

**THE EVOLUTION OF  
NEOLITHIC AND  
BRONZE AGE LANDSCAPES**

**FROM DANUBIAN LONGHOUSES TO  
THE STONE ROWS OF DARTMOOR AND  
NORTHERN SCOTLAND**

**Alexander Carnes**

**Archaeopress Archaeology**

# Archaeopress

Gordon House  
276 Banbury Road  
Oxford OX2 7ED

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

ISBN 978 1 78491 000 6  
ISBN 978 1 78491 001 3 (e-Pdf)

© Archaeopress and A Carnes 2014

Designed and typeset by Alexander Carnes, Purlaw Consulting Ltd

All rights reserved. No part of this book may be reproduced, stored in retrieval system, or transmitted, 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 CMP (UK) Ltd

This book is available direct from Archaeopress or from our website [www.archaeopress.com](http://www.archaeopress.com)

*For mum and dad*



## Contents

<i>List of figures and tables</i>	vii
<i>Preface</i>	ix
Chapter 1 Introduction	1
Chapter 2 The Stone Rows of Dartmoor and Northern Scotland	5
Chapter 3 The Semantic Structure and Function of the Dartmoor Rows	27
Chapter 4 Tulach an t-Sionnaich and Battle Moss: A Semiotic Evaluation of a Transition	49
Chapter 5 Structure, Function, and Motive in the Cairn Clusters of Northern Scotland	71
Chapter 6 A Theoretical Interlude: People, Adaptation, and Environment	91
Chapter 7 The Competitive Assertion of Ancestry in Neolithic Sequences	109
Chapter 8 Two Dartmoor Complexes and Aspects of Landscape Theory	135
Chapter 9 Conclusion	149
<i>Appendix A</i>	153
<i>Appendix B</i>	155
<i>Bibliography</i>	157



## List of Figures and Tables

Fig. 2.1.	Photograph of the Garrywhin cairn-and-rows near Loch Watenan, Caithness	6
Fig. 2.2.	Plan of the Garrywhin cairn-and-rows	6
Fig. 2.3.	Distribution map of monuments classed as ‘stone rows’	9
Fig. 2.4.	Distribution map of the known cairn-and-rows monuments	14
Fig. 2.5.	Distribution map of stone rows and circles on Dartmoor	15
Fig. 2.6.	A spectacular menhir at Drizzlecombe, Dartmoor	16
Fig. 2.7.	Orientations of the stone rows on Dartmoor	17
Fig. 2.8.	Distribution map of multiple stone rows in northern Scotland	18
Fig. 2.9.	Distribution map of chambered cairns and stone rows in northern Scotland	20
Fig. 2.10.	Distribution map of long cairns and stone rows in northern Scotland	20
Fig. 2.11.	Archaeological plan of the Loch Yarrows area, Caithness	22
Fig. 2.12.	The east terminal end of Merrivale	23
Fig. 3.1.	The triple row on Cosdon Hill, north-east Dartmoor	29
Fig. 3.2.	Plan of Cosdon Hill	30
Fig. 3.3.	The terminal cairn of the ‘triple row’ on Cosdon Hill	31
Fig. 3.4.	Male/female symbolism in Dartmoor rows	32
Fig. 3.5.	Plan of the ‘ceremonial complex’ at Merrivale	34
Fig. 3.6.	The west terminal monoliths of row C, Merrivale South, looking east along the rows	35
Fig. 3.7.	Looking west along Merrivale South, row B, from the ‘blocking stone’	36
Fig. 3.8.	Looking west along Merrivale South, from the central cairn	36
Fig. 3.9a.	The sequence of construction for Merrivale South proposed by Burl	37
Fig. 3.9b.	An alternative sequence for Merrivale South	37
Fig. 3.10.	Plan of Down Tor	38
Fig. 3.11.	Down Tor	39
Fig. 3.12.	An interpretation of the Dartmoor rows	39
Fig. 3.13.	The terminal cairn of Down Tor	40
Fig. 3.14.	A simple analysis of the symbolic structure of a stylised Dartmoor cairn-and-row	41
Fig. 3.15.	Plan of the Corringdon Ball group	43
Fig. 3.16.	A view from the multiple stone rows of the Corringdon Ball group towards the long cairn	44
Fig. 3.17.	Plans of the multiple stone rows at Corringdon Ball	45
Fig. 4.1.	Saussure’s theory of the arbitrary linguistic sign	51
Fig. 4.2.	Diagram of Hodder’s critique of Saussurian theories of material culture and meaning	51
Fig. 4.3.	The triadic model of the sign by Charles Sanders Peirce	53
Fig. 4.4.	A simple comparison of Saussurian and Peircean theories of material signs	55
Fig. 4.5.	The multi-period development of Tulach an t-Sionnaich	56
Fig. 4.6.	A cist-like ‘empty box’ in the eroded long cairn of Tulach an t-Sionnaich	58
Fig. 4.7.	Excavation plan and profile of Tulach an t-Sionnaich	59
Fig. 4.8.	The lateral hollow where the proximal and long cairn units meet at Cnoc Freiceadain, Caithness	60
Fig. 4.9.	Kinbrace Hill Long, Sutherland	60
Fig. 4.10.	Plan of the passage and chamber of Tulach an t-Sionnaich	61
Fig. 4.11.	Probability distribution plots for the <sup>14</sup> C dates from Tulach an t-Sionnaich	62
Fig. 4.12.	Reconstructed plan of Battle Moss	63
Fig. 4.13.	The terminal cairn from the Battle Moss rows	64
Fig. 4.14.	The multiple stone rows of Battle Moss, northern Scotland, and Corringdon Ball, Dartmoor	65
Fig. 4.15.	A monolith in the Battle Moss stone rows apparently aligned on Warehouse Hill	67
Fig. 4.16.	Looking over Loch Yarrows towards Battle Moss, from the long cairn South Yarrows North	69
Fig. 4.17.	A view from the stone rows at Battle Moss, Caithness	69

Fig. 5.1.	The ‘Yarrows cluster’ of chambered cairns defined by Davidson and Henshall	71
Fig. 5.2.	The cairn of Get and Kenny’s Cairn in their landscape context	74
Fig. 5.3.	Plan of the Loch Watenan cluster	76
Fig. 5.4.	Diagram of the long cairns of Coille na Borgie, Sutherland, and South Yarrows, Caithness	78
Fig. 5.5.	Warehouse East chambered cairn, Yarrows	79
Fig. 5.6.	The enormous Bronze Age cairn on the summit of Warehouse Hill, Caithness	79
Fig. 5.7.	South Yarrows South	80
Fig. 5.8.	Whiteleen Rocks and cairn	81
Fig. 5.9.	Approaching the proximal end of the Warehouse rows	81
Fig. 5.10.	Whiteleen Rocks	82
Fig. 5.11.	Plan of Upper Dounreay	83
Fig. 5.12.	The pronounced hillock below Cnoc Freiceadain	84
Fig. 5.13.	The long cairn Cnoc Freiceadain	84
Fig. 5.14.	Plan of Camster	86
Fig. 5.15.	The Camster Long and Round chambered cairns	87
Fig. 5.16.	Plan of Mid Clyth	88
Fig. 5.17.	Mid Clyth	89
Fig. 7.1.	The Lengyel longhouse village at Brześć Kujawski and the nearby TRB barrow ‘cemetery’ at Sarnowo	118
Fig. 7.2.	<sup>14</sup> C probability distributions for Brześć Kujawski and Sarnowo	119
Fig. 7.3.	Plan of the long mound cemetery at Passy-sur-Yonne, France	121
Fig. 7.4.	Plan of huts 41 and 42 at Brześć Kujawski	122
Fig. 7.5.	Skelpick Long, Sutherland	124
Fig. 7.6.	Tulach Buaile Assery, Caithness	126
Fig. 7.7.	Caen Burn South, Sutherland	127
Fig. 7.8.	Similarities between Orkney–Cromarty chambers and Orcadian stone houses	129
Fig. 7.9.	Plan of House 2 from the Barnhouse settlement, Orkney, and the Quanterness chambered cairn	130
Fig. 7.10.	Plans of Knowe of Ramsey and Holm of Papa Westray South, Orkney	131
Fig. 7.11.	The remains of the excavated chamber of Tulloch of Assery B at Loch Calder, Caithness	132
Fig. 8.1.	Plan of Shovel Down	138
Fig. 8.2.	A view of Shovel Down from Kestor Rock	139
Fig. 8.3.	North slope of Shovel Down	140
Fig. 8.4.	The fourfold cairn circle which terminates row B on the north slope of Shovel Down	141
Fig. 8.5.	Row C, down the north slope of Shovel Down towards Batworthy Corner	142
Fig. 8.6.	The Longstone menhir on the south slope of Shovel Down	142
Fig. 8.7.	Silbury Hill, Avebury	143
Fig. 8.8.	Kestor Rock, Shovel Down	143
Fig. 8.9.	Plan of the ceremonial complex at Drizzlecombe in the Upper Plym Valley	145
Fig. 8.10.	Drizzlecombe, photographed from the focal cairn	146
Table 2.1.	A system for classifying stone rows on the basis of the number of stones, rows, and end-features	13
Table 2.2.	<sup>14</sup> C dates obtained from excavated reaves	23
Table 4.1.	<sup>14</sup> C dates from Tulach an t-Sionnaich	61

## Preface

This book is based on my doctoral thesis, which was supervised by Kenny Brophy of the University of Glasgow. He, along with Colin Richards, who was the external examiner, helped convince me that my research would make a nice book; I hope you like it! Kenny deserves special thanks for taking me on as a research student in the beginning, and also for introducing me to the Scottish multiple stone rows, which I'd never heard of. He encouraged me to explore the astonishing and sublime archaeology of Caithness and Sutherland that everyone drives straight past on their way to Orkney, and it's now well and truly part of my soul; I'll probably spend the rest of my life trying to understand it.

I'd also like to take this opportunity to thank those who served on my academic review panel over the years — Peter van Dommelen, Chris Dalglish, Jeremy Huggett, Sally Foster, and above all, Nyree Finlay, who chaired the meetings. Special thanks are owed to Claudia Glatz, who examined the thesis, and was helpful and encouraging

throughout the process. Along the way, I was helped by Colin Richards, who let me have a draft chapter from his forthcoming book *Building the Great Stone Circles of the North*, and gave me the radiocarbon dates from his excavations at Vestra Fiold in advance of publication. Thanks as well to Meli Pannett, who digitised the drawings from Battle Moss for me, and helped me to understand the cairn.

The years I spent working on the PhD were special, not only because they led to the successful completion of the thesis, but also because they were defined by the love and friendship extended to me by the Haden family. Big thanks, hugs and kisses to Nonny, Granddad, Upper Matt, Mel, Georgie, Henry Dog, and most especially, Sarah.

Work on this book was a lonely and arduous business, and I owe a big debt of gratitude to my dear friend Ruth Jones, who proofread the text and provided much needed moral support as I laboured to get it finished. Above all though, I'd like to thank me mum, who's largely responsible for getting me into archaeology in the first place!



## Chapter 1

### Introduction

In academic research, simple questions can prove the hardest to answer and end up taking investigators a lot further than they originally anticipated. Some time in 2007, preliminary discussions with my then prospective PhD supervisor Kenny Brophy led me to wonder whether the multiple stone rows that interested him in Caithness and Sutherland were related to those on Dartmoor. From that almost casual question stemmed a doctoral thesis and this book.

Like all theoreticians, I began by tying myself in knots, agonising over the implications of the research question I had set myself. What does ‘related’ mean in this context? At that time I was steeped in meme theory and Darwinian archaeology, and would probably have admitted willingly enough to being a processual archaeologist; and as such, I was reasonably persuaded that some version of Darwinism would yield a satisfactory account of the elusive ‘active role’ of material culture and its spatio-temporal dynamics. One of the many fundamental problems that had been troubling me since I began my academic work in archaeology was that classic processualism seemed very poorly equipped to deal with cultural traits that did not serve any obvious practical purpose; it often seemed, in other words, to struggle with cultural phenomena that did not appear to be “extrasomatic means of *adaptation*” (Binford 1965: 205, my italics). Broadly, functional traits were adaptive, and ‘non-functional’ ones were epiphenomenal or stylistic, and did not ‘do’ anything. As long ago as 2007 I could see that there was something badly wrong with it all, but in those days I couldn’t see what. The post-processual alternative irritated me though, and I tended to agree with the opinion Lewis Binford had shared with Colin Renfrew (1987: 689) in an interview for *Current Anthropology*: “It [anthropology] has gone more and more into the relativist camp and more and more into the weird humanism — ‘We’re just appreciating the glories of mankind in its variability’ — and nobody’s trying to explain anything”. The European Neolithic seemed replete with copious phenomena, especially monuments, that defied functional explanation, but were so big, so abundant, and of course so similar over vast areas that it was clear that they represented one of the ultimate explanatory challenges, associated, as they were, with a profound social and economic transition.

So my point of departure was to investigate what seemed to be an interesting case of convergent evolution. In classic Darwinism, convergent, or analogous evolution is explained as similarity produced by adaptation to similar sets of environmental conditions. If stone row traditions

had emerged independently in our two regions, then that implied that they solved similar problems posed by the environment in both places, with form following function; alternatively, the idea had spread from one place to the other by ‘diffusion’, in which case there was little or perhaps no need to resort to ‘function’ or ‘adaptation’ to explain their form or distribution, although the appeal of the monuments would still have demanded explanation: why was the idea copied, and why were the monuments built at all? Of course, these two modes of explanation need not be mutually exclusive, since one might expect successful ‘adaptations’ to be copied preferentially. But there was theoretical work to be done, for my knowledge of the literature left me with serious misgivings about archaeology’s notions of what adaptations are. From the outset though, most academic archaeologists will be put in mind of Renfrew’s (1973) anti-diffusionist arguments from processualism’s heyday, which posited adaptation — or more particularly, convergent evolution — as an alternative to the movement of ideas.

Methodological problems came early. As my research got underway, I quickly discovered that there were not enough chronological data to determine whether diffusion might have been a strong possibility; all that could be said was that the monuments with which I was concerned were probably built in the Early Bronze Age. The only way forward, it seemed, was to try to arrive at a convincing account of what the monuments ‘meant’, or were ‘for’. At the very least, such interpretations might create opportunities for comparative analysis even if it meant abandoning the certainties that positivists crave, and with the possible exception of Alexander Thom’s full-throated if largely discredited astronomical theories, all other explanations forwarded for the rows’ existence struck me as awfully tentative: they thus seemed ripe for determined and informed re-interpretation. I therefore ended up being shunted into a distinctly phenomenological, almost subjective approach to trying to understand the monuments, one that had more in common with Tilley’s post-processualism than with the hard science of Binford and Renfrew. To be frank, I decided to go out into the field and let the archaeology tell me what I should think!

To begin, chapter two introduces the basic archaeology of the stone rows monuments that are at the heart of the book, and outlines what I think is a fairly secure interpretation of their meaning. It was clear that the whole premise of the comparative study depended on some statement of why it is reasonable to compare these two clusters, and

out of that emerged the working typological definition of them as cairn-and-rows monuments, which is used throughout the remainder of the work. Broadly, they are iconic signs of long mounds, which, cutting a long story short, ‘explains’ why they look similar in both places.

Since the strategy of letting the archaeology tell me what I should think seemed to be paying off, chapter three presents my efforts to interpret the semantic structure of the Dartmoor rows. There were various suggestions floating around in the literature, and I had a few ideas of my own that seemed to snap into focus when I realised that they drew copiously on the famous landscapes of central south-west England, with their abundant long mounds, and famous circles and avenues. Nonetheless, this deliberate attempt to ‘symbolise’ an ancestral landscape left me with something else to explain: it is obvious that later pre-historic societies were obsessed with ancestors and the past, but why was that?

It was clear by then that semiotics was going to be a key part of the project, and I wanted to see how it could be integrated with the kinds of explanatory frameworks I was looking for. Chapter four therefore presents the relevant aspects of semiotic theory, and starts to suggest how it might be implicated in theories of culture change; the English and Scottish cairn-and-rows were the outcomes of similar ‘evolutionary’ processes in that both sets of monuments were ‘descended’ from long mounds, which implied that similar kinds of social processes might have been at work to drive the two sequences to similar end-points. Two detailed case studies are presented to show how this applies to our specific problem. Luckily, a long cairn and a cairn-and-rows monument have now been excavated to modern standards in Caithness, and a few radiocarbon dates are available; the chapter therefore examines in detail how the Scottish cairn-and-rows and long cairns are related, and analyses the chronology.

To my mind, a nagging problem with megaliths is their apparent funerary association: does that make them funerary monuments? For me, the multi-period, non-funerary aggrandisement of chambered cairns to produce long cairns, the fact that some do not seem to have covered chambers at all, and a suspicion that some of the rows’ terminal cairns did not cover human remains, all contributed to a feeling that the ‘funerary’ ascription was at best somewhat clumsy. One of the key observations about the Scottish cairn-and-rows is that they are found in association with chambered cairns, often in clusters, and a popular name for a cluster of funerary monuments is a cemetery. Chapter five therefore explores the nature of this clustering in northern Scotland; unlike Dartmoor, the cairn-and-rows here share landscapes with their objects, or referents. The real explanation for such clustering and aggrandisements – and, I was beginning to suspect by then, the whole megalithic sequence from longhouses to long mounds to the cairn-and-rows – was actually to do

with the competitive assertion of ancestral affinities rather than ‘funerals’.

It will be surmised from earlier chapters that existing theory does not sufficiently account for the phenomena that concern us here, at least not to my satisfaction, and chapter six tries to get to the bottom of things. It will be apparent that many of the difficulties afflict the study of material culture as a whole, but here they are treated in a manner specific to the work at hand – that is, the explanation of Neolithic and Early Bronze Age monumentality. The chapter addresses the problem from a very specific perspective, that of adaptation, and it asks: are these monuments adaptations or something else? Much clearly depends on what one thinks adaptation is, but if they were implicated in competitive processes, as I shall go on to suggest, then some fairly fundamental explanation seemed like it ought to be within grasp, and one that could provide some explanatory basis for the nature of culture change more generally. The ideas I had been working with seemed to have some affinity with the practice and structuration theories of Bourdieu and Giddens, and without performing mental gymnastics, it was clear that ‘phenomenological’ aspects of the surroundings could act back on social structure, and therefore that strategic change to the ‘meaning’ of those surroundings could explain the active role of material culture in social evolution. But I wanted to see if this could be integrated into a rigorous processual theory of culture change – preferably one that had something to do with Darwinism. I found in favour of costly signalling theory, and an interesting variant of it that had interested Darwin himself, known as sexual selection theory. I won’t say any more about the chapter here, I’d rather you just read it; but there are two last points. First, whole libraries could be filled with the nonsense anthropologists and archaeologists on both sides of the processual divide have written about ‘adaptation’ over the years, but only a few sentences can be culled from the literature that discuss the fundamental nature of what is supposedly adapted to – ‘the environment’. Secondly, if the chapter seems hard to read, be assured it is nothing compared with the ordeal of writing it!

Chapter seven explores this idea of the competitive assertion of ancestral affinities, and environmental construction theory, using some classic case studies from the European Neolithic. If the archaeological interpretations I present in earlier chapters are accepted then there ought to be a clear evolutionary sequence from *Bandkeramik* longhouses through to long mounds, through to the cairn-and-rows, with each ‘transition’ being explicable in terms of a competitive process of asserting ancestral affinities. If correct, this should explain the apparently unnecessary monumentality of longhouses, why they index the direction of LBK diffusion, how they are implicated in the spread of the Neolithic, why they gave way to the long mound traditions in derivative cultures, why the long

mounds had to evoke longhouses, and why these were represented by the cairn-and-rows in the Early Bronze Age. It should explain, in short, the constraint on cultural variation that gave rise to very stable traditions, and should offer some account of the social processes to which they correspond. This chapter covers a lot of ground.

Finally, in chapter eight, two case studies from Dartmoor are presented that deal with some special cases of the cairn-and-rows tradition, in which they are used to construct complexes; at the same time, a final theoretical

problem is addressed: what is a landscape, and how do the theories I have developed articulate with the concept as it is used in archaeology? These large ceremonial complexes provide a useful illustration of some of the principles of environmental construction outlined in chapter six, where the process of drawing the natural surroundings into the cultural domain is profoundly semiotic, and is indeed what defines and creates landscape. The awesome ceremonial complexes are a nice place to finish, before summing up briefly in chapter nine.