997 to take up a Senior Lectureship in the Department of Archaeology, University of Reading, and was awarded a Personal Chair in 2002. He was Head of Department from 2010–2013, before finally retiring in 2021. He was elected a Fellow of the Society of Antiquaries of London in 1984 and, in 2009, his contributions to Archaeology were recognised by his election to a Fellowship of the British Academy.

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Martin's research career began in Sussex where, as a member of the Sussex Archaeological Society and the Brighton and Hove Archaeological Society from a very early age, he directed excavations at Newhaven and Bishopstone while still at school and during his time as an undergraduate (Bell 1977). Although his research activities have subsequently taken him into other parts of Britain, he has maintained his connections with south-eastern England and is currently President of the Sussex Archaeological Society. After moving to Bristol and then on to Lampeter, Martin's research interests turned to the Severn Estuary, embarking first on an extensive programme of excavation and survey at Brean Down on the north Somerset coast (1984–1987). This is probably the best-preserved Bronze Age settlement sequence in southern Britain, and the site contains an abundance of artefactual and palaeoenvironmental evidence, which is described in a comprehensive monograph published by English Heritage (Bell 1990). In the 1990s, he turned his attention to the northern shores of the Severn Estuary where interbedded peats and muds which are often extensively exposed at low tide had long been known to contain a record extending back into prehistory. Previous work, although piecemeal, had revealed the rich archaeological and palaeoenvironmental potential of the 'Severn Estuary Levels', and Martin began a systematic investigation of these intertidal sediments that was to occupy him for the rest of his research career. The principal focus was Goldcliff to the south-east of Newport where recurrent episodes of inundation separated by periods of alluviation have preserved extensive waterlogged archaeological and environmental sequences that contain Mesolithic, Bronze Age and Iron Age settlement sites, brushwood trackways and roundhouses, rectangular timber buildings and fishtraps. Other archaeological finds include lithics and animal bones (some of which show signs of butchery) and shell middens. Perhaps most remarkable of all has been the discovery of human footprints, the earliest dating from the Mesolithic around 7500 years ago, while animal footprints of deer, aurochs, wolves and cranes have also been recorded. These extraordinary discoveries have been described by Martin and his co-researchers in a series of papers and monographs (e.g. Bell 2007a, 2007b, 2013, 2018, 2019; Bell *et al.* 2000), while the Severn Levels footprints and trackways have led to a wider consideration of these and other related features in a recently-published book (Bell 2020).

But Martin's research activities have continued beyond the confines of the Severn Estuary. For example, his deep knowledge of the archaeology of the chalklands of southern England and his expertise in molluscan and associated sedimentary analyses have been applied in the excavation and interpretation of the enigmatic Bronze Age pond barrow site of Wilsford Shaft on Salisbury Plain (Ashbee *et al.* 1989); in the analysis of the Neolithic monument complex at Hambledon Hill, Dorset (Bell *et al.* 2008); and in modelling anthropogenic erosion of loess on the South Downs (Favis-Mortlock *et al.* 1997). His long-standing interests in experimental archaeology have seen him involved in excavations at Butser Ancient Farm in the South Downs National Park, at Fishbourne and Wroughton Earthworks, and at the Wareham and Overton Down experimental earthworks projects (Bell *et al.* 1996; Macphail *et al.* 2003). Indeed, he has long been involved in experimental archaeology and archaeological methodology (e.g. Banerjea *et al.* 2015a, 2015b; Bell 2012, 2014). He has also been a leading contributor to the Vale of Pewsey Neolithic project, to the Kennet Valley Mesolithic project, and to investigations on the Somerset Levels into the Mesolithic of the wetland edge (Bell *et al.* 2016; Jones & Bell 2013). Somewhat further afield, he has contributed to a Moroccan-based project on the Epipalaeolithic of North Africa (Barton *et al.* in press). His extensive research activities have resulted in a publications portfolio of 12 books and monographs and more than 100 research papers.



*Inter-tidal fieldwork at Goldcliff, Severn Estuary Levels, South Wales.*

Martin's research has evolved in tandem with his teaching. In many ways, Martin is 'old school' in regarding teaching and research as going hand-in-hand; moreover, he is a great believer in getting students out into the field where they could learn the practical aspects of archaeology at first hand. He was strongly supported in this approach by his archaeological colleagues in Lampeter, Dave Austin, Barry Burnham, Julian Thomas and Rob Young who, along with Martin, spent six seasons (1984–1989) variously directing a training excavation and survey on the

Iron Age hillfort of Caer Cadwgan that overlooks the Teifi Valley near Lampeter. Apart from a short paper in *Current Archaeology* (Austin *et al.* 1988), the excavation details are otherwise contained in a series of interim reports (Austin *et al.* 1985, 1986, 1987, 1988, 1989), but a comprehensive *Strategic Archive Report* has now been prepared for deposition with Cadw (the Welsh equivalent of English Heritage: Burnham 2020). In many ways the excavation proved to be a model of what could be achieved both as a collaborative exercise between colleagues with differing backgrounds and as a high-quality teaching and training project. The other strand to Martin's teaching is, of course, laboratory work, and he has always been keen for students to develop their laboratory skills, which often led through to a final year dissertation. He was assisted in the laboratory by Astrid Caseldine who, in 1987, was appointed as Environmental Archaeologist for Wales, which was a Cadw-funded position (that had been initiated and negotiated by Martin) to provide archaeobotanical and palaeobotanical support to the four Welsh Archaeological Trusts. Part-funding of the appointment by the university, however, enabled Astrid to contribute to the undergraduate, and eventually postgraduate, teaching programmes in environmental archaeology.

