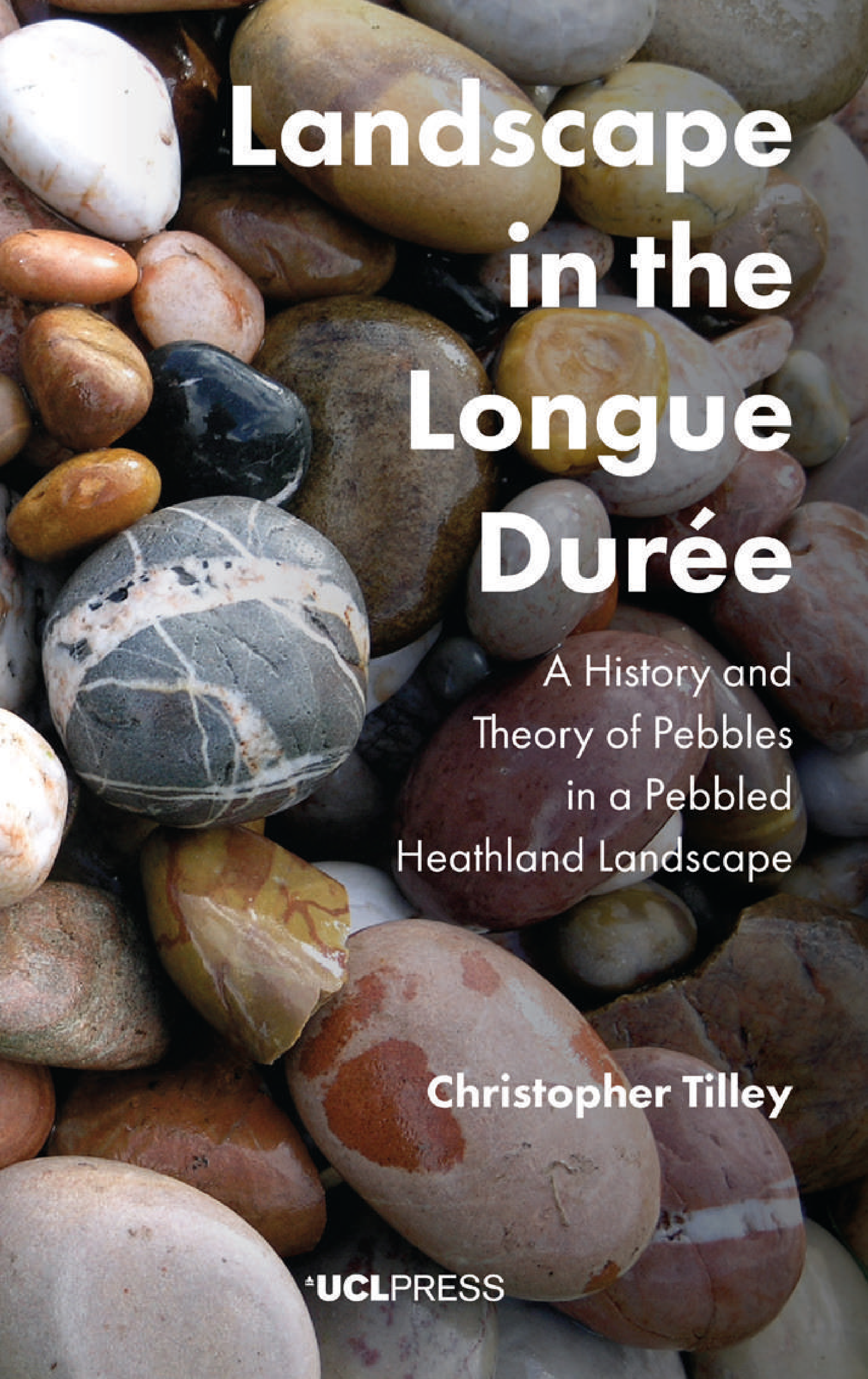

Landscape in the Longue Durée

A History and Theory of Pebbles in a Pebbled Heathland Landscape

Christopher Tilley

UCLPRESS

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This book is dedicated to the memory of George Carter and Priscilla Hull

George Carter (1886–1974) (Source: Carter archive)

Priscilla Hull (1920–2013) (Source: Carter archive)

Preface

This book presents the results of an archaeological research project that took place between 2008 and 2011 on the Pebblebed heathlands of East Devon. This ran in tandem with an anthropological project in the same landscape published in a companion volume to this (Tilley and Cameron-Daum 2017). The original idea was to integrate and publish the results of the archaeological and anthropological research together. However, it became clear as the work proceeded that this would result in a book of unmanageable size, hence the decision to publish two books directed to two different audiences. In one sense this is both ironic and regrettable as it reinforces the entrenched disciplinary boundaries that the research was designed to dissolve. However, both volumes are thoroughly integrated in that the major theme of embodied identities in a landscape resides at their core and I hope that some will wish to read them together. It was very much the case that insights derived from the anthropological project informed the archaeological research and vice versa. Both are concerned to understand the materiality of a unique landscape the bedrock of which consists entirely of pebbles.

From an archaeological point of view the landscape being discussed was virtually a black hole. George Carter, an enthusiastic and utterly unconventional amateur archaeologist who published only two short papers in the *Proceedings of the Devon Archaeological Society*, undertook the only excavations that had taken place here, mostly in the 1930s (Carter 1936, 1938). Even these had long since been forgotten. There was only one radiocarbon date from the Iron Age hillfort of Woodbury Castle at which rescue excavations had been undertaken in 1971 following road-widening works, the only excavation of any kind that had been conducted since Carter's day. Beyond this the only information available was a catalogue of some of the prehistoric and historic sites in the National Monuments Record and in the Devon Historic Monuments Archives, giving some basic information, together with Grinsell's (1983) list of barrows of South and East Devon that proved to be unreliable. It seems likely that Grinsell spent very little time on the East Devon heathlands, unusual for a man who had so devotedly paced almost every barrow in southern England. He seems to have largely relied on a thin undergraduate dissertation for information about cairn distribution.

The archaeological establishment had dismissed Carter as an unwelcome crank, yet he had made some spectacular finds and was the only person who had carried out extensive fieldwork in the area. He had undertaken the difficult task of excavating pebble cairns and making some highly original observations about them with regard to pebble patterning and the structured distribution of what he called blue stones. This seemed well worth following up.

Despite its unique geology the Pebblebed landscape itself was little known. Most visitors walked only in the vicinity of the main prehistoric site, Woodbury Castle, and on a weekday one could walk across the entire area rarely seeing anyone else apart from the Royal Marines on their training exercises. It was serendipity and my dog, Tor, that took me first to the heath in October 2004 and I was quite astonished to find myself in a pebbled landscape, so I started to 'walk the past in the present' and undertook a landscape study of the cairns (published in Tilley 2010: ch. 6). This led on to the field research and excavations of the Pebblebeds project.

In 2007 I visited the Fairlynch local history museum in Budleigh Salterton and was pleasantly surprised to find a small room almost entirely devoted to a display of George Carter's archaeological and geological investigations and finds from the area, together with a photograph of him. Previously I had visited the Royal Albert Memorial Museum in Exeter searching for archival information about him but had discovered very little. Having made enquiries about the Fairlynch display I found out that one of his daughters, Priscilla Hull, who had co-founded the museum, was responsible for the Carter exhibition. So I went to visit Priscilla, who lived nearby, to ask whether she might have any of his papers or photographs. I also wanted to know about a site called Jacob's Well, some photographs of which, a flaked pebble and some wooden stakes, were part of the display but about which there was otherwise no information.

Priscilla, a very sprightly lady who was then 87, talked at length about her father. She did have many of his papers and photographs that she told me she had rescued from being thrown away and was delighted that I wanted to look at them. So I visited her house, where she spread out his papers on a long table in the living-room once a week for six months. Later she gave them all to me for safe keeping. They proved to be a treasure trove of unpublished information, directly leading on to the excavations at Jacob's Well and other sites discussed in this book.

One of the things that Priscilla wanted me to do was to date the wooden stakes that her father had found at Jacob's Well. She said that she had taken them to Exeter Museum, where the wood had been identified as being oak but nobody was interested enough to help her date them. So two of the stakes were dated and we knew that Jacob's Well was a Bronze Age site. Over the years of the project we managed to take Priscilla to some of the sites we were excavating and to Jacob's Well, which her father had excavated on digs that she had participated in as a young girl. I also regularly updated her on what we had found, dating and other matters. It is to my great regret that she did not live long enough to see this book published.

The project excavations started in June 2008 at a small pebble cairn in an isolated area of the heathland visited by few members of the public, that was later christened Tor Cairn. There were no tracks to the cairn across the dense gorse and heather. To reach it required going down into a deep valley on a Royal Marine sheep track, crossing a stream with the track then leading up to a much larger cairn on the top of a spur. Thereafter it was wading down-slope along the top of the spur through the dense and spiky gorse and heather. The cairn was barely discernible and there was some doubt whether it was really a cairn at all until the vegetation cover was removed. The walk from the nearest parking place carrying all the equipment and tools took twenty minutes.

Since the excavations were taking place in a Site of Special Scientific Interest that was also designated as a Special Protection Area for endangered bird species, this necessitated a bird survey to be undertaken ten days in advance of the work in June. The understanding was that if any ground-nesting birds were discovered in the vicinity of the cairn the excavations would have to be abandoned. This made planning for the work almost impossible. In following years the excavations took place from late August through September, after the bird-nesting season was over.

The restrictions imposed by Natural England seemed somewhat draconian in view of the fact that this was only a small group of six people digging in one tiny area of the heathlands, walking to the site carrying all their tools and equipment, and only working during office hours. The team contrasted themselves with the Royal Marines, who had a near constant presence on the heathlands during both day and night, were allowed to camp out there, could move anywhere off tracks, drive vehicles to their various training areas and sometimes created a lot of noise and disturbance. So there appeared to be one set of rules applied to some who had an inalienable right to be on the heathlands at any time that did not apply to us who were potentially dangerous outsiders.

Excavations on some days took place against a background of the booming of grenades in the near distance. The walk to the excavation site required passing through an area of woodland regularly used by the Marines as a harbour (rest) area during the night and through other areas used for camouflage and concealment, sniper training and map-reading exercises. At times the juxtaposition of the excavation team carrying buckets, brushes and spades, and the Royal Marines holding their rifles with their helmets and jackets stuffed full of bracken, hiding and crawling through the gorse, or with recruits laying out their kit for early morning inspection, seemed quite bizarre.

Tiring of carrying the excavation and surveying equipment on and off site every day we soon took advantage of the dense gorse cover by hiding it near to the site. Nothing was ever stolen. After the first year, excavation work was often undertaken at multiple sites across the heathland and the excavation team expanded to include local volunteers who had attended talks given by me to the Fairlynch Museum and other local history societies. One of these, Jan Oke, a local children's author, helped me undertake an archaeological survey of the entire heathland during 2008–10. After the project was over she went on to study for a degree in archaeology at Exeter University. Another volunteer, Jill Cobley, undertaking a PhD at Exeter University on antiquarian archaeologists in Devon that is now completed, aided by her husband Jim, happily accepted the task of carrying out a survey of all the contemporary pebble structures in the villages and towns surrounding the heathland. The records are now lodged in the Devon Local History Archives in Exeter.

During the course of the project, groups of the Devon Young Archaeologists visited us and took part in the excavations. Open days were established and advertised by Jim Cobley, who personally guided groups of people to the sites. A temporary project exhibition was set up in the Fairlynch Museum and a website was created. The response by the public to the project work was overwhelmingly enthusiastic. Wayne Bennett produced a fantastic glossy pebble poster that was to be used to create publicity for the project and sold to generate some finance for the excavations. In the end the printing costs far outweighed any returns and we never sold many. I still have several hundred now used as scrap paper.

The project was run on a shoe-string budget throughout, since no research council funding was forthcoming. All the money that was available was spent on radiocarbon dating and environmental analyses with 23 new dates being obtained. Members of the project team who were not local volunteers were accommodated in my house and garden, and in a flat belonging to Jan Oke in Exmouth and by Jenny Moon in her house in Lympstone. Members of the project team took it in turns to cook food in the evening and paid for it and their travelling and other expenses themselves.

The manner in which centres and peripheries are created and maintained in the field of archaeology is interesting. Sites and landscapes about which we already know a great deal seem to attract funding, while those about which we know very little do not. I suppose it is a question of a safe bet. Small grants that had been provided during 2009–10 by the Historic Environment Department of Devon County Council were terminated when the austerity measures introduced by the Conservative-led Coalition Government began to bite, so even the hire of a digger and driver for topsoil removal and replacement on a cropmark (enclosure) site in 2011 had to be funded by me. It all seemed at the time like a struggle against the odds and I had a strong sense of fellow feeling with George Carter and the manner in which the establishment had treated him.

I take full responsibility for the published text. In those chapters not written entirely by me the names of other authors involved or the individual authorship of the chapter is given at the head. A series of online appendices accompanying this book may be downloaded from UCL Press. These are referred to in the book as ‘See Taylor, Appendix 1’, for example.

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So many people have been involved in this project and I want to thank them all and fully acknowledge their individual contributions. Firstly I am deeply indebted to the members of the excavation team who took part over some or all of the four years: Wayne Bennett, Henry Broughton, Jill Cobley, Paolo Favero, Davina and Paul Freedman, Shisachila Imchen, Andy Jones, Titika Malkogeorgou, Jenny Moon, Jan Oke, Clarissa Sanfelice Rahmeier, Thais Rocha da Silva, Mike Rowlands, Louisa Sherman, Lesley Strong, Priscilla Trenchard and David Wengrow.

Andy Jones, assisted by Davina Freedman and Karolína Pauknerová, directed the excavations at Tor Cairn in 2008–9. The excavations in 2010 at Little Tor Cairn and at Twin Cairn A in 2011 were directed by Karolína Pauknerová and Chris Tilley. The excavations on Aylesbeare Common military structures and the pebble platforms took place in September 2009 and September 2010. Andy Jones directed the excavations of the military structures during 2009 and in 2010 the excavations of these and the pebble platforms were directed by Tilley and Pauknerová. Excavations at Jacob's Well and at the Colaton Raleigh enclosure that took place in 2010 and 2011 were also directed by Tilley and Pauknerová.

All the various pebble analyses were conducted by Chris Tilley and Clarissa Sanfelice Rahmeier. Pebbles from the natural test samples were all recorded by Chris Tilley, assisted at various times by Kate Cameron-Daum, Jan Oke and Juan Rojas Meyer.

I am indebted to Mike Allen, R.Y. Banerjea, Dana Challinor, Simon Hillson, Lenka Lisá, Vladimír Machovič, Richard Macphail, Antonín Majer, Petr Pokorný, Rob Scaife, Roger Taylor, Keith Wilkinson and Jiří Woitsch for their specialist reports and advice that are only briefly summarized in the text but are published in individual site reports in the on-line appendices to this book. Keith Wilkinson took the environmental samples at Jacob's Well and on Aylesbeare Common and in the bog at Longo Bottom. At Tor Cairn they were taken by Mike Allen and at other sites by Karolína Pauknerová.

I am grateful to Jane Russell for finds drawings. Mark Roberts, assisted by L. Peyre, conducted a geophysical survey of the Colaton Raleigh enclosure. Toby Taylor of the RSPB swaled an area adjacent to the topspoil scrape on Aylesbeare Common preceding the excavations in 2009, permitting a ground walking survey. He also located the position of three previously discovered pebble platforms for us in 2010. Hazel Riley (English Heritage) conducted a GPS survey of the Aylesbeare Common summit area.

A huge thanks to Jan Oke for her help with field survey over the years in all seasons and weathers. Karolína Pauknerová has been an invaluable and tireless source of support during the excavations, in writing up the results, drawing the diagrams and generally making sense of it all. She also organized all the environmental analyses undertaken in Prague and crucially, through her expertise, recognized the presence of the tar layer at Jacob's Well that might so easily have been missed. She also undertook some of the burning experiments with pebble samples.

I am particularly indebted to Jan Oke and Lesley Strong for carrying out the laborious work of planning the Aylesbeare double-axe and ox-hide pebble platforms, and to Jan together with Karolína Pauknerová for the trapezoidal platform. Clarissa Sanfelice Rahmeier undertook the massive task of transferring pebble data from Tor Cairn and Little Tor Cairn site notebooks to Excel spreadsheets for the quantitative analyses. Clive Orton advised on the appropriate tests. I recorded all the pebbles from Twin Cairn A, the sections through the Aylesbeare pebble platforms, analysed and counted the 'special' pebbles and quantified the pebble classes from all the sites. Clarissa conducted the 'special' pebble tests and colour tests among staff and students in the Department of Anthropology, University College London and with members of the excavation team. I undertook the interviews with people with pebble structures in their gardens, with advice on which to choose being given by Jill Cobley, who created the pebble archive of all such structures in the area. I am most grateful to all those people I interviewed for so enthusiastically discussing their pebbles with me.

Benjamin Tilley created a wonderful project website. Jill Cobley transcribed the quotations from Hutchinson's diary, Jon Hanna kindly took me up in his light aircraft with Wayne Bennett in order to take aerial photographs. Base maps for the artefact and site distributions were drawn by Wayne Bennett, who also drew Figures 1.1, 6.9 and 10.1. All the other line diagrams were drawn by Karolína Pauknerová.

Mike Rowlands and Charles Stewart kindly read a draft version of the introduction and conclusions to the book and provided very useful comments that have been invaluable to improving the arguments. Two anonymous reviewers commented on sample chapters of the manuscript and one of these provided further extensive comments on a draft version of the entire text. I am most grateful for the comments received, which have led to a series of invaluable revisions of parts of it.

I am very grateful to the Devon Archaeological Society for the loan of some surveying and excavation equipment. Bill Horner, Frances Griffith and Cressida Whitton (Devon County Council: Historic Environment) gave much support and advice. Bungy Williams (Commons Warden) undertook machine cutting of the vegetation around Tor Cairn and Little Tor Cairn prior to the excavations and transported numerous bags of pebble and environmental samples on and off site for analysis in his Land Rover over the years. He also kindly drove Priscilla Hull all the way to Tor Cairn so that she could experience the excavations herself.

Many thanks to Jim Cobley for advertising the excavations and guiding visitors to the various sites over the years, and making arrangements to drive Priscilla safely to Jacob's Well, a difficult journey down a very steep hill slope to the very edge of the bog. George Perrott (Clinton Devon Farms Manager) kindly cut a crop of clover ley prior to excavation at the enclosure site. Paul Irish expertly removed and replaced the topsoil.

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Last, but certainly not least, I am immensely grateful to my late wife Karin and to Alice and Benjamin Tilley for so cheerfully welcoming guests into our home, which on an annual basis became transformed into a dormitory. When I knew in late 2011 that Karin had terminal cancer at the age of 54 I was so shocked that it was impossible to do anything. Only a few weeks before her death Karin told me that I must finish the project and ensure that it was published. I have followed her advice, always the wisest.

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Introduction

The pebble is a perfect creature
Equal to itself
Mindful of its limits
Filled exactly-
With a pebbly meaning
With a scent which does not remind one of anything
Does not frighten anything away does not arouse desire
Its ardour and coldness
Are just and full of dignity
I feel a heavy remorse
When I hold it in my hand
And its noble body
Is permeated by false warmth
Pebbles cannot be tamed
To the end they will look at us
With a calm and very clear eye

This poem by the Polish poet Zbigniew Herbert (2007) is a perfect illustration of the relationship between persons and things that this book attempts to explore in relation to the material medium of a landscape made up of pebbles in the longue durée. A pebble represents perfection. But why might a pebble be considered perfect compared with other kinds of stone? What is the relationship here between a subject and an object? How mindful is the pebble: has the pebble a meaning that inheres in itself, transcending a human desire to pin down its meaning? Does this reside, somehow, in its brute materiality?

In the poem, pebbles are thoroughly anthropomorphized but remain ambiguous in character. Unlike persons, they cannot be tamed. They are noble and dignified in this respect. In an aloof manner they look at us and simultaneously delude. They have a scent of their own, are cold, but have a false warmth in human hands. A dialectic exists in the poem between the objectivity of the pebble and the inevitable subjectivity of its meaningful relationship to persons. Things posited in themselves and for themselves, in their material interiority, can never have any meaning.

In giving meaning to the pebble we inevitably find a reflection of our selves in its material Otherness. In this sense the pebble always bears a mindful relationship to our social being and sensing body, through the medium of body of a thing that cannot think or sense and has no feeling. The pebble remains in itself and for itself in a relation of interiority. But on the other hand, persons and things are mutually constitutive, co-present and co-beings, but they are not equal. There is no equal or 'symmetrical' relationship between the two (cf. Olsen 2010; Olsen *et al.* 2012). This is because grasping the meaning of a thing is quite literally an embodied relationship. In other words, the pebble can never be known in the abstract. For a pebble to be meaningful to us, or others, we need to sense its own materiality, its stony difference, in relation to our fleshy bodies. When we do that the pebble no longer remains an object that is not subject to human will but becomes a quasi-subject with which we can interact, something that in this way becomes meaningful and comes alive or has some kind of agency. To know a pebble is thus to grasp it in the hands, to scent the thing, to gaze at it, to experience its pebble voice activated when we touch it with another thing. To know a pebble is also to reflect on what we can make from it, what we can make a pebble do for us and what, in the process, the pebble gives to us, the potentialities that it affords, the stories that unfold from its very materiality and difference. But we cannot tell any stories that we like: a pebble is a smooth stone. If the stone is entirely rough or jagged it is no longer a pebble but a different kind of thing altogether. This is precisely why we need to be mindful that the pebble has its limits and because of this has 'a pebbly meaning' that requires human representation to unfold.

Pebbles are like no other kind of stone and have an especial place in our contemporary culture. There are innumerable paintings and photographs of them. They appear on cards and posters, in shop-window displays, as ornaments in homes and gardens, as table numbers in pubs, sometimes as giant street sculptures in various forms. Some people collect pebbles and sometimes polish them in special machines. Pebbles are painted and kept in the pocket as talismans. No other kind of stone has generated so much interest. Who, apart from geologists, has collections of granite or limestone or sandstone rocks? A quick search of the internet will generate thousands of products designed in the form of pebbles, or the use of pebble designs on an extraordinarily diverse range of products. A short list, in no particular order:

pebble sofas
pebble candles
pebble dresses
pebble chimes
pebble tea-towel
pebble tray
pebble T-shirt
pebble bath mat
pebble blinds
pebble wine label
pebble soap
cocoa pebbles cereal
fruity pebbles sweets
pebble linoleum
pebble ironing-board cover
pebble shower curtains
pebble toilet bags
pebble phone
pebble deck chairs
pebble bathroom cleaner
pebble tissues
pebble face wipes
pebble water bottle
pebble tablecloths
pebble place mats
pebble coasters
pebble swimming costumes.

Manipulated within the advertising and marketing industries, there appears to be almost no end to the products that might be fashioned in the form of pebbles, or adorned with pebble designs. Can you imagine a granite tissue or a limestone cereal? Where are the sandstone face wipes and candles and shower curtains?

There is quite obviously something very special about pebbles, an appeal that cannot be matched by any other type of stone. Those who market and sell things to us must of necessity generate a feeling of well-being on the part of the consumer. Pebbles, from this perspective, are always happy stones. They are happy because they are quintessentially the stones we associate with the sea and holidays: playful rather than functional or utilitarian stones. Pebbles are dancing stones. They can be made to skim across water, unlike most other types of stones that just sink. More generally they signify informality, freedom and leisure rather than the world of work, hence the swimming costumes, dresses and T-shirt designs.

Extending beyond seaside holidays they have become domestic stones intended to be used in and to decorate the home. They are associated with friends and family, dining and social occasions. Pebbles are intimate and sociable stones, hence the table mats, coasters and trays, candles and blinds. As such they are also appropriate for outdoor domestic activities in the garden, hence the deck chair designs, outdoor tablecloths etc.

More broadly they have aesthetic value as ornaments and functional use-value as paperweights or doorstops to people who collect them. A whole body of beach artists make patterns out of them. Others such as the New Zealand sculptor Chris Booth specialize in making things out of pebbles (Booth 2007). There is a fundamental association with water and bodily cleansing, embodied experiences of water. So pebbles are particularly appropriate as designs for bathroom linoleum, as shower curtains and mats and are associated with products that cleanse the home and the body – soap, face wipes, etc.

Pebbles are said to feel good and promote well-being: they are therapeutic stones. Many self-help books concerned with the promotion of psychic well-being use pebbles as metaphors in their titles, hence the title of the compilation of quotations and insights by the mystic, Sadhguru, *Pebbles of Wisdom* (2015). On the cover, carefully arranged wise pebbles curve across the sea. Another book, *A Pebble for Your Pocket* by Thich Nhat Hanh (2001), is a collection of 'mindful stories for children and grown-ups' to do with contemplation and divine wisdom. Academics are not immune, either, from using pebble metaphors. Zalasiewicz's *The Planet in a Pebble* (2010) is a geological history of the earth that begins with the humble story of a Welsh pebble and then wades through vast expanses of geological time: pebbles are good to think.

This book is a 4,000-year history of pebbles and the manner in which they have been used and thought through by people. Pebbles are usually found only on the beach, in the liminal space between land and the sea. What happens when pebbles instead extend inland and create a ridge brushing against the sky? The book explores the multiple qualities and associations of pebbles in the past and the present through the investigation of a unique landscape of pebbles over the long term. It is a study of long-term relationships created through the lives of pebbles and the lives of people in a pebbled landscape. This is a matter of the ways in which different generations have appropriated and materialized pebbles in often quite distinct and disjunctive modes. The focus is also on the capacity of pebbles themselves to attract particular types of responses stemming from their materiality, responses that transcend the simple notion that time unfolds itself in terms of either continuities or ruptures. This is not a matter of objectification but subjectification in the relation between persons and things in which time itself is subjectified, a theme elaborated on in the conclusions.

Landscape in the longue durée

The title of the book pays homage, of course, to the general perspective of the *Annales* school of historiography, but differs substantially from the approach in a number of important respects. As a starting point it identifies archaeological research as essentially historical rather than 'scientific' in character. In other words, I take it as the purpose of archaeology to make sense of the past in the present through the creation of a narrative, in the case of this book one that tells a story of a pebbled landscape over the long term.

The work of the *Annales* school has been extensively discussed elsewhere (e.g. Trevor-Roper 1973; Stoianovich 1976; Burke 1990; Hodder 1987; Burguière 2009) and specifically in relation to archaeology excellent discussions can be found in the volume edited by Knapp (Knapp 1992a). Unfortunately, that book seems to have been little followed in the development of a historical analysis subsequently by archaeologists. Rather than discuss this perspective again in any detail, I hope it will suffice to list below ten very general points informing the discussions in the rest of the book that I find important in the *Annales* approach:

1. An emphasis on long-term diachronic processes: that is, long-term patterns rather than short-term events.
2. Finding the general in the details of the particular.
3. Reading the past from the vantage point of the present to gain insights.

4. The general stress on the collective and social nature of human actions rather than individual events/actions/thoughts.
5. The emphasis put on material culture as another way of telling and understanding. This is because archaeological evidence, fragmentary though it is, provides us very importantly with a material record of actual practice: what people do rather than what they say they do. This is to put stress on enduring material components of thought and action.
6. The importance given to interdisciplinary insights that link archaeology, history, anthropology, sociology, geography, psychology and other disciplines. The outcome is that all historical knowledge is essentially synthetic in character.
7. A striving for synthesis and comparison in relation to the manner in which material circumstances relate to human experience.
8. The idea that time is not uniform, a kind of universal measuring scale that is homogeneous and linear in character, but subjective and made up of different rhythms: some short-, some medium- and some very long-term indeed, which intermingle and criss-cross. There is no present divorced from a past that is supposedly gone for ever. The past is always a material presence and we are always surrounded by things of the past that, in fact, are constitutive of our present. Only the people who made these things are gone for good, but they also live on through the medium of things. This is discussed further below.
9. The recognition of the often habitual, repetitive and unconscious nature of human 'mentalities' relating to symbolism and the manner in which cultural traditions get played out in spaces. Braudel liked to say that space is the best kind of way of slowing down history (cited in Ricoeur 2004: 152). To put it another way more pertinent to this study, landscape and place slow history down through its material sedimentation.
10. The attempt to integrate the local and regional into a broader perspective best exemplified by Braudel's masterly study of the Mediterranean (Braudel 1992).

What I find inadequate is the frequent recourse to various forms of technological and economic and demographic reductionism and a misguided faith in quantitative and statistical approaches to historical evidence, especially in the work of later members of the *Annales* school (see discussion of Knapp on this; Knapp 1992b: 6ff.).

Going beyond the ten general points listed above, the book much more specifically develops a perspective directly inspired by existentialist and phenomenological philosophical theoretical traditions that are themselves heavily influenced by a Marxist emphasis on material practices. Again, for the sake of brevity, I list a further seven points informing the discussions throughout the subsequent chapters:

1. A stress on materiality that insists that what we need to study is the real rather than representations of the real. What this means is a return to the things themselves, in the case of this book pebbles in a pebbled landscape. We do not base our knowledge on their pre-existing representation in a field of discourse constituted by the abstractions of texts, maps, photographs, plans, GIS analyses and so forth. In this respect synthetic archaeological texts and indeed a great body of the research represented in the *Annales* school are built solely on representations of representations, providing only a simulacrum of the real, or in other words a copy of a copy of something that never really existed in the first place.
2. An insistence that knowledge of the past in the present is only to be satisfactorily gained through the direct medium of the sensual and sensing body that is always already our primary research tool. The starting point is our experience of the world through our human involvement and participatory immersion within it: being there, touching and being touched in both a literal and metaphorical understanding of the sensation of touch. Our sensuous carnal relationships to the world end in both landscapes and objects. So the body is both the cognitive and the existential ground of culture. Perception begins in the pre-objective material and subjective human body and ends in landscapes and things (Merleau-Ponty 1962; Cszordas 1990; Abram 1996; Marrato 2012; Tilley and Cameron-Daum 2017).
3. An emphasis on performativity in human relations or in other words the notion that identities are constituted through performative practices (Butler 1980). We learn through making and doing and through direct observation of others. Landscapes and the things within them are part of us and we are part of them, we are *of them* (Heidegger 1962; Thomas 1996).
4. An interpretative stress on the agency of landscapes and component parts of those landscapes. A landscape made up of pebbles with a particular topography, vegetation, soil, climate, etc. cannot be thought in any way we might like, nor does it determine the way it is thought

through. We thus eschew any simplistic idealism or cultural relativism or crude adaptational and functional deterministic perspective.
5. The relationship between persons and things involves an entangled, complex, material field involving the intertwining of the flesh of the body and the flesh of the world (Merleau-Ponty 1962, 1968; Tilley 2004, 2008, 2010). This is a dialectic of embodiment and objectification (Bourdieu 1977), a bringing forth of things into the world. We do not find a pre-existing world of things and landscapes to study but create both. As such, landscapes and things are material entities that shift and change and have different contours and produce different experiences. This has profound consequences for a theory of things and is a point discussed extensively in the conclusions.
6. An emphasis on our determinate situatedness in the world: everything that we do, say or think is from a point of view and therefore always limited in terms of a particular perspective and relation to the world (Casey 1993).
7. Our relation to the world always involves an intermingling of all our perceptual senses, and this synaesthetic experience is itself intimately linked to our kinaesthetic bodily involvement in it (Tilley 2008).

There are different ways in which we can conceive of the importance of cultural traditions and collective memories of the past. One form is the recall of traditions and memories that sit in the mind and is linked to individual and collective experiences of the past in the present. Another is to place emphasis on memories that sit in the body in the world, that is, they are embodied, and do not require acts of recollection (Connerton 1989; Casey 2000; Ricoeur 2004). They instead involve the manner in which bodies engage with the materiality of landscapes and things. Such bodily memories born out of bodily experiences transcend time and directly link past and present through the medium of embodied interactions, producing an active habitual immanence mediating relationships between people and things and landscapes. This point is again one that will be elaborated in the conclusions to the study, but I want to sketch out the position a little more here since it is crucial to the argument.

Time and the longue durée

A common-sense understanding of the 'longue durée' might be that it simply refers to the long term, a long period of chronological time. This notion of clock or objective chronological time is ultimately uninteresting and helps us to explain and understand nothing. It is empty time, time as a container segmented by dates and events, befores and afters.

The *Annales* approach to time as exemplified by Braudel is far more subtle than that. Braudel hierarchically distinguished between time as duration; long, continuous and almost imperceptible historical time rhythms; long historical economic cycles and rhythms, and much briefer short-term changes in which time, as historical motion, speeds up in the form of events and then dissipates. This was a distinction between long-term geographic and environmental structures, medium-term socioeconomic cycles (involving, in the case of the Mediterranean, such matters as linked movements in economics and demographic structures – such matters as cereal price curves, demographic curves with reciprocal movements of industrial production, ground rents, seaport duties, etc.) and short-term sociopolitical events.

His concern was the interrelationship between historical change and the near-permanent in history (Braudel 1992: 651). This was a matter of conceptualizing the interrelationship between rhythms of material life and fluctuations of human existence. Different times and their histories thus both overlap and develop simultaneously: 'in seeking to grasp all the different vibrations, waves of past time which ought ideally to accumulate like the divisions in the mechanism of a clock, the seconds, the minutes, the hours and days – perhaps we shall find the whole fabric slipping away between our fingers' (652). Beyond this he notes that there are not 'two or three measures of time, there are dozens, each of them attached to a particular history' (657). Dates might be assigned to the beginnings and ends of particular historical rhythms and economic cycles, but according to how one conceptualized time and place they were arbitrary and open to debate and re-evaluation. The notion of duration here is linked to both continuity and heterogeneity as conditions of experience. In other words, duration is multiple rather than singular in character, characterized by coexisting times rather than a singular time.

As regards the Mediterranean, its geography, climate, topography and physical regularities partly constitute the longue durée and they severely constrain possibilities for material, institutional and cultural changes. These are the 'constants' of history and produce enduring 'mentalities' or structures of feeling: 'all western writers who have at some time in their lives encountered the Mediterranean have been struck with its historical or rather timeless character, its longue durée' (658). Thus the fishermen who sit round in a bar today waiting for the wind to change are doing the same thing as was done in antiquity, and the wild countryside takes us back into the 'mists of time' (658). The Mediterranean world of the sixteenth century was overwhelmingly a world of peasants, tenant farmers and landowners: 'peasants and crops, in other words, food supplies and the size of the population, silently determined the destiny of the age … still waters run deep and we should not be misled by surface flurries' (660).

Braudel thus splits apart any notion of a unitary historical time. In its place we have a multiplicity of times that are interwoven and inflect each other. A notion of an embodied human time, perhaps implicit in his view of long-term history, allows us to take his perspective further. The notion of time informing this study is phenomenologically understood as *temporality*, the times of bodies, sensual relations and human experience. This time of the body and of intersubjective material relations is a time of the self and a time of others, a lived time and one of the times of landscape.

There has been insufficient attention to such an understanding of time in archaeology, which is rather surprising given that it has always defined itself in terms of deep time as opposed to the superficial times of anthropology and sociology and indeed history. It has thus claimed superiority: only archaeologists can adequately study things in time. Unfortunately, the primary concern has always been pragmatic – dating things and ordering them in chronological succession in an untensed and inhuman time of duration in which notions of past or present or future are irrelevant. This is what Gell refers to as 'B series time' in the analytic philosophical tradition, as opposed to the 'A series time' of existentialist and phenomenological philosophies informing anthropological discussions (Gell 1992b).

Human time in archaeology has been valuably discussed in terms of narrative and object biographies (e.g. Barrett 1994), adaptations of the practice theory of Bourdieu (1977) and Giddens (1984) stressing the sequencing and the timing of human projects in relation to making and using things, time as arising from the social use of things (Gosden 1994), processes of remembering and forgetting through things (Rowlands 1993, 1999; Jones 2007), conceptions of how the past may have been understood in the past (Bradley 2002) and through a Heideggerian conception of time as fundamental to an ontology of social Being, an essential part of that being how people relate to and do things with things (Thomas 1996: chs. 2 and 3).

The temporality of social life, produced in concrete practices that actively produce space-time rather than taking place in space and in time, has been stressed by a number of anthropologists (Bourdieu 1977;

Munn 1992; Thomas 1996; Hirsch and Stewart 2005). Time has thus been understood as fluid and in flux and multiple rather than singular in character. However, as Robbins points out, virtually all anthropological studies in which time is actually considered as an integral part of social practices assume continuity between past and present (Robbins 2007). There is little sense of rupture or discontinuity and this is true of Munn's own account of spatiotemporal relations on Gawa, in which she successfully integrates a consideration of land and sea, the body, gardens and food consumption, ceremonial exchange and witchcraft (Munn 1986). The wider theoretical question of the relationship between past, present and future in the longue durée and in relation to a study of things has only been tangentially addressed.

Bergson (1991) influentially stressed time as *la durée* or duration. The carnal human body exists in time, it fuses through its material being, past, present and future, which interpenetrate each other. The body experiences a flux of sensations in time linking matter to memory. So how we understand the world links matter to memory. Our understanding is embedded in the manner in which we encounter and remember the world through our embodied experience of it. Time is embodied through memories. These either may be consciously recalled or are a product of inscribed corporeality and habit (81–2). Through the moving corporeal body past and present interpenetrate each other and lead to the future. Both duration and simultaneity constitute the self. Through the body the present passes at the same time as it is present. So the paradox is that the past becomes contemporary, or is in the same time, as the present that it once was part of.

Deleuze, building on Bergson's position, explores the paradox further and I am indebted to the brilliant discussion of Hodges (2008) for the following brief account. One of the paradoxes of time resides in the following: 'the past would never be constituted if it did not coexist with the present whose past it is' (Deleuze 1991: 59). Past and present from this perspective coexist in the same time, contrary to a common-sense understanding that, philosophically at least, turns out to be a non-sense. The past thus can only exist and come into being in the present, but the present itself does not exist in itself because it is past. Acts of remembering (as recall or part of bodily habit) bring forth the past as present: 'all of the past coexists with the new present in relation to which it is now past … each past is contemporaneous with the present that it was, the whole past coexists with the present in relation to which it is past, but the past element of the past in general pre-exists the passing present' (Deleuze 1994: 107–8). Hodges explains the paradox: 'the only place the past can exist is in the present – it has nowhere else to be – even though the present is *not* 'present', of course. This generalized past, therefore, does not exist in actuality, but is the *virtual* form of the past, accessible through various acts of remembering' (Hodges 2008: 411). So different times can coexist with each other, some are deep and are of a very long-term nature, others are much shallower and of shorter duration. Such times are themselves fundamentally non-chronological in character. These are the times of making interpretative sense of past as present and present as past: '*la durée* underpins human existence and the physical conditions which shape it; while the experience, appropriation and representation of "time" reside largely in the domain of everyday practice, neurological, cognitive and embodied processing' (414). The longue durée thus has emergent properties that actualize themselves in particular practices that take place in particular historical contexts in particular landscapes.

I take seriously in this book that the past may be considered in some respects to be coeval with the present. It is not over and done with, something that is finished and completed. This co-presence is activated through the temporalizing practices of persons in particular social and historical contexts. This perspective I wish to link to another – that the embodied perception and experience of things and landscapes may also be considered coeval and outside a chronological spatialized and homogeneous notion of time. This is very different from thinking about cultural memory as recall or simply being a matter of remembering or forgetting. These need to be differentiated from social practices in which referential meaning and significance gets assigned: this pebble sculpture is a representation of a prehistoric axe, that is a modern representation of a crab or an ice-cream cone. In these cases we find only *difference* rather than similarity.

An embodied history

Connerton (1989) is rightly critical of the kind of approach to history that puts all the weight on thought and 'inscribing practices', privileging historical texts as the font of all knowledge. He draws the important distinction between 'inscribing practices' and 'incorporating practices', practices relating to the body and habit in which the past is 'sedimented in the body' (72). Habit memory of the body is mnemonic in character and repetitive, or memory without thought, but this memory is performed through the body and leaves little historical trace.

Casey puts forward one of the best discussions of bodily memory from a phenomenological perspective. His definition is that it is 'an active immanence of the past in the body that informs present bodily actions in an efficacious, orienting and regular manner' (Casey 2000: 149). It works through the movements of the body in the world through habitual enactment and has an active rather than a passive character, part of social being. It is a 'settled disposition' to act in a particular way, an effective history within the body that is efficacious in the world (151). It is essential in allowing us to go on in the world and allowing us to feel familiar in that world. It is a matter of 'immersion in memorial depths beyond – or rather, beneath and before – the two-dimensional flatlands of recollected scenes' (167). The past becomes present in these body memories and becomes the future. This is not some kind of pale reflection of the past in the present but the past in the fullness of its plenitude, a co-immanence of past and present, an entanglement of the two. It is not a repetition of the past in the present. Bodily memories unlike recollected memories are fundamental and primary to social being. Unlike memories recalled in the mind they are not subject to memory loss or being unreliable, since they arise out of embodied practice.

Beyond body memory, Casey refers to three primary mnemonic modes: reminding, reminiscing and recognizing. These are in between the polarities of memory in the mind and memory of the body and remind us that memory itself is not fixed or static but slips into and out of differing forms of consciousness and bodily being in relation to differing temporalities (Ricoeur 2004: 38ff.).

Olsen rightly points out in a discussion of Connerton that although he usefully stresses the materiality of body memory, he has almost nothing to say about the manner in which this relates to the materiality of things and their durable persistence in the world (Olsen 2010: 122). The same criticism can be made of Casey and Ricoeur. Archaeology, above all, demonstrates that the past is still present, a past in the present, memory made material and a memory that is co-immanent (see excellent discussions in Rowlands 1993; Bradley 2002; Meskell 2004; Jones 2007; Olsen 2010: ch. 6). It provides the possibility of another way of telling about the relation of past to present through its focus on material things. In general, archaeology has set itself an agenda of trying to understand the past in itself and for itself in terms of the realities of a deep past time. But archaeology also has to be about the relationship of present to past in its intellectual, material and sensory embodied dimensions. The 'common-sense' approach usually adopted takes no account of this, implicitly asserting that the past is separated from the present. It is something completed, gone for ever, and thus can be objectively reconstituted from the traces that remain. If we abandon this train of thought rooted in a chronological time then we are forced to ask the question of how archaeology and history can provide us with knowledge of the past if it is no longer where or what or when we thought it might be in a dead time divorced from the present.

In a study of things and landscapes in the longue durée the following are inevitably involved: (a) we are practically engaged: landscapes are good to work with; (b) we are cognitively engaged: landscapes are good to think; (c) as a consequence of this our bodies are materially entrapped by that which we study, in the specific case of this book by a landscape of pebbles; (d) the concomitant of this is a collapsing of an abstract notion of time, the consequence of which is that we realize that the past is in and of the present and the present is in and of the past. We live through the past in the present and the present in the past. Like it or not, we are always participants and involved physically and imaginatively. This direct physical and imaginative involvement with past and present simultaneously is that which permits us to make sense of both and forms the basis of all our understanding.

Approaches to long-term history have always been dominated by a stress on changing technologies, environments, economic relations and demographics in various ways that are deemed to be the key variables, or they may emphasize instead cultural memory, social processes of collective remembering and forgetting (Halbwachs 1992; Nora 1996; Ricoeur 2004; Erll 2011). The position taken in this book takes as its main focus the significance of embodied relationships between people, landscapes and things over the long term and the manner in which they persist and survive. In other words, it is a history of human embodiment. While the particular cognized meaning and significance of landscapes and things may alter, shift and change in cycles, long-term embodied relations persist because they arise from sensuous human involvement, engagement and participation in a material world with material effects. They arise from the very nature of the things themselves.

The structure of the book

The book is divided into two parts. Part I is concerned with the prehistory of the heathlands until the end of the Iron Age. Part II discusses the heathlands in modernity, broadly the last 300 years. The gap is largely due to the lack of useful earlier historical information about the heathlands until the modern era.

Chapter 1 introduces the Pebblebed landscape, discussing its geology and topography, the landscape relationships of prehistoric sites and basic find evidence from the Mesolithic until the Iron Age. Chapter 2 discusses the life and work of George Carter, assessing the importance of his archaeological work and the way it was received in his day. This is almost entirely based on unpublished manuscripts. Since Carter could not publish his own work, I felt duty bound to salvage it and present it for him in summary form. This is intended as a contribution to the history of early twentieth-century British archaeology and also provides some of the empirical background to other chapters where his work is discussed further (Chapters 3, 6 and 11).

Chapters 3–5 discuss the excavation and analysis of three pebble cairns. The deeply embodied social and symbolic significance of pebbles in a landscape of pebbles is emphasized. Chapter 6 discusses the Early and Middle Bronze Age burnt mound of Jacob's Well and a series of spectacular pebble platforms or sculptures of Middle Bronze Age date. In Chapters 6 and 7 the evidence from East Devon is discussed in much more general terms in relation to the southern British and European Bronze Age. The concern here is to call into question the dominant social model of wealthy elites controlling metals and prestige goods. An alternative way of assessing wealth and value is put forward. Chapter 8 sets out an environmental reconstruction of the prehistoric landscape from the Neolithic until the Late Bronze Age. Chapter 9 assesses the major Iron Age hilltop enclosure on the heathlands, Woodbury Castle, in terms of a broad regional analysis of the wider East Devon landscape before the Roman occupation.

Chapters 10–12 discuss the eighteenth- and nineteenth-century use of the pebbled heathlands and their relationship to the Bicton estate, owned by the richest landowners in Devon. The discussions in Chapters 13–15 and the introduction to Chapter 16 take the account up to the present. The rest of the conclusion presents a model of continuity and change in the embodied use of pebbles in this landscape and engages with contemporary debates with regard to how we might develop a theory of material culture or of the meaning and significance of things.

In Chapter 12 I discuss the work of Thomas Hardy in relation to understanding the character of the nineteenth-century heathland. This is presented in the firm belief that we have much to learn about landscapes from novelists as an antidote to the sometimes impoverished accounts that archaeologists and historians provide. Hardy provides a brilliant understanding of embodiment in a heathland setting. In a similar manner Priscilla Trenchard's account of her own contemporary artistic work on the heathlands in Chapter 15 contributes significantly to an understanding of a modern poetics of embodiment in relation to pebbles.

The book is unusual from an archaeological point of view in that rather than discussing artefacts the chief focus of the research is unmodified natural things – pebbles. This is material that in a landscape made up of pebbles might ordinarily be considered just locally available building material and of no other significance. In an excavation such material might have been regarded in a cursory way, dug out and piled up on a spoil heap without any analysis. What would matter would be finds of things made by people, to which much time and care would be devoted in, for example, the serried rows of illustrated pot sherds or flints adorning countless excavation reports – they often have no other purpose.

Instead we devoted huge amounts of time to analysing this supposedly worthless natural stuff. During the course of the project I visited another excavation where pebbles had been found in a tree-throw hole together with a Neolithic pot. I asked if I might see the pebbles. They were all buried and lost on the spoil heap. The pot, of course, had been carefully preserved. This is symptomatic of an attitude of mind differentially evaluating the worth of natural and cultural things. In my opinion half the evidence that might have made sense of that pot had been destroyed. This attitude to the natural world, dismissing it as insignificant, has dramatically changed in the archaeological study of landscape over the course of the last two decades. It still seems to persist in relation to things. This difference between a natural thing and a cultural thing and how meaning is created in relation to both is a key aspect of any study of the meaning of things in general, a point taken up in the conclusions to the book.

It should be evident that this book is multi-faceted. It presents new empirical evidence based on archaeological survey and excavation in both Parts I and II. It presents a study of landscape over the long term, a fresh evaluation of aspects of the Bronze and Iron Ages, and a new theoretical contribution to an understanding of things.

The argument is meant to gradually unfold but many of the chapters, apart from Chapters 3–6, which need to be considered together, can admittedly be read on their own and are relatively independent of each other. It has proved to be difficult to stop writing this text and entire chapters that were originally meant to be included in it have had to be cut.

Part I
The heathlands in prehistory

1
The Pebblebed landscape

The landscape of the East Devon Pebblebed heathlands, whose bedrock is composed entirely of water-rounded pebbles, is geologically unique in the UK. Today they form a low ridge forming the watershed between the river Otter to the east and the Exe estuary to the west. The ridge is approximately 13 km long N–S, extending inland from the coast; it is 2–3 km wide and almost continuous. It is broken up today by pockets of improved agricultural land. The heathland soils are thin, poor and acidic and most of the area has never been cultivated. The western side of the Pebblebeds are defined by a distinct scarp slope about 20 m or so high rising up quite steeply from the undulating lowlands that extend to the Exe. The highest point on the western scarp is marked by the Iron Age hillfort of Woodbury Castle (183 m). The heathlands dip away gently to the south and the east toward the Otter valley and the sea. To the north they run down into the Clyst valley. The overall dip of the land across the greater part of the heathland area is from the northwest (high) to the southeast (low). At the base of the western scarp there is a spring line. To the east the sloping heathlands are broken up by small valleys. These sometimes originate in broader and boggy irregular basins. The heathland area is highly porous and drains quickly. Small east to west or northwest to southeast fast-flowing perennial streams now occur in the valleys where the water has cut down to underlying clays and marls. Further up beyond the surface streams, there are dry valleys formed in permafrost conditions during glacial periods. Wherever the surface mantle of vegetation is absent or disturbed, along the stream beds, on exposures on the often steep sides of valleys, and on paths and trackways crossing the heathlands, pebbles are exposed at the surface (Figure 1.1).

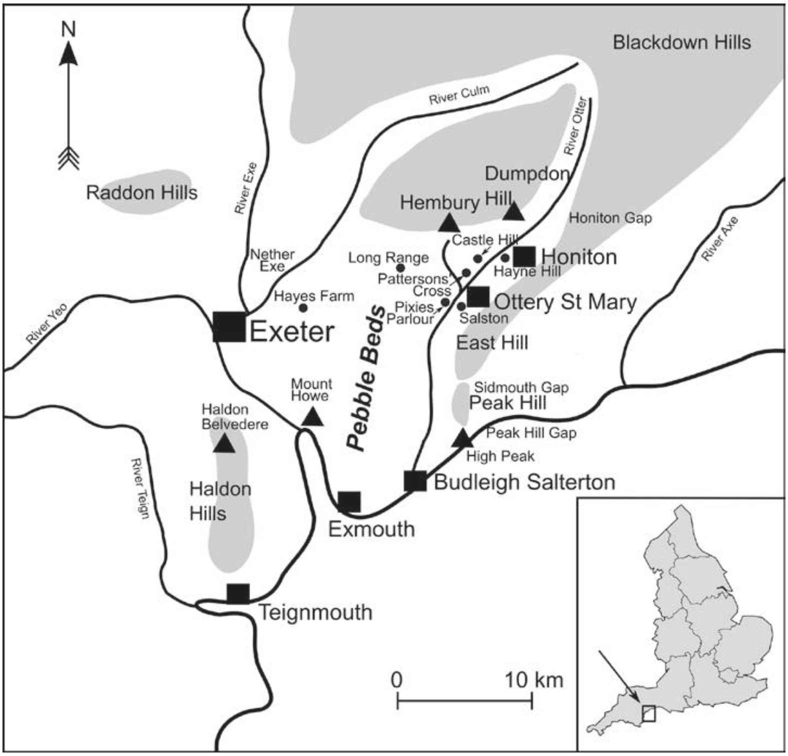

Figure 1.1 The location of the Pebblebed heathlands showing some of the main places mentioned in the text (Source: author)

The Pebblebed heathlands are surrounded by rich pasturelands on clays and marls and arable fields on the surrounding Otter sandstones. The boundary between these lowland areas and the heath itself, on which the vegetation is gorse and heather, pine and birch, is abrupt and distinct. Today it is mostly marked by hedged banks and fencing. Contemporary farms and villages are sited along the stream courses where they emerge from the heathland habitat. Parish boundaries typically extend from the rich pastureland and arable fields up on to the heathlands, formerly common land both to the west up the scarp slope and to the east up the dip slope, ensuring that each had its share of fertile agricultural land as well as uncultivated grazing land. Although few animals graze the heaths today, in the past they provided important and substantial areas of rough grazing during the summer months. The heathland habitat is a mosaic of dry heath where the principal vegetation is gorse and heather and the lowland heath characterized by bog valley plant communities, birch and alder. Substantial areas of the dry heath have been afforested with conifers since the 1920s. The natural woodland cover of the heath is deciduous. Pine trees were introduced in the late eighteenth century as landscaping features (see Chapter 10).

This area of Devon has long been noted for its long, warm summers and mild winters. Today during the summer months temperatures reach on average 20 degrees C or more during July and August. Given the proximity of the sea, winters are mild with little snow and few frosts. Temperatures range between 3 and 8 degrees C. Situated in the rain shadow of Dartmoor, with prevailing winds being southwesterly, the area is relatively dry. The rainfall average is about 800 mm, peaking during the winter months.

Looking out to a world beyond

Standing on the western high scarp of the Pebblebeds there is a magnificent and panoramic view of the surrounding landscape. To the west one looks across the course of the Exe estuary to the unbroken ridge of the Haldon Hills running along its eastern edge (Figure 1.1; Figure 1.2).

Figure 1.2 View west to the Haldon Hills with the peaks of Dartmoor beyond from the western scarp edge of the heathlands near to Woodbury Castle (Source: author)

Further west still, over the line of the Haldon Hills, there are glimpses of the tor-crowned high peaks of Dartmoor. High Willhays and Ugborough Beacon are just visible some 48 km distant. To the northwest, the Raddon Hills, capped by a Neolithic causewayed enclosure and later Iron Age hillfort, frame the near landscape. To the north, the line of the Blackdown Hills is prominent, with another Neolithic causewayed enclosure and Iron Age hillfort at Hembury occupying a prominent southern spur. Way beyond the highest point on Exmoor, Dunkery Beacon, some 58 km distant, and the Quantock Hills can be seen on a clear day.

To the northeast, the hill island of Dumpdon (Figure 1.3) crowned by a hillfort and possibly another Neolithic causewayed enclosure is prominent in the Honiton gap created through the Blackdown Hills by the river Otter. To the east the landscape is framed by the broad Otter valley and the almost unbroken line of the East Hill and Peak Hill ridges, which block any view further in this direction (Figure 1.15a). Between these two ridges there is a prominent gap through which the sun rises at the equinoxes. This is a prominent landscape feature visible for long distances from the west and north, as far away as the southern edge of Exmoor to the northwest (Figure 1.15b). To the southeast, High Peak, with its distinctive triangular-shaped profile, is a dominant coastal landmark (Figure 1.4). Beyond it there are more distant views across Lyme

Figure 1.3 Dumpdon Hill in the Honiton Gap seen from the west (Source: author)

Figure 1.4 High Peak seen across the heathlands from the northwest (Source: author)

Figure 1.5a Gravels of the East Hill ridge (Source: author)

Figure 1.5b The pebbles of the Pebblebeds (Source: author)

Bay to the Isle of Portland 70 km distant – glimpses into other worlds and different landscapes.

But for the most part, views out from the remaining and lower areas of the Pebblebed ridge are strikingly restricted by the higher hills that surround it: the unbroken line of the Haldon Hills to the west, the more irregular line of the Blackdown and Raddon Hills to the north, and the East Hill and Peak Hill ridges to the east. These all rise up fairly abruptly above river valleys and are flat-topped. The eastern scarp slopes of the Haldon Hills and the western scarp of the Peak and East Hill ridges appear remarkably uniform from the Pebblebeds. This contrasts markedly with their appearance from the other side, where all these ridges are deeply indented with coombes and valley systems. Their most uniform and regular scarp slopes face towards the Pebblebeds and are framed by the surrounding hills, creating a sense of interiority and difference: a landscape that is peculiarly distinctive, framed and bounded, a world apart. When the Otter and Exe valleys fill with mists, the ridge and the hilltops are dramatically transformed, appearing to be islands enveloped in a grey sea.

What makes this landscape so special is not only the local presence of the Pebblebed heathland but also the hills that physically and visually hem it in with the significant gap on the eastern side. None of the surrounding ridges and hills have any Pebblebed outcrops or exposures. To the west, the Haldon Hills are covered by grey and white flinty gravels. The Blackdown Hills to the north and the East Hill and Peak Hill ridges to the east are capped with substantial layers of clay with flints and chert derived from the underlying greensand (paradoxically grey to grey-brown to yellow in colour), as is High Peak to the southeast (Woodward and Ussher 1911: 62ff.). All these surrounding hills thus contrast greatly with the much lower, rolling Pebblebed heathlands in terms of their far greater height, their much more pronounced scarp slopes and the sharp, angular and jagged stones that cover them. Sensorially encountering the bones of this landscape, we move from the smooth and rolling heathlands covered with smooth, rounded and multicoloured pebbles, to higher flat-topped hills with steep scarps covered with brittle, irregular and jagged material of fairly uniform and dull colour, an important series of visual, tactile and colour contrasts (Figure 1.5).

Another contrast occurs between the stones that may be observed along the ridges and the hills and those exposed along the rivers. The numerous river cliffs that occur along the lower course of the Otter are all exposures of the red Otter sandstones, as are those found along the Exe estuary at Lympstone. Along the Exe there are very limited exposures compared with those along the lower course of the Otter. Immediately to the north and south of Ottery St Mary these are grey-green in colour. Beyond here all the way to the south to the sea, where the river passes the Pebblebed heathlands to the west, these river cliffs are all bright red in colour. They occur along the Otter's eastern side except in a short stretch between Newton Poppleford and Colaton Raleigh, where they are on the western side. By contrast, nowhere along the course of the Otter can the exposed stratum of the Pebblebeds be seen.

Walking north, east or west off the heathlands, one notes that the pebbles rapidly disappear under the surrounding marls. None are exposed along the sands and muds of the Exe. Redeposited material down-washed from the Pebblebeds occurs locally in the river bed along the Otter river valley, particularly in its lower stretches from Ottery St Mary southward to the sea at Budleigh Salterton. In the upper reaches of the river the pebbles are few and the river bed is largely made up of angular gravels derived from the clay with flint capping of East Hill. Lower down the river in some places between Tipton St John and Colaton Raleigh, Pebblebed material locally dominates. Newton Poppleford is named after the ford crossing the pebbles, or 'popples', derived from the Pebblebeds, that are numerous here along the river course. Everywhere in the surroundings of the heathlands, pebbles are numerous in arable fields and gardens, down-washed into the soils formed on the surrounding red Otter sandstones.

The geology of the Pebblebeds and its significance

There are very few natural inland rock exposures in this area of East Devon, and none are very large. The only places where the underlying rocks can be seen occur in the river cliffs along the Otter and the Exe valleys and along a few valleys with streams flowing east into the river Otter. The Steamer Steps cliffs to the west of Budleigh Salterton rise up sharply from the beach in a series of staggered ledges to West Down Beacon (129 m), the highest point before the land drops to the west and the Exe estuary. The cliff exposure here provides a dramatic and huge cross-section through the landscape – elsewhere almost always mantled in soil and covered in vegetation. An inspection of the sea cliffs thus permits a unique glimpse of another concealed world, the hard structure, or the ‘bones’ of the land beneath the constantly changing soft, damp and fleshy surface (Figure 1.6).

Figure 1.6 The red cliffs at Budleigh Salterton. The Pebblebeds formation can be clearly seen in the lower part of the cliff face (Source: author)

From Exmouth eastward, the cliffs and headlands are composed of the relatively soft and warm red-coloured Devonian New Red Sandstone formation. West Down Beacon marks the point where the geologically famous Triassic Budleigh Salterton (or Bunter) Pebblebeds first outcrop and attain their maximum thickness in the cliff face of up to 26 m (Selwood *et al.* 1984: 96). This strip of pebbles dips diagonally down through the otherwise red sandstone cliffs in a distinctive band, dipping and narrowing to the east. It finally disappears in the cliff face near to the edge of a small valley cut down to the beach by the stream at Budleigh Salterton. It marks the eastern limit of the Pebblebed outcrop.

The contrast between this band of pebbles and the New Red Sandstone appearing both above and below it could not be greater. The fine-grained red sandstone is smooth and uniform in colour. The only variation in its surface appearance is caused by localized honeycomb wind weathering creating numerous rounded hollows eating into the cliff's face. The Pebblebed formation in the middle is dense and infinitely varied in terms of texture and the forms and colours of the stones. They are composed of well-rounded spherical or oval, clearly water-worn pebbles bedded in a coarse and gritty or finer and sandier matrix. Within the sand and grit lenses, pebble-filled channels can be observed, proof of the riverine origins of these formations.

The Pebblebeds were laid down by a huge river that flowed north through a hot red sandy desert about 240 million years ago (Figure 1.7). The direction of river flow is based on the discovery of fossils in the pebbles: brachiopods, bivalves and trilobites, whose probable origin was in the mountains of Brittany, northern France (Vickery 1864; Audley-Charles 1970: 52; Audley-Charles 1992). This river (or rivers) was huge, stretching from East Devon as far east as the Isle of Wight. Side streams probably flowed into it from Dartmoor, south and north Wales, bringing down material. Mountains lay to the west and north of what is now Devon and Somerset, forming part of the supercontinent Pangaea. It flowed from Brittany and Normandy and northward extensions of these areas in the English Channel, across the middle of England. The delta of the river, where it entered what may have been an open sea, was in the Cheshire basin/north Midlands. Almost all its course is only known today through geological bore holes and quarries. The only area where part of the river channel, now upraised, is exposed at the surface is the East Devon Pebblebed landscape.

The river consisted of braided channels and alluvial fans, was subject to flash floods and fast flowing. The large size of some of the pebbles is evidence for this and the fact that they are well rounded suggests a long

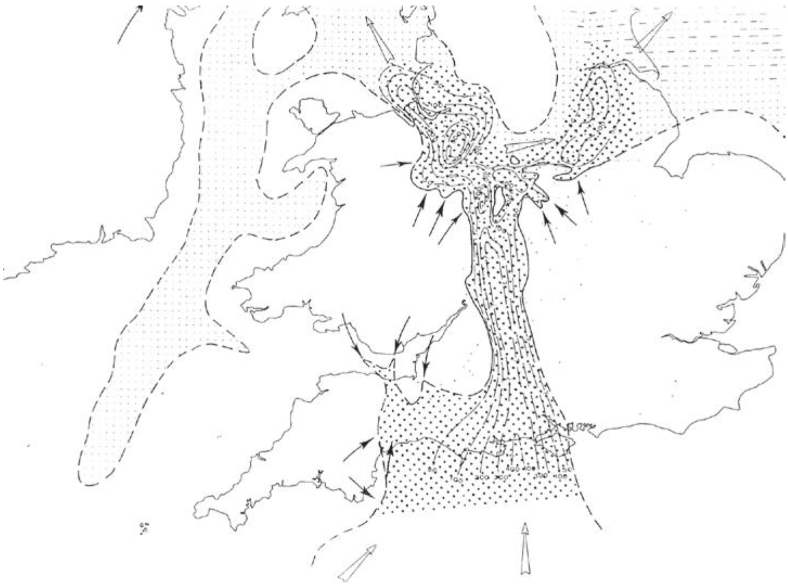

Figure 1.7 The course of the huge Triassic river across southern England (adapted from Audley-Charles 1970)

transport history. The climate of the British Isles throughout the Triassic was hot, with alternating dry and wet seasons, and was tropical to subtropical in character.

Larger and smaller pebbles embedded in a coarse to fine gravel and sand matrix comprise the Budleigh Salterton Pebblebed formation that in the area of Black Hill quarry on the western scarp attains a maximum thickness of 31 m (Selwood *et al.* 1984: 96). Metaquartzite pebbles and cobbles up to 0.45 m in diameter make up the greater part of the material (up to 90 per cent). Other pebbles and cobbles of schorl, vein quartz (up to 7 per cent), porphyries, tourmaline, feldspathic conglomerate and sandstone are present. There is little variation in the relative proportion of these types of pebbles throughout the exposures. Pebbled strata are commonly interleaved with horizontally bedded red-brown gravel and silty sand layers. These are more frequent towards the top of the formation. The frequency of pebbles to matrix varies between 80 per cent and 20 per cent (Henson 1970: 175).

The quartzites are the product of low-level regional metamorphism. In other words, the sand grains of which they are composed have been comparatively little altered by subsequent heat and pressure. The pebbles are poorly sorted, so very large ones and smaller ones may be found side by side. The mean size of the pebbles declines northwards along the Pebblebed heathlands from about 16 cm at the coast to 10 cm inland to the north (Henson 1970: 97; Edwards and Scrivener 1999: 88) and from the lower to the upper strata of the exposure (Ussher 1913: 89).

At the top of the Pebblebed formation, visible in the cliffs at Budleigh Salterton, there is a striking bright-yellow band of sandstone appearing immediately beneath the Otter (new red sandstones) (Figure 1.8). Below

Figure 1.8 The yellow band running along the top of the Pebblebed formation seen in the cliffs at Budleigh Salterton (Source: author)

this there is a thin black deflation layer including ventifacts up to 7 cm thick. These are wind-faceted and polished pebbles with two or more smooth faces with a distinctive ridge between them, and one rough face. Some, termed *dreikanter*, have a very distinctive triangular appearance with three facets at the top; others have four or more. The dark colour of these pebbles when newly exposed is only a surface varnish caused by desert weathering. When split open they are ordinary quartzites like the others (Perkins 1971: 130; Leonard *et al.* 1982). They lay exposed on the floor of the Triassic desert and were wind-polished. The side of the pebbles that lay on the desert floor is typically rough and unpolished with shatter pitting of the surface, while the faces exposed to the polishing actions of the desert sands are beautifully smooth.

The pebbles seen on the beach at Budleigh Salterton are all derived from the cliffs above. Long shore drift and violent storms have swept them eastwards into a substantial ridge backing up to Otter Point and Otter Ledge to the east of the mouth of the river Otter and almost blocking its passage to the sea. Formerly a port, mud flats and marshes have formed behind the great pebble ridge. The beach is approximately 40 m wide and up to 3.5 m above high-water mark.

Despite the derivation of the pebbles on the beach from those in the cliffs there are substantial differences. First, many of the cliff pebbles have numerous shatter marks originating in the transport of the pebbles along the river course. These are rapidly removed and scoured by the waves. Second, while the cliff pebbles are ungraded, with smaller and large pebbles occurring next to each other, those on the beach are sorted by wave action, with smaller pebbles occurring next to the sea and the largest ones higher up the beach nearer to the cliffs with mean pebble size decreasing to the east. Third, the surfaces of the pebbles in the cliffs are stained brown by the gravel and sandy matrix in which they occur. Those on the beach are scoured clean by wave action and the salt and are much more brightly coloured. Many of the pebbles in the cliffs are fractured or broken. Those on the beach are smoother and well rounded, with wave action removing any rough, fractured edges. Fourth, the beach pebbles tend to be flatter and more rounded in form, again a product of abrasive wave action. Statistical sampling has shown that mean roundness values are lowest for cliff samples, with little variation along the beach (Carr and Blackley 1975: 306). By contrast, length variation was considerable, varying from sample to sample, reflecting the composition of the Pebblebeds themselves.

Bunter, the term for this geological formation, derives from the German for 'brightly coloured'. The variation in colours of the pebbles is quite extraordinary, although curiously somewhat little remarked in contemporary geological accounts. All the colours of the rainbow and more are here. The pebbles range in colour from pure black to pure white. Brown, red, green, yellow, blue and grey pebbles all occur. Some have mottled surfaces with many different colours. Others have striking and intricate quartz veins and inclusions. This, above all, is what makes the pebbles of the Pebblebed formation on the beach and throughout their inland distribution so distinctive compared with beach pebbles found elsewhere throughout Britain.

The modern rational geological account of the Pebblebeds, referred to above, is of recent date, little more than a hundred years old. Like the modern geologist, the prehistoric cosmologist might have attempted to understand what was under his or her feet by asking some 'geological' questions and making similar observations. Observing fallen pebbles from the cliffs, the origin of those on the beach might have been easily deduced. But why the great uplifted ridge of pebbles running inland and also seen in watercourses and exposed patches so distant from the sea? What were their origins, when smooth, rounded pebbles are normally only found by the sea? The logical premises for interpretation would, of course, have been radically different, but the answer might have been the same: these were the remains of an ancient river or beach thrust up towards the sky.

The Mesolithic and Neolithic (9500–2400 BC)

Mesolithic and Neolithic finds from the Pebblebed heathlands consist of a few finds of Neolithic axes and mixed surface flint scatters near to Blackhill on the western scarp, containing both Mesolithic and Neolithic material and two Mesolithic flint scatters to the south and southwest of Woodbury Castle (Smith 1956; Wymer and Bonsall 1977). These are all on the highest areas of the heathlands. Beyond the heathlands Mesolithic material was recovered from the excavations at Hembury of the Neolithic causewayed enclosure and Iron Age hillfort (Berridge 1986).

Figure 1.9 shows the distribution of all known flint finds from the heathlands and along the Otter valley to the east. These range from the Mesolithic to the Iron Age and very few are broadly dateable diagnostic finds. There are concentrations along the lower Otter valley but they also occur all over the landscape from the highest points of the heathlands to the surrounding lowlands. Given the character of the heathland vegetation, making the collection of flints impossible except in disturbed areas,

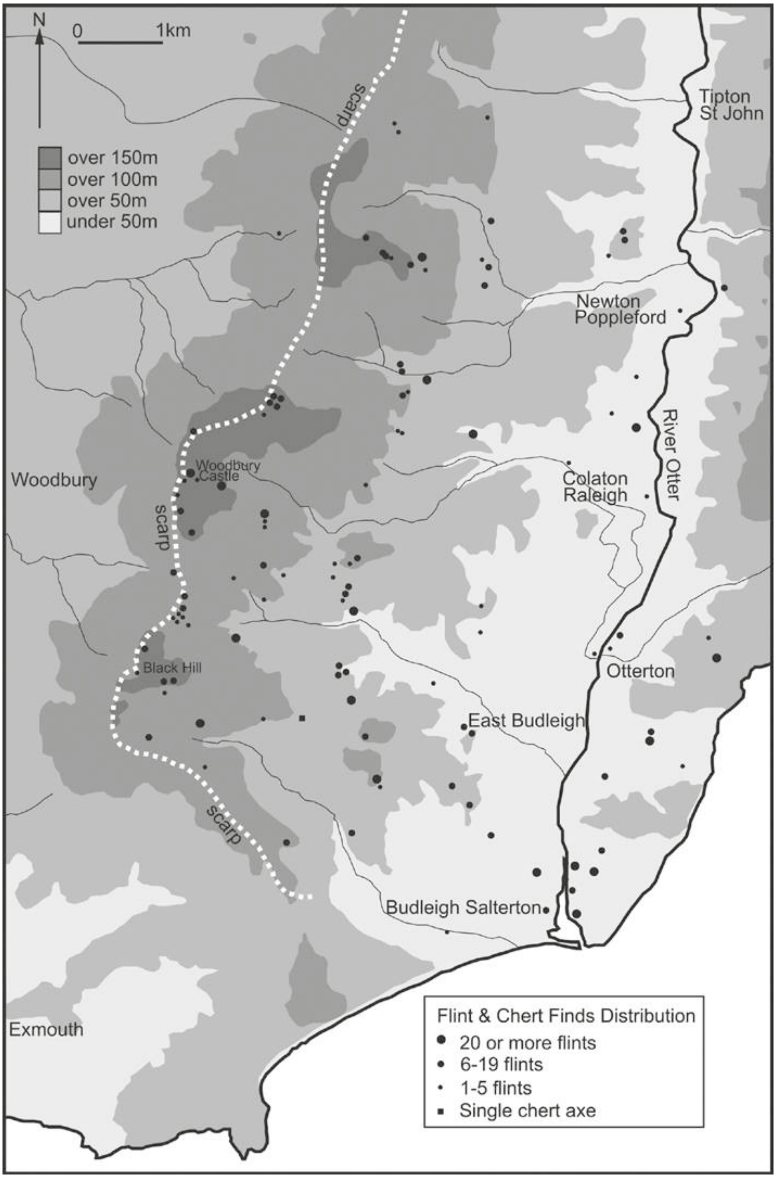

Figure 1.9 The distribution of flint finds on the Pebblebed heathlands and in their vicinity. Data sources: Devon Historic Environment Record, Royal Albert Memorial Museum, Exeter, *Proceedings of the Devon Archaeological Society*, Fairlynch Museum, Budleigh Salterton, East Devon Pebblebeds Project: fieldwalking survey of heathlands

it is interesting to note that the frequency of find spots is nevertheless as common as in arable land to the east, illustrating their extensive prehistoric visitation and use.

It is worth mentioning here in a book concerned with pebbles and their significance one class of ceremonial artefact long held as being diagnostic of the Mesolithic: pebble maceheads with hour-glass perforations. These are recorded across all of southern England from Cornwall to Kent. In Wymer and Bonsall's (1977) catalogue 10 are recorded from Cornwall, three from Devon, 16 from Dorset, 22 from Wiltshire and between 4 and 12 in other southern English counties. Sometimes, as at Portland in Dorset, they form part of excavated Mesolithic assemblages (Palmer 1999). In other cases they are isolated finds.

They represent the first direct evidence that we have of an interest in and ceremonial use of pebbles. Although some are recorded from coastal sites, others are found far inland and at a considerable distance from the sea. They must represent long-distance movement or exchange between hunter-gatherer groups, something that is also known from the widespread distribution of Portland chert across southern England during the Mesolithic (Palmer 1970). None are so far recorded from East Devon. The sources of the pebbles used, their colours and characteristics (see Chapter 5) would clearly repay further study.

Neolithic flint scatters are recorded along the coast to the west of High Peak and to the south and north of Otterton, on Mutter's Moor, part of the Peak Hill ridge, at Patterson's Cross just to the north of Ottery St Mary, and a series of others much further north along the Exe valley around Nether Exe (Griffith and Quinnell 1999b; Miles 1976; Pearce 1979). In addition to these surface flint scatters, Neolithic settlement and ritual deposition in pits is documented from the A30 excavations at Castle Hill and Long Range (Fitzpatrick *et al.* 1999), at Hayes Farm, Clyst Honiton and at Pixie's Parlour, Ottery St Mary (Mudd and Joyce 2014). A pit at Hayes Farm contained 16 clay loom weights, sherds from a carinated bowl, burnt sheep/goat bones, parts of a bird and charred plant remains (Hart *et al.* 2014: 7–9). At Pixie's Parlour a 5-m-long and 2-m-wide pit interpreted as a possible tree-throw hole contained 57 sherds of earlier Neolithic pottery with a wide variety of different fabrics, some as far away as the vicinity of Dartmoor, and 56 pieces of worked flint (Mudd and Joyce 2014: 17).

A house structure together with possible enclosures (for animals? The land was never ploughed) on top of the Haldon Hills (Gent and Quinnell 1999b; Willock 1933, 1937) has long been known at Haldon Belvedere. Recent excavations on the outskirts of Ottery St Mary carried out ahead of a housing development have provided additional rare evidence of Early Neolithic occupation. Around 40 pits and post pits, some of which were arranged in arcs, were associated with pot sherds, many of which were from carinated bowls (DAS Newsletter 2013: 6–7).

There are three known Neolithic causewayed enclosures and/or hilltop settlements on High Peak, and at Hembury and Raddon, a much greater distance away to the northwest (Gent and Quinnell 1999b). There is the possibility that another may exist under the Iron Age hillfort of Dumpdon in the Honiton gap to the northeast of the heathlands.

High Peak (Figure 1.4) is the highest and most distinctive point along this stretch of the East Devon coastline. Although it is considerably lower (157 m) than either the Peak Hill or East Hill ridges (highest point 246 m) to its north it appears both higher and more prominent because of its relative isolation, distinctive triangular shape and coastal situation. Excavations on High Peak revealed traces of a possible Neolithic causewayed enclosure on top of the hill, virtually all of which has been subsequently destroyed along with the ramparts of an Iron Age/Dark Age hillfort by coastal erosion. The Neolithic remains included a short ditch segment rock-cut in its lower part through the greensand and underlying chert beds with a primary fill that included charcoal, bone fragments and flint flakes with pottery in the upper fill (Pollard 1966: 41). Pollard also identified 'cooking areas' with flint and pottery scatters and three pits. The pottery recovered included sherds of gabbroic ware originating in the Lizard peninsula, Cornwall but this seems to have been rare, constituting only 3 per cent of the total assemblage (Quinnell and Taylor in Rainbird *et al.* 2013: 37) compared with 10 per cent of this material at Hembury (see below) (Quinnell and Taylor in Rainbird *et al*. 2013: 37). A few sherds contained temper with a granite (Dartmoor) source and the bulk was manufactured locally: some of the clay was of Lias origin, the nearest source being the Devon/Dorset border to the east (Quinnell and Taylor in Rainbird *et al*. 2013: 37). Most flints were of local material but they included two pieces of Portland chert and black flint derived from Beer (Pollard 1966: 47–8; Tingle 1998). Among the groundstone axe fragments there is more exotic material: a jadeite piece with an Alpine origin and a picrate piece from Callington, Cornwall. Other groundstone axes were made from the local greensand. A number of pebbles, some showing signs of usage, from the Budleigh Salterton Pebblebeds, were found among the Neolithic material (Pollard 1966: 52). Recent excavations in 2012 recovered 22 pebbles derived from the Pebblebeds and local beach deposits, one of which with faint polishing may have been used as a rubber (Taylor in Rainbird *et al.* 2013: 42).

As elsewhere in southern England, causewayed enclosures began to be built in the thirty-seventh century cal. BC (Whittle 2007: 137–8; Whittle *et al.* 2007). Radiocarbon dates have suggested that the Neolithic settlements on High Peak and Hembury were roughly contemporary but they were from bulk samples and not very reliable. The enclosure at Raddon is somewhat later (Gent and Quinnell 1999a: 64). The causewayed enclosure at Hembury occupies the southern tip of a prominent spur of the Blackdown Hills with extensive views to the south across the Pebblebed heathlands to the sea. Liddell's excavations revealed eight ditch and low bank sections with intervening causeways cutting across the spur, and house structures and substantial occupation debris inside indicating permanent settlement (Liddell 1929–1932a, 1929–32b, 1929–32c, 1936). A second ditch line was found to the north, as well as additional ditches, by Todd's re-examination of the northern part of the spur, indicating the presence of multiple enclosures (Todd 1984).

Artefact finds included pottery tempered with local quartzites derived from crushed Bunter pebbles, imported gabbroic pottery from the Lizard peninsula, Cornwall, implements made from Beer flint and a few of Portland chert. Others were from closer flint sources only a few kilometres away; greenstone axes of Cornish origin; and from North Devon, querns and rubbing stones from the local Pebblebeds, beads of steatite, and jet, possibly from Spain and Brittany (Liddell 1929–32a, 1929–32b, 1929–32c).

The excavated materials from High Peak and Hembury indicate a systematic gathering of raw materials and artefacts from (1) the immediate locality; (2) the Pebblebed heathland that had to be crossed to move between these two places, and (3) more distant sources at a variable distance away – Beer Head, Portland, Exmoor, Dartmoor, Cornwall, and those from very distant origins as far away as the Alps and Spain. Materials and artefacts used in these two Neolithic enclosures thus brought together and incorporated elements drawn from the immediate and more distant landscapes at various scales of movement. Some of these, such as the Pebblebed heathlands and Beer Head (for high-quality black flint), could be visited in a day. Other more distant places (Portland, Dartmoor, Exmoor) could be seen on the far horizon from the vantage point of the heathlands or High Peak. Finally there were artefacts and materials brought from places that could never be experienced by people remaining in place or travelling only through the local landscape.

This pattern of raw material utilization seems to contrast with the Neolithic and Bronze Age domestic assemblages found during the A30 and gas pipeline excavations to the north of the heathlands in which stone material other than flaked flint and chert is rare and of local origin (Mepham 1999: 210–21; McSloy 2014: 55–62.). It appears that the curation and use of pebbles was confined to meeting places and settlements of especial significance and ceremonial importance. During the Neolithic the pebbles were associated with the living, whereas in the Early Bronze Age they became associated with ritual monuments in the landscape: pebble cairns.

Bronze Age cairns and settlement (2200–500 BC)

There are 32 recorded Bronze Age pebble cairns on the East Devon Pebblebed heathlands (Figure 1.10). These were the first structures to be built from pebbles. There is no known evidence of monument construction during the Neolithic or of other mortuary practices. The excavations at High Peak, Raddon and Hembury revealed no human remains from the enclosure ditches or interiors. One rectilinear structure at Castle Hill just to the north of the heathlands excavated in advance of the A30 road construction has been suggested to be a 'long mortuary enclosure', but there is a lack of evidence to suggest such a funerary use (Fitzpatrick *et al.* 1999: 213). Another rectilinear enclosure has been suggested to be part of a possible cursus monument, but again the evidence is equivocal.

It remains the case that the first funerary structures and monuments to be constructed in this area of East Devon are cairns and barrows of Early Bronze Age date. The distribution of the cairns is entirely confined to the heathlands. There are also a number of ring ditches just beyond the limits of the present-day heathlands, revealed as cropmarks, through an important campaign of aerial photography undertaken by Griffith since 1983 (Griffith 1999: 8). These ring ditches may be earthen barrows or, alternatively, traces of round houses. Although the A30 excavations revealed the presence of round houses with circular timber post settings, Bronze Age barrows or other evidence of funerary activity was almost absent from this lowland area.

The partial excavation of a ring ditch at land southeast of Broad Oak, Ottery St Mary, provided no positive evidence of the presence of a barrow (Mudd and Joyce 2014: 32–4) and it is probably also a round house. Recent excavations and geophysical survey have revealed the presence of a small sub-rectangular enclosure on the top of a low knoll just to the west of the river Otter at Colaton Raleigh dated to the Middle Bronze Age from residues on a biconical urn. This is an exceptionally early

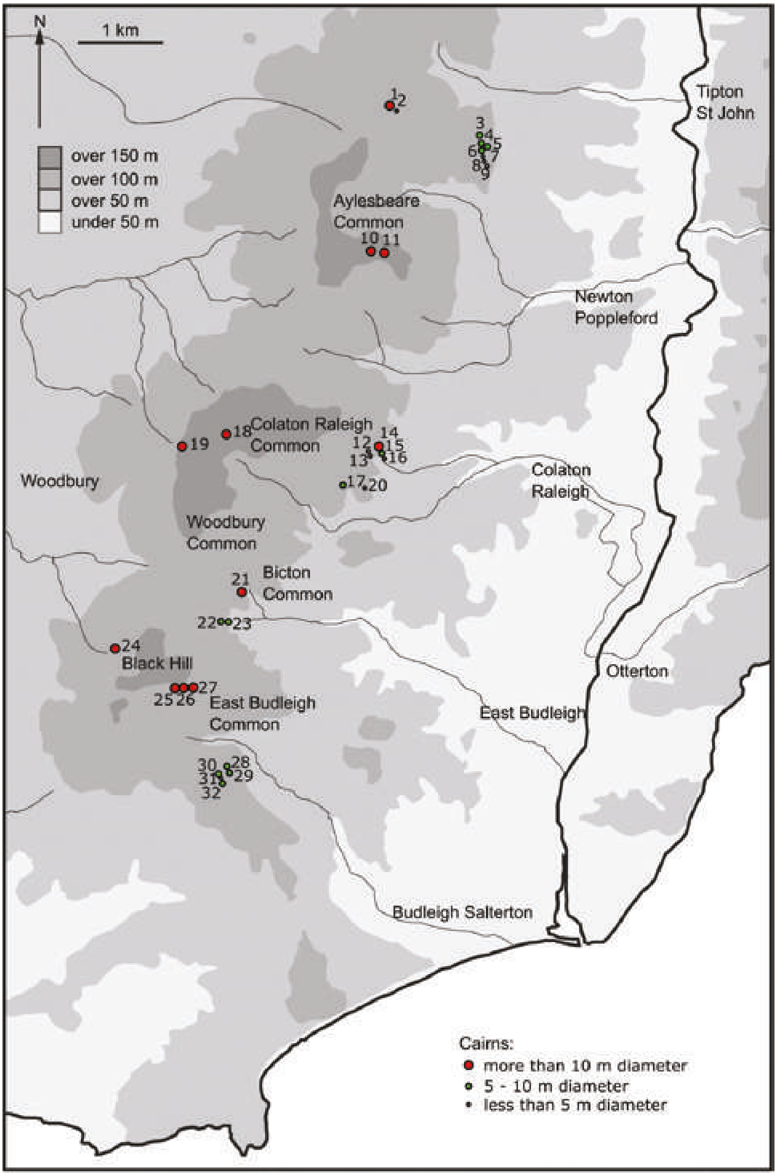

Figure 1.10 The distribution of Bronze Age pebble cairns on the heathlands (Source: author)

date for enclosures of this type in Devon (Farnell and Quinnell 2015). Further north along the Otter river valley other lowland Middle Bronze Age enclosures have been recorded at Patteson's Cross and Castle Hill. The former contained a single round house supported by wooden posts. The latter was a much larger rectangular feature set within a system of rectilinear fields (Fitzpatrick *et al.* 1999). Thus although there is a complete absence of Bronze Age settlements on the heathlands contrasting with the surrounding lowlands to the east and the north, we know that Middle to Late Bronze Age settlements existed on the heathland fringe, suggesting seasonal use rather than settlement of the heathland area by Bronze Age inhabitants.

The Pebblebed heathlands appear to have been a reserved area for the construction of ritual structures and the burial of the dead from surrounding areas. There are, however, three exceptions to this general picture. One is the discovery of a pit at Salston, Ottery St Mary, on flat ground at the valley edge to the west of the river Otter. The pit was about 0.5 m in diameter and 0.2 m deep. It contained cremated human bone and mostly oak charcoal. The remains were of an adult woman with a radiocarbon date of 1948–1772 cal. BC. There were no associated grave goods or evidence of a mound or barrow above the pit (Mudd and Joyce 2014: 24). Excavations in advance of a new town at Cranbrook situated 8 km to the northwest of the heathlands revealed an Early Bronze Age ring ditch on top of a prominent knoll that may have surrounded a mound. It surrounded a central pit containing a beaker and a stone bracer. A ring ditch at Hayes Farm, Clyst Honiton, to the northwest of the heathlands, may represent another lowland Early Bronze Age earthen barrow. It was superseded by a rectangular enclosure with associated fields (Hart *et al.* 2014).

In addition to the prehistoric heathland cairns there are 14 late eighteenth- or early nineteenth-century landscaping mounds that resemble prehistoric barrows or cairns. At least two of the prehistoric pebble cairns have landscaping additions (see Chapter 10, Figure 10.1). Furthermore, there are numerous modern mounds of military origin, or dumps of farm or building materials, that under the current dense vegetation cover of gorse and heather cover, up to 2 m high, sometimes also resemble cairns (Figure 14.4). The area has been used for military training, and occasionally military occupation, for the last 200 years (see Chapter 11). This makes the process of recording pebble cairns of genuine prehistoric date based on field survey alone often difficult and frustrating. There may be many more than those recorded on the map: only a few of the 'thirty spots' (Carter 1936: 1) that Carter mentions that he excavated in the 1930s 'of dimensions barely perceptible except on waste cleared by fire' (Carter 1936: 1) have been possible to locate today despite intensive field walking of the area over a three-year period. He left no record or map of their precise location (see Chapter 2).

At least nine of the cairns have a surrounding ditch and in three cases this appears to have been a modern addition. The cairns vary in diameter from small, discreet structures 4–8 m in diameter to much more substantial cairns, three of which are over 20 m in diameter. Two of the largest cairns, including the very largest (32 m in diameter), appear today as flat-topped rather than rounded in profile but this is almost certainly the result of later landscaping activities, following which Scots pines were planted on top of them. The smaller cairns are rarely more than 1 m high, whereas the larger cairns vary in height between 1.5 and 3.5 m (Table 1.1; Figure 1.10).

Table 1.1 The dimensions (height and diameter, in metres) and height above sea level (HASL) of the Pebblebed cairns and location and other notes.

No.	*Height*	*Diameter*	*HASL*	*Location and other notes*
1	0.6	13.0	159	On summit of ridge with panoramic views. Ploughed out
2	–	–	150	As above. Ploughed out
3	1.0	3.8	110	Highest of a staggered row of seven cairns running down slope from NW–SE. on Venn Ottery Hill. Towards top of W (high)–E (low) slope. Above boggy area and spring line to E. Land drops steeply to E of cairn row that overlooks Otter valley. 18.5 metres NNE of 4
4	1.2	7.5	110	7.5 m NW of 5
5	1.0	7.0	105	5 m N of 6
6	1.0	5.0	105	1 m N of 7
7	0.7	4.0	105	57 m NW of 8
8	1.0	4.0	100	24 m NW of 9
9	0.6	3.8	100	24 m SE of 8
10	1.8	20.0	160	Edge of flat summit area of Aylesbeare Common. Surrounded by ditch. Land drops to south from which cairn skylined

(Continued)

Table 1.1 (*Cont.*)

No.	*Height*	*Diameter*	*HASL*	*Location and other notes*
11	1.5	25.0	160	Centre of Aylesbeare Common hill summit. Surrounding ditch map be a landscaping addition. Formerly planted with Scots pines. One dead trunk known as the Lone Pine, a local landmark, stood until 2009, when it fell in a storm
12	0.8	3.5	110	Twin Cairn A. Near top of gentle NW–SE spur with valleys to E and W. Excavated cairn (2011 Pebblebeds project)
13	1.0	4.8	110	Twin Cairn B. 7 m below Twin Cairn A
14	1.5	12.0	95	Great Tor Cairn. On top and in centre of spur with valleys to E and W. Overlooks enclosure (cropmark) site to SW. Excavated by Pebblebeds project in 2011
15	0.6	6.0	90	Tor Cairn. On western side of NW–SE sloping spur with valleys to E and W. Overlooks excavated enclosure (cropmark site) to SW. Excavated cairn (2008–9 Pebblebeds project)
16	0.4	2.6	90	Little Tor Cairn. 4.6 m south of 15. Excavated cairn (2009–10 Pebblebeds project)
17	0.5	7.0	120	Carter's Woodbury ε. Centre of spur on SE-facing slope, valleys to E and W. Cairn excavated by Carter in 1930 and 1937–8
18	2.3	20.0	175	On high point on western edge of Pebblebed escarpment. Has added eighteenth-century landscaping ditch and planted with Scots pines
19	3.7	32.0	175	The Beacon. Situated on high point on western edge of Pebblebed escarpment. Modified as a fire beacon and has surrounding landscaping ditch. Planted with Scots pines
20	1.0	2.8	95	Carter's 'holy mound'. Approx. 20 m south of bog and stream source. Land dips to E and rises to W. On edge of Pebblebed heath beside arable fields. Excavated by Carter. Trench still visible in centre of cairn

No.	Height	Diameter	HASL	Location and other notes
21	3.0	16.0	110	On flat area with steep valley and stream to south. Cut on N side by Woodbury to Yettington road, near to a milestone on road edge. Excavated by Carter in 1960. Trench still visible
22	1.5	5.0	90	In valley bottom in boggy ground
23	1.5	5.0	90	In valley bottom in boggy ground. About 50 m to E of 22
24	1.8	23.0	140	Jacob's Well. Burnt mound. Oval-shaped over spring at foot of western edge of Pebblebed escarpment in bog. Land rises steeply to E. Excavated by Carter in 1938, whose central trench survives, and in 2010 by Pebblebeds project
25	1.3	8.0	150	Western end of a row of three adjacent cairns. Near end and in centre of gently sloping W–E ridge. Surrounding ditch
26	1.7	8.0	150	In middle of row. Surrounding ditch
27	2.0	8.0	150	At E end of row. Surrounding ditch
28	0.4	5.0	110	On flat low area with stream in valley to north
29	0.4	5.0	110	As 28
30	1.5	9.0	120	In centre of sloping spur above Bystock stream which runs in deep valley to N. Dry valley to W. Rise to S. Drop to E. Dip to N and W. This is at N end of a row of three cairns that align NE–SW
31	0.8	2.0	120	As above
32	0.8	5.8	120	S end of row

Note: Cairn numbers refer to Figure 1.10.

The small cairns occur in the middle of low sloping spurs bounded by valleys. They typically occur on sloping ground and do not command panoramic views. The larger ones were clearly intended as monumental constructions punctuating and marking the landscape and visible for long distances. They occur on ridge tops and localized high points, so there is an important association between cairn size and height. The small cairns

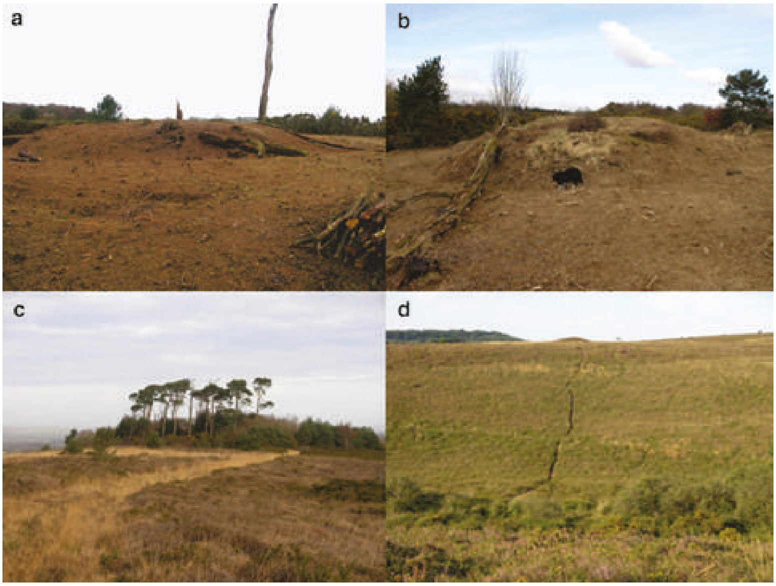

Figure 1.11 Examples of large heathland cairns: (a): the summit cairn on Aylesbeare Common with the lone pine (now fallen) (Fig 1.10: 11); (b): large cairn to the west of the Aylesbeare summit cairn (Fig 1.10: 10); (c): the Beacon on the western scarp edge of the heathlands (Fig 1.10: 19); (d): Great Tor Cairn, Colaton Raleigh Common seen from the east (Fig. 1.10: 14). The small track leading up to it has been created by the Royal Marines (Source: author)

(see Chapter 3) are of later Beaker/earlier Bronze Age date *c.* 2000–1700 BC). In terms of Needham's (1996) revision of British Chalcolithic and Bronze Age chronology used as a general chronological framework in this book, they all fall into the early part of his period 3. The very largest cairns are in all probability (none have been excavated) of Early Bronze Age date, period 4 according to Needham's scheme (*c.* 1700–1500 BC) (see Chapters 3 and 8). Thus through time the cairns move up in the landscape and assume a monumental form.

The large ridge-top cairns all occur in the western and northern areas of the overall distribution. Cairns 18 and 19 (Figures 1.10 and 1.11; 1.12) are both situated on the edge of the steep western scarp slope, are unusual in that they can be seen skylined on the horizon far away to the west, from both the Exe valley and from the top of the Haldon and Raddon Hills. They punctuate the skyline and must have been located so as to be highly visible landmarks when seen from the west or the northwest.

Figure 1.12 The western scarp of the heathlands looking northeast. The Beacon (cairn 19) can be seen among the trees in the middle of the photo. The clump of trees beyond mark the position of cairn 18 on the scarp edge (Source: author)

These cairns are also visible from long distances away to the east and can be seen from the East Hill and Peak Hill ridges. They also have the highest degree of intervisibility with others on the Pebblebed heathlands (Figure 1.13). Other large cairns are sited in the landscape so as to be most visually impressive when seen from long distances away only from the east. Few can be seen from more than a short distance away to either the north or south. Some groups consisting entirely of small cairns such as those on the slopes of Venn Ottery Hill and others on Bicton Common and Withycombe Raleigh Common are not intervisible with any others, whereas those in the southeast in Colaton Raleigh Common are only locally intervisible.

Six of the cairns occur singly (Figure 1.10: 14, 17, 18, 19, 20, 21). There are five pairs and three groups of three or more cairns. As a whole these cairns occupy every major topographic situation in the landscape:

1. highest points on the western escarpment (18, 19);
2. flat ridge summits (1, 2, 10, 11);
3. in the middle of and towards ends of sloping ridge tops (25–7);

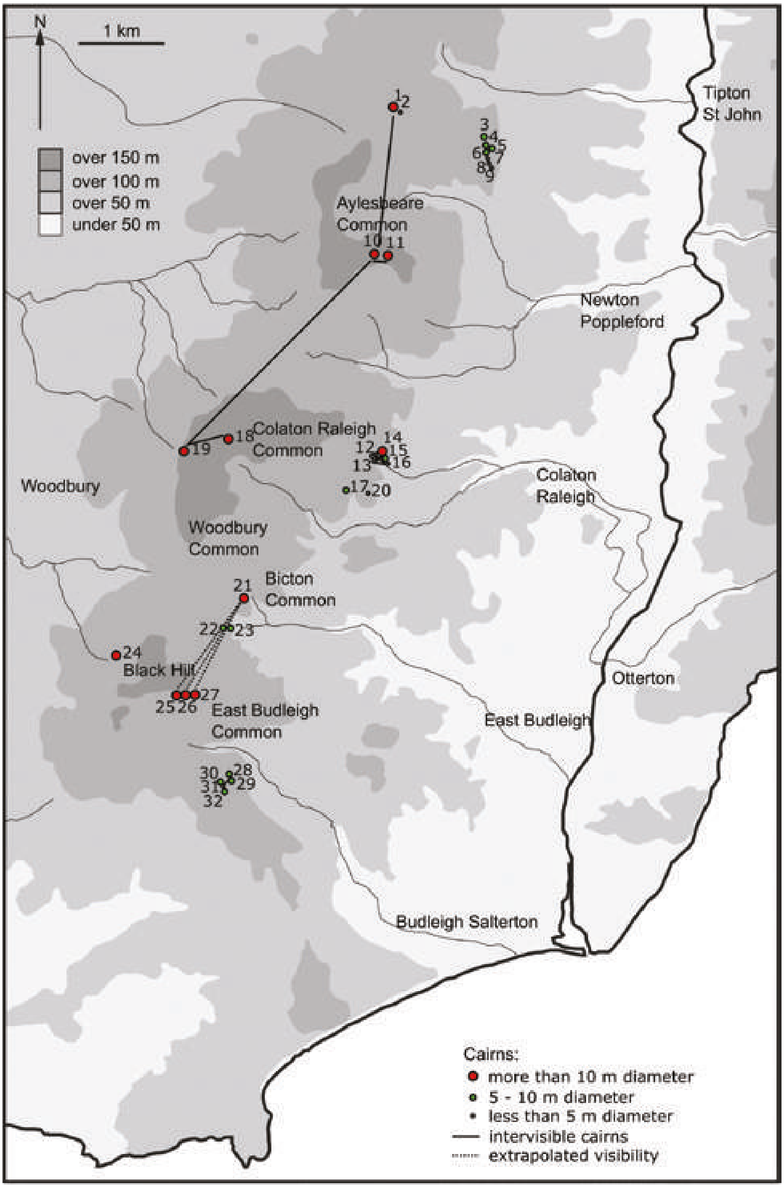

Figure 1.13 Cairn intervisibility across the heathlands (Source: author)

4. upper sloping sides of ridges (28–9; 30–2);
5. on low sloping spurs between valleys (12–17);
6. on upper slopes of valley sides (3–9);
7. in valley bottoms and bogs (22–4).

The earliest and small dated cairns are all found on spurs (location 5 above). The very largest and presumed later cairns are on the highest points of the scarp edge and hill summits. Small cairns are located on sides of ridges, upper slopes of valley sides and valley bottoms. The close associations of these cairns with valleys and/or water sources is strong. Cairn 18, although situated on the western escarpment edge, is also set just to the north of a shallow valley that gives birth to a stream. Cairns 22–3 are set almost at the bottom of the head of another stream valley above a substantial boggy area. Cairns 12–17 are all on southeast sloping spurs between valleys and near to the source of streams. The cairns, as a whole, then, occupy both high and 'dry' locations in the landscape and are associated with water and valleys that give birth to streams running in beds of pebbles. The cairns are all associated with streams draining the Pebblebed heathlands that flow east or southeast to join the river Otter in its passage to the sea. There are only a few barrows/ring ditches known from the marls due west of the heathlands between them and the river Exe. Others cluster in the vicinity of Exeter along the Exe valley itself to the northwest (Griffith and Quinnell 1999c: map 6.5). The cairns on the Pebblebed heathlands are linked with each other and the Otter by valleys and streams that have their sources near to or beside them.

The Exe estuary to the west of the Pebblebed ridge is a wide and shallow valley of muds and shifting sands (Figure 1.14). The Otter valley, by contrast, is a valley of pebbles and gravels. Along its course it mixes and combines pebble material washed down from the heathlands and more jagged flints and cherts from the East Hill and Peak Hill ridges. It flows beneath Dumpdon Hill, and its northern tributary, the Tale, is born, or has its source, on the eastern side of the spur occupied by the Early Neolithic Hembury causewayed enclosure. The Otter flows to the east of High Peak with another Neolithic enclosure, before entering the sea near to the east of the cliffs at Budleigh Salterton, where the Pebblebeds are most dramatically exposed.

The sea, to the south, is visible from most of the cairn locations. The Peak Hill and East Hill ridges flanking the Otter valley to the east are visible from all but a few (Table 1.2). A series of larger and smaller flint cairns once crowned the tops of these ridges, but because of afforestation only a couple now survive on East Hill (see Chapter 3). Grinsell (1983)

Figure 1.14 Low tide in the Exe estuary exposing the shifting sandbanks and mud: looking across the Exe estuary towards the west and the line of the Haldon Hills with Dartmoor beyond (Source: author)

records the former presence of at least 6 from the Peak Hill ridge and 14 running along the spine of East Hill. There are extensive views from these ridge tops across the Otter valley. Some of these cairns on these ridge spines would certainly have been visible from almost all the pebble cairns on the heathlands below them. By contrast the Haldon Hills and Hembury are visible from only those cairns situated on ridgetop locations or along the western scarp of the heathlands. None occur on the Hembury spur. On the Haldon Hills there are at least twenty-six small cairns (Grinsell 1983: 13; Finneran and Turner 2003: 242–3). Because of their small size, distance and their specific locations (mostly on the upper and western slopes of Little and Great Haldon), none of these are visible from the cairns on the Pebblebed heathlands. All these cairns running along the East Hill, Peak Hill and Haldon ridges, constructed of angular and dull materials, would have made a striking visual and tactile contrast with the brightly coloured Pebblebed cairns, perhaps objectifying in their material form different social identities and relationships to the east of the Otter and to the west of the Exe: differing landscapes and social worlds (see Chapters 3 and 8).

Table 1.2 The visibility of principal hills and ridges from the Pebblebed cairns.

No.	*High Peak*	*Peak Hill Ridge*	*East Hill Ridge*	*Dumpdon Hill*	*Hembury*	*Haldon Hills*	*Raddon Hills*	*Sea*
1–2	+	+	+	+	+	+	+	+
3–9	+	+	+	+	+			+
10–11	+	+	+	+	+	+	+	+
12–13	+	+	+	+				+
14–16	+	+	+	+				+
17	+	+	+			+		+
18	+	+	+			+	+	+
19	+	+	+	+	+	+	+	+
20	+	+						
21	?	+						
22–3	+							
24						+	+	
25–7	+	+	+					+
29–32	?	+						

Notes: Cairn numbers refer to Figure 1.10.
? = Probable but trees now block view.

Ancestral hills and the birth and death of the sun

It is striking that High Peak is visible from almost all the pebble cairns on the heathlands, whatever their position in the landscape. Given the presence of the Neolithic occupation and probable causewayed enclosure on its summit, this peak was likely a hill of paramount significance to the Bronze Age populations living in the vicinity of the Pebblebeds. It is situated to the east, southeast or east-southeast of all the cairns and may be suggested to have been associated with the rising sun.

Celestial events and in particular the birth or rising of the sun in the east and its setting or death in the west were, and still, are, an important part of the experience of the Pebblebed heathlands. The sun at the midsummer solstice rises to the northeast towards the northern end of the East Hill ridge. It then slowly slips to the south along the ridge. Sunrise at the spring and autumn equinoxes would first be visible through the

Table 1.3 The visibility of the ridge and hill gaps from the cairns and the main directions from which they look most impressive.

No.	*Sidmouth Gap*	*Peak Hill Gap*	*Honiton Gap*	*Most impressive from*
1–2	+	+	+	n/a; destroyed
3–9	+	+	+	East but small
10–11	+	+	+	East and 10 to south
12–13	+	+	+	East but small
14–16	+	+	+	14: east or west; 15–16 very small
17	+	+	+	East or west, but small
18	+	+	+	East or west
19	+	+	+	East or west
20		+		Very small
21		+*		South
22–3		+		n/a; in valley bottom
24				n/a; in bog at base of scarp
25–7	+*	+*	+*	South or north*
29–32		+*		West but small

Notes: Cairn numbers refer to Figure 1.10.
* = extrapolated because of presence of modern plantations.

Sidmouth gap between the Peak Hill and East Hill ridges and visible from some of the cairns (Table 1.3). The ridges on either side frame and intensify the effect. The sunrise can be seen most dramatically at this time of year from the large summit cairns on Aylesbeare Common (Figure 1.15; Figure 1.10: 10–11). Thereafter the sun slips down the Peak Hill ridge and shines through the gap between the Peak Hill and High Peak in the late spring and autumn. By midwinter it rises to the southeast out of the sea just to the west of High Peak.

At the midwinter solstice the sun sets in the southwest behind the Haldon Hills in the dip between Great Haldon to the north and Little Haldon to the south. At the spring and autumn equinoxes it sets due west and can be seen dipping down behind Great Haldon and the high peaks of Dartmoor beyond, an event visible from the large pebble cairns situated on the western scarp edge. At midsummer the sun, having passed along

Figure 1.15 Sunrise and sunset seen from the heathlands: (a): midsummer solstice sunrise over the northern end of the East Hill ridge seen from Aylesbeare Common summit cairns (Fig. 1.10: 11; Fig. 1.12a); (b): the sunrise at the spring equinox through the Sidmouth gap seen from the Aylesbeare Common summit cairn (Fig. 1.10: 11; Fig. 1.12a); (c): midwinter solstice sunrise over Tor Cairn (foreground) and Little Tor Cairn (background); (d): midwinter solstice sunset between Little Haldon (left) and Great Haldon (right) (Source: author)

the line of the Haldon Hills, sets to the northwest in the gap between the Raddon and Blackdown Hills (Figure 1.15).

The only prehistoric cairns from which all these celestial events could be seen are the two summit cairns on Aylesbeare Common (the view is now blocked in some directions by pine plantations) and the largest cairn on the heathlands known as the Beacon (Figure 1.10: 19). From other cairns such as Tor Cairn and Little Tor Cairn in the southeast of the heathlands or those on the side of Venn Ottery Hill, while the rising of the sun over the hills surrounding the heathlands is visible, its setting is not because of the manner in which the heathlands rise to the north and the west. The fact that the rising of the sun is the most dramatic event in relation to the surrounding landscape and that this can be seen from all the cairns, whereas the setting of the sun can be seen only from a few suggests that a view of the *rising* sun was of particular importance in relation to the locations of cairns in the landscape.

During the course of the year the sun effectively moves back and forth (north and south), rising over the East Hill and Peak Hill ridges and between them at the equinox. It moves back and forth (north and south) along the line of the Haldon Hills to the west, setting over them at different points during the course of the year. The only time when it is seen to be born from the sea to the south is at midwinter sunrise. At this time of the year it has a 'wet' birth. Seen from the visual perspective of the heathlands it always has a 'dry' death. This may be of great significance in relation to fire rituals taking place at the prehistoric cairns (see Chapter 3).

The presence of these three gaps to the east of the barrow distribution thus points to the significance of the rising sun as seen from the cairns at significant points during the year. The gaps through the hills effectively served to frame and thus dramatize and animate these important celestial events and the brilliant changes in the colour of the sky from red to yellow. By contrast, the setting sun in the west over the Haldon Hills, visible from relatively few of the barrows, is not framed by any dramatic gaps. The Raddon Hills, with their Neolithic causewayed enclosure, may have represented another, more distant place of ancestral significance. Situated to the northwest of the barrows they might have been associated with the setting of the sun on the summer solstice. However, the effect would not have been dramatic and was visible only from a few of the barrows (Table 1.2).

Dumpdon Hill, despite its quite considerable distance from the cairns, about 20 km away, is visible from a surprising number of them (Table 1.2). This, like High Peak, is a hill island situated in the middle of the Honiton Gap. As is the case with High Peak, the river Otter runs beneath it, but to the west rather than the east. Dumpdon Hill is, like Hembury and High Peak, crowned by a hillfort. This is a very likely location for another Neolithic hilltop enclosure. Like High Peak, this hill may have had an especial ancestral significance for the Bronze Age pebble cairn builders.

2
George Carter and the archaeology of East Devon

George Carter is the pioneer and founding figure in the archaeology of the East Devon Pebblebeds, carrying out extensive research in the area from the early 1920s into the late 1960s. He was most active during the twenties and thirties, before the outbreak of the Second World War, carrying out many excavations of pebbled mounds on Woodbury and Aylesbeare Commons and elsewhere. He did not have much time or patience for establishment archaeological ideas and positions and fell out with some of the leading archaeologists of his day who did not appreciate the value of his work. Sadly, he is now a forgotten figure in British archaeology. He was a man with ideas and interpretative approaches that in many respects were well ahead of their time. His work is central to the Pebblebeds project because nobody else had ever excavated a pebble cairn before, or since, or tried to interpret their meaning and significance. Spurned by the archaeological establishment, Carter may well have the last laugh from his grave! Eighty years later, much of what we know about the prehistory of the Pebblebed heathlands is due solely to his efforts. This chapter presents a brief review of Carter's work and his interpretations of the material that he found as a background to the rest of the book.

Biography

George Carter (1886–1974) was born in Exmouth, East Devon, the son of John Carter, a house builder who built a large estate of back-to-back houses for working-class people on reclaimed land beside the Exe estuary during the period 1896–1934, an area known today as the 'colony'. John

Carter worked by building a house and then mortgaging it, using the money to build the next. The houses were then rented out. At the time of his death John Carter owned some 550 properties, most of them in the colony, but also some of a similar type in Budleigh Salterton. John Carter was a prominent local figure, a councillor and chairman of the former Exmouth Urban District Council for a number of years. John's brother Harry ran a steamship company that imported coal into Exmouth and the Carter family owned various brickworks in the town.

George Carter was educated at West Buckland boarding school, 10 miles to the east of Barnstaple in north Devon, on the southwest fringes of Exmoor. Throughout his childhood, during the school holidays he developed an intimate knowledge of the East Devon Pebblebeds, which were within easy walking distance of his home. In 1904 he went to Oxford for three years and took a degree in modern constitutional history. Subsequently he spent a year at Oxford studying geography before applying to the Indian civil service (Figure 2.1). In 1909 he went to India and was posted to Bombay and spent two and a half years in the Ahmadnagar district near Poona. There he met his wife, Ivy Octavia Wakefield, daughter of a third-generation family of Anglo-Indian colonial administrators. From there he was transferred to the province of Hyderabad Sind (in present-day Pakistan), being appointed as Municipal Commissioner (Figure 2.2). He had an extraordinarily wide range of interests but was particularly interested in the archaeology, anthropology, history and folklore of Sind province. He carried out archaeological excavations, documented houses and other material forms, customary practices and cosmological beliefs, collected, recorded, interpreted and translated myths and stories, writing a string of published papers on these subjects (e.g. Carter 1916, 1919a, 1919b, 1922, 1923, 1924a, 1924b). He also left behind much unpublished material in the form of manuscripts, notes, photographs, sketch maps and diagrams.

Carter was eventually transferred back from Hyderabad to Bombay, where his second daughter, Priscilla, was born in 1920. He did not enjoy this new posting and took early retirement in 1926, returning to England to live in Budleigh Salterton, East Devon. He studied to be a barrister at Gray's Inn in London and passed the examinations but never practised. Instead his day job became running the family letting company in Exmouth and gradually winding up the estate, which had incurred large debts, but his passion was investigating the prehistory and geology of the East Devon Pebblebed heathlands.

Carter's extensive knowledge of the anthropology, folklore and customs of Sind province was to have a lasting influence throughout his life

Figure 2.1 Carter as a young man (Source: Carter archive)

and was fundamental to all his subsequent archaeological research on the East Devon Pebblebeds. For example, in an article entitled 'Pebbled Mounds' published in the *Journal of the Anthropological Society of Bombay* (1934b) he discusses the elaborate instructions contained in the *Satapatha Brahmana*, one of the sacred Hindu texts, for the method of building a burial mound. He introduces this article with the following comment: 'Increasingly efforts are being made to elucidate pre-history, but attention is often paid rather to the recovery of material objects which

Figure 2.2 Carter in India in his role as Municipal Commissioner (Source: Carter archive)

can be studied at leisure (often as works of art), than to the more laborious unravelling of contemporary ritual' (Carter 1934b: 1). Elsewhere he writes 'the advance in the technique of fieldwork has outstripped the interpretation of evidence brought to light' (Carter 1942: 2). These are veiled and not so veiled criticisms of the kind of archaeology prevalent in the 1930s, and since, in which the discipline becomes little more than a technical practice for recovering material remains from the earth rather than a field of study in which one attempts to understand and imaginatively interpret that material from a social perspective. Carter clearly had a keen interest in excavating the past and recovering things, but he was equally passionate about the necessity for providing an interpretative understanding of what he had found. He used direct ethnographic analogies, drawn from his experiences and research in India, combined with a deep knowledge of Greek and Roman Classical sources, in order to understand the material he was recovering from the Pebblebed heathlands in an innovative manner.

Carter's archaeological work in East Devon

Carter published only some of his excavation reports but much information survives in the form of unpublished manuscripts, notes, photographs, sketches and plans, and part of the purpose of this section is to document and make publicly accessible some of this work. He left behind four unfinished book manuscripts: (i) *ISCA: Notes on an Original Preliminary Interpretation of the History of Devon in the Late Bronze Age* (written about 1934). There are two typewritten versions of the same manuscript with summaries of some of his excavations in East Devon from the 1930s. Some of this material is published in Carter (1936). Parts are typed, while other parts consist of handwritten notes. There is also a handwritten MS of the same text with additional illustrations; (ii) *On the Track of Pythagoras: A Study of Certain Antiquities of the Bronze Age* (about 1936); (iii) *The Flank of Archaeology* (about 1939/40) and *On the Impossibility of Accepted Bronze Age Chronology* (about 1941). The texts lack consecutive page numbering except in individual chapters/sections of some of them. These were essentially reworkings, with additions, of the same material derived from his East Devon fieldwork, plus observations made on prehistoric monuments elsewhere in Britain but mainly in southwest and central southern England. Essentially Carter was writing the same book over and over again with different emphases and arguments, with the substantive core of evidence remaining his archaeological fieldwork in East Devon. All these manuscripts gathered dust but Carter did not give up entirely. As late as 1972, only two years before his death at the age of 88 he was rewriting notes on his excavations of the Woodbury ε pebble cairn for Leslie Grinsell, who was compiling a catalogue of Bronze Age barrows in the area (Grinsell 1983). None of the manuscripts is completely finished and all contain numerous asides, handwritten notes and appendices. Photographs and illustrations are often removed, as they must have been taken out of one manuscript ready to go into the next. *ISCA* contains some of the material published by Carter about pebble cairns in the *Proceedings of the Devon Archaeological Exploration Society* (Carter 1936) (see Chapters 3–7). *The Flank of Archaeology* contains details of his excavations of the pebble platforms on Aylesbeare Common published in the *Devon Proceedings* of 1938 (see Chapters 6 and 11). His important excavations at the burnt mound of Jacob's Well (see Chapter 6) survive as a series of loose notes and photographs and were never published.

In *ISCA* Carter presents a list of mounds and other 'objects of interest' on Woodbury Common. The list comprises 56 places with one or more sites, mainly small pebble cairns/mounds, but also the Iron Age hillfort of Woodbury Castle and its cross dyke (see Chapter 9), prominent cairns such as the Beacon (Figure 1.10: 19), springs, landscaping mounds at Four Firs (see Chapter 11), pits and two large chert stones

Figure 2.3a One of the large chert stones from the east of the river Otter that Carter found and excavated at Wheathill Plantation to the west of Hayes Wood on the Pebblebed heathlands (Source: Carter archive)

alien to the area, east of Hayes Wood, that he has recorded (Figure 2.3). Some are numbered, others are given letters, others multiple letters (QL, QN) and some letters and numbers (AA1, AA8). Unfortunately, there is no map and locations are vague, for example 'two mounds east of Four Firs', 'three mounds, not on one line, north of the Exmouth Reservoir', 'a mound on Hayes wood' (Figure 2.4).

In this manuscript Carter gives a preliminary account of his excavations of the pebble mounds/cairns, some of which were later published in the *Devon Proceedings*. His excavation work in the book covers the period 1930–2. In 1930 he cut trenches across six pebble mounds between 10 September and 22 November. In most, except Woodbury ε where he recovered Beaker sherds and a tanged and barbed arrowhead (see Chapter 3), he found no artefacts. Between 1 January and 13 June 1931 he examined a further seven mounds and from April to May 1932 another five, a prodigious rate of work. In addition he excavated two flint cairns on the Haldon Hills to the east of the Exe during this period. The excavation teams consisted of Carter, sometimes assisted by his gardener, family members and interested friends (Fig. 2.3; Fig. 2.5; Fig. 2.6).

Figure 2.3b Lifting the stone (Source: Carter archive)

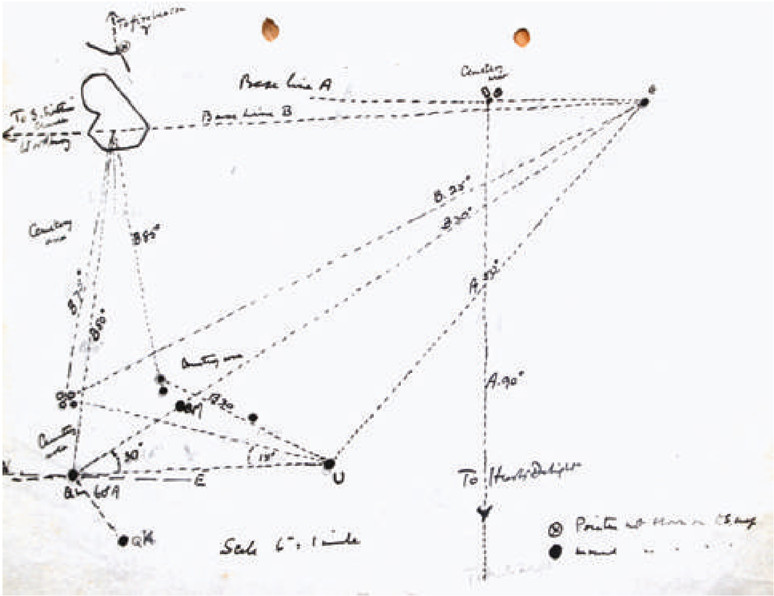

Figure 2.4 Carter's illustration from the manuscript of *On the Track of Pythagoras* of Woodbury Common. It is annotated as 'diagram illustrative of the position of mound Woodbury ε' (top right; this was the cairn that he excavated containing sherds of Beaker date). Note the geometrical lines between the marked pebble cairns. This is the only surviving map showing the relative positions of some of the sites that he excavated in this area of the Pebblebed heathlands in the early 1930s (Source: Carter archive)

Woodbury AA6 is recorded as being near the SE corner of a plantation about 274 m to the south of Four Firs. It was 'semi-lunate' in form, consisting of a shallow pit with a surrounding low bank 0.3 m high and with an overall diameter of 5 m. Partly within and outside this structure was an elongated N–S platform mainly composed of sand and paved with pebbles. A lump of manganese was found in a central pit (Carter 1936: 1–3). The pebble mound was erected over an area with multiple fires and pebble-filled pits. He observed geometric 'pebble patterns' at three levels in this structure and symbolic arrangements of blue stones (see below) (Figure 2.7).

In *On the Track of Pythagoras* he reports on other excavations. Woodbury P was just west of Hayes Wood, consisting of a mound covering a chamber cut into New Red Sandstone lined with pebbles in 'the

Figure 2.5 Carter's excavation team at work (early 1930s) (Source: Carter archive)

Figure 2.6 Carter's three daughters, left to right, Priscilla, Mary and Ruth, excavating on Aylesbeare Common in 1937 (Source: Carter archive)

form of a cup with a rim of chert' (Figure 2.8). The infill consisted of a lump of pyrolusite, a worked flint and a pellet of charcoal. Woodbury U on Dalditch common was a pebble mound with a bluestone. He states that it was dug into previously around 1900 by a Captain Ferrand, with finds consisting of a riveted dagger, a worked lump of chert, a perforated stone

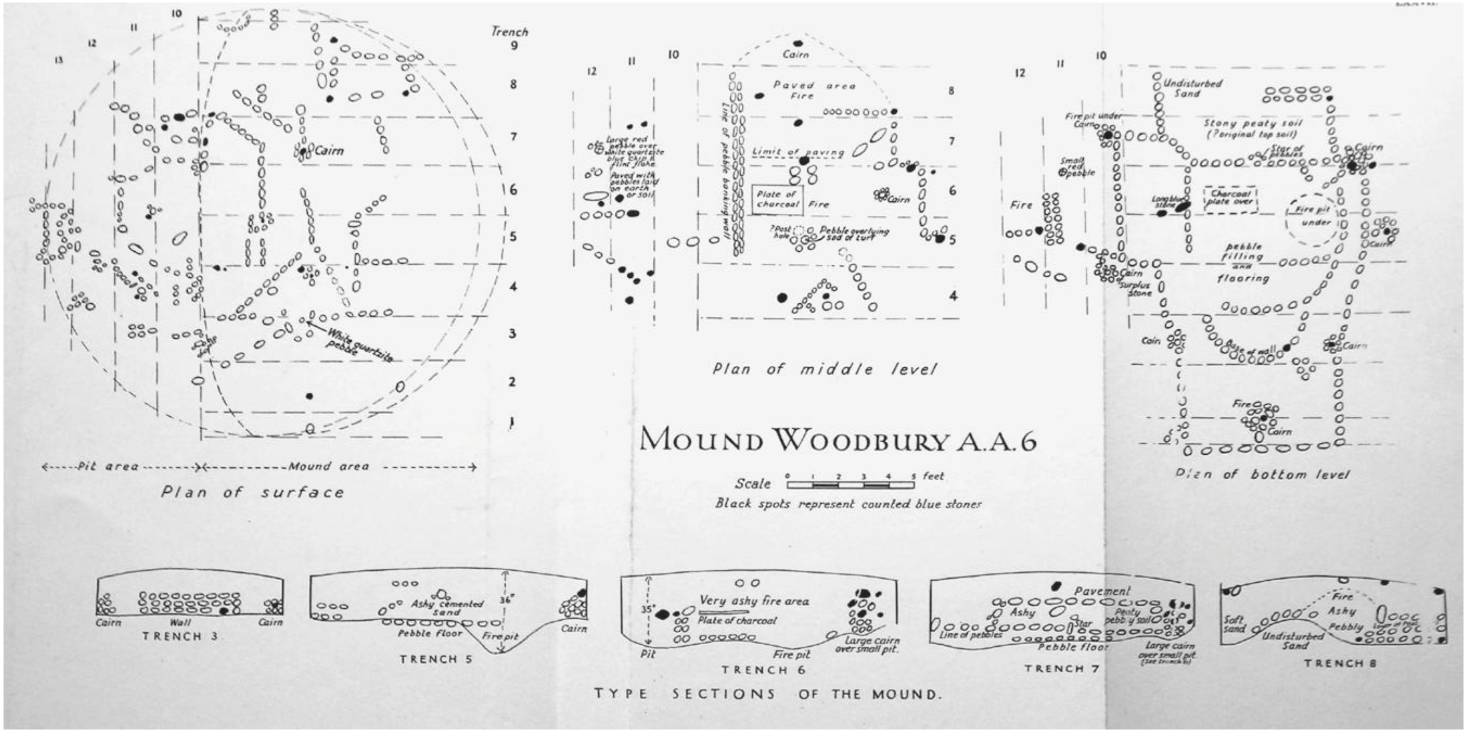

Figure 2.7 Carter's plan of cairn AA6 (Source: Carter archive)

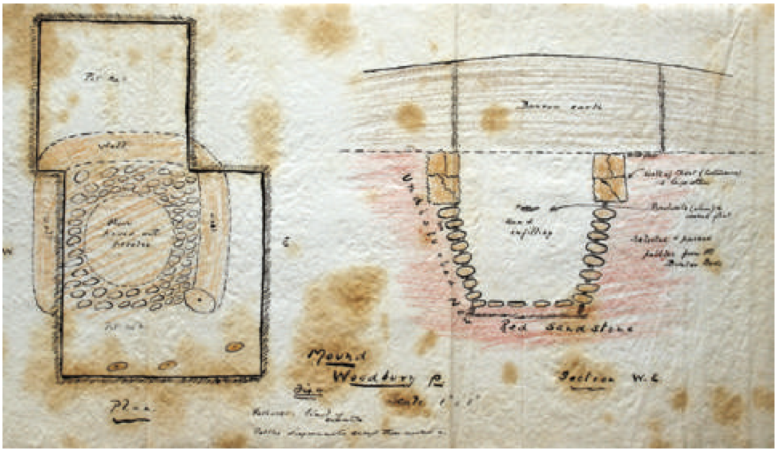

Figure 2.8 Carter's watercolour plan of Woodbury P from *On the Track of Pythagoras* (Source: Carter archive)

and some charcoal. This material is now in the Royal Albert Memorial Museum, Exeter (see Pearce 1983, vol. II: 576, plate 15: 123 and 584, plate 23: 186).

In *The Flank of Archaeology* Carter reports on additional excavations to the east of the Pebblebed heathlands. On Easter Monday 1938 he examined a destroyed cairn at Moorlands, Broad Down, discovering the remains of a fire strewn with worked flints where people 'for luck or some other religious purpose each cast on the mound a flint, the emblem of the spirit of fire, or the abode of fire'. At Otterton Brake he reports that he found 'at the highest point of wasteland overlooking the sea a diamond shaped mound a foot high and 26ft long and broad'. This was a chert cairn. Underneath it he found nine irregularly cracked quartzite pebbles brought from the Pebblebeds to the west of the Otter a few miles away. In a central pit there was a piece of puddingstone and eight flints. This alien puddingstone he suggests was brought from up to 200 miles away in Wiltshire for a magical purpose. The cairn in his view was not used for burial but was a focus of magical rites.

Elsewhere in a note on a site that he refers to as the Quartz Deck field, Jubilee Park, Budleigh Salterton, he reports finding a pebble pavement covering a pebble-filled pit and a fire pit (Figure 2.9). Another site that he wrote about was the Longo Lines (SY 049 871 centred). The manuscript was published in the local newspaper, the *Exmouth Journal* (10 June 1933). This name was given by Carter to a series of earthworks crossing an SE sloping spur of the Pebblebed heathlands surrounded by

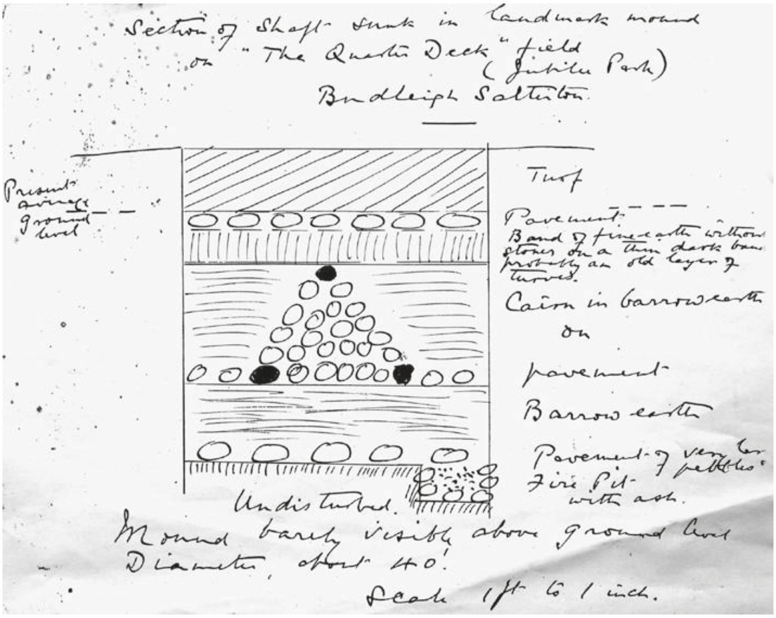

Figure 2.9 Carter's sketch of the cairn in Jubilee Park, Budleigh Salterton (Source: Carter archive)

boggy valleys to the west, east and south (due west of Kettle Plantation). The place name, like others such as Jacob's Well, does not appear on any map and its origin is obscure, but it does not appear to be one given to the place by Carter himself. He states that 'to those interested in place-names, I would mention that Longo Bottom, the lowlying bog, appears to preserve the Gaelic *lon*, a marsh or morass'. Carter planned these earthworks (Figure 2.10), suggesting they were of Neolithic date, a possible causewayed enclosure. He describes them as 'two shallow trenches stretching across a spur of hilly moorland projecting into Longo Bottom and two deep broad trenches, which run across the spur'. However, there were no banks associated with them and no definite causeways. Carter was writing just after a new class of Neolithic monument, causewayed enclosures, was recognized in the 1920s, hence his suggestion of a Neolithic date. He also records the presence of a number of small pebble cairns on the same spur. In 2010 a wildfire burnt off the heathland vegetation from the entire area and the lines as planned by Carter were clearly recognizable. They are probably multiple sunken trackways crossing the spur. They clearly pre-date modern military use of the area

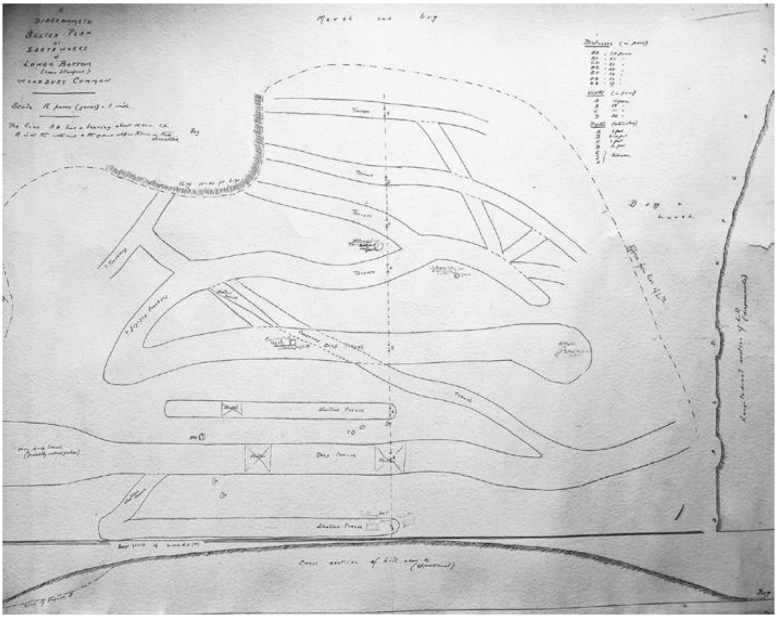

Figure 2.10 Carter's plan of the Longo Lines on Colaton Raleigh Common (Source: Carter archive)

after the Second World War and are most unusual, since multiple sunken ways do not occur anywhere else across the Pebblebed heathlands. Since Carter's day this entire area has been subject to military trench digging that has effectively destroyed any other evidence of prehistoric activity on this spur. To the south of Longo Bottom, a short distance to the west of Kettle Plantation, Carter recorded the presence of a mound in a bog and two further mounds on the same spur as the Woodbury ε cairn that he had excavated (Figure 2.11). It has not been possible to locate any of these sites today.

Between 1951 and 1953 Carter undertook excavations at Little Silver, Combe Raleigh parish, East Devon, a Romano-British site. Returning to investigate the East Devon Pebblebeds in 1956 he undertook a series of exploratory excavations at Squabmoor, writing up the findings in a sketch pad with photographs: 'A cemetery with classical affinities at Squabmoor' (1956). He published some of the results in the *Exmouth Journal* (20 October 1956). The sites were on the most westerly part of East Budleigh Common and discovered after swaling. He describes the area as being

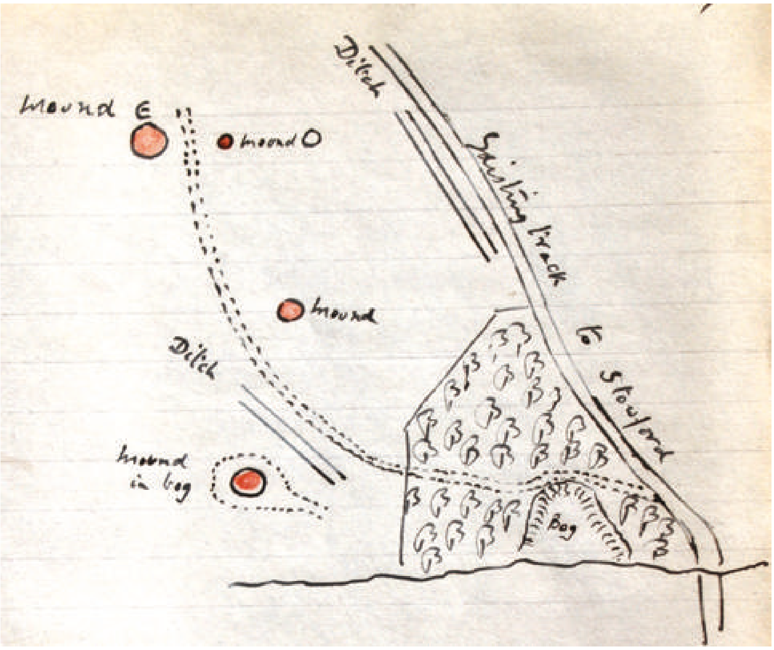

Figure 2.11 Carter's sketch of the position of mounds in the vicinity of the pebble cairn Woodbury ε from a handwritten version of *ISCA* (Source: Carter archive)

> 'a cemetery spreading over the southwestern slopes of a hill crossed by two deserted Neolithic trackways … pebble cairns stood at the apices of a triangle. At the NE apex there were Arae Geminae (the phrase used by Vergil to denote the altars where the cult of the dead was performed consisting of twin altars (cairns) for ancestor worship. At the south apex, Altaria, altar for the gods above (this word denotes the raised altar on which oblations were offered to the celestial gods) and at the west apex, Ara fossata: pit for the subterrene gods' (*Exmouth Journal*, 20 October 1956: 3).

He termed this area the 'Holy Triangle' (Figure 2.12).

The twin altars 'consisted of two closely packed adjacent pavements of stone at the exact ground level. They were aligned on a true east–west line. The western pavement was oval in form measuring 3ft 8in by 2 foot 10in. The eastern pavement was circular with a radius of 1ft 6in.' Carter found no artefacts but traces of fire and burning under what were obviously two small pebble cairns that he excavated (Figure 2.13). He also recorded the presence of other pebble cairns in this southeastern part of the Pebblebed heathlands (Figure 2.10).

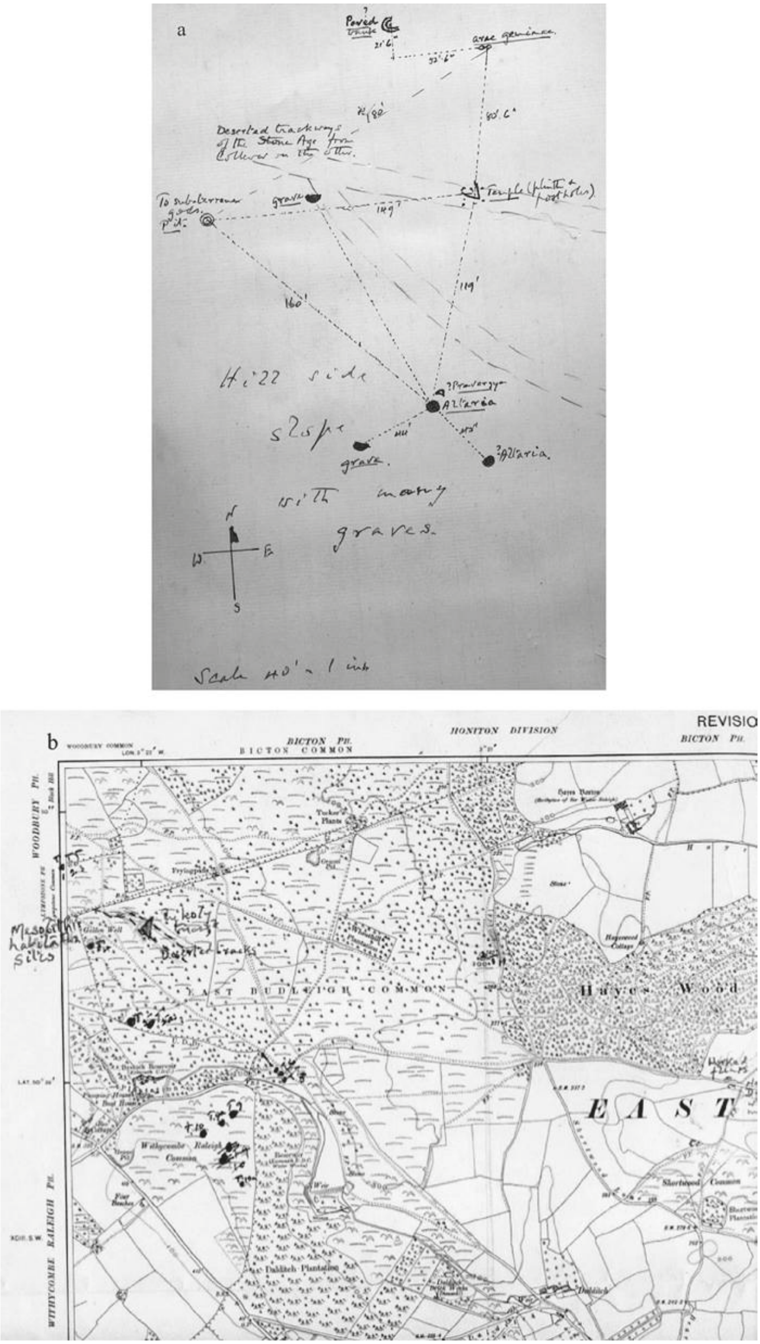

Figure 2.12 (a): Carter's sketch plan of his 'holy triangle' on East Budleigh Common from his Squabmoor excavation sketch pad; (b): part of Carter's annotated 6-inch 1925 Ordnance Survey map of East Budleigh and Withycombe Raleigh Common showing the location of the 'holy triangle' and sites he identified in the vicinity. Sites T1–3 and T9–10 are extant pebble cairns. The other sites cannot be located today (Source: Carter archive)

Figure 2.13 Carter's photograph of one of his 'twin altars' at Squabmoor, from his excavation sketch pad (Source: Carter archive)

Carter's last excavation took place in the summer of 1960. This was of the 'Milestone 9 Cairn, Woodbury Common'. Situated at SY 0390 8620, this cairn (Figure 1.10: 21) is 12 m in diameter and 2.1 m high with a rounded top. It is partly cut by the Woodbury to Yettington road to the north of it. In the side of the road beside the mound there is an eighteenth-century milestone erected by the Rolle family, who diverted the road from its previous position to the south of the cairn. Prior to Carter's work the cairn had already been dug into around 1870, when a N–S trench 1.5 m long was cut through its centre together with one of similar size W–E. Carter excavated a trench about 1.5 m square at the centre of the mound and discovered multiple pebble layers over a heavily burnt area resting on fine sand (Figure 2.14). He also reports finding a small 'cairn' in the base of the 1870 excavation trench, in all probability a pebble-filled pit. There were no finds and little charcoal. The structural sequence can be reinterpreted as follows: the cairn was built on a layer of inverted turfs. It covered a pebble-filled pit and a fire preceded the subsequent construction of the pebble layers.

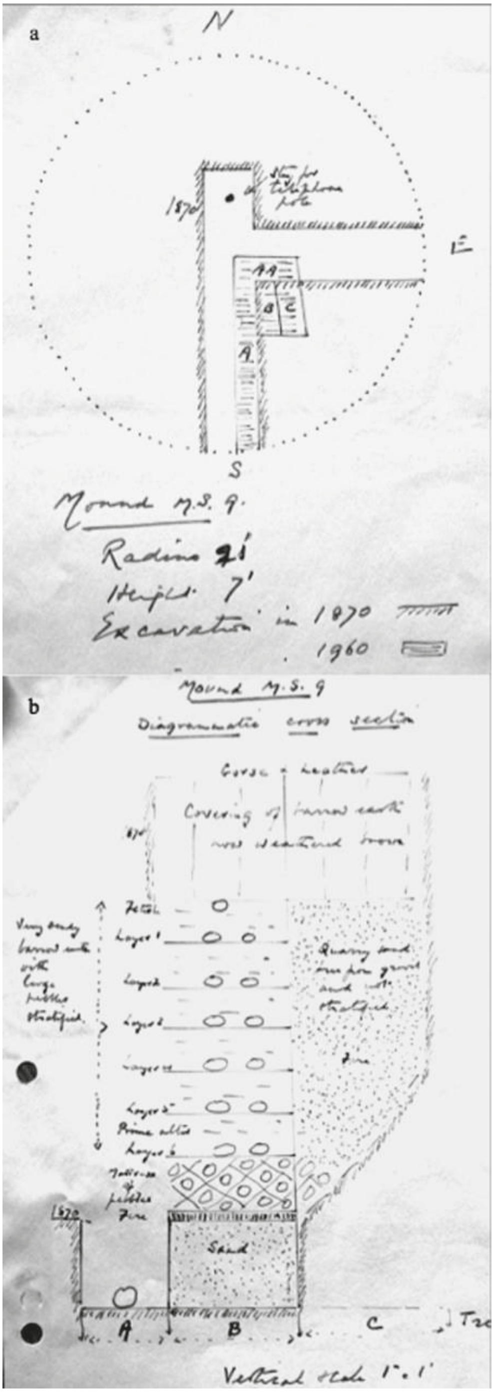

Figure 2.14 (a) Carter's plan of his Milestone 9 pebble cairn; (b): Carter's diagrammatic cross-section of Milestone 9. Both illustrations are loose drawings (Source: Carter archive)

Carter's interpretations

Carter linked a diffusion of Indo-European languages in Europe with the movement or diffusion of either peoples or customs across the continent, suggesting that the earliest Aryans in Britain were the Celts. Diffusionist models of social change and development dominated archaeological thought at this time, and in this respect Carter's ideas were not unusual; Stonehenge for example had long been thought to have been constructed as a result of Mycenaean influences. Carter interpreted the East Devon material in terms of Indo-Aryan burial rites described at length in the *Satapatha Brahmana* and elsewhere. The pebbled platforms he discovered on Aylesbeare Common with their double-headed axe shapes (see Chapter 6) were likened by him to the *vedi* or sacrificial mound of the Indo-Aryans. The *vedi* formed a material link between the worship of Agni as god and the performance of sacrifice as a holy rite. The prescribed rite was for ceremonies involving the use of fire as a purifying force, and Carter says that he found evidence of prolonged burning under many of the pebbled mounds and platforms he excavated. In Vedic rites the fire bird was sacred and Carter interpreted the patterning of pebbles under one mound he excavated on Woodbury Common QL (Figure 2.15; 2.21) as the partial representation of a bird. Vedic mounds were constructed in layers just like the pebble cairns and in both cases pebbles themselves were sacred materials. In Vedic rites pebbles were used in the construction of the sacrificial fire as symbolic pegs on the edge of the 'resting place of the fire to peg it down and keep it steady'. He maintained that the primary purpose of the pebbled mounds that he had investigated was not for burial but for the ceremonial worship of fire.

In *On the Flank of Archaeology* Carter writes as follows about the pebble pavements on Aylesbeare Common that he excavated:

> In form the pebbled pavement is analogous to the *vedi* or sacrificial mound of the Indo-Aryans, as described in the *Satapatha Brahmana*, the *vedi* was the link between the worship of Agni (Ignis) as God and the due performance of a sacrifice as a holy rite. A sacrifice was the symbolical presenting of oneself before God; not only must it be proper and complete, but it was spiritually capable of personification (Vishnu). Sacrifice was made for a purpose; it was work, both in performance and persuasiveness. Vishnu could be refractory and tired, elusive and therefore to be compelled. Compulsion was obtained in the prescribed form of the altar. He would hide himself in the roots of plants but at no great depth. Thus the altar site must

Figure 2.15 Carter's 1932 photograph of cairn QL taken in August, looking north to the Iron Age hillfort of Woodbury Castle covered in trees. Note the complete absence of heathland vegetation following swaling (Source: Carter archive)

be cleaned of living plants and the altar need be no more than three inches deep. Fire on one side and metrical chants on three would prevent the escape of Vishnu.

The altar should measure a fathom (*vyama*, a man's span) across on the west side, for that is the size of a man, and preferably but without fixed rule, three cubits in length. The two shoulders are carried along both sides of the fire. It should be broader on the west side, contracted in the middle and broad again on the east side. Thereby one makes it pleasing to the Gods. It should be sloping towards the east and also towards the north. The altar is then strewn with sacrificial grass and the ceremony proceeds.

In the Brahmana the prescribed rite was for a ceremony involving the use of fire. On these pebbled pavements there is no trace of a fire having been lit, nor of any fire strong enough to affect the pebbles of which it was made. On the other hand the whole site was dug to a depth of three feet and prolonged fires (of turf, with the barest traces of charcoal) had been burnt there.

The attributes of Agni show him to be at once the youngest and the progenitor of the Gods. He was their messenger and the

> best of the Gods. He was the lower half of sacrifice and Vishnu the upper half … He was the Giver, the Pathmaker, the Despoiler, the Bright One, Abiding in Water …
>
> The cult of Agni and the ritual of the *vedi* were practised in Vedic times and was a true Aryan cult … Writers of antiquity agree in regarding Mercury or Hermes as the great god of northern Europe, and that too with the very attributes of the Aryan Agni. As the great god of the Gauls, Caesar reported that there were many shrines to him, whom they consider as the inventor of all arts, the guide on roads and journeys, the patron of wealth and trade.

Later, after discussing much Classical literature (e.g. Tacitus, Herodotus) he concludes that ‘the common measure of all the pebbled mounds of Woodbury Common … and of Aylesbeare Common is an Indo-Aryan culture. In the one case we have countless burial mounds, and many landmarks, in the other a few mounds devoted to an Agni (fire-water) cult. The earliest Aryans of whom we have any knowledge in Britain were the Celts, but of their first coming there is no certainty.’ Much of this account is in a published version that appears in the *Proceedings of the Devon Archaeological Exploration Society* (Carter 1938: 95–6).

Carter not only pursued these direct Vedic ethnographic analogies to interpret the mounds and pavements that he had excavated, but he also made a strong claim that the builders of these mounds had a sophisticated knowledge of geometry which was used to lay out and site the positions of the mounds (i.e. pebble cairns) in relation to each other in the landscape: ‘I first observed the mathematical influence in archaeology in the field on the Ganeshkind hill-top just outside Poona in 1918’ (Carter 1942: 12) where he was surveying two stone circles.

In *The Flank of Archaeology* (written about 1939/40) he writes of ‘an accumulation of evidence which leads directly to a mental picture of the civilizing power of Greek thought among the northern and backward people of various races, though with a common stock of Indo-Aryan rites’. He describes his manuscript as being an ‘attempt to recover the natural religion of the Celts and to recognize the philosophy of the Druids’, and ‘to estimate the age of Stonehenge and of much which passes of the Early Bronze Age, as of the historic (and not prehistoric period)’. Thus Carter’s central claim was that the material remains that he had excavated were expressions of two intertwined syncretic cultural traditions, both of which had spread to Britain with the Celts: an Indo-Aryan culture, a matter of tribal and traditional religion, accompanied by the spread of the Celtic languages and fused with Greek/Phoenician influences bearing the teachings of Pythagoras. The pebble cairns that he excavated were understood as being 'landmark sites' and to Carter this indicated the interrelationship of mathematics and religion in a culture superimposed on an Aryanized people. Geometrical principles could explain both the distribution of sites across the landscape and their component parts. In the case of the East Devon material this found material expression in geometrical arrangements of pebbles and blue stones (see Figure 2.4; Figure 2.12; Figure 2.16). Carter accepted from

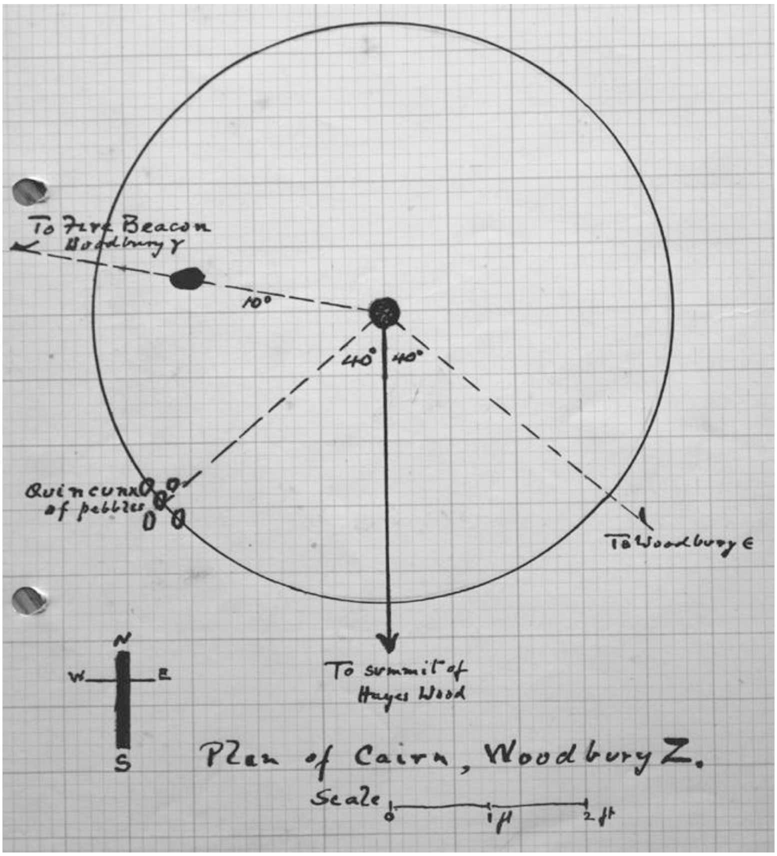

Figure 2.16 Carter's geometric plan of Woodbury Z on Woodbury Common showing blue stones, marked in black, a cluster of pebbles on the southwest perimeter and geometric bearings to other pebble cairns. One of these plans is in *ISCA*, the other, larger one, reproduced here, is from *The Flank of Archaeology* (Source: Carter archive)

the Classical sources that a Druid priesthood existed in Britain. For him they were philosophical educators within an ancient British Aryanized culture, bringing with them a primitive 'pidgin-Greek' knowledge whose primary expression was a form of primitive mathematical geometry.

Carter was convinced that everything that he had excavated should be dated to around 250 BC. For him the material evidence should not be regarded as prehistoric but rather the beginning of history that he associated with the Celts as described in Classical sources, of which he had considerable knowledge. However, this dating of the material conflicted directly with the chronology of 'establishment archaeology'. He had excavated a pebble cairn (Woodbury ε) that contained Beaker sherds conventionally dated by archaeologists in the 1930s to about 1750 BC (see Chapter 3).

For Carter such a date was unacceptably early. His privately published pamphlet *Bronze Age Chronology: A Criticism* (Carter 1942) is a brief summary of a few of the arguments put forward in his unpublished manuscript entitled *On the Impossibility of Bronze Age Chronology*. He personally sent the pamphlet to numerous public libraries and museums in an attempt to influence others. It is essentially a critical diatribe against establishment archaeology in general and Sir Cyril Fox in particular, directly criticizing some of his published excavations of Welsh barrows and the ascription of a conventional Bronze Age date to them.

In the introduction Carter points out that every example of a stone circle discussed by the Piggotts in relation to Dorset (Piggott and Piggott 1939) is in fact elliptical in form and that writing of 'horseshoe' arrangements of stones, as in discussions of the internal arrangements of the stones in Stonehenge by other archaeologists, is anachronistic since a true description of their form is in fact that of a truncated ellipse rather than a circle. In other words, the elliptical form of these stone monuments was an expression of Pythagorean geometrical principles.

He then goes on to conduct a detailed geometrical reanalysis of the site of Sheeplays 271 and other Welsh barrows published by Fox (Fox 1941), applying Pythagorean principles attempting to demonstrate that the positions of the interments, central pits and internal post circles were governed by them and conformed to other Indo-Aryan ritual practices such as the removal of turfs before constructing the mound, the orientation of the interments and the presence of a central ritual pit with no burial (Figure 2.17). His conclusions are that Fox had misdated his material on the basis of the pottery he had found by up to 1,000 years. Fox had also failed to understand the mathematical basis underlying the positions of the central pit, internal post hole palisade and interments in

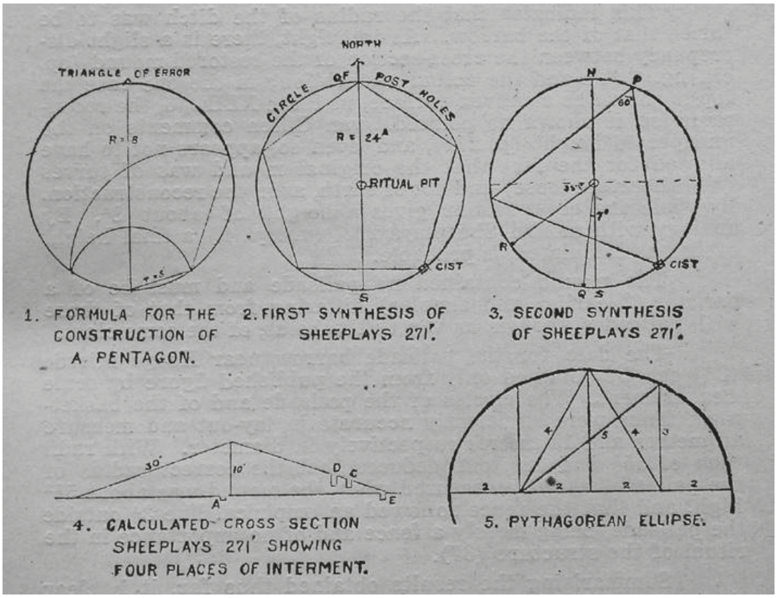

Figure 2.17 Carter's plan and geometric analysis of Sheeplays 271 excavated by Sir Cyril Fox. From the privately published pamphlet *Bronze Age Chronology: A Criticism* (Source: Carter archive)

the barrows that he had excavated. He ends by stating 'we should have the reconstructed records of our own people, our own ancestors, and not merely the eclectic reactions of connoisseurs of urns of hypothetical races [a thinly disguised reference to Fox] which are meaningless to others' (Carter 1942: 14). Furthermore, the real lack of scholarship manifested by Fox and his contemporaries was 'to attempt to interpret religious ideas absolutely, instead of first exhausting known and specific religious systems' (Carter 1942: 2). In other words, rather than attempting to understand their data in terms of direct analogies with known religions such as the Indo-Aryan beliefs documented in the *Satapatha Brahmana* or knowledge of Celtic religious beliefs documented in Classical Greek and Roman sources, conventional archaeologists considered ritual as essentially an abstract category denoting evidence they could not explain in any other way. They thus did not understand anything at all because such a category remained empty of content. Fox's work exemplifies 'an ability to date a ritual mound while admitting ignorance at the same time of any meaning in the ritual he had uncovered' (Carter 1942: 13).

In Carter's four unpublished manuscripts he successfully demonstrates that many stone circles are in fact ellipses rather than true circles. To Carter this was proof that their planning was inspired by Pythagorean principles. He writes in *On the Impossibility of Bronze Age Chronology* that 'The expressions of mathematic lore, and of the ellipse in particular, are all of one category, all in so far as they are formulary, refer to the equilateral triangle or to a technique derived from the groupings of units of length. The facts are essentially objective and typical of the early and elementary stages of Pythagoreanism.' Elsewhere he states that the 'whole system of Bronze Age chronology is in error since it is a millennium in advance of Greek thought. … There is in Britain, in common with the Mediterranean regions, a mathematical culture which was derived from Greek sources, wholly dateable after B.C. 600, and doubtless of several periods. Most of what passes as of the Bronze Age was of the Iron Age, and in general terms, is placed about one thousand years too early.' Although the Bronze Age occurs in the titles or subtitles of all his manuscripts, it remains a moot point as to whether for him such a period existed, for the period as he understood it would belong in conventional archaeological terms solely to the Iron Age. He had no solution to an apparently missing Bronze Age period and in this respect he was, of course, desperately wrong and peculiarly stubborn in denying all evidence to the contrary.

Going far beyond the East Devon material that he had excavated and studied, Carter generalized his position to suggest that there were two types of British burials: (a) extensive gravefields of small mounds such as those that he had excavated on the East Devon Pebblebeds exactly conformable with the details of Indo-Aryan religion that were not for burial and (b) great mounds for a princely class such as the huge barrows around Stonehenge. In both there was a scrupulous observance of Aryan customs: the removal of turfs in preparing the site, the digging of holes beneath ground level, the use of worked flints of various ages as fetish stones, manifestations symbolizing for him a cult of Agni. In Britain all the evidence suggested a fusion of Aryan ritual and a mathematical, Greek-inspired culture. The practice of mathematics employed was based on the numerical system of Pythagoras, not on the rational system of Euclid. The distinctive characteristics of this were knowledge of the quindecagon as the formula on which astronomy was based, and of the ellipse as the foundation plan of many holy places, both inventions of the Greeks.

There were clear indications in the Classical texts of an oceanic route to Britain bringing these Greek-inspired ideas. He discusses at length Classical writers – Homer, Herodotus, Ptolemy, Strabo, Pliny, Plutarch, Tacitus, Caesar and others – to demonstrate sea connections between the Mediterranean and Britain. He states in the conclusion to the manuscript of *On the Impossibility of Accepted Bronze Age Chronology* that 'within Britain a new order of priesthood grew up. The Druids were a professed brotherhood, but when we first meet them in history, they had become the priests of the tribes and the teachers of an advanced system of education.' Furthermore:

> To the Pythagoreans the circle was the perfect figure and therefore a fit emblem of supereminent deity. In so far as Demiourgas, the emanation of mind from Deity, giving form creatively to otherwise formless matter, reacts with matter, the figure of the circle becomes distorted by the nature of matter. Obviously, therefore, they argued, the universe as we perceive it must be teres, a form without corners, oval, or, when geometry became systematic, elliptical. … Thus the ellipse comes into being as a mathematical form … and as the ground plan of holy places.

The construction and arrangement of prehistoric monuments were built through the inspiration of a priestly class of Druids in Celtic society 'with the mathematical lore reported by Caesar as *Druidum disciplina*, the science of the Druids'.

In the manuscript of *On the Track of Pythagoras* these ideas are applied to discuss the distribution of the Broad Down barrows of East Devon (Figure 2.18), the stones of Lagavulin, Islay and other stone circles, the Bronze Age barrows of Buttermere, Wiltshire, barrows to the east and northwest of Stonehenge, the stones of Stonehenge itself in phases I and II (Figure 2.19) and two polygonal or so-called 'kite shaped enclosures'. These are the Druid's Head South Kite enclosure with its two internal barrows three miles SW of Stonehenge, Wiltshire and the Soldier's Ring, Blackheath Down, Cranborne Chase on the Dorset/Hampshire border (Figure 2.20). The latter two monuments must have particularly interested Carter because of their obvious angular geometrical shapes (today they are presumed to be of late Romano-British date). The text is interspersed with lengthy discussions of geometry: the nature of a triangle, that of a square, of an ellipse and a hexagon. These do not really illuminate anything.

Carter argues that there is an underlying geometrical relationship within and between both the distribution of the barrows and the stones that he analyses. The barrows are understood as being essentially landmarks and geometrical foci. An Aryanized prehistoric people used

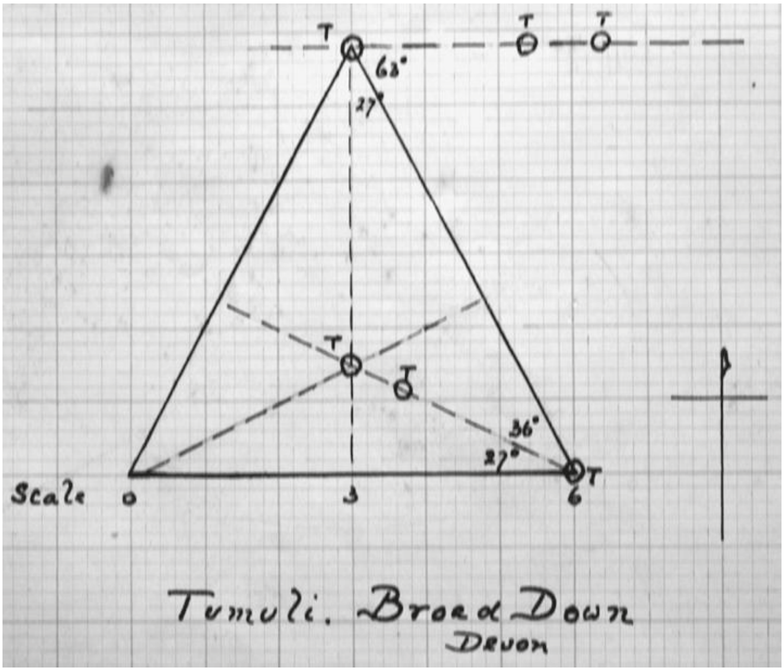

Figure 2.18 Carter's geometric analysis of the positions of a number of barrows in the Broad Down cemetery, East Devon from *On the Track of Pythagoras* (Source: Carter archive)

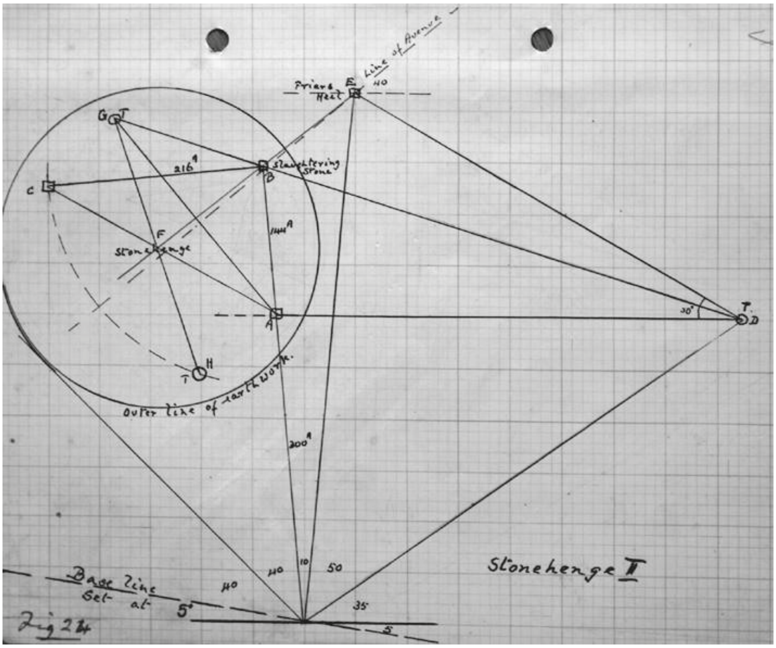

Figure 2.19 Carter's geometric analysis of Stonehenge I from *On the Track of Pythagoras* (Source: Carter archive)

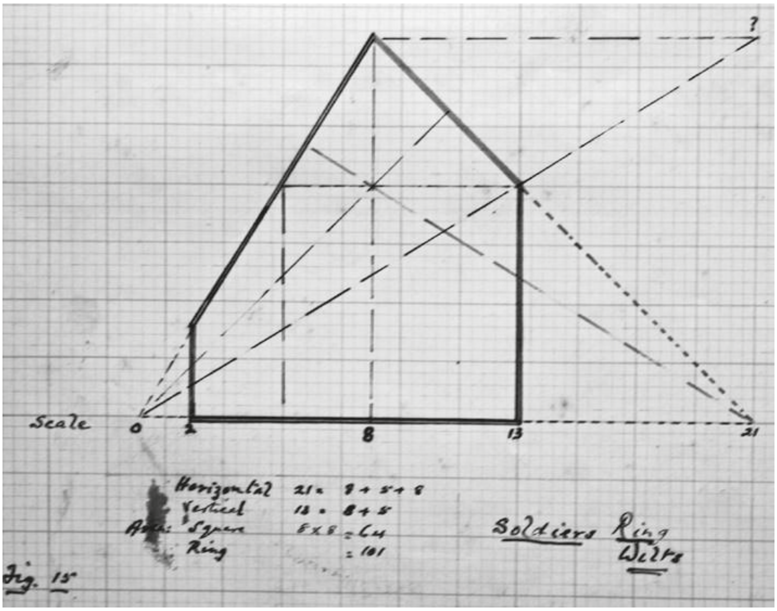

Figure 2.20 Carter's analysis of the Soldier's Ring, Wiltshire (Source: Carter archive)

previously constructed barrows or cairns as landmarks to establish the correct positions for new ones using a system of mathematical thought based on, or influenced by, Greek teaching. Underlying their locations were geometrical methods and mutual interrelationships. Many earthworks are 'set squares or bases for the study of geometrical problems'. As such, barrows should be understood primarily as being landmarks rather than burial mounds. Discussions in *The Flank of Archaeology* involve applying geometrical principles to a study of other sites such as Ogbury hillfort, Durrington Walls and Silbury Hill in Wiltshire. These Pythagorean studies are applied to the data, made to work in some way, but he could not demonstrate that they actually explained anything and we are ultimately left with a series of tautologies.

Blue stones

Carter not only researched the archaeology, local history and folklore of the Pebblebeds, and more widely, that of Devon, but he was also very knowledgeable about the local geology. He was the first to find rare radioactive nodules that occur in the red sandstones underlying the Budleigh

Salterton Pebblebeds, which he found on the beach as water-worn specimens (Carter 1931; Perutz 1939). During his archaeological excavations of pebble mounds or cairns, Carter recognized a particular type of stone that was different from all the others: he termed these blue stones. The use of this term by him is particularly interesting as only a few years prior to Carter starting his excavations the geologist Herbert Thomas had published his findings that the bluestones of Stonehenge were derived from the Preseli mountains of Pembrokeshire, south Wales (Thomas 1923). Carter, then, had his own blue stones but in comparison with those at Stonehenge they were tiny. Carter plotted the distribution of these blue stones in his excavations and claimed that their positioning in the cairns, like the positioning of the cairns themselves in the landscape, could be understood in terms of Pythagorean geometrical principles.

He writes in *ISCA*: 'In the blue stone we have the symbolic representation of the early religion of the Aryans, the mark of the great god of the heavens, father of all nature, of the gods, of the Aryans. By it the Druids linked their Pythagorean, their pidgin-Greek philosophy with the tribal religion of the people at large' and 'Blue was the colour associated with Indra from the earliest Vedic times and Indra was the great father god of the Aryans. In Indo-Aryan thought Agni, the fire god, was thought of as a bird.' Carter used these ideas to interpret the pebble cairn Mound QL that he excavated on Woodbury Common. This was 90 m to the northeast of his AA6, discussed above. On the surface he claims to have found the diagrammatic outline of a bird (head and legs), together with other geometric arrangements of pebbles. Underneath it were pebble 'cairns', that is, pebble-filled pits and blue stones (Figure 2.21). The cairn was built over an area that had been burnt (Carter 1936: 3–4). Carter again argues that the cairn was not for burial, but a landmark (i.e. an orientation point in a trigonometrically inspired system of cairns), a site where Agni was worshipped, erected by people of Aryan affinities to whom had travelled 'a slender knowledge of Greek civilization'. The blue stones that Carter recorded at this and other sites that he excavated, notably Woodbury ε (the letter e standing for epsilon), were primarily significant to him because of their blue colour, sacred in Indo-Aryan mythologies, but they have other interesting characteristics (see Chapter 5).

In a footnote to his paper 'Pebbled Mounds' (Carter 1934b) he states that 'these pebbles [those of the Budleigh Salterton pebble beds] are mainly a pale quartzite but occasional pebbles (1: 1000) are of dark or coloured igneous rock' (Carter 1934b: 4). Elsewhere he states that 'blue stones of various shades of colour and petrological nature (though of igneous origin) occur locally … in the Bunter Pebble Beds" (1936: 2). In

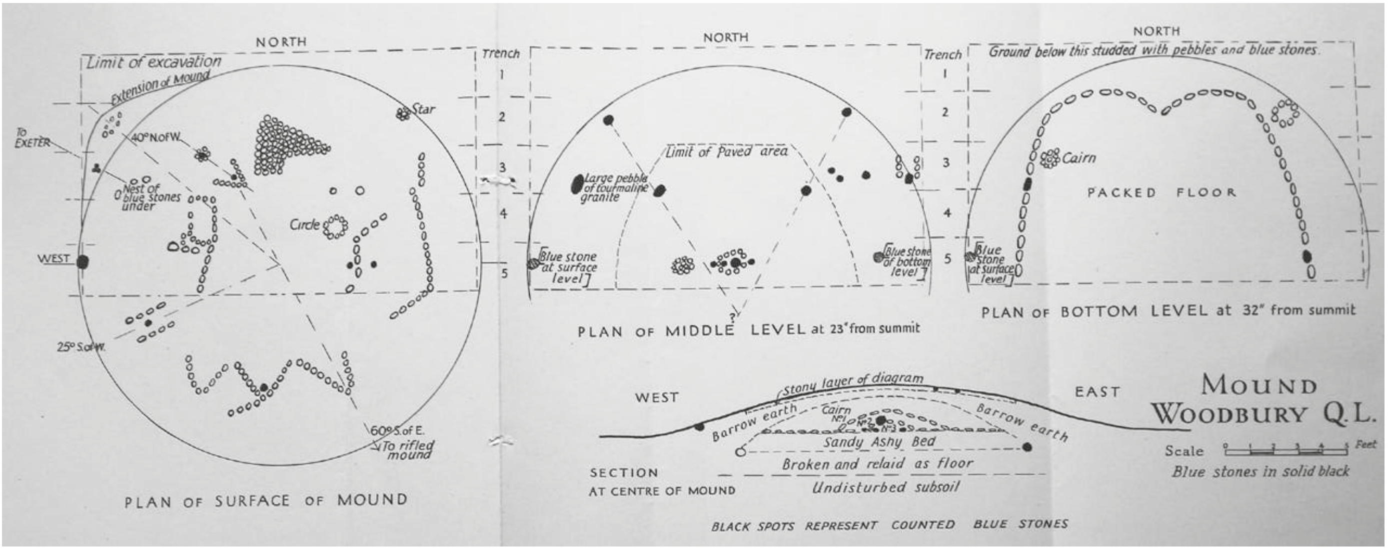

Figure 2.21 Carter's published plan of the pebble cairn QL (see Fig. 2.15 for a photograph of the cairn) that appeared in *Proceedings of the Devon Archaeological Exploration Society*, 1934. The schematic bird (head and legs) is shown to the left of the image (Source: Carter archive)

ISCA Carter states: 'The regular use of the darker stones of the Budleigh Salterton Pebble Beds (other than black stones), which show colours ranging through many shades of blue from purple to grey, seems to indicate an insistent idea of the importance of this colour.'

The reception of Carter's work

During his lifetime Carter only published in any detail on some of the sites that he excavated on the Pebblebeds. Early on during his work in the early 1930s he had been an active member of the Devon Archaeological Society, publishing work in its *Proceedings* in 1936 and 1938. He had acted as secretary to the excavation fund for the Hembury hillfort excavations directed by Dorothy Liddell and also took part in the excavation of the Neolithic settlement of Haldon Belvedere. It is probable that he learned modern archaeological techniques of excavation on these projects. He had extensive correspondence with Sir Cyril Fox, Director of the National Museum of Wales, and one of the leading British prehistorians of his generation, sending him some of his own research findings and interpretations of the pebble mounds. Fox even came to visit one of Carter's own excavations on the East Devon Pebblebeds and obliged him by sending him a large scale plan of one of his Welsh excavations, to which Carter took his protractor. In a letter dated 28 November 1932, Fox writes to Carter about one of his manuscripts, probably a version of *ISCA*: 'I do not wish for a moment to take up a superior attitude .... Now the fact is that official archaeology which you are up against works on common-sense lines and eschews visionary significances and far-fetched symbolisms .... It seems to me certain that it will never be accepted by reputable publications in this country' (letter in Carter archive). However, despite this warning Carter did manage to get at least some of his work published in the Proceedings of the Devon Archaeological Exploration Society, but after around 1935 he seems to have given up trying to find an academic reception for his work or a 'reputable publisher'. Instead he published a few of his excavations and ideas in the local newspaper, the *Exmouth Journal*, but made no concessions whatsoever to the type of audience that he was addressing in terms of his writing style and the Classical sources that he used in them (see the discussion of his Squabmoor excavations, above).

In 1949 the summer conference (actually held in September) of The Prehistoric Society was held in Exeter. The year before, Sir Cyril Fox had taken early retirement and had moved to Exeter with his wife, Aileen, who had just been appointed to a Special Lectureship in archaeology at the university. Carter's unplanned appearance and unorthodox positions led to Lady Aileen Fox and O.G.S. Crawford, two very prominent archaeologists of their day, leaving the hall almost immediately, together with half the audience within five minutes. Aileen Fox must have known Carter well, as she had also participated in the Hembury excavations directed by Dorothy Liddell. In her biography she writes:

> The conference was not without incident. I remember the growing impatience of the audience listening to Mr G.L. Carter, a local solicitor, of 'the lunatic fringe', airing his theories about the significance of the blue stones in the geologically-mixed Bunter Pebblebeds on Woodbury Common until several people, including me, walked out. I felt the conference was important, because it had brought leading archaeologists like Stuart Piggott, Christopher Hawkes, Gordon Childe and Grahame Clark to Exeter, and had bolstered my position at the university.
>
> (Fox 2000: 117)

Clearly Carter's appearance was most embarrassing to her, but as Grinsell later pointed out, one of Carter's 'main points: that archaeologists are inexact in their terminology, often describing stone ellipses as stone circles is now upheld' (Grinsell 1985). It is interesting to note here Grinsell's use of the word 'inexact'. Grinsell was Keeper of Bristol City Museum between 1952 and 1972 and was a key figure in the documentation and study of Bronze Age barrows in southwest and southern England, visiting virtually every known site. Despite Grinsell's own obvious personal sympathy for Carter he did not use any of the notes Carter compiled for him on his East Devon 'pebbled mounds' in his 'professional' publication of the barrows of South and East Devon. They were excluded from the catalogue, apart from Woodbury ε, which could not be dismissed as it contained Beaker sherds. He notes that Carter's interpretations were 'out of step with normal archaeological thought. It has accordingly been considered expedient to omit from this paper his pebbled mounds' (Grinsell 1983: 6). In doing so Grinsell missed a great deal, as this book demonstrates. By taking Carter seriously even in the matter of the 'objective documentation' of the distribution of barrows and cairns in the landscape, his primary concern, Grinsell must have felt that his own work might suffer the same fate of ridicule and exclusion should he use information from Carter (some of which is to be found in the National Monuments records and those of the Historic Environment records of Devon County Council). In hindsight Grinsell's objectivity in the manner in which he chose which monuments to record in his catalogue is a manifestation of his own subjective and personal concerns about Carter. Any information gained from him was clearly deemed as potentially toxic.

It is curious how often Carter seemed to have been right, at least in some of his interpretative positions, when he was deemed to be so wrong by his contemporaries. In 1969 Carter wrote a letter to the BBC, who were then sponsoring an archaeological excavation to drive a tunnel into Silbury Hill in Wiltshire, the largest artificial mound in Europe. He writes: 'I investigated the meaning and purpose of the hill thirty years ago and am prepared to offer you a talk for broadcasting, now, for demonstrating why the work *will be a failure*.' He was not invited to talk and the excavation did indeed prove to be a failure, in that no artefacts were found. Carter's 30-year-old interpretation first put forward in on *The Flank of Archaeology* was that the hill was a viewing platform, or observatory: 'It is only when one climbs to the summit that one realizes what a noble platform it is, overtopping (but only just so) all the neighbouring low-rolling downs. From its summit a clear view is obtained in all directions and its ample platform must have rendered it a grand view-point.' Carter goes on to write that: 'Silbury Hill was raised until its height exceeded that of Waden Hill to the NE and then the builders stopped work'. Its construction and use had to be understood in relation to the surrounding landscape. These ideas are very much current and living in contemporary archaeological research (e.g. Barrett's discussion of Silbury Hill as a viewing platform (Barrett 1994: 31)).

For Carter the conventional archaeology of his day was far too materialistic and desperately limited in its aspirations to interpret the past. Archaeologists always failed to go beyond the things that they excavated or surveyed to discover what was really important: the underlying immaterial religious and social principles that they objectified.

Naturally Carter's work cannot be uncritically accepted today. His use of direct ethnographic analogies between Vedic rites in India and the material he was finding in East Devon may appear somewhat dubious in the direct manner in which it was undertaken, but there has been a recent and renewed interest in Indo-European influences in the emergence and development of the European Early Bronze Age by a number of Scandinavian prehistorians, in particular, works by Kristiansen and Larsson (2005) and Kaliff (2007). Furthermore, some of Carter's general ideas – that pebbles were things of spiritual power, that colour symbolism was important, that rituals at the mounds involved fire and notions of purification, that the blue stones were important, that pebbles might be carefully chosen and selected and patterned in various ways, that many cairns may never have been intended for burial – are extremely important insights informing this book. Like Carter we need to imaginatively engage with the past to produce an interpretative account, relevant to the present and not produce a dry-as-dust inventory of factual information. Ultimately Carter could not prove his case and we will not do so either. Anyone who thinks they can should not be engaged in archaeology, since it is always an interpretative exercise, fragile, provisional and open to change.

Carter's work did not occur in a vacuum. It is obviously a product of his own personal experiences and his times, as indeed is this book. We need to situate the reactions to the work of Carter in relation to the dominant ethos of both archaeology and anthropology in the period 1920–40. Here we need to remember that field anthropology was limited and very much in its infancy and that archaeology was trying to establish its credentials as a form of academic research to be taken seriously, which meant in practice eschewing anything that might be deemed to be 'speculative' or going beyond the 'facts'. The major concern of archaeologists was, lacking radiocarbon dating, to establish a reliable chronology for the past based primarily on the typological analysis of artefacts. Carter directly attacked this holy grail and suffered the inevitable consequences in his determination to prove his case that the sites he had excavated were of Iron Age date. He never changed this view throughout his lifetime. But he shared the main explanatory basis put forward by prehistorians to understand cultural change: the movement of people and the diffusion of ideas across Europe to Britain from the East and from the Mediterranean civilizations.

Grimp, as Carter was affectionately known in his family (Figure 2.22), undoubtedly had a somewhat prickly personality at times, but he was absolutely driven and dedicated to his personal research. He was a man who was extremely well read, with an extraordinary depth and breadth of interests, and who was working outside and was excluded from an academic institutional framework. He was a dogged and determined man who seems to have had an absolute belief in the veracity of his own ideas that changed little throughout his lifetime. As far as his archaeological research is concerned, he simply applied the same kind of geometrical analyses to more and more sites from East Devon to Cornwall, from Exmoor to Wiltshire and Dorset to Yorkshire and Scotland, often using large-scale plans from 6-inch Ordnance Survey maps. It is obvious that at least in the 1930s he kept up with current archaeological research and ideas that influenced him, such as the discovery of Neolithic causewayed enclosures and the origins of the bluestones of Stonehenge. The title of one of his manuscripts, *The Flank of Archaeology*, perhaps says it all: there were the dominant, institutionally accredited prehistorians and there was

Figure 2.22 Carter in later life: photograph taken about 1970 (Source: Carter archive)

Carter, representing the flank, an alternative vision of the past decried by those in the academy and consequently not to be taken seriously. He desperately wanted to make sense of the East Devon landscape in which he was born and grew up. In his retirement in Devon, just as in India before, he had a huge variety of other research interests, from local geology to folklore studies to history to archaeology to numismatics, reflected in some of his other publications (Carter 1927, 1928, 1932a, 1932b, 1933). His daughter, Priscilla Hull, remarks of him 'He never stopped reading, writing, studying .... He could be confrontational but that rather ran in the family .... But my father was quite willing to be reasonable so long as you agreed with him!', she chuckles (interview, 31 March 2008).

Material from Carter's collections (archaeological and geological) partly formed the basis of the collections of Fairlynch Museum in Budleigh Salterton, founded by a group of women including Priscilla Hull. Carter wrote a pamphlet for the museum on the local archaeology and history of the area. Carter's papers on the history, archaeology and folklore of Pakistan are in Cambridge University Library. His unpublished papers and photographs and records on the archaeology, history and folklore of Devon are in the Devon Record Office, Exeter.

3

Early Bronze Age pebble cairns

Christopher Tilley, Andrew Meirion Jones and Karolína Pauknerová

This chapter discusses the results of the excavation of three pebble cairns on Colaton Raleigh Common: Tor Cairn, Little Tor Cairn and Twin Cairn A.

Early investigations: George Carter's excavation of a pebble cairn

In October 1930 and during the summers of 1936 and 1937, George Carter partially excavated a pebble cairn on Woodbury Common that he named Woodbury ε (SY 05088 87380). This was one of a series of excavations of 'pebbled mounds' that he undertook in the area known as Woodbury Common during the early 1930s (Carter 1936). Carter's investigations provide us with the first and only published work on these structures. Since then and prior to the excavations undertaken by the East Devon Pebblebeds Project in 2008–11 discussed here, there has been no subsequent work. Thus Carter's report formed the evidential background for undertaking the current excavations.

Carter described Woodbury ε as a flat-topped circular mound covered by a thin turf layer. Underneath this layer he found a ring of large pebbles forming the top edge of a circular cairn made up of alternating layers of turfs, pebbles and sand. The cairn was about 3.6 m in diameter at the top and 0.6 m high. The diameter at the base was about 7 m (Figure 3.1). The top ring of large pebbles contained at least two 'blue stones'. These are distinctive and comparatively rare bluish-grey pebbles. Carter dug a central trench and at the approximate ground surface discovered another large

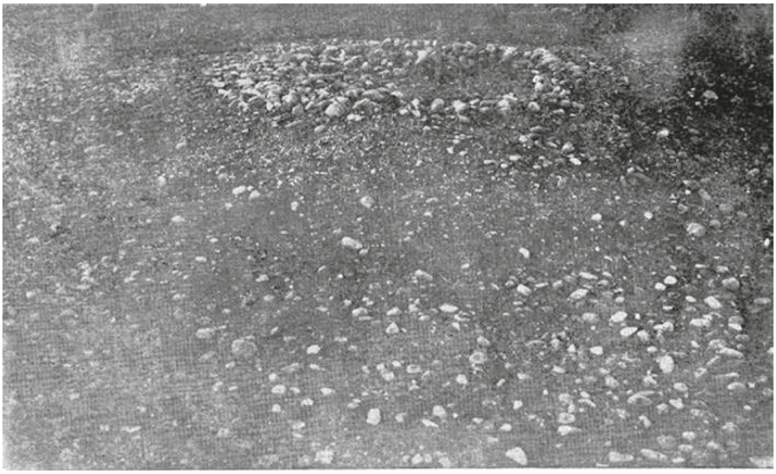

Figure 3.1 Woodbury ε (Source: Carter archive)

blue stone overlying a much smaller one forming a smaller central 'cairn' or accumulation of pebbles about 0.6 m in diameter. Below this was ashy yellow clay about 20 cm thick (*ISCA*: 30). Below this level he discovered sherds of Beaker pottery (see Taylor, Appendix 1) and a barbed and tanged arrowhead deposited in relation to another small 'cairn' or collection of pebbles, beneath the old ground surface in what was presumably a central pit. Below this he discovered another 'cairn' of pebbles with a blue stone on the top and another at the bottom 'sunk deep into the ground' (Carter 1936: 9) (Figure 3.2). What Carter appears to have discovered was a pebble cairn with a central pit beneath it, packed with pebbles and with comb-decorated Beaker sherds and an arrowhead deposited at the top (Figure 3.2 and Figure 3.3). There was no charcoal or ash in this deposit. Excavation around this cairn in 1936–7 revealed what Carter referred to as a pebble 'skirt' or 'carpet' around it about 15 m wide (Carter 1936: 10). Here he found a flint axe hammer on the southeast side beneath the 'base of a small cairn' (possibly another pit with a pebble packing). He suggests that the cairn itself appeared to be slightly enlarged on the southeast side (Carter 1936: 10). He noted that the pebbles used to construct the cairn itself were 'large and carefully selected and imply a careful ritual' (11). Besides the arrowhead, only one small flint flake was recovered from the cairn.

Woodbury ε (Figure 1.10: 17) is one of seven pebble cairns in Colaton Raleigh parish (Figure 1.10: 13–17 and 20). All but number 20 are situated in similar locations on the fringe of the Pebblebed heathlands overlooking arable land with distant views to the sea to the south.

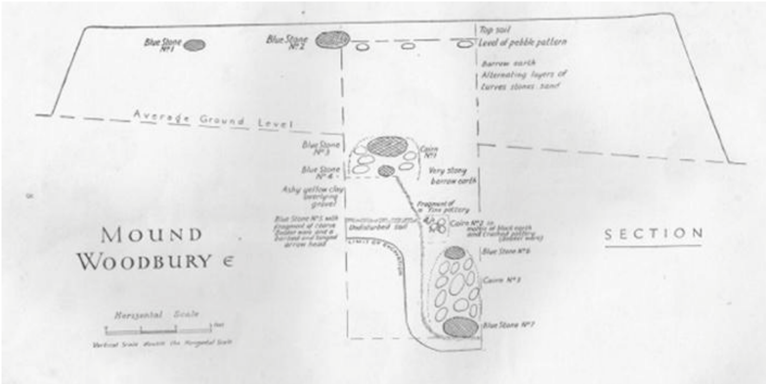

Figure 3.2 Carter's section through the centre of Woodbury ε (Source: Carter archive)

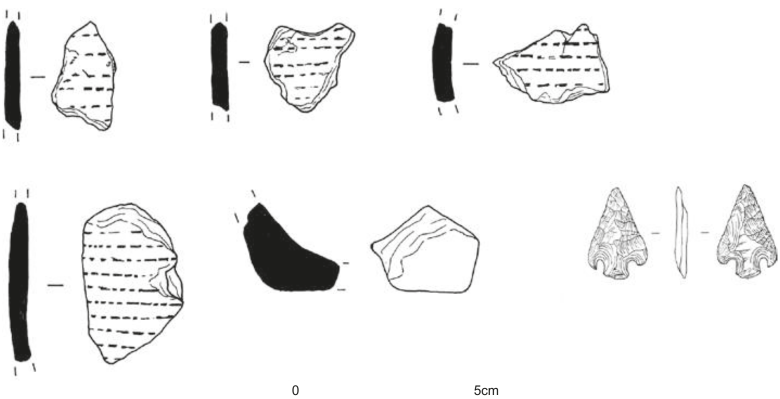

Figure 3.3 Woodbury ε: the comb-decorated Beaker sherds and the barbed and tanged arrowhead (Source: author)

They occur on southeastern sloping spurs of the heathlands bounded by streams to the west and the east and 0.75 km or less distant from each other. The locations of all but Carter's Woodbury ε are intervisible. This chapter discusses the excavation of three of these pebble cairns, named Tor Cairn, Little Tor Cairn and Twin Cairn A (Figure 3.4)

Tor Cairn is situated 4.6 m to the north of a smaller pebble cairn, Little Tor Cairn, and rises to a present height of 0.5 m and has a total diameter of 6 m. Little Tor Cairn is 0.25 m in height and has an approximate diameter of 4 m. Both are situated on the side of a southeast sloping spur at a height of 90 m overlooking a valley to the west. Prior to

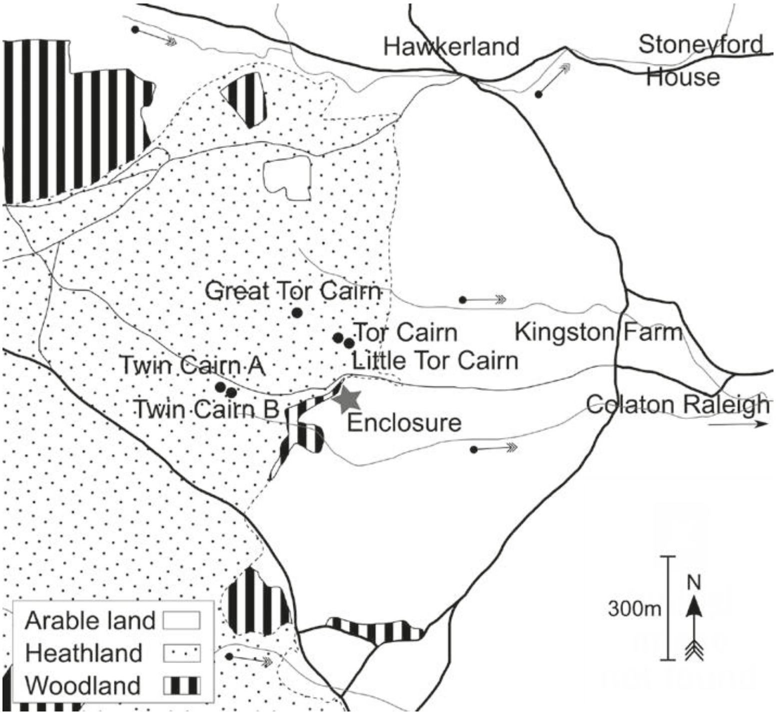

Figure 3.4 The location of pebble cairns on Colaton Raleigh Common (Source: author)

machine cutting of the thick gorse and heather vegetation covering the site it proved impossible to locate the smaller cairn and the larger one was invisible, its presence only discernible through movements of the feet. Situated about 120 m to the north and in the centre of the same spur is a much larger cairn *c*. 12 m in diameter and 1.5 m high (Great Tor Cairn). This is a prominent landmark, sky-lined from the east; the others cairns are not (Figure 1.11d). All three of these pebble cairns on the same spur overlook an enclosure (cropmark site) of prehistoric date with finds of Early Bronze Age and Iron Age pottery (Tilley *et al.* n.d.). From all three cairns the sun is visible on the midwinter solstice rising out of the sea to the west of High Peak. The rays of the rising midwinter sun run across Little Tor Cairn and Tor Cairn in dramatic fashion (Figure 1.15c).

Excavation and research methodology

Initial experiments were conducted to build a pebble cairn in order to gain some insights into the techniques required. These showed that it was quite impossible to build a stable structure from rounded pebbles alone. They require embedding in a stable matrix of earth or sand to remain in position because their smooth, rounded forms lack edges. In this respect a pebble cairn is a most unusual structure when compared with Bronze Age cairns elsewhere built from broken stones, or earthen barrows. They *require* the layering of different kinds of materials: a distinctively regional architectural tradition peculiar to the Pebblebed heathlands.

As a result of the assumed (and real) instability of the structure the excavation of Tor Cairn and Twin Cairn A was undertaken by the quadrant method. Little Tor Cairn was totally excavated, while parts of the other two cairns were left unexcavated so that they might be further examined in the future. The overall aim was to obtain as much information as possible while minimizing disturbance to the cairns. Excavation of the three cairns proceeded with the successive removal of pebbles followed by the turf/earth layer into which the pebbles were embedded. One of the motivating factors in the excavation of the cairns was to examine the nature of prehistoric perceptions of the Pebblebed environment, and in particular the potential for the systematic use of pebbles in the construction of prehistoric monuments.

Tor Cairn

The SE quadrant was excavated in 2008, while the NW quadrant was excavated in 2009. In each case the excavation began by removing the overburden of heathland vegetation in order to expose the cairn surface. Following discovery of a central pit a further 2 m square area was excavated at the centre of the cairn. The remainder was left intact (see Figure 3.5). After excavation the cairn was restored to its original form.

In order to provide spatial control during excavation and facilitate systematic recording, each layer of pebbles at Tor Cairn was recorded by using a grid of 1 m squares across the excavated quadrant. In 2008 each layer of pebbles was photographically documented and colour coded *in situ* prior to removal during excavation. On removal the excavation layer was recorded and the individual pebbles were measured, weighed and described in terms of their shape and colour. In 2009 each pebble layer was photographed *in situ* and then all pebbles from the layer were extracted, sorted according to their colour, ‘special’ pebbles (see below) were set aside, the broken pebbles were separated and the whole pebbles weighed and their longest length measured. In this manner all pebbles from the quadrant were recorded by metre square and level from the top to the bottom of the cairn. Three categories were used to record

Figure 3.5 Tor Cairn, foreground, and Little Tor Cairn, background, showing the extent of the excavated area with the trench extending between the two cairns. The central pit is visible. Note High Peak visible on the horizon to the south, situated on the coast (Source: author)

pebble shapes: round, oval and irregular. The colours of the pebbles were recorded in terms of the following seven basic categories: white/quartz, red, brown, grey, yellow, black and what we termed CBS (Carter Blue Stone: see Chapters 2, 4 and 5). The latter colour category was recorded in recognition of Carter's work, in which he singled it out as an especially important type of pebble and of great possible symbolic significance in cairn construction (Figure 3.6f). He wrote nothing about other types of pebbles and their qualities. Our category of 'special' pebbles was designed to take account of pebbles with striking characteristics: those with distinctive multi-coloured patterning on their surfaces or striking quartz veins and inclusions of various kinds (Figure 3.6 and Figures 5.5 to 5.13).

Geologists have long recognized another special category of pebbles on the heathlands: ventifacts (Leonard *et al.* 1982; Edwards and Scrivener 1999: 88). These are wind-polished pebbles that originally lay on the surface of the red sandy Triassic desert across which the great river flowed. They have one rough surface that originally lay on the floor of the desert sand and two, three or more finely polished surfaces produced by wind and sand with a distinctive sharp ridge between them (see Figure 3.18). Ventifacts

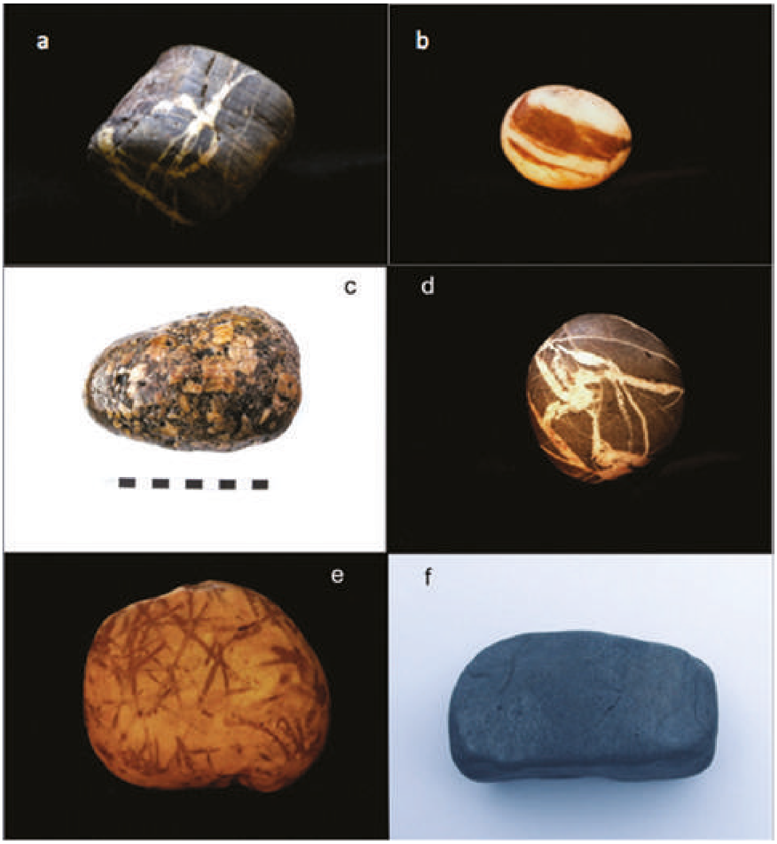

Figure 3.6 Examples of 'special' pebbles: (a–e): 'special' pebbles; (f): Carter Blue Stone (Source: author)

are rare and usually highly localized in their distribution on the heathlands. The nearest location to Tor Cairn where they are known to occur is to the west of Uphams Plantation, 2 km to the southwest (Leonard *et al.* 1982: 334). Might there be some of these included in the cairn construction?

In order to establish the immediate nature of the natural deposits on which the cairn was constructed, four adjacent 1 m squares were excavated in the natural having removed the topsoil, 42 m away to the NNW of the excavated site, and all pebbles in the top layer were recorded. In addition to this 11 further random test samples of pebbles from the natural were recorded from a variety of different locations across the entire heathland area (see discussion in Chapter 4). Recording the pebbles in both the excavation and the test samples in this manner was an extremely time-consuming and laborious process and in fact took three times longer than the excavation itself. And we were well aware that we were recording material that archaeologists would usually regard as natural and ready-to-hand building material and of little or no other significance.

The test squares excavated in 2008 to the northwest of the cairn immediately indicated that the natural Pebblebed deposits here were very mixed, with lots of small pebbles and small quartz chips. There were far fewer pebbles than in the pebble layers of the cairn, they were smaller and their spatial distribution was random or unstructured in comparison with the careful placement of those in the cairn. There were very few 'special' pebbles compared with their frequency in the cairn itself. It is unlikely then that the pebbles used for the construction of Tor Cairn simply come from the immediate locality. Many must have been selected and brought to the site from at least some distance away. This is discussed in Chapters 4 and 5.

Tor Cairn: the excavated features

Cairn composition

Excavation of the cairn indicated that the cairn was constructed of several distinct components, an inner core cairn, context 019, around 1.5 m diameter, comprising around three layers of turf and pebbles, and an outer cairn composed of a basal layer of sand, context 006, followed by layers of turf and pebbles, context 005 (see Figure 3.7). The cairn composition, consisting of layers of turf and pebbles, was evident during excavation, although this was difficult to depict during section recording as the looseness of the fabric of the pebble cairn made the delineation of distinct layers of turf and pebbles difficult (Figure 3.8 and Figure 3.9). Dates were obtained from charcoal from context 022, a dark sandy layer beneath the core cairn on the southeastern side of the cairn. This produced an AMS date of 3460±40 BP; 1890 to 1680 cal. BC (BETA 257340). This and all the other 22 calibrated dates discussed in the rest of the text use INTCAL04 Radiocarbon Age Calibration. All dates given are 2 Sigma calibration at 95 per cent probability. A date from the basal sandy layer, context 006, of 3350±40BP; 1740 to 1520 cal. BC (BETA 280834), from *Corylus* sp., was also obtained. These two overlapping dates confirm that the core cairn is older than context 6. The earlier date corresponds with another date obtained from the base of the cairn in the southern quadrant which may pre-date the construction of the cairn (AMS radiocarbon date of 3490 ±40BP; 2130 to 2090 cal. BC and 2050 to 1890 cal. BC (BETA 257339)).

The outer perimeter of the cairn was marked with a formal arrangement of laid pebbles with gaps about 0.3 m apart inserted with their long

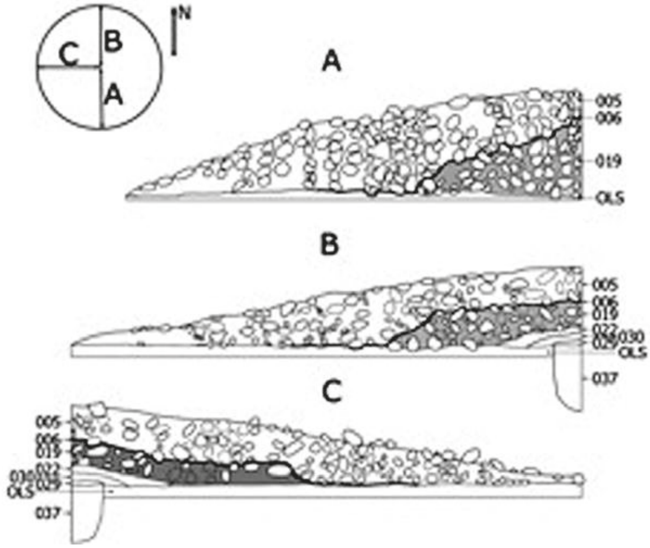

Figure 3.7 Tor Cairn sections and their locations (Source: author)

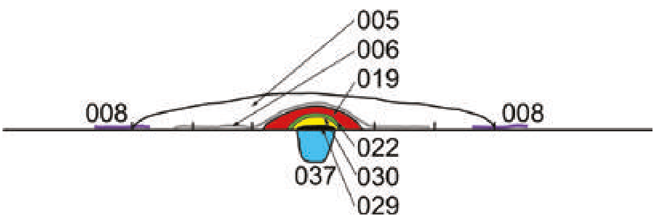

Figure 3.8 Tor Cairn simplified scheme showing the different contexts and their relationships (Source: author)

005 pebbles and turfs (secondary cairn) (white)
006 sandy base for secondary cairn (grey)
019 pebbles and turfs (primary cairn) (red)
008 charcoal rich soil, possible evidence for fires on the perimeter (purple)
022 compact dark sandy material with rich deposits of charcoal (green)
030 charcoal (yellow)
029 yellow clay (pit cap) (black)
037 pit filled with pebbles (light blue)

axis upright. This was clearly evident in the southern quadrant, though less definite in the northern quadrant.

Pebbles are used in a variety of ways in the construction of the rest of the cairn. For the most part pebbles are laid horizontally, however occasionally pebbles are propped vertically to revet components of the

Figure 3.9 Tor Cairn sections: southwest quadrant; (a): N–S section; (b): detail of N–S section: centre of cairn; (c): W–E section. Note basal layer of primary cairn in foreground; (d): W–E section showing sandy layer under pebbles; (e): northwest quadrant: W–E section; (f): N–S section, detail (Source: author)

cairn. This was apparent in the centre of the southern quadrant, where a large rounded quartz pebble was propped in the basal layers. It was also evident in the southern perimeter of the cairn, where small pebble-shaped pits were noted which evidently once held vertically positioned pebbles that were positioned at the edge of the cairn. While there were no discernible colour patterns evident in the use of pebbles to construct the various levels of the cairn (see discussion in Chapters 4 and 5), at certain points in the construction of the cairn patterns begin to emerge. For example, during the excavation of the central structure of the cairn in the southern half, the distinctive positioning of a blue stone in the layer making up the turf and pebble layer was noted. This was recorded in each layer excavated. The blue stones effectively formed a linear feature running vertically through the bottom layers of the cairn. These findings replicate those made by Carter in the Woodbury ε cairn discussed above. Blue stones were not distributed evenly in the cairn construction. Most were found in the central part of the cairn, however this fact is partly the result of the greater number of pebble layers at the cairn centre. Nevertheless they are concentrated around the centre, going down through the whole pebble structure. They were found in the northern excavated quadrant; however there were only very few in the southern one (Figure 3.10).

The composition of the mound accords with that of other excavated cairns in the southwest. At Tor Cairn we observed a central core cairn, with occasional large propped pebbles used to ground or centre the middle of the cairn. This kind of feature has also been noted in other excavated cairns. Jones (2005) notes a similar feature at Colliford and Treligga 7, Cornwall. Meanwhile the two-phase construction of Tor Cairn

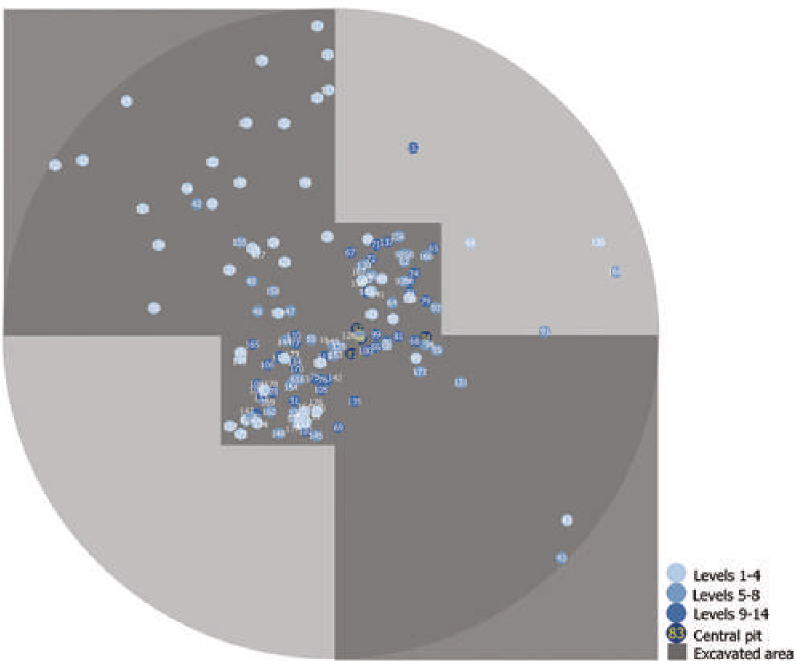

Figure 3.10 The distribution of the blue stones in Tor Cairn (Source: author)

has parallels with a number of southwestern cairns, such as Colliford, Davidstow, Treligga 7 and Cockscairn (Jones 2005: 81–5; 78).

The base and edge of the cairn

Soil micromorphological analysis by Richard Macphail of the soil below the cairn showed that the surface where the cairn was built was carefully prepared. A 14-cm-long section sample from the soil below Tor Cairn had three layers: '1) the basal subsoil and pebble make-up of the cairn, 2) an inverted turf base to this cairn, over 3) a truncated subsoil' (Macphail Appendix 5). The layer of turf contained much very fine charcoal. According to the report this testifies to management by fire.

There was no ditch running around the perimeter of the cairn, as is commonly the case in earthen barrows. The absence of a ditch presumably relates to the fact that no materials were utilized *in situ* for the construction of the cairn. Instead, it seems more likely that the pebbles that make up the core cairn and overlying cairn had been selected and brought to the site. The site therefore sits on the natural geology of the Pebblebeds, rather than being composed out of it.

As noted above, the perimeter of the cairn to the south is well defined by upright pebbles. This was less evident to the north. The differences in the appearance of the perimeter of the cairn to south and north, with a defined edge and propped pebbles at its edge to the south, with little apparent edge to the north, can perhaps be explained by the slight slope on which the cairn is located. The perimeter and propped pebbles may be considered as a mechanism for revetting the overburden of the mound on its southern edge.

However, the perimeter is also defined in other ways, as during excavation a marked layer of charcoal-rich soil, context 008, was revealed at the perimeter of the cairn. It was surmised that this represented the deliberate burning of the edge of the cairn at some stage during the construction process. From this it is possible to surmise that the primary core cairn was built, followed by the deposition of sand, context 006, for the secondary cairn. It was evident that at the time the perimeter of the cairn was constructed the layer of burning, context 008, respects the perimeter. The upper layers of turf and pebbles that form the upper components of the cairn, context 005, would then have followed this phase of building (Figure 3.11).

While the firing of the vegetation layer prior to cairn construction is well attested at other Early Bronze Age cairns, and recorded in Tor Cairn, too, firing during the construction process is less well known. We can perhaps think of the firing process as one of demarcation, defining the edge

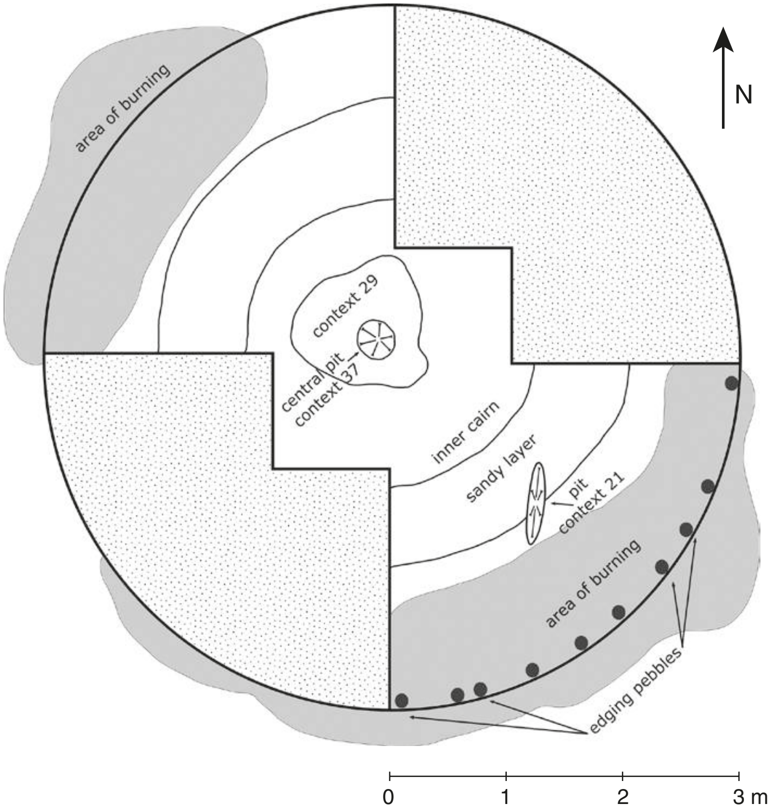

Figure 3.11 Tor Cairn: plan showing burnt areas, pebble-filled pit and central features (Source: author)

or border of activities associated with cairn construction, and effectively punctuating the construction of the two phases of the cairn.

Features beneath the cairn base

One small pit (context 021), with dimensions of 0.8 m × 1 m and with a depth of 9 cm, was located in the centre of the southern excavated quadrant, under the base layer of sand, context 006 (see Figure 3.12 and Figure 3.19). It was filled with charcoal which produced an AMS radiocarbon date of 3490±40 BP; 2130 to 2090 cal. and 2050 to 1890 cal. BC (BETA 257339). It is significantly earlier than a date for charcoal

Figure 3.12 The top of the pebble-filled pit (Source: author)

embedded in context 006, which produced an AMS date of 3330±40 BP; 1920 to 1730 cal. BC and 1720 to 1690 cal. BC (BETA 257339).

Central features

The centre of the cairn, beneath the core cairn, was marked by a series of features (Figure 3.7). Excavation of the centre of the core cairn revealed a mound of compact yellow clay, context 029. A fragment of charcoal from *Betula* sp. from this context produced an AMS date of 3520±40 BP; 1950 to 1740 cal. BC (BETA 280836).

This context was overlain by a dark charcoal-rich layer, context 030. On excavation context 030 appeared to consist of mixed layers of thick greasy charcoal and thin lenses of bright red sand. It also included large *in situ* planks and chunks of wood (see Challinor, Appendix 2 for discussion). An AMS radiocarbon date was derived from *Corylus* sp. from context 030 which produced a date of 3550±40 BP; 2110 to 2100 cal. BC and 2040 to 1880 cal. BC (BETA 280835). Bulk samples of this material were wet sieved and examined for traces of calcined bone: there were none. Excavation indicated that context 029 is a hard clay-rich deposit. A sample of this material was examined by Simon Hillson (UCL, Institute of Archaeology) to see if there were any traces of bone. Again the results were negative. This clay is not found in the vicinity of Tor Cairn. Its nearest probable source is along the streambeds bounding the spur on which the cairn sits. Context 029 sealed the mouth of a pit under the cairn, context 037. The pit had an oval mouth and a rounded bottom. It was 0.4 m deep and 0.45 m wide at the mouth and 0.32 m at the bottom, the shape was slightly convex. The excavation of the pit produced a succession of tightly packed pebbles and a large chip of a brown pebble with retouched edges that was laid cortex upwards (see Figure 3.16). Neither the bottom nor the walls of the pit showed any traces of burning. No charred wood in this feature was found and there were no artefacts.

Context 22 in the central structure is a dark charcoal-rich sandy layer beneath the primary core cairn overlying the central pebble-filled pit. We interpret this as material that was raked up from the area in the vicinity of the cairn and represents deposits below the humic A horizon of the former soil. The pollen from it relates to a pre-cairn environment clearance phase. Context 22 was tested for the presence of P_2O_5 phosphate by Antoním Majer and Petr Pokorný (see Appendix 3). The sample from the centre was compared with a control sample taken from the soil from one of the upper excavation units in the centre of the secondary cairn. The concentration of phosphate was very low in both the archaeological sample and in the reference sample. According to the report: 'this finding excludes possibility of presence of bone materials (animal bones or human burial) and of organic waste rich in phosphates'. The results of physical properties measurements exclude, according to the same report: 'influence of high temperatures (i.e. fire) in the genesis of both layers and in their post-depositional history'. The results of the previous analysis were verified also by the palynological analysis of context 22 carried out by Pokorný, (Appendix 4), where he argues that the sample 'contains some microscopic charcoal particles, but their concentration is very low. This finding does not allow reconstruction of local fires at the time of sedimentation, nor post-depositional burning of sediment.' A pollen analysis of the same sample differs from that undertaken from the podzolized soil beneath the cairn. indicating that the area in the vicinity was an open oak woodland with an understorey of hazel, grasses and ferns. There is limited heath in the vicinity (Appendix 4). This is discussed further in Chapter 8.

The interpretation of the features discussed above is equivocal. During the excavation we interpreted the central structure as a residue of a fire *in situ*, context 30, that was overlain with compact dark sandy material rich in deposits of charcoal, context 22. After analyses were undertaken, we can conclude that the charcoal was raked up from a wider area, and that is why it was mixed up with red lenses of sand which we documented during the excavation and why the samples we had analysed were mixed with sediment. Another support for this interpretation is the presence of planks and chunks of wood (see Challinor, Appendix 2), which would probably not be present in an *in situ* fire. In addition the evidence from the charcoal analysis suggests that the dominance of a single species, oak, amongst the charcoal is a broader characteristic of Early Bronze Age pyre construction. However, the absence of cremated bone from the features in this area should be noted.

One possible interpretation of the site is as a residue of a cremation pyre but there were no fragments or traces of bone. The absence of cremated bone is not unusual after cremations, as bone is often carefully removed from pyres and cleaned and curated after cremations, before final burial; and notably the body is cremated well above, and not on the ground surface (McKinley 1997, 134). However, we think that it is unlikely that this is a relatively rare example of a cremation pyre, dated to the Early Bronze Age, which has been sealed beneath a cairn composed of pebbles and turfs. The cairn therefore marks a whole series of significant fire-burning events at a significant place but a cremation pyre may never have been present. Notably the radiocarbon dates derived from the charred remains, context 030, and from the fired clay, context 029, are distinct and may suggest a number of episodes of burning before the final sealing of these remains beneath the inner core cairn.

Evidence of burning has been noted at other southwestern sites, such as Davidstow 1 and 16 and Treligga 1 and 2, Cornwall (Jones 2005, 103–4), while pits beneath cairns are found at Cockscairn, Colliford (CRIVC), Davidstow 1, 7, 16 and 17, Trenance and Treligga 7 (Jones 2005, 73–116). More generally, Jones (2005, 33) observes that of the excavated cairns in Cornwall the majority (57.6 per cent) are without bone, and of those that contain bone, the majority are cremation deposits (as opposed to inhumations). This would seem to compare well with the excavated results from Tor Cairn.

The constructional sequence of Tor Cairn

Tor Cairn was constructed on a layer of inverted turfs. This surface was uneven and this unevenness was evident from the discrepancy in the number of pebble and turf layers making up the cairn, which varies from 8 to 14 layers, with the greater number of layers on the southern side of the cairn, suggesting that the old ground surface sloped slightly to the south.

Potential pre-cairn activity, in the form of the deposition of charcoal in a small pit below the base of the cairn, to the southeast from the centre, was noted beneath the sandy layer, context 006. This was radiocarbon dated to 3490±40 BP; 2130 to 2090 cal. BC and 2050 to 1890 cal. BC (BETA 257339).

Probably the first event on the site was inversion of turves. The second step was either burning of the area or the construction of the pit, context 37, and its filling. We found the mouth of the pit covered or sealed with a thick layer of yellow clay, context 029. As noted above, dates of 3520±40 BP; 1950 to 1740 cal. BC (BETA 280836) and 3550±40 BP; 2110 to 2100 cal. BC and 2040 to 1880 cal. BC (BETA 280835) were obtained from these activities.

The cairn is then constructed over these features in two distinct phases. There is evidence for a primary cairn in the approximate centre of the cairn, context 019, which measures some 1.5 m in diameter. The largest pebble in the cairn, 5.5 kg in weight, was found in the basal layer at the centre of the cairn. This primary cairn was most evident in the NW quadrant, and consisted of three layers of laid pebbles. Around the top and sides of this small central cairn was then dumped a deposit of sand, context 006, this is then followed by successive layers of turf and pebbles making up the body of the pebble cairn, context 005.

The primary cairn consists of three distinct contexts. The clay cap of the pit was overlaid with raked-up charcoal and compact dark sandy material, context 022, and then by layers of pebbles and turfs, context 019. After that the area around the core cairn was covered with a sandy base for the final cairn, context 006. On the southeastern side we recorded that the perimeter of the final cairn was marked by pebbles. Around the perimeter of the stones, and on the sandy layer, a series of fires were lit. And after this, construction of a larger cairn began, with successive layers of turf and pebbles.

Several dates were obtained from the sandy layer, context 006, that immediately stratigraphically postdates the construction of the inner core cairn, context 019. A single radiocarbon date was obtained from this context, 3390±40 BP; 1740 to 1520 cal. BC (BETA 280834). This date is substantially later than that obtained from the centre of the cairn, indicative of a fairly gradual process of cairn construction.

Excavation around the southern and northern edges of Tor Cairn revealed an arc of charcoal-rich soil, context 008, presumably the result of burning. This underlies the cairn, but overlies the sandy infill, context 006. It would appear, then, that episodes of burning to the north and south occurred during cairn construction, between the event of constructing the central cairn and the dumping of sandy material to consolidate and expand the size of the cairn with additional layers of turf and pebbles. The date obtained from context 022, arguably contiguous with the charcoal-rich context 008, is 3440±40 BP; 1890 to 1680 cal. BC (BETA 257340).

Pebbles are carefully laid throughout the construction of the cairn, making up the mass of cairn material. The cairn was around 6 m in diameter and 0.5 m in height. The perimeter of the cairn had a distinctive edge of pebbles. On the southern side of the cairn there was an occasional use of pebbles set vertically as revetments, whereas the northern side had none.

The construction of Tor Cairn was not a rapid process; rather, it seems to have involved a series of gradual unfolding and punctuated events. The radiocarbon dates from Tor Cairn accord well with those obtained from other cairn excavations in the southwest, and Tor Cairn would be situated in what Jones (2005: 36–7), following Needham (1996), describes as period 2 or 3 of the southwestern Bronze Age, that is, the periods between 2300–2050 BC and 2050–1700 BC.

Excavation outside the cairn

Following the excavation of the cairn itself we excavated an area 4.5 m long and 6 m wide between Tor Cairn and Little Tor Cairn to the south down to the natural. In this area there were no artefacts or features cut into the ground nor was there any laid pebble layer or 'skirt', either around or between the two cairns.

Comparison with Carter's excavations

Woodbury ε and Tor Cairn are both of Beaker date, one dated by charcoal finds, the other by artefacts, sherds of a comb-decorated beaker and a barbed and tanged arrowhead (see Figure 3.3). They are of similar size, and in similar locations on south-facing sloping spurs bounded by streams with views across the heathlands to the south as far as the sea. From both views to the north are more limited by rising ground.

Both cairns were constructed of alternating layers of pebbles and earth and sand. They both covered a central pit dug into the old ground surface and packed with pebbles, or possibly two pits in the case of Carter's Woodbury ε – the detail is unclear. There were rich charcoal deposits over the pit at Tor Cairn but none at Woodbury ε. Neither appears to have been a place of burial or a cremation pyre, or at the very least there are no traces of a burial or a cremation having taken place. The capping of the pits in both cases was of yellow clay. Both had linear arrangements of blue stones running down through the structure of the cairn and/or in the pit(s) beneath it. Following the excavation of Tor Cairn and the area to the south of it and re-evaluating Carter's photograph of Woodbury ε, we think that the pebble 'skirt' was not constructed. What he recorded as such is probably simply pebbles lying on the old ground surface around the cairn. Both had no surrounding ditch from which pebbles might have been extracted to build the cairns. Woodbury ε differs from Tor Cairn in that it has a definite ring of larger pebbles marking the top.

The find materials

The find material from Tor Cairn was meagre, consisting of the following:

Flint

Sixteen flint flakes, unretouched. Fifteen of these were of local grey chert material and one of the much higher-quality black Beer flint. Three of the flakes were fire-cracked. Four of the flakes were from the northern quadrant, the remainder from the southern quadrant. Ten were found amongst the pebbles on the upper surface of the secondary cairn, the remainder 30 cm or less beneath the upper surface of the cairn (Figure 3.13). These flakes are from the northern part of the cairn perimeter and scattered around its centre (Figure 3.14). The fire cracking on some of them may be explicable in terms of the multiple fires that took place prior to and during cairn construction discussed above. A flint core of local material came from the southern side of the cairn 60 cm in from the edge and a flaked pebble 'core' from the central area of the basal level of the primary cairn (Figure 3.13: 30 and 71).

Flaked pebbles and other stones

A flaked pebble 'ard' (Figure 3.15) was found at the centre of the cairn resting on the primary cairn, and forming part of the basal level of the secondary cairn. In other words, it was incorporated at an initial stage of the building of the secondary cairn. Near to it and in the same level was an exceptionally large pebble 23 cm long and weighing 5.5 kg (Figure 3.16).

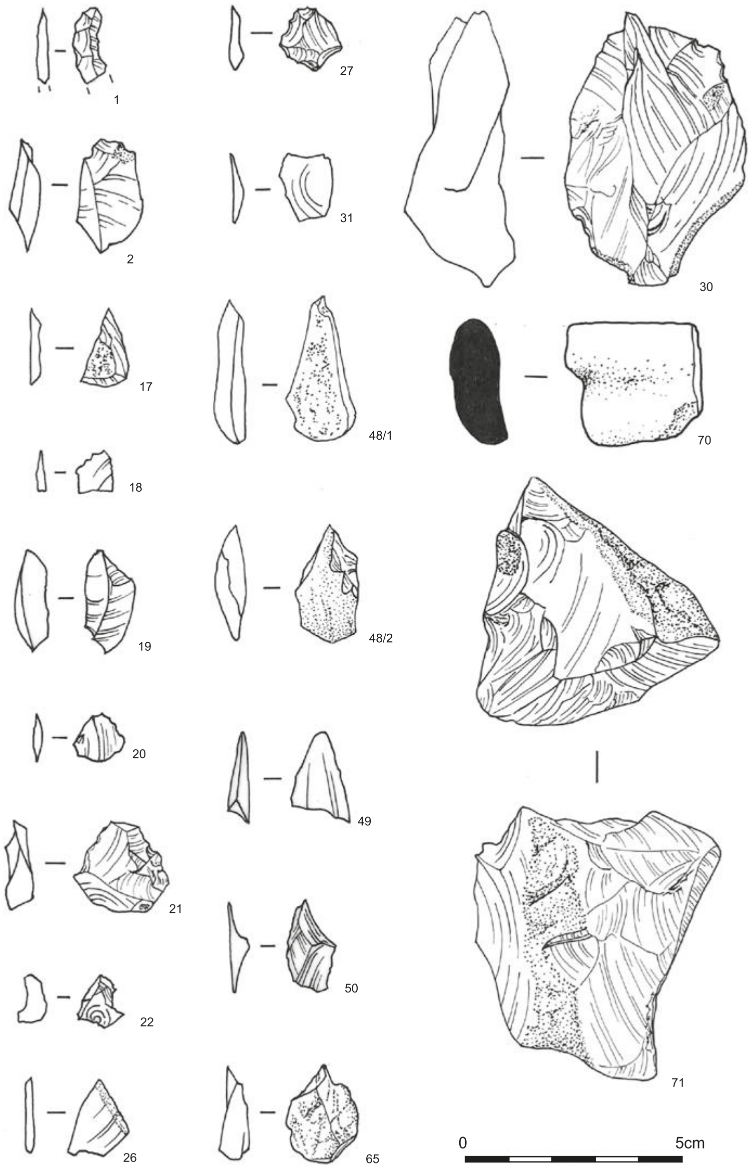

Figure 3.13 Tor Cairn: flint finds and the cemented sandstone fragment from the central pit resembling a rim sherd (Source: author)

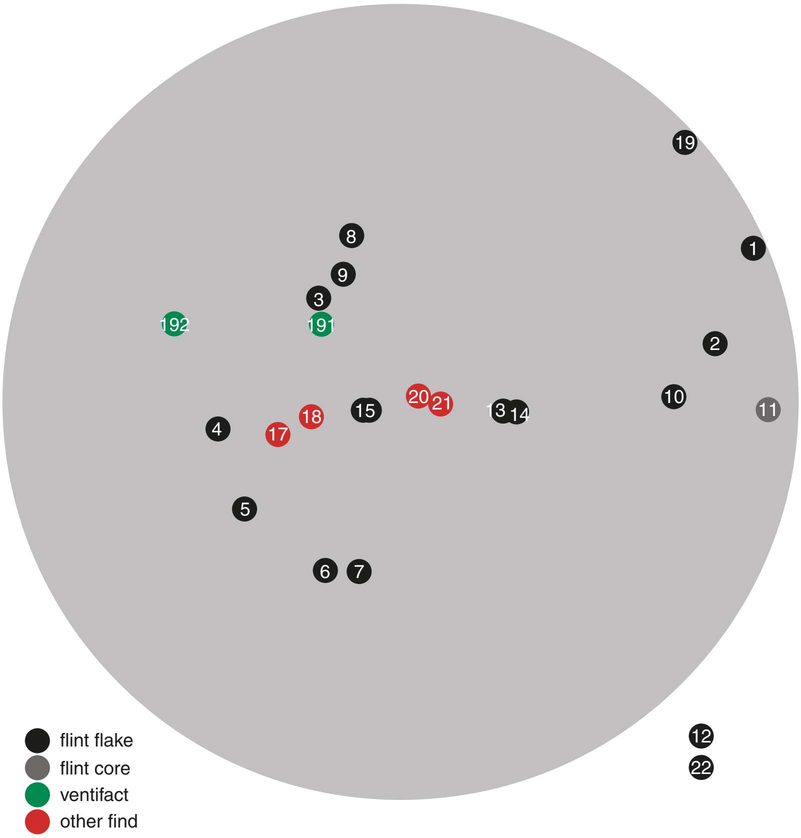

Figure 3.14 Tor Cairn: the distribution of artefacts and other finds (Source: author)

We interpret this pebble as a foundation stone placed at the centre of the secondary cairn while the process of its construction was beginning. Such large pebbles do not occur in the centre of the ridge in the vicinity of the cairn. The nearest source is likely to have been the stream bed to the northwest over100 m distant (see discussion in Chapter 4).

The flaked pebble is similar to another flaked pebble that George Carter recovered from a peat layer underlying a burnt mound at Jacob's Well at the base of the western escarpment of the Pebblebed ridge 4 km to the southwest (Figure 6.6). It was associated with the remains of a wooden structure and a spring with an Early Bronze Age date covered by a Middle Bronze Age burnt mound (Tilley 2009 and see Chapter 6 below). Quartzite is an extremely hard and intractable material and the manufacture of these flaked pebbles would have required considerable technological skill and knowledge of this material.

Figure 3.15 Tor Cairn: the flaked pebble from the centre of the cairn found in the basal level of the secondary cairn (Source: author)

Figure 3.16 Tor Cairn: the largest pebble in the cairn placed at its centre (Source: author)

From the pebble filled pit beneath the cairn, mentioned above, we recovered a piece of flaked pebble, bearing an uncanny resemblance to a human skull bone (Figure 3.17) and a piece of hard iron-cemented sand concretion that resembles the rim of a pot sherd, so much so that it was mistaken for such on discovery. This sandstone material could not have been incorporated into the pit by chance since it does not occur locally in

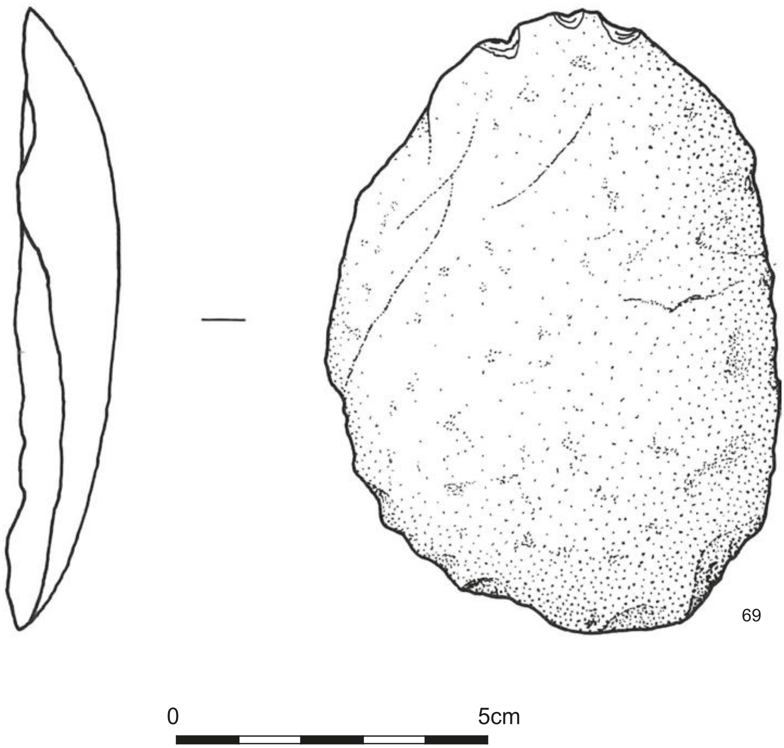

Figure 3.17 Tor Cairn: the pebble flake from the central pit (Source: author)

the immediate vicinity of the cairn. It was a deliberate deposition (Figure 3.13: 70).

Ventifacts

Two ventifacts were found (Figure 3.18). One was from the central part of the cairn above the pebble-filled pit, the other in the adjoining excavation unit to the northwest (see Figure 3.14). These were from the secondary cairn at level 4 of the cairn construction from the top down. Both pebbles are irregular in shape with a distinctive central ridge and two very smooth sloping faces on either side of it with a rough base. One is a grey pebble with weakly developed bedding planes visible and fine white quartz veins running across part of its surface with an oval quartz ring at one end. The other is brown with white and pink quartz veins. The extreme rarity of ventifacts exposed at the surface of the Pebblebed heathlands strongly suggests that these unusual and very distinctive

Figure 3.18 Tor Cairn: the ventifact finds from the basal levels of the centre of the secondary cairn (Source: author)

pebbles were deliberately curated and placed in the cairn during its construction.

The contents of the pebble-filled pit beneath the centre of the cairn (Figure 3.19)

Since this pit is the central feature beneath the cairn, its contents are interesting to discuss in more detail. The pit contained in total 125 pebbles. One functional possibility that might be proposed is that these pebbles simply acted as packing for a wooden post at the cairn centre, but there was no room for anything else, other than perhaps a slender stick. The majority of the pebbles weighed between 250 and 750 g (62 per cent). Fifteen per cent of the pebbles weighed over 750 g and six (5 per cent) more than 1 kg. The rest were light, weighing less than 250 g. All but four of the unbroken pebbles were between 5 and 15 cm long. These results are very interesting, compared with the pebble layers in the cairn

Figure 3.19 Tor Cairn: the contents of the pebble-filled pit (Source: author)

above: there are many more large and heavy pebbles that quite literally *weighed the pit down*. The majority were irregular in shape, matching those found in the rest of the cairn. Twenty-eight or 22 per cent were specials and six were blue stones (5 per cent). The pit contained a higher proportion of specials than any other layer and excavation unit in the cairn. Grey pebbles predominated (40 or 32 per cent), followed by yellow pebbles (18 or 14 per cent) and brown pebbles (15 or 12 per cent). There were 9 (7 per cent) quartz pebbles, 7 red pebbles (6 per cent) and 2 black pebbles (2 per cent). All these were mixed in the very tightly packed pit contents.

A central pit beneath a cairn is of itself of great significance. It also contained a large retouched pebble chip, with the cortex turned upwards. It might not be without interest that this chip when positioned *in situ* had a size and appearance of a human skull bone. Besides this there was a piece of hardened sandstone resembling a rim sherd of red Beaker pottery: both 'fake,' representations of human bone and a very significant cultural artefact. Beyond these finds it only contained pebbles. One possibility is that the pit and its contents signifies a symbolic burial as indicated by its pebble and mineral contents.

Little Tor Cairn

This pebble cairn is situated 4.6 m to the south of the much larger cairn, Tor Cairn. Little Tor Cairn was completely excavated. In the 2009 season the entire surface of the cairn was deturfed and cleaned. Excavation of the southwestern half revealed a typical pebble cairn consisting of alternating layers of pebbles with soil. There was no charcoal that might have provided a means to date it, nor any other finds. In view of this, although our original intention had been to excavate only half the cairn, leaving the rest intact, we decided to excavate the other half in 2010. Following the excavations the cairn was restored to its original form. As at Tor Cairn, excavation proceeded by the successive removal of pebbles followed by the turf/earth layer into which the pebbles were embedded. In order to provide spatial control during excavation and facilitate systematic recording, each layer of pebbles was recorded by using a grid of squares across the cairn divided into four quadrants (Figure 3.20). We excavated the pebbles layer by layer from the top to the bottom of the cairn with our recording and excavation units being the four quarters of the cairn: N1, N4 and S2 and S3 (Figure 3.20). The methodology used for recording the pebbles was the same as that described above for Tor Cairn.

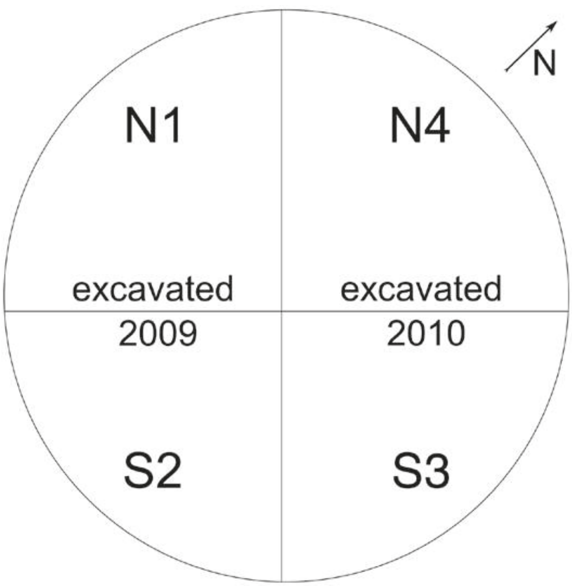

Figure 3.20 Little Tor Cairn: excavation quadrants (Source: author)

The excavations revealed that the cairn consisted of a maximum of seven layers of pebbles embedded in a soil matrix (Figure 3.21). Since the old ground surface slopes to the east as well as to the south, there were a greater number of pebble layers in the eastern half of the cairn. The section through the middle of the cairn shows the uneven ground surface on which the cairn was constructed, that there are a greater number of pebble layers in the cairn centre, as should be expected, and that the inner core of the cairn was composed of significantly smaller pebbles than those found in the top layers and on the cairn periphery. The edge of the cairn was not marked out by a pebble kerb. The pebbles were carefully laid next to each other horizontally across the cairn surface and in the individual layers. In contrast to the larger Tor Cairn to the north, pebbles were not inserted vertically to revet the cairn on its down-slope periphery nor did this occur within the pebble layers. Such support was unnecessary since this is a substantially smaller structure.

The last of the pebble layers rested on the old ground surface of the Triassic Pebblebeds geological formation. Field and subsequent

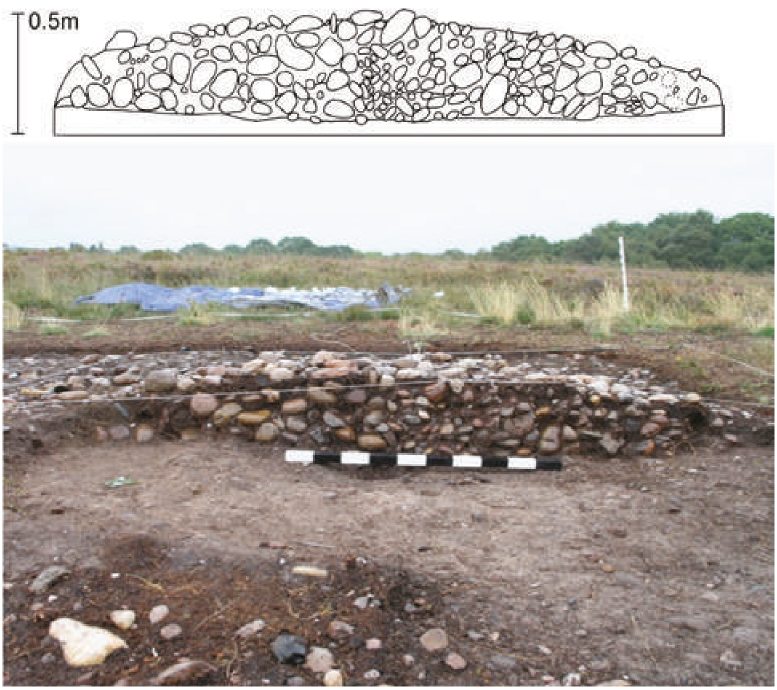

Figure 3.21 North–south section through Little Tor Cairn (Source: author)

laboratory microscopic examination by Michael Allen (at 10–180 magnification of a sample of the basal sandy matrix) indicated that it is probably a combination of sand washed through the pebble matrix and relict, highly disturbed and truncated elements of the former buried soil together with residual sandy elements from the weathered Triassic parent material.

There were no features under the cairn and unlike Tor Cairn it was not constructed on a layer of inverted turfs and podzolized soils. Thirty-six samples of charcoal were recovered from the old ground surface beneath the cairn and analysed by Dana Challinor (Appendix 8). All but one were of oak, some of heartwood, the rest of round wood. One sample was of alder/hazel sp. It provided an AMS date of 3330±40 BP; 1730 to 1720 BC and 1690 to 1510 cal. BC (BETA 292816).

The dominance of oak charcoal replicates that found at Tor Cairn and similarly indicates burning at the site prior to cairn construction. The only find materials from the 2009 and 2010 excavations were three unretouched flint flakes of local grey material, one from the topmost surface of the cairn, the other two among the third layer of pebbles from the top. They were all found on the eastern side of the cairn. This general absence of find materials throughout the pebble layers replicates the situation at Tor Cairn just to the north and Twin Cairn A discussed below.

Constructional history

Little Tor Cairn was constructed on a spur of the heathlands that had already been cleared by burning of the oak/hazel forest. The core cairn of small pebbles was probably constructed by collecting materials from the immediate vicinity. The overlying layers of larger pebbles may have come from further afield, with the blue stones and some of the special pebbles especially selected and curated (see Chapters 4 and 5). These were carefully laid next to each other over the cairn surface at an important locale in the landscape. The cairn did not mark a burial and it was only a discrete marker of place. The flint flakes, and most of the special pebbles and blue stones, were deposited in the northeast half of the cairn.

Twin Cairn A

Excavations were undertaken at this small pebble cairn (hereafter TCA) (SY 05356 87759) in 2011. The location in the landscape replicates that of Tor Cairn and Little Tor Cairn 750 m distant to the southeast (Figure 3.4).

The cairn is located in the middle of a southeast sloping spur bounded by valleys to the west and east. Just 7 m from it, down-slope to the southeast, is another pebble cairn of similar dimensions (TCB). From the cairns the sun may be observed at the midwinter solstice rising from the sea to the west of High Peak, an important celestial relationship shared with Tor Cairn and Little Tor Cairn (hereafter TC and LTC). The spur is broader than that on which TC and LTC sit, but the cairns are located higher up in the landscape at 115 m OD so that it is possible to look down on TC and LTC. The cairns are located near to the edge of the Pebblebed heathlands overlooking a prehistoric enclosure (cropmark site) just beyond the heathland boundary (see Chapter 9). There are expansive views from the site to High Peak and across the sea to the southeast. To the northwest views are limited by the rising ground. Another pebble cairn with finds of Beaker pottery excavated by Carter in the 1930s and discussed above (Carter 1936), some 700 m to the southwest, similarly located on another southeast sloping spur bounded by valleys and at the same height in the landscape, is not visible. The landscape locations, distances between them and the pairing of cairns close to each other are repetitive and consistent (Figure 1.10 and Figure 3.4).

Prior to excavation, TCA and its twin were scarcely visible in the dense heathland vegetation (Figure 3.22). Following removal of the

Figure 3.22 Twin Cairn A and Twin Cairn B prior to excavation looking east. Tor Cairn and Little Tor Cairn are located in the light area of the heathland vegetation (to the left of the TCA sign) across the valley in the middle distance. Note the line of the Peak Hill ridge and High Peak, the triangular-shaped hill, on the skyline (Source: author)

vegetation cover the detectable part of TCA measured only 2.5 m in diameter and its twin (TCB) 4.8 m. In the process of excavation the actual size of the cairn proved to be 3.5 m in diameter and 0.65 m high in the centre. It was thus slightly wider and higher than LTC but the relationship with its twin cairn was different, with the larger cairn being located down-slope in this case.

Excavation methodology

Having cleared surface vegetation we adopted the quadrant method and excavated two opposite NW and SE quadrants as they appeared to be the best preserved. Both were excavated simultaneously. The structure of the cairn consisted of successive pebble layers embedded in soil. Each layer of pebbles in the two quadrants was removed. Those from the NE quadrant were washed, weighed and measured and their shapes, colours and surface physical characteristics recorded in the same manner as in the excavation of TC and LTC. Following the discovery of central features a further central section connecting the two quadrants was opened (Figure 3.23). The remainder of the cairn was left intact. After excavation, the intact areas were covered by plastic sheets, and the cairn was restored to its original dimensions.

The excavated features

The overall cairn construction proved to be typical for the area. Five numbered contexts were distinguished and there were two distinct charcoal accumulations interpreted as fires that had taken place *in situ* at the centre. The inner central construction consisted of inverted turfs and buried soils covered by the layers of pebbles. This had the shape of a bowl with a charcoal accumulation on the bottom. Below the topsoil (context 1) there were successive layers of carefully laid pebbles set into a soft, sandy soil orange-brown matrix (context 3). But there was also a smaller patch of yellow cemented clay (context 2) around the top of the cairn and in the unexcavated NW quadrant (Figure 3.24). This was a layer about 10 cm thick and under and around it there were the pebble layers of context 3. There were 12 layers of pebbles in the NE quadrant and a further 3 in the centre of the cairn.

At a depth of 0.4 m from the top of context 3 there was a layer of yellow clay (context 4). In the central excavated section it was apparent

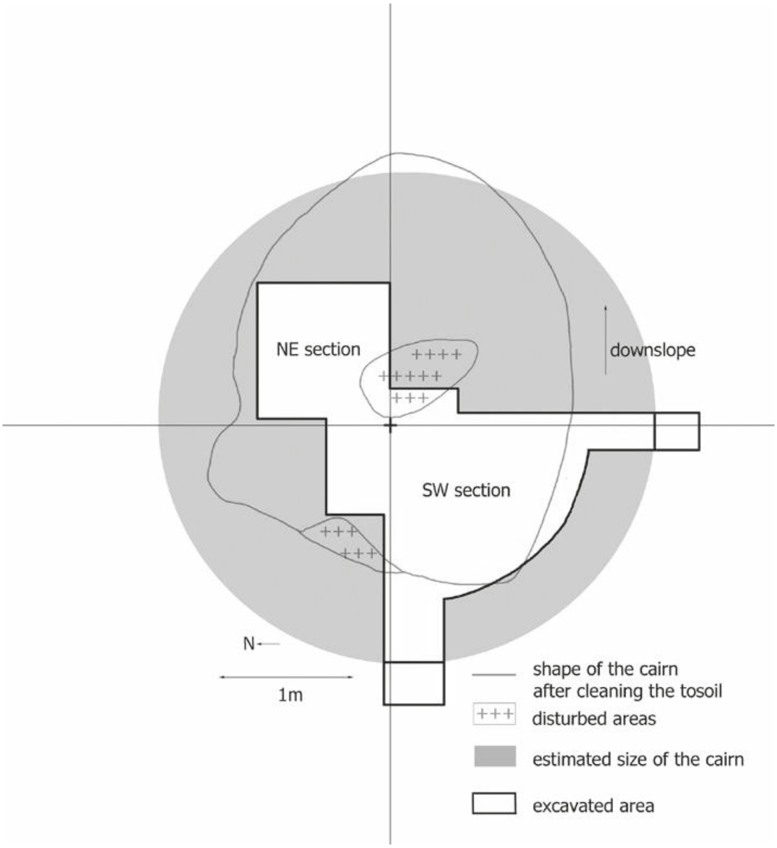

Figure 3.23 Twin Cairn A: excavated areas (Source: author)

that context 4 formed a thick layer of clay in the centre of the cairn in a bowl-shaped depression filled with pebbles. At the bottom of this was a *c.* 0.04 cm thick accumulation of charcoal. In the middle of this there was a substantial amount of fibrous material comprising about half the volume that had been deliberately deposited. A sample of this was analysed by Petr Pokorný, who reports that this contained an 'enormous quantity of fungal filaments (hyphae) and roundish fungal spores. The identification of such fungal remains is practically impossible. They could be 'either local growth of fungal mycelium on some organic matter (wood, litter, soil humus, etc.), or … the content of collected fungi (their fruit bodies, *respectively*)' (Pokorný, Appendix 10). The stratigraphic position of the sample supports the latter interpretation: that this is a deposition

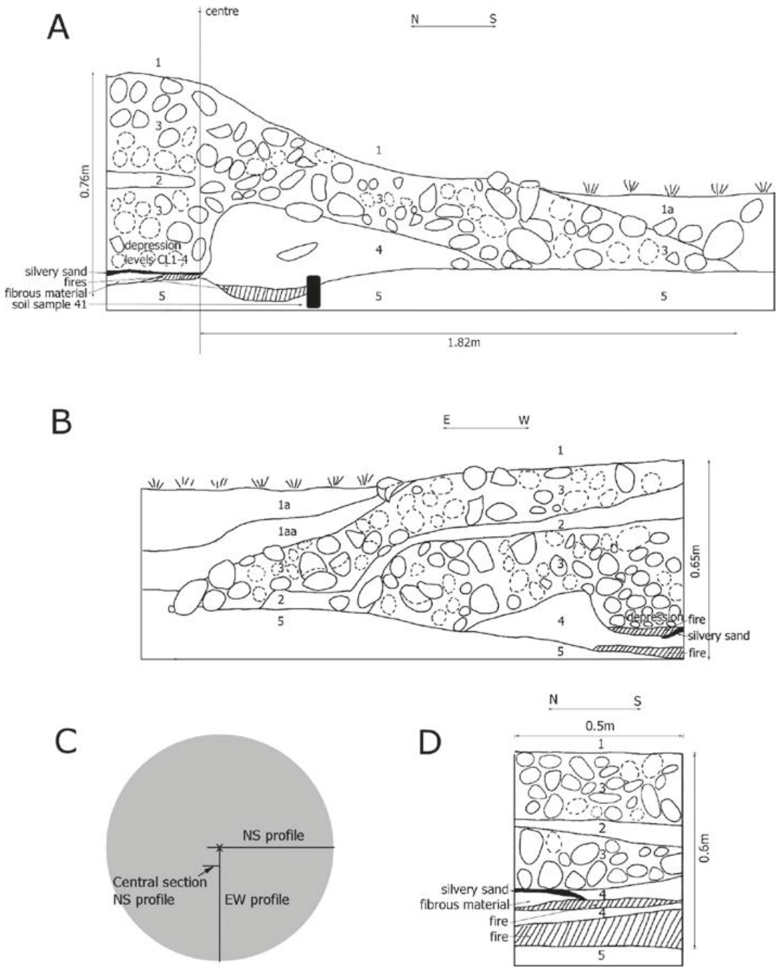

Figure 3.24 Twin Cairn A section drawings: (A): N–S section; (B): W–E section; (C): location of sections; (D): N–S profile of the central section (Source: author)

of mushrooms collected from a local woodland habitat. This deposition covered with a layer of fine silvery sand occurs in the context of what we refer to as an upper fire. This sand was most probably washed down from upper layers and accumulated there after the structure was completed (Lenka Lisá, personal communication). The sides of the central depression in which this deposition occurs were either repaired or covered with a layer of clay after the fire had been extinguished or charcoal raked into it. This interpretation is based on the fact that the pebbles in both the sides and the bottom of the depression were partly sunk into the clay.

The mushrooms deposited at TCA are of great interest. From various archaeological sites mushrooms are known both as depictions and as physical mushrooms or their residues. The oldest depiction of a mushroom in Europe comes from the cave of Selva Pascuala near a Spanish village, Villar del Humo, where the murals are dated to the sixth to the fourth millennium, and most probably represents neurotropic Psilocybe mushrooms (Akers *et al.* 2011). There are also representations of hallucinogenic mushrooms in Scandinavian rock art (Kaplan 1975) and at Mont Bégo, France (Samorini 1998). Archaeological evidence exists also for the use of poisonous *Amanita muscaria* (Merlin 2003). Of other kinds of mushrooms, puffballs have been identified (Watling and Seaward 1976) and polypore are also known, with the most famous being the piece of *Fomes fomentarius* and two pieces of *Piptoporus betulinus* carried by the 'iceman' Ötzi in the Alps during the Bronze Age (Pöder *et al.* 1995 and Peintner *et al.* 1998), possibly used as an antiseptic agent and for tinder.

Under the bowl-shaped depression lined with clay (context 4) there was another accumulation of charcoal that we interpreted as the remains of another fire. This was covered by another thin silvery layer not recognized during the excavation but identified in the soil micromorphology analysis (Lisá, Appendix 11). The final layer (context 5) was the old ground surface upon which the cairn was built. In the entire structure there were neither artefacts nor any remains of bone material.

A sample of soil for micromorphological analysis was taken in a kubiena tin from the N–S profile of the cairn (Figure 3.24a) in order to investigate the conjunction of contexts 4 and 5, the yellow clay and the old ground surface, at the southern edge of the charcoal accumulation at a place that was clearly visible in the section profile. This was analysed by Lenka Lisá (Lisá, Appendix 11). According to her analysis, context 5 is an 'anthropogenically influenced type of luvisol, that is, an horizon of luvisol with partly preserved turf' and most of the organic horizon is missing. From this we conclude that the area was roughly cleaned from turf before the fire was lit. The charcoal accumulation on context 5 that we have interpreted as a lower fire beneath the cairn has a weathered uppermost layer, which means that 'the site was at the time of charcoal deposition left for a while uncovered'. The charcoal accumulation does not show any signs of redeposition and therefore we can conclude that this is a residue of fire *in situ*. Its silvery top, even more visible in the case of the upper fire, might according to the report 'be the result of natural processes after burial'. The lower level of context 4 was an inverted,

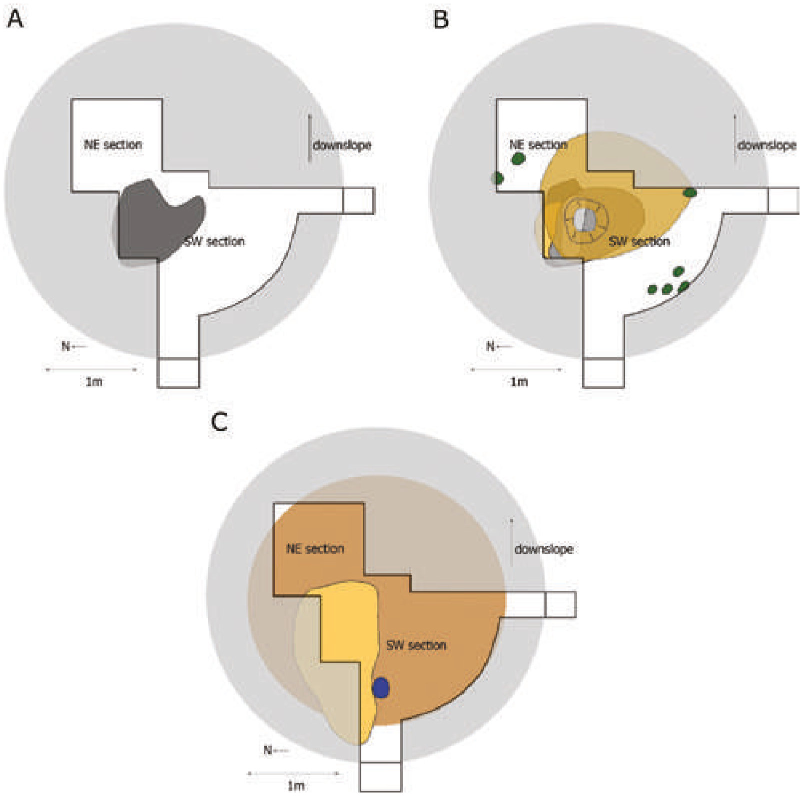

Figure 3.25 Twin Cairn A: plans. Excavated area (white) and extent of the final cairn (grey circle): (A): bottom fire; (B): bottom fire covered with clay (context 4a), upper fire with fungi in the middle and clay forming the central depression (context 4) and large pebbles – kerbstones around the central area; (C): clay patch over NW quadrant and central area (context 2), darker grey circle shows the possible extent of the original cairn, the area is approximated from its extent documented in E–W section. Next to the clay the blue oval shows the column of blue stones going through the whole pebble structure (Source: author)

non-burnt turf, whereas the upper part is the so called Ahe horizon (Lisá, Appendix 11), that is, a mineral horizon near the soil surface, enriched by organic matter but partly weathered.

In the basal areas of the cairn several very large pebbles were excavated. In the SW and NE section they were concentrated in the floor area around context 4. Other accumulations of large pebbles were discovered in the SW section, and are visible in the E–W and N–S profiles (Figure 3.24a, b) and in plans (Figure 3.25b). We interpret them as kerbstones that were delimiting the area in two phases of construction of the pebble layers making up the cairn.

The constructional sequence at TCA

In the construction of the cairn there are three archaeologically distinguishable phases. The first activity was preparation of the area, cleaning it roughly of turf and then lighting the first (bottom) fire. From soil micromorphology analysis we know that the bottom fire is not just an accumulation of charcoal but a fire *in situ*. After the fire had gone out, the site was abandoned for some time, because the top layer of the fire was partly weathered and the turf forming the next layer was not burnt. The bottom fire was partly covered by clay; this is visible in the N–S profile of the central section (Figure 3.24d) and in plans (Figure 3.25b).

In the second phase the bowl or the central depression surrounded by a thick layer of clay (context 4) was constructed. The construction started by covering the bottom fire with inverted turfs and starting the second (upper) fire, and then the remainder of the structure was built from local clay, probably from a stream bed. In the upper fire we found an accumulation of charcoal and a substantial amount of fibrous material, analysed as residue of fungi. As a result of its shape and position in the construction of the central features, we suppose that it is another fire *in situ*. Residues of fungi were placed in the middle of the charcoal deposits and the volumes of both were roughly equal. The walls of the central depression were repaired or refined, and this is (Figure 3.24d) where we recorded the thin layer of upper context 4 partly washed over the upper fire. The other possibility is that the walls of the bowl were built and filled by pebbles at the same time. In any case the pebbles laid into the bowl were put inside when the walls were wet. This was visible on the imprints in the bottom as well as sides of the bowl. Inside the bowl there were three layers of pebbles (central depression levels 1–3, where 1 is the uppermost). When this process was completed, a small pebble cairn was built covering context 4 and the depression was filled. The edge of the small cairn was delimited by very large pebbles forming a kerb, and then the site was left.

The third phase consists of two features – context 2 covering asymmetrically mostly the NW quadrant and new levels of pebbles covering the original small cairn. Context 2 could be either material washed over the cairn or intentionally deposited in the NW quarter. The final layer of pebbles interlaid with sandy soil was built in the same way as the small cairn and again was delimited by kerbstones set vertically to revet the cairn edge position. Construction of the outer pebble layer was the last event in the construction. Nearby to the southwest there is a military trench that fortunately did not disturb the cairn.

The sample taken for soil micromorphological analysis unfortunately contained too little pollen to permit analysis. The charcoal fragments recovered from the basal *in situ* fire and the upper fire were analysed by Dana Challinor (Challinor, Appendix 9). All but one were of oak and that many were of heartwood indicates that mature trees were burnt in both contexts. The trees grew in a heavily wooded environment that appears to have been the original virgin forest in the vicinity of the cairn. Apart from this, hazel was present in the understorey. The pollen analysis of buried soil under TC confirms a picture of oak/hazel forest prior to cairn construction (see Appendix 6 and discussion in Chapter 8).

One charcoal sample that proved to be of hazel and suitable for dating was taken from SW quadrant from the upper fire and gave an AMS date of 3380±30 BP; 1740 to 1610 cal. BC (BETA 315464). This Early Bronze Age date (Needham (1996; period 3/4) compares well to the C14 date from the basal level 5 of the NE half of LTC of 3330±40 BP; 1730 to 1720 and 1690 to 1520 cal. BC, showing that the two cairns were built at approximately the same time.

Although LTC and TCA are of approximately the same date they differ markedly in terms of their structure and the activities that took place at them. TCA is 1 m wider in diameter and almost twice as high as LTC at the centre. LTC has a core of small pebbles over which up to five pebble layers were constructed. There were no features underneath it and it did not cover inverted turfs on the old ground surface. Its perimeter was unmarked by a kerb. By contrast TCA had between 11 and 12 pebble layers bounded on the periphery by a kerb of large vertically set pebbles and was constructed on weathered inverted turfs. The absence of turfs at LTC suggests it was constructed immediately after clearance of woodland cover, whereas at TCA there was an interval between the clearance of the trees and the beginning of cairn construction. Above the upper fire, TCA covered a bowl-shaped depression lined with clay that was subsequently filled with three layers of pebbles, many of which were of an unusual and striking character. Half of the remains of the upper fire consisted of fungi, which were probably collected from the forest and deposited in the depression. The subsequent layers of pebbles (layers 1–5) were separated by a layer of yellow clay that was collected from a local stream bed as at TC and placed above pebble layers 6–12. This suggests that the construction of the upper part of the cairn took place in two distinct phases, whereas at LTC the pebble layers covering the inner core may have been constructed at the same time, one after the other.

Comparisons with other recently excavated East Devon cairns

After ploughing and in advance of afforestation of the East Hill ridge situated just to the east of the Pebblebed ridge and the river Otter in the mid-1960s, Palmer excavated four ring cairns and three cairns. One was of Beaker date, the others of probable earlier Bronze Age date. Four of them formed part of the mutilated line of monuments running along the western edge of the ridge situated just above its steep western scarp. The other three were situated at the far northern end of the Farway barrow and cairn cemetery, a short distance to their east (see Chapter 7) (Pollard 1967b, 1971).

The cairn at Daggers Piece was oval in shape, 4.5 m long and 3.6 m wide and was originally a low, discrete structure built of small angular flints. It covered two pits on the eastern side. One was covered with a large chert slab. The fill was dark black soil with few flints and much charcoal. It contained a struck flint flake. The other was covered with a flat flint, with charcoal lumps comprising 50 per cent of the fill and contained three struck flint flakes and a natural flake. There were no traces of cremated bone in either. Charcoal was also found on the old ground surface under the southeast side of the cairn in a shallow depression (Pollard 1967b: 34–6).

White Cross Ring was an oval enclosure 12 m × 10 m formed by a wall of small flints surrounding a small cairn 3.6 m × 2.7 m covering a slightly smaller oval-shaped gravel pit covered with a band of non-local red clay. The only finds were six flint flakes in the fill and a fossil sea urchin at the base. Ten other smaller pits, circular or oval in form, were found within the flint ring surrounding the central cairn and three underneath the ring itself on the northwest side. The fills were of small flints mixed with a sticky light grey clay. These were dug into the yellow clay of the old ground surface and deliberately filled with this material. They antedated the surrounding flint ring and contained no artefacts (Pollard 1971: 166). The structural sequence here consisted of three main phases: (1) the digging and infilling of the pits with contrasting coloured material; (2) the digging of the central pit of a size that according to Palmer might have covered an inhumation burial; (3) the construction of the external flint ring around the central cairn.

The sea urchin as a deliberate deposition demonstrates the acute attention to and awareness of stones to the cairn builders. Oakley (1965) mentions a rich body of folklore associated with sea urchins where they are variously regarded as talismans or lucky stones. In the Five Knolls barrow cemetery on the Dunstable Downs nearly 100 of them surrounded the inhumation burial of a woman and a child (117; Dyer 1991).

At Burnt Common situated at the northern end of the East Hill scarp Pollard excavated a flint and chert cairn ring of Beaker date. It was roughly circular, 11 m in diameter (Pollard 1967b: 23). It may originally have been at least 1 m high and was constructed over stripped topsoil with areas of burning inside the flint ring, remains of a fire that took place soon after topsoil stripping and before the flint ring was built (27). In the centre of this ring there was a sunken stone-lined rectangular pit with its long axis aligned northeast measuring 1.5 m × 1 m and about 0.5 m deep. The pit, which had been disturbed by digging, contained sherds of a beaker with chevron decoration in its lower part with most of the vessel present. It appears to have been deliberately broken before deposition (Quinnell 2003: 15; Jones and Quinnell 2008: 41). The fabric with crushed feldspar indicates a distant source close to granite, probably Dartmoor. This is unusual given that Beaker pottery was usually locally produced and that the vessel was not of fine quality (Parker Pearson 1990: 11; Case 1995: 64).

The fill also contained two fossil sea urchins. Another was found beneath the flint ring and a fourth in the plough soil. Two small pits also occurred in the western part of the flint ring. Their fill contained charcoal. There was an area of extensive burning under the flint ring.

Excavation of a partially destroyed small flint cairn at Farway, 6 m in diameter and 0.3 m high, at the far northern end of the distribution by Pollard (1967b) revealed a central oval platform of flints surrounded by an oval flint setting 0.9 m × 0.2 m. This contained a scattering of charcoal but no other finds. A small pit on the south side of the cairn contained a fill that included many charcoal lumps. Another to the northwest contained more charcoal. Both appear to have had cover stones. A further three small pits on the north and east edges of the cairn also contained charcoal. These five pits formed an irregular ring around the cairn edge. Within them was another ring of seven post holes with a diameter of 3.6 m. A further post hole was sited just to the east of the central platform. A burnt area occurred on the northwest side of the cairn adjacent to one of the pits. This area of burning again appears to have preceded cairn construction (Pollard 1967b: 33–4). A date on *Betula* charcoal from pit 2 gave a date of 2210–2010 cal. BC (Jones and Quinnell 2008: 39).

Two flint rings on Farway Hill, only 3.6 m apart, were 14 m and 9 m in diameter. In their original state, before ploughing, the rings were about 1.2–1.5 m in width and less than 1 m high. Neither enclosed a central pit but these rings were associated with 141 small pits, some within them, others underneath them and others between them. These timber rings preceded the construction of the surrounding flint rings. One pit contained a fossil sea urchin. The only other finds were a few flint artefacts and flakes (Pollard 1971: 167ff.). Dates obtained on oak sapwood and hazel from pits 38, 39 and 40 were 1880-1660 cal. BC and 1960–1750 cal. BC and 1980–1740 cal. BC (39).

There are a number of important points of similarity and differences between the constructional sequences and the materials used to construct these cairns and those found on the Pebblebeds. The first and most obvious contrast is the jagged, angular and relatively uniform material used to construct the cairns along the East Hill ridge. There was no careful layering of materials with soil layers in between and there is no reason to suppose that all the materials used to construct them were not derived from the immediate vicinity. The paucity of artefact finds mirrors the situation on the Pebblebeds.

The presence of contrasting coloured materials at White Cross ring cairn – the yellow clay with flints into which the pits were dug, their infill with grey clay, the red clay capping over the central oval shaped pit and the grey-white of the flint cairn and ring – is of great interest, underlining the significance of different coloured materials in cairn construction also found on the Pebblebeds. The presence of fossil sea urchin depositions similarly underlines an acute interest and knowledge of local stones and their characteristics. Some of the cairns covered pits as at Tor Cairn. Evidence for either inhumation or cremation burial under the cairns is similarly equivocal. The flint cairns are similarly associated with evidence for fire and burning probably connected with clearance prior to cairn construction. Post holes are absent under the excavated Pebblebed cairns.

Conclusions: embodiment and bodily experience at the cairns

Ingold has recently argued that we are best conceiving of mounds not as materials placed upon the surface of the earth, but as outgrowths from that surface (Ingold 2010). For Ingold the mound is *on*, and *of* the earth. These questions resonate with some of the issues that concerned us during the excavation of Tor Cairn. However, detailed investigation of the cairn composition and the local pebble bed geology suggests that in fact Tor Cairn was indeed positioned *on* the Pebblebeds, while it was made from materials that are *of* the Pebblebeds and by means of the pit it is rooted in the Pebblebeds. More intriguingly Ingold (2010: 254) argues that it is problematic to conceive of mounds as being architecturally designed, in fact, he argues 'in every case, the roundness of the form emerges spontaneously, due to the way in which the pressure of material added from above displaces material already deposited, equally in all directions. One could say that the mound builds up precisely because the material of which it is made is continually falling down.' Ingold's argument here certainly accords with many of the observed results of the Tor Cairn excavations.

We argue that we should not simply think of the cairns as structures or monuments, but as a series of events marked by materials. Many of these events are fugitive, and their traces are relatively ephemeral. However, these traces are read and worked into future projects. In this sense Tor Cairn is a continuous interrelated material project rather than a design-made material. This is surely the reason why we find no real evidence of preconceived colour patterning, although the polychrome contrasts of colour are essential components of the materials from which the cairn is composed.

As discussed above, the cairns were constructed and altered over a considerable period of time. The digging of the pit at Tor Cairn and the subsequent deposition of charcoal above it constitute a significant event that promotes the construction process – a small cairn of pebbles, placed above it. This cairn of pebbles marked the place of a significant event, a place of memory, which should be preserved for the future and should not be forgotten. The presence of the small pebble cairn acted as a visual prompt or reminder or a speaking place (*lieu parlant*). Sometime later the event was remembered by bringing in a dump of sandy material that ringed the edge of the small cairn. On the edges of this sandy material a series of small fires were lit; some of these marked the perimeter or limits of this sandy deposit. This perimeter was to form the edge of a larger pebble and turf cairn. This larger pebble cairn effectively mirrored and referenced the inner cairn of pebbles immediately beneath it. Pebbles of a suitable size were selected from further afield, and quantities of turf were cut. These were brought to the site, and cairn construction began; this was a methodical process involving the interleaving of turf and pebbles. Constructing this mound was a delicate business, as the materials out of which it was composed were fragile and obdurate. Tor Cairn was in a continuous state of collapse; it was for this reason that the southeastern edge of the cairn required revetting with propped pebbles and a defined edge as did the perimeter at Twin Cairn A. The construction of Tor Cairn was a compromise, then; it marked an earlier place of significance – the central pit and remains of a fire – but it did so on a sloping ground surface, and utilized difficult materials, rounded pebbles, that required quite remarkable uses and solutions to this problem.

The construction of the cairns were performances in which differing colour contrasts emerged as the performance proceeded, with contrasts between blackened charcoal and bright yellow/orange clay at the outset being concealed beneath a contrasting cairn of polychrome pebbles. The distinctions in the colour of these pebbles were noticeably drawn on, as during the construction, pebbles of certain colours were used to mark specific positions in each pebble layer. This polychrome layer was then partially concealed beneath a uniform layer of yellow sand, which in turn received alternate layers of dark turf and polychrome pebbles.

Just as the performance involved changing contrasts of colour, so the performance also involved a contrasting choreography of movement. This involved a movement from the central structure above the pit and central cairn to the periphery with the spread of sand. The periphery on the southeastern side was clearly marked by a perimeter of pebbles; the periphery may have also been fired. Movement then began back towards the centre as successive layers of turf and pebbles were incorporated to make up the cairn mound. Gradually as the mound was built movement shifted back towards the edge of the site, producing a movement from outside to inside, inside to outside. This was a choreography of movement in which the properties of materials, the slippery rounded pebbles, and the people involved in arranging them around the site were interwoven. Through this choreography of movement people came to understand their relationship to the activities that made this place significant.

We have been striving throughout the above account to find a phenomenological way into understanding these pebble cairns and what they might signify. They are discreet structures in the landscape, visible only from a short distance away.

They did not stand out, punctuate the landscape and draw attention to themselves. They did not cover a burial and there appears to have been no cremation. The pit below Tor Cairn may have been a symbolic burial but its primary contents were simply pebbles in a landscape of pebbles. The Early (period 2/3) Bronze Age pebble cairns on the heathlands marked place but they did not do so in a monumental way.

Fire is an important element in the construction and significance of these cairns. They were constructed soon after the virgin oak/hazel forests had been removed by burning. The significance of fire and fire rituals has been extensively documented in traditional folk customs in both Britain and continental Europe. All over Europe the peasants kindled bonfires on particular days of the year. Some of these rites are claimed to date back into prehistory. The earliest proof of their existence are the attempts of the Christian synods in the eighth century AD to extinguish them as pagan rituals. The kindling of bonfires and the dancing and festivities and processions associated with them have consistently linked these events with the solar cycle and seasons of the year, punctuating the annual calendar and acts of purification warding off witches and evil spirits. Thus they have been alternatively explained as solar rites or rites of purification (Fraser 1993; Hutton 1996).

Hallowe'en, it has been claimed, has its origins in the Celtic feast of Samhain on 31 October. This was the beginning of the year and marked the end of summer and the beginning of winter and the ongoing cycle of the seasons. This was the time of year when the trees lost their leaves, and the feast was linked to the onset of winter and death. It was also a time of feasting and celebration, when animals put out to pasture over the summer months were taken in and confined to their winter byres, weaker and older animals would be culled, offered as sacrifices, and stocks of food were put aside for the winter. It was a time for divination and remembrance and communication with the ancestors and the spirits of the dead, a pagan feast of the dead according to Fraser (1993: 632ff. and see critical discussion by Hutton 1996: 360ff.). Samhain has been consistently linked with pastoralism in northern Europe. It has its seasonal equivalent in Beltane, taking place on 1 May. This is another reputedly 'Celtic' fire festival marking the beginning of summer. This was the time when animals would leave their winter byres and be put out to pasture and the leaves would open on the trees.

Recorded details of Samhain and Beltane rites, mainly of relatively recent origin, are interesting in the manner in which they link the fire rituals with seasonal animal transhumance. Hutton comments that 'there seems to be little doubt that the opening of November was the time of a major pagan festival which was celebrated, at the very least, in all those parts of the British Isles that had a pastoral economy' (Hutton 1996: 369–70). At Samhain people assembled in some local high place and lit the fire at dusk. The smoke from the fires was held to be both protective and purifying, keeping witches and fairies away. Rites involved dancing around and across the bonfires, it being lucky to pass over the embers. In a Scottish version the fire was encircled with stones, one marking each family that participated in the rites (Hutton 1996: 366–7). At Beltane, the festival involved fire rituals again taking place on high points. In northeast Scotland in the latter half of the eighteenth century herdsmen from several farms gathered wood, kindled it and danced three times southwards around the flames (Fraser 1993: 620). The rites protected cattle before they were driven out into the pastures. They were known as bone-fires since bones were burnt on them to prevent witches casting spells on cattle and stealing milk. In some variants cattle were made to leap over lit straw or driven around the fire in order to protect their milk. On Dartmoor cattle were driven over the embers of the fires in order to protect them (Hutton 1996: 223). The flames blessed and protected both animals and people against misfortune. Dancing around the fires sometimes processed clockwise in accordance with the passage of the sun across the heavens. This was linked to more general beliefs that leaping three times through the flames or running three times between multiple fires would ensure a plentiful harvest, the heat of the fire being thought to fertilize the fields, and that the crops would grow well as far as the bonfire was visible (Fraser 1993: 621 and 645).

Throughout Europe from Italy to Sweden and from Britain to Serbia, the most important fire rituals were the midsummer fires taking place at the solstice, when the sun had climbed to its highest point in the sky before sinking lower once more. The main features of these rites across Europe were the lighting of bonfires on prominent points, dancing around and leaping across them, processing with torches around the fields and the custom of rolling a sun wheel (Fraser 1993: 622). In France in the middle of the nineteenth century the custom of lighting fires was ubiquitous. There was hardly a town or village that did not do so.

Evidence for midwinter bonfires associated with the winter solstice amongst the European peasantry is slight, apart from the interiorized domestic tradition of the Yule log that was similarly widespread across Europe and associated with a desire to rekindle the expiring light of the sun. In France the Yule log steeped in water would help cows to calve. Fire festivals taking place in Lent, the Lenten fires, or at Easter are associated with the spring equinox. The fires on earth in a general way mimic the powers of the sun and so the widespread custom of rolling a burning wheel down a hill mimics the course of the sun in the sky.

For all the various fire festivals the joint themes are of purification and protection – the warding off of evil powers – are consistently present. Sometimes these are linked to the burning of human sacrificial effigies or those of witches. Another persistent theme is the promotion of the fertility of animals and crops and linked to this is the fecundity of humans. Childless couples could achieve fecundity by leaping the fires. In an Irish belief a woman who jumps thrice over the fire will soon marry and have many children (Fraser 1993: 646). Finally, it is interesting to note that the preferential fuel for the ritual fires was the oak considered in various Greek, Roman, Indo-European and Celtic mythologies to be the pre-eminently sacred tree (159–60, n. 665).

The various individual details of the European fire festivals are of little significance to this account but they exemplify the significance of the longue durée perfectly. Although the details of the rituals differ across European folklore and cosmology, the following generalizations may be drawn out of them to provide a general framework for the understanding of the fire rituals that were taking place at the pebble cairns:

- that fire rituals were a ubiquitous part of the sacred and ritual seasonal calendar;
- that the fires were lit in high places visible from farms and fields below, their light and heat spreading across the land;
- that they, or rites associated with them, such as that of the burning wheel, mimicked the passage of the sun in the sky and they were related to the solstices and equinoxes;
- that they were associated with the seasonal movements of cattle in pastoral economies;
- that they involved rites of dancing around or over the flames, sometimes associated with stones, linked to the well-being and fecundity of animals, crops and people and the warding off of evil spirits;
- that the preferential fuel was oak wood.

Fire has always been a fundamental elementary force in the creation and maintenance of this heathland landscape for at least 4,000 years from the Early Bronze Age to the present day. Indeed it might be described as a landscape of fire. At the cairn sites the land was both cleared by fire, prior to their construction, and successive fires took place while they were being built. We have seen that the mushroom depositions found in relation to the upper fire at Twin Cairn A indicate ritual activities taking place, possibly in the autumn during the period of its construction. Virtually all the identified charcoal at the three excavated cairns was of oak.

The very nature of these circular cairns suggests movement around them, and perhaps over them as part of the rites. Both the putting out of animals to summer pasture and the need to bring them back in the autumn were certainly important events in the usage of the heathlands for seasonal grazing by communities living in their vicinity in the Bronze Age, just as it was in medieval times and long into the twentieth century.

The removal of the trees prior to cairn construction allowed the landscape itself to be seen in a new way. It was, quite literally, opened out, exposing its topographic forms, the valleys and spurs and ridges. Places within this landscape of pebbles became revealed in the process, areas with contrasting soils and heathland vegetation. Tor Cairn was constructed on a sandy lense within the stony Pebblebed deposits and this may have been why this specific location was chosen for its construction. By contrast, cairns constructed later in the Earlier Bronze Age (periods 3–4) on the basis of presumed parallels with the situation around Stonehenge and in southwest England, are found in higher and much more prominent positions. They move up in the landscape, are much more prominent and meant to be highly visible, often skylined so they can be seen from far away. These may cover inhumations or cremations (none have been excavated).

It is clear that the small Beaker cairns represent places where materials from the Pebblebed landscape were gathered together: primarily the pebbles used to construct them. At Tor Cairn these include a very large foundation stone from a stream bed, ventifacts from some distance away, blue stones and special pebbles that were curated and brought here, some perhaps from a considerable distance. Yellow clay from stream beds was brought to the cairn and charcoal from fires in its vicinity. These materials were assembled at the cairn in multiple acts. The primary work was multiple acts of gathering pebbles. These social acts of gathering materials and placing them to build the cairn we regard as indicating a way to interpret and understand it. The significance of the cairn is the work that took place to create it, the act of gathering and assembling materials at this place: process rather than product or the end result. The cairn is in effect a *concentration* of the multicoloured and special pebbles found in the landscape: the cairns mass them together and concentrate them in a particular place associated with the rising midwinter sun. In so doing a potent and powerful structure is created in the landscape, producing ‘symbolic heat’ in association with the sun’s rays. If the pebbles were conceived as powerful and magical stones, as we have argued, gathering these pebbles together would be an act that would enhance and increase their symbolic potency and power at a sacred place in the landscape.

4
Analysis of the pebbles

Christopher Tilley and Clarissa Sanfelice Rahmeier

As discussed in Chapter 3, the methodology of the excavation was conducted in order to record the pebbles in a very detailed way. As a result, pebbles from a great number of excavated squares were measured, weighed and described in terms of colour and unique features, which provided a comprehensive account of the raw material used to build Tor Cairn (TC), Little Tor Cairn (LTC) and Twin Cairn A (TCA). The methodology also allowed for a comparison between the pebbles selected to build the cairns and the pebbles found in natural test samples.

Test samples

In order to provide a systematic comparison between the cairn pebbles and those occurring naturally in the Pebblebed heathlands, all the pebbles on the surface were excavated and systematically analysed in the same manner from 15-m-square test samples using a 1-m-square measuring frame. These were taken at different locations and from different contexts across the entire heathlands from Aylesbeare Common in the north to Budleigh Salterton beach in the south (Figure 4.1; Figure 4.2).

Two samples of beach pebbles at the western and eastern ends of the beach were taken, four samples from adjacent metre-square excavation units 42 m to the NNW of Tor Cairn, one sample from a footpath north of Black Hill, one from a ploughed field bordering Colaton Raleigh Common, three samples from stream bed locations and four samples from locations where machine topsoil scraping had taken place exposing pebbles in different parts of the heathlands (Table 4.1).

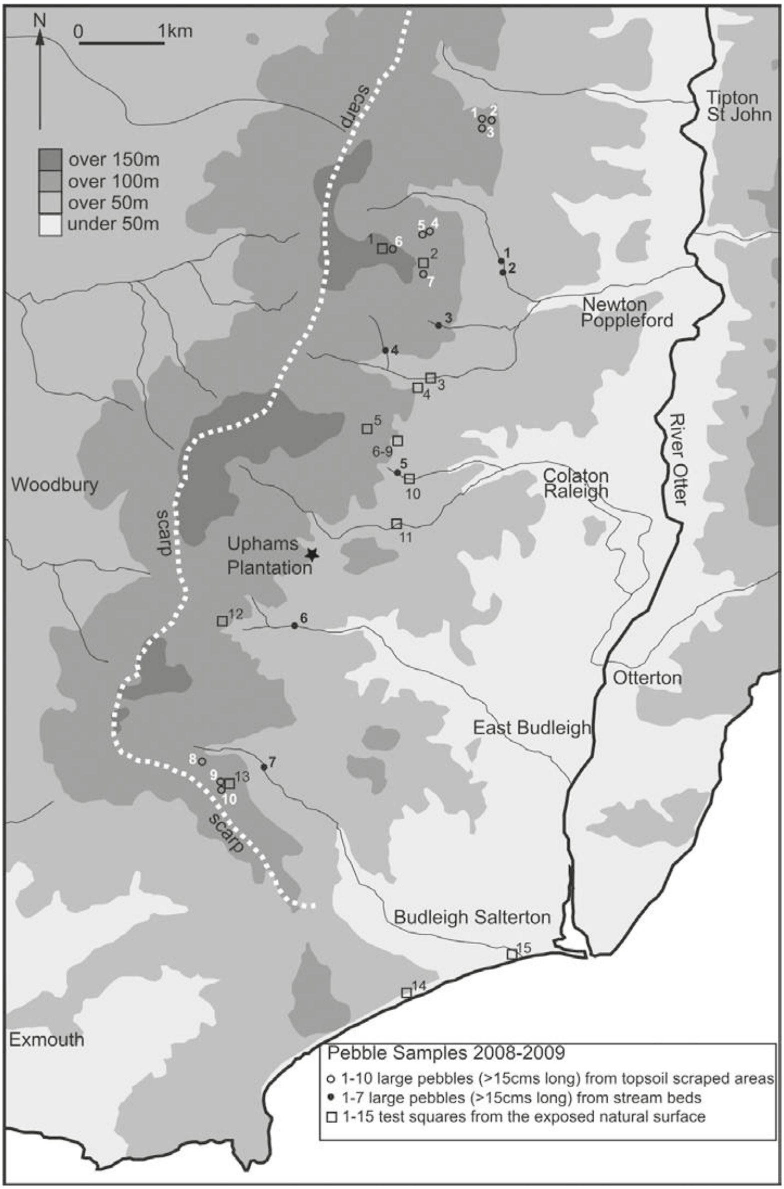

Figure 4.1 The location of pebble sampling locations from the natural across the heathlands showing sample locations for large pebbles in topsoil-scraped areas and along stretches of stream beds and the 15 excavated 1-m-square samples (Source: author)

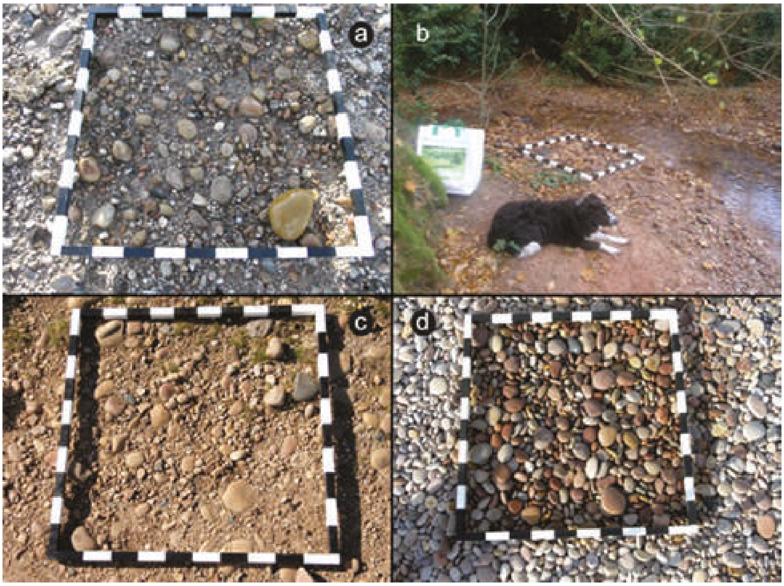

Figure 4.2 Examples of excavated test samples from the natural. (a): Aylesbeare Common (see Fig. 4.1: 1); (b): Stowford stream (see Fig. 4.1: 10); (c) Black Hill footpath (see Fig. 4.1: 10); (d): Budleigh Salterton Beach: eastern end (see Fig. 4.1: 15) (Source: author)

Topsoil scraping was a practice introduced in the mid-1990s to produce bare areas of heathland to increase biodiversity and produce a variety of habitat types as part of their environmental management. These test samples provide a full range of different contexts and locations with which to compare and contrast the pebbles from TC, LTC and TCA.

We were also interested in where very large pebbles occur and are easily found across the Pebblebed heathlands since these are used as kerbs and revetments in cairn construction. We knew that this was usually in the streambeds but we needed to verify this in a systematic fashion so we counted all large pebbles (defined as pebbles over 15 cm long – that is in fact rather small for a large pebble) in ten different areas where the topsoil had been scraped off and along seven 10–15-m-long stretches of streambeds in different places across the heathlands (see Table 4.2 and Figure 4.1). The results of this analysis confirm the fact that large pebbles are rare in dry and high exposures found right across the heathlands but are very common in the streambeds. The numbers of large pebbles in the streambeds varies markedly from one location to another. In the

Table 4.1 Pebble sampling locations across the heathlands.

Map no.	*Locality and sample type*	*Grid reference*
1	Aylesbeare Common topsoil scrape 1	SY0560390278
2	Aylesbeare Common topsoil scrape 2	SY0601989823
3	Hawkerland stream bed	SY0601188667
4	Colaton Raleigh ploughed field	SY0582488526
5	Colaton Raleigh topsoil scrape	SY0537887954
6	Colaton Raleigh NE of Tor Cairn test trench 1	SY0564287922
7	Colaton Raleigh NE of Tor Cairn test trench 2	SY0564287922
8	Colaton Raleigh NE of Tor Cairn test trench 3	SY0564287922
9	Colaton Raleigh NE of Tor Cairn test trench 4	SY0564287922
10	Colaton Raleigh stream bed S of Tor Cairn	SY0576087976
11	Stowford stream bed	SY0556286970
12	Bicton Common footpath near Black Hill	SY0350785842
13	Withycombe Raleigh Common topsoil Scrape	SY0367583807
14	Budleigh Salterton Beach: western end	SY0631481730
15	Budleigh Salterton Beach: eastern end	SY0742881962

samples we took there were very high numbers of large pebbles in the streambeds at Hawkerland and Stowford and far fewer in the Budleigh and Dalditch brooks. The frequency of large pebbles may alter markedly along the course of the same stream. They tend to cluster towards the bottom of steeper slopes and on bends. These are the most likely places where prehistoric populations would collect larger pebbles to build their cairns from nearby streams (see Table 4.2).

In what follows we provide a general statistical analysis of the forms and aspects of the pebbles in each cairn and also a comparison of all excavated areas, natural or built. In order to perform this analysis we considered the three cairns individually, so the statistics for them are considered separately from one another (a more comprehensive description of the structure of the cairns is presented in Chapter 3). The two beach test samples were grouped together in order to form a single unit of analysis, as were the other 13 natural test squares dug across the heathland area. In this way, our analysis is based on five excavated samples: Tor Cairn (TC: five 1-m-square quadrants at the centre of the cairn), Little

Table 4.2 Test samples of large pebbles over 15 cm in length/diameter from ten topsoil-scraped areas (top 1–10) and seven stream beds (bottom 1–7) across the East Devon Pebblebed heathlands (see Fig. 5.1). The size of the topsoil-scraped area surveyed is given in square metres, along with the number of large pebbles counted and the ratio of large pebbles/square metre. The stretches of stream beds sampled were between 10 and 15 m long and their width was between 1.5 m and 2 m.

Map no.	*Locality*	*Grid reference*	*Size (m^2)*	*Pebbles*	*Ratio*
1	Venn Ottery Hill	SY0675991748	918	2	0.002
2	Venn Ottery Hill	SY0674191455	832	42	0.050
3	Venn Ottery Hill	SY0672891429	888	41	0.046
4	Aylesbeare Common	SY0604990331	20	0	0
5	Aylesbeare Common	SY0604890351	960	24	0.025
6	Aylesbeare Common	SY0601789844	880	76	0.086
7	Aylesbeare Common	SY0560390273	750	81	0.108
8	Bystock	SY0341484247	504	59	0.117
9	Withycombe Raleigh	SY0367683805	720	46	0.063
10	Withycombe Raleigh	SY0366683860	546	19	0.035
1	Harpford Common	SY0669390107	20	41	2.05
2	Harpford Common	SY0674090040	20	156	7.80
3	Aylesbeare Common	SY0631489763	40	140	3.50
4	Hawkerland	SY0538889144	22	325	14.80
5	Stowford	SY0555886976	20	143	7.15
6	Black Hill: Budleigh Brook	SY0440585796	22	84	3.80
7	Dalditch Brook	SY0415683817	15	78	5.20

Tor Cairn (LTC: whole cairn), Twin Cairn A (TCA: NE quadrant), natural test squares (natural) and beach test squares (beach).

General statistics on the cairn pebbles

Tor Cairn

All the pebbles used for the construction of the excavated SE quadrant of Tor Cairn were counted. They numbered 7,705. Pebble frequency in the individual layers of the 1 m excavation units varied between *c.* 100 and 200 pebbles. We estimate on the basis of these figures that the total number of pebbles used to construct the cairn was around 31,000. This number of pebbles could easily have been collected and used to build the cairn by a small kin group in a matter of two to three weeks. The amount of labour time expended would have been relatively small if they were collected from the ground surface in the vicinity of the cairn up to 100 m or so away or quarried from shallow scoops made in the valley slope to its west nearest to the cairn. This would have been far simpler than digging vertical pits or trenches and was the modern quarrying method for obtaining pebbles used in the eighteenth and nineteenth centuries in the area (see Chapter 13). However, this account assumes that the building of the cairn was a single and continuous event, which it was not, as discussed in Chapter 3.

Little Tor Cairn

In total 4,560 pebbles were recorded from the entire cairn. In the western half excavated in 2009 there were four distinct pebble layers; on the eastern side, excavated in 2010, five; and in the centre an additional two layers covering an area of approximately 0.5 m in diameter with a total of 452 pebbles (10 per cent of the total). These made up the inner core of the cairn. The total weight of these pebbles is 723 kg. If all the pebbles were laid in a row it would stretch for 85 m. But this is a very modest structure that could have been constructed by a small group of people in a matter of days.

Twin Cairn A

Since the pebbles at TC and LTC had been studied in great detail prior to the Twin Cairn excavations and no evidence was found of deliberate spatial patterning of different pebble shapes or colours in the various pebble layers or different areas of these cairns, a decision was made to document in detail only the pebbles in the NE quadrant of TCA. In all there were 11 distinct levels of pebbles in the SW quadrant and 12 in the NE quadrant. In addition there were three pebble layers in the central depression (Tables 4.3–4.8). The total number of pebbles in the NE quadrant excluding those from the depression was 947, so we can estimate that the cairn itself was made up of around 4,000 pebbles. This is roughly the same number as those counted for the entirety of LTC: 4,560.

Statistical pebble analysis: length, weight, shape, colours and specials

One characteristic of the geology of the Pebblebeds is that the pebbles are ungraded or only crudely sorted by natural processes, contrasting with beach pebbles that are graded by the tides. The pebble strata in the cliffs, which in places reach a maximum thickness of 30 m, are characteristically interleaved with silty sand and grit lenses formed by the great Triassic river. Pebbles of markedly different sizes and shapes, 3 cm or less in size to a maximum diameter of 45 cm, can occur together where they can be observed in the vertical cliffs along the coast at Budleigh Salterton or inland in quarry exposures (Edwards and Scrivener 1999: 91 and see the discussion in Chapter 1).

1. Pebble length

After sorting out the broken pebbles, the unbroken ones had their longest length measured and recorded. Statistics for each cairn and a comparison between them and the natural test samples are presented below.

According to a geological definition repeated in some excavation manuals the definition of a pebble is that it is a water-rounded stone up to 6.4 cm maximum dimension. The term cobble is used for water-rounded stones larger than that. We do not find this arbitrary distinction useful and indeed reject it as having any descriptive or analytical value in discussing the cultural use and value of pebbles.

Tor Cairn

We recorded pebble size of unbroken pebbles in terms of their maximum length. The vast majority of them in Tor Cairn, *c.* 90–100 per cent (the precise figure varying a little between the different levels of the cairn and from one 1-m-square excavation unit to another), measure between 5 cm and 15 cm, or about the same size as a baking potato. Very few pebbles are more than 15 cm long and between 5 and 10 per cent are less than 5 cm in length (or diameter in the case of round pebbles). Larger or smaller pebbles are not clustered in different areas of the cairn. However, smaller pebbles less than 5 cm long are more frequent in the three pebble layers of the primary cairn (up to 9 per cent) and none here are over 15 cm long. So the secondary cairn differs from the primary cairn in that there is a higher proportion of larger pebbles and only a few very large pebbles are present: a slight change in the selection criteria for the appropriate size of pebble (for the structure of the cairn see Chapter 3). As a matter of comparison, the mean length of pebbles in the excavated test sample trenches near to the cairn was only 5 cm, while in the 11 more distant test samples the mean length varied between 7 cm and 8 cm.

Little Tor Cairn

There is a consistent patterning of the pebbles in terms of size in Little Tor Cairn. Disregarding the inner core consisting of small pebbles 5 cm or less in size, the largest pebbles are found in the top and the bottom levels of the cairn on the western side: levels 1 and 4. About 92 per cent of the pebbles in the top and basal levels measure between 5.1 cm and 20 cm. In the middle levels this figure drops to around 75 per cent. The presence of small pebbles (up to 5 cm long) in the middle levels is around 25 per cent. Thus the cairn has the structure of a sandwich, with smaller pebbles being more frequent in the middle layers.

Twin Cairn A

Most of the pebbles used to construct the Twin Cairn A were between 5 cm and 15 cm long with only minor variations from level to level. The largest pebbles were those used to construct the kerb (Table 4.3 and Table 4.4).

Figure 4.3 compares the length of the recorded pebbles from the five units of analysis and demonstrates that in all analysed squares the majority of pebbles measured between 5.1 cm and 15 cm. Although some similarities can be noticed between the pebbles from the cairns and the test sample squares, chi-square test results support the idea that there was a positive selection of pebbles in the construction of the three cairns, since the frequency pattern found in the cairns differs substantially from that observed in the natural and beach test squares at the highest significance level.

2. Pebble weight

All unbroken pebbles from natural samples and the cairns were weighed. The results of the analysis of the weight of the cairn pebbles are discussed below.

Tor Cairn

The weights of the individual pebbles in Tor Cairn may be up to 1 kg or more but most weigh between 100 g and 300 g and it is clear that these smaller

Table 4.3 The weights of the recorded pebbles in the NE quarter and centre of Twin Cairn A according to pebble levels. Frequencies, percentages and mean weights given.

Level	*0–250 g*	*Percentage*	*251–500 g*	*Percentage*	*501–750 g*	*Percentage*	*751–1 kg*	*Percentage*	*>1 kg*	*Percentage*	*Total*	*Mean g*
1	17	11	33	50	12	18	2	3	1	2	66	401
2	13	33	22	56	4	10	0	0	0	0	39	297
3	30	48	21	34	5	8	2	3	4	6	62	350
4	17	35	22	45	6	12	2	4	2	4	49	360
5	20	38	13	25	9	17	8	15	3	6	53	474
6	18	23	28	35	23	29	8	10	3	4	80	484
7	17	43	14	35	6	15	3	8	0	0	40	364
8	11	24	20	44	7	16	5	11	2	4	45	441
9	27	55	12	24	5	10	3	6	2	4	49	323
10	10	25	17	43	9	23	3	8	1	3	40	428
11	2	7	12	44	7	26	3	7	3	11	27	659
12	4	36	4	36	3	27	0	0	0	0	11	347
C1	13	32	16	39	5	12	6	15	1	2	41	414
C2	11	42	11	42	3	8	1	4	1	4	26	335
C3	4	33	8	62	0	0	0	0	0	0	12	314

Table 4.4 The lengths of the pebbles recorded from the different levels in the NE quadrant and centre of Twin Cairn A. Total numbers, percentages and mean length given.

Level	*0–5cm*	*Percentage*	*5.1–15 cm*	*Percentage*	*15.1–20 cm*	*Percentage*	*Total*	*Mean cm*
1	3	5	49	74	0	0	66	8.8
2	2	5	37	95	1	3	39	8.6
3	5	8	57	92	1	2	62	8.4
4	8	16	45	92	0	0	49	8.6
5	10	19	40	75	3	6	53	6.8
6	2	3	75	94	3	4	80	9.3
7	1	3	38	95	1	3	40	8.9
8	2	4	43	96	0	0	45	9.3
9	7	14	42	86	0	0	49	9.8
10	0	0	40	100	0	0	40	9.5
11	0	0	24	89	3	11	27	10.9
12	3	27	8	73	0	0	11	8.3
C1	1	2	39	95	1	2	41	9.3
C2	0	0	25	96	1	4	26	8.5
C3	0	0	12	100	0	0	12	8.6

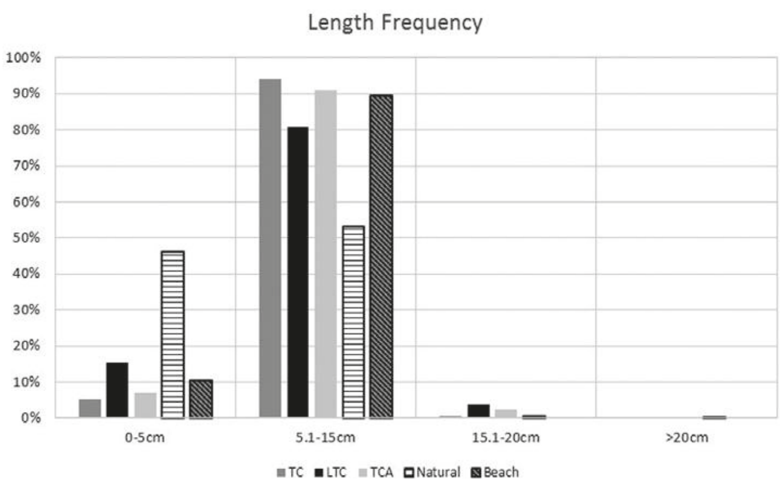

Figure 4.3 The relative frequencies of pebbles according to maximum length at Tor Cairn, Little Tor Cairn, Twin Cairn A, thirteen test samples from the natural and the two beach samples (Source: author)

Table 4.5 The percentages of broken pebbles and the total number of pebbles in the different pebble levels in the NE quadrant and central area of Twin Cairn A.

Level	*Broken (percentage)*	*Pebble total*
1	44	118
2	29	67
3	35	96
4	42	85
5	49	103
6	33	120
7	26	63
8	42	77
9	38	83
10	44	72
11	39	44
12	42	19
C1	32	41
C2	38	26
C3	33	12

and lighter pebbles were chosen for preference. The heaviest pebble in TC, weighing 5.5 kg, was found in the basal layer at the centre of the cairn. One way to understand the choice of smaller and lighter pebbles for the construction of the primary cairn in the approximate centre of the cairn (context 019 – see Chapter 3) may be that they were picked up in the immediate vicinity. The secondary cairn seems to have been built with pebbles from further afield, as the excavated test trenches near TC are composed only of lighter pebbles weighing around 100 g. The average weight of the pebbles from the 11 more distant test samples was between 250 g and 450 g.

Little Tor Cairn

The proportion of pebbles weighing over 1 kg remains constant throughout levels 1–4 of quadrant N1 (10–11 per cent). The highest frequency of small pebbles weighing less than 250 g occurs in levels 2 and 4, replicating the sandwich effect of smaller and larger pebbles in relation to pebble size noted above. In S2 the picture is markedly different, with the proportion of pebbles gradually decreasing in weight down the cairn from only

29 per cent weighing less than 250 g in layer 1 to 60 per cent in layer 4. In N4 between 10 and 15 per cent of the pebbles weigh over 1 kg in layers 1–3. This falls to 5 per cent in layer 4 with only around 0.5 per cent in the basal layers L5 and L6. In L1 42 per cent of pebbles weigh less than 250 g, declining to between 27 per cent and 33 per cent in levels 2 and 3 and then successively rising from 60 per cent in layer 4 to 96 per cent in layer 6. In S3 the frequency of heavy pebbles weighing over 1 kg is much lower in all levels and overall there is a significant decrease in pebble weight with depth from 55 per cent weighing less than 250 g in L1 to 77 to 82 per cent in basal levels L6 and L7. In all levels the majority of the pebbles, 62–97 per cent, weigh less than 500 g.

Twin Cairn A

As is the case for LTC, the vast majority of the pebbles in all the layers of Twin Cairn weighed between *c.* 100 g and 500 g, with comparatively little variation from level to level. In each level there were just a few heavy pebbles weighing over 1 kg and the number of pebbles weighing more than 750 g is small in all cases. The cairn is thus fairly uniform in construction in terms of pebble weight.

Figure 4.4 provides a comparison of all excavated units in relation to the frequency of pebble weight. Again the statistics do not point to any substantial differences in the choice of pebbles used to build the three

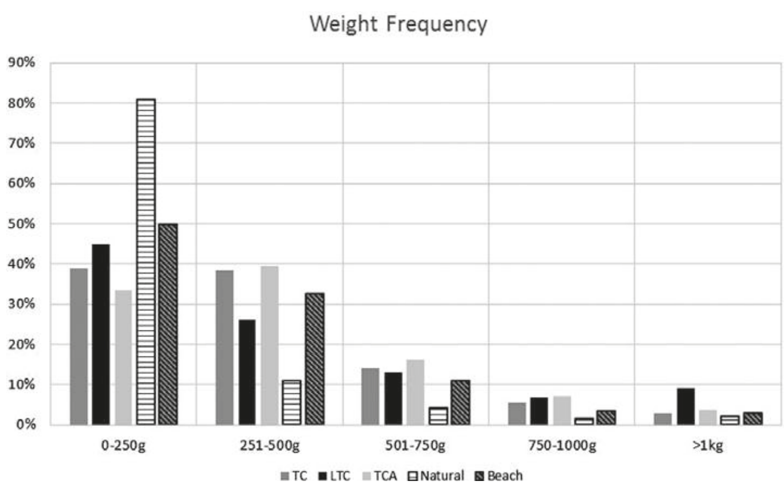

Figure 4.4 The relative frequencies of the pebbles for weight at the excavated cairns and in the natural samples (Source: author)

cairns. However, chi-square tests strongly support the idea that pebbles were positively selected to build the three cairns because their weight differs from all pebbles collected from the natural test squares and the beach samples (see section on chi-square tests below).

3. Pebble shape

The unbroken recorded pebbles had their shape classified according to three categories: oval, round and irregular.

Tor Cairn

Most pebbles in Tor Cairn were irregular or oval in form with very few (5 per cent or less) being round. Frequencies of these varied between the pebble layers in the cairn and according to excavation unit but there was no systematic patterning, that is, positive choices for irregular as opposed to oval pebbles in different areas or levels of the cairn.

Little Tor Cairn

Round pebbles account for around 6–8 per cent of the pebbles in all layers and quadrants in Little Tor Cairn. Irregular pebbles make up between 20 and 52 per cent of the total with the lowest frequency occurring in the pebbles in quadrant N1 (20–38 per cent). Oval pebbles make up between 17 and 23 per cent of the pebbles in various levels.

Twin Cairn A

The majority of the pebbles in all the layers of Twin Cairn A, as in TC and LTC, are irregular in shape with few round pebbles and variable frequencies of oval pebbles (normally within the range of 15–20 per cent). Again this varies little between the pebble layers in TCA, except in a few cases where the total number of pebbles is anyway low. Figure 4.5 shows the results of all excavated units. It is clear that the pebbles from the beach differ substantially from both the pebbles found in the natural soil across the heathlands and in the built cairns in terms of shape and frequencies of broken and unbroken pebbles.

Broken and unbroken pebbles

Soil acidity has acted to deteriorate the constitution of the heathland pebbles and make them more fragile and prone to cracking, a condition that does not occur on the beach, where most pebbles are unbroken. At

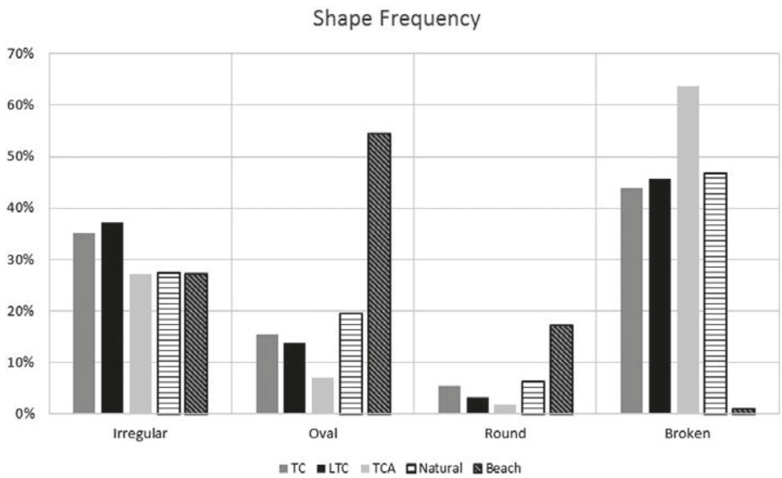

Figure 4.5 The relative frequencies of the pebbles for shape at the excavated cairns and in the natural samples (Source: author)

LTC the frequency of broken pebbles varies between 35 per cent and 58 per cent in the different layers (around 45 per cent for the whole cairn). Similarly, the frequency of broken pebbles at TCA varies between 31 per cent and 52 per cent in the different layers (around 45 per cent for the whole cairn). No consistent pattern was identified in LTC or TC. The relative frequencies of broken pebbles in TCA varies between 26 per cent and 49 per cent (37 per cent for the whole cairn).

4. Pebble colours

The colours of the pebbles were recorded in terms of seven categories: white/quartz, red, brown, grey, yellow, black and Carter Blue Stone (CBS), a category first identified by George Carter in his work, discussed in Chapter 2.

Tor Cairn

Despite exhaustive detailed recording of the colour of the individual pebbles that make up the cairn, we could find no patterning whatsoever in terms of preferentially using, for example, white pebbles in one area or pebble layer of the cairn as opposed to, for example, yellow or brown ones.

Little Tor Cairn

The relative frequencies of yellow, red, brown and grey pebbles in Little Tor Cairn vary from level to level without any consistent patterning.

Overall there is no evidence for choosing pebbles of different colours in the different layers or areas of the cairn. Like the natural pebbles in the Pebblebeds, the chief characteristic of the cairn is that it is a multicoloured structure. The only exception to this is the arrangement of some of the blue stones. Blue stones are found in almost every level throughout Little Tor Cairn in low absolute and relative frequencies. In all 71 Carter Blue Stones were recorded. These, like the special pebbles, were most frequent on the NE side of the cairn in squares S3 and N4.

Twin Cairn A

Frequencies of quartz/white pebbles are fairly consistent from level to level throughout Twin Cairn A except in the basal levels and in the central area, where relative frequencies are twice as high as in the upper levels. Red pebbles are surprisingly infrequent in levels 7 and 8 or the middle levels of TCA. Brown, grey and yellow pebbles vary significantly from level to level. Only eight blue stones were recorded, seven of these from the central basal level of the cairn (Table 4.6). In the SW section through the cairn another interesting feature was documented – a column of blue stones going through the whole structure of the cairn. The column was located near the E–W profile in the middle between the centre and the western perimeter of the cairn. Similar features were documented in plotting the blue stones in TC (see Chapter 3).

As regards the colours of the pebbles the test samples showed a similar range of colour variations. In other words the colours of the pebbles in the cairns simply mimic those found across the Pebblebed heathlands. There appears to be no preferential choice for more pebbles of one colour (e.g. yellow or red) to include in the cairn construction. The cairns were meant to be multicoloured like the pebbles of the Pebblebeds themselves. So the cultural product – the cairn – mimics the landscape of pebbles on which it stands. The exception to this is the blue stones. In all the test samples there were either no blue stones present or only one or two compared with 72 recorded and individually plotted at LTC, 8 in the NE quadrant at TCA and 152 at TC. They must have been deliberately curated. To find so many in the cairns, given their general rarity, provides positive evidence for their differential selection and curation. At TC and TCA some blue stones were arranged in vertical columns through the levels of the cairn structure, a fugitive patterning within the cairn itself and not visible from the outside. In LTC there were clusters of these stones deposited in the pebble layers on the NE side but no columns. Figure 4.6 shows the frequency of colours as they appear in the three cairns and the test samples.

Table 4.6 The frequencies and percentages of coloured and special pebbles recorded in the levels of the NE quadrant and central area of Twin Cairn A.

Level	*Q*	*Percentage*	*R*	*Percentage*	*Br*	*Percentage*	*G*	*Percentage*	*Y*	*Percentage*	*Bl*	*Percentage*	*CBS*	*Percentage*	*S*	*Percentage*
1	7	6	24	20	43	36	9	8	28	24	0	0	0	0	5	4
2	5	5	12	13	13	14	19	20	15	16	1	1	0	0	2	2
3	8	8	17	18	21	22	22	23	20	21	0	0	0	0	9	9
4	8	9	10	12	19	22	14	16	32	38	0	0	0	0	3	4
5	0	0	14	14	12	12	52	50	13	13	0	0	0	0	6	6
6	10	8	18	15	29	24	7	6	36	30	0	0	0	0	18	15
7	4	4	8	8	11	11	17	17	14	14	0	0	0	0	10	12
8	5	6	6	8	17	22	20	26	22	29	0	0	1	1	6	6
9	5	6	12	14	10	12	16	19	32	39	1	1	0	0	6	7
10	8	11	10	14	12	17	14	19	22	29	3	4	0	0	3	4
11	6	14	9	20	7	16	9	20	10	23	0	0	0	0	3	7
12	1	5	6	32	0	0	9	47	2	11	0	0	0	0	1	5
C1	4	10	7	17	7	17	7	17	0	0	0	0	5	17	17	27
C2	4	15	2	8	11	42	1	4	2	8	0	0	2	8	7	27
C3	1	8	2	8	5	42	3	30	0	0	0	0	0	0	5	42

Note: Q = quartz; R = red; Br = brown; G = grey; Y = yellow; Bl = black; CBS = Carter Blue Stones; S = special.

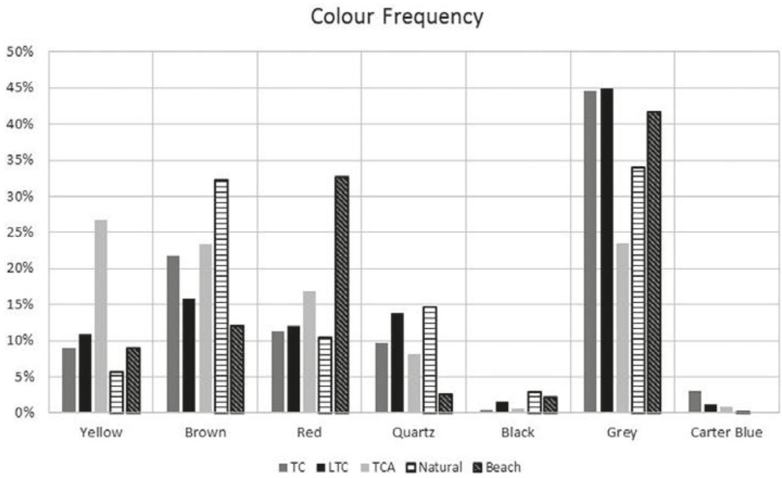

Figure 4.6 The relative frequencies of the pebbles by colour at the excavated cairns and in the natural samples (Source: author)

5. Special pebbles

Excavation is always a theatrical performance, bringing together a team of people with different backgrounds, interests, gender and competencies to conduct the work (Tilley 1989; Bender *et al.* 2007). Many of our discussions inevitably involved the form and character of the pebbles themselves and their potential significance. At the initial stage the project brief that we had set ourselves was simply to record only two visual aspects of the pebbles: their shape and colour. However, having uncovered the entire upper surface of Tor Cairn we realized that this did not do sufficient justice to the *materiality* of the pebbles themselves. Some were multicoloured in a quite extraordinary way: how were we to record that? Others had remarkable quartz veins and inclusions: should they be ignored as if they did not exist? Might not these pebbles have a particular significance themselves