As soon as Martin arrived in Lampeter, it was clear that he and I had much in common and that my Quaternary interests formed a perfect fit with his environmental archaeology expertise. It seemed logical, therefore, to build a new degree scheme around this partnership and so came into being the Single Honours degree in *Archaeology and Environmental Studies* (later to become simply *Archaeology and Environment*). The rationale of the degree was to meld together landscape and environmental archaeology with cognate areas of physical geography, and it worked! We never had a large cohort of students, but those that took the course were enthusiastic and encouraging, and had a learning experience that took them from the lecture room and laboratory to the landscapes of west and south Wales, as well as to Exmoor and even to Mallorca. Martin was very much the leading player in this course and ran the degree programme for several years.

But something else came out of our teaching collaboration. Martin and I had always been influenced by Karl Butzer's magisterial book: *Environmental archeology: an ecological approach to prehistory* (1971) which drew together elements of Pleistocene geology and climate, geochronology, and ecological and landscape change, to generate a synthesis of Pleistocene environments and people from both the 'Old' and 'New' Worlds. We felt that something similar, albeit more 'modern', was possible, and the outcome was our jointly-written book *Late Quaternary environmental change: physical and human perspectives* (1992) with a second edition appearing in 2005. We were gratified that the books appeared to be well received, but others will judge whether we ever came close to matching Butzer's seminal volume!



Left: Martin talking about the foreshore at Goldcliff, September 2018.

Right: Living Levels Intertidal Archaeology Training Course, Peterstone, April 2019.

Several other aspects of Martin's teaching should also be mentioned. One of his most significant achievements in the Archaeology Department at Reading was the design and delivery of the MSc course: *Geoarchaeology/Environmental Archaeology*, a programme for which he was Director for several periods. The course was established in 1999 and since then has trained over 140 geoarchaeologists, many of whom now work in archaeological units or in universities. Martin has been an energetic and supportive research supervisor having, over the course of his career, seen 18 PhD students through to completion, and he has also been External Examiner for 16 PhDs and Internal Examiner for a number of higher degrees at Reading. In addition, he has served as External Examiner for undergraduate degrees in the universities of Bournemouth, Cambridge, Oxford, Sheffield and Queens, Belfast,

Martin's wider contribution to archaeology has been substantial. He has been a Council Member of the Prehistoric Society and the Society of Antiquaries of London; a member of the NERC Science Based Archaeology Committee, the NERC Terrestrial Sciences Peer Review Committee, and the NERC Archaeological Science Strategy Group; and a member of the Council for British Archaeology Science Committee, where he was also convenor of the CBA Working Group on Science Training in British archaeology. During his time in Wales, he was a member of the University of Wales Board of Celtic Studies Committee and of the Archaeology Committee of the National Museum of Wales, and was for a period Treasurer for CBA Wales. He has subsequently been a member of a number of Advisory and Working Groups of English Heritage. He served as Small Grants Officer for the British Academy and was a trustee and non-executive Director of Wessex Archaeology. For many years, Martin was an active member of the Severn Estuary Levels Research Committee and was Secretary of the Group in the 1990s. More recently, he has been involved in an advisory capacity for several major research projects, including the NLF-funded CITiZAN Community Coastal Archaeology project, and EBB and Flow (the Leverhulme-funded Oxford University-based project). Last, but by no means least, he has appeared in several television programmes, including *Landscape Mysteries: Wilmington* (BBC/OU); *Time Team: Goldcliff* (Channel 4); *Meet the Ancestors: Goldcliff* (BBC2); *Coasts: Goldcliff* (BBC1/OU); *History of Ancient Britain* (BBC); and *Countryfile* (BBC1).

It would be inappropriate to conclude this appreciation without reference to Martin's family. His wife Jennifer, who he met on their first day at university and is also a distinguished archaeologist in her own right, has been a tower of strength throughout his career, and has been actively involved in many of his field campaigns. The same is true of their daughters, Eleanor and Sarah, who made their archaeological debuts on the Brean Down excavations (1983–86) and subsequently found themselves immersed in mud when Martin began digging at Goldcliff in 1992. It is maybe not surprising that neither of them followed their parents into an archaeological career! But I am sure that they will take great pleasure in this Festschrift for their father, which is a fitting tribute to the man and his achievements. However, knowing Martin, I am also sure that he is not yet ready to hang up his boots. The great jazz musician Louis Armstrong once remarked 'Musicians don't retire; they stop when there's no more music in them'. And I am absolutely certain that there is still a great deal more archaeology left in Martin Bell!



*End of work for the day maybe, but not the end of a research career .....*

## ACKNOWLEDGEMENTS

I would like to thank Cathie Barnett and Tom Walker for inviting me to write this biography of Martin as an introduction to the Festschrift; Sarah Lambert-Gates and the University of Reading for the photograph of Martin; and Chris Harris, Gavin Jones and their colleagues at the Living Levels Partnership for permission to reproduce the three images from Goldcliff. I am particularly grateful to Jennifer for background information, for providing the final photograph, and for her helpful comments on an earlier version of the text.

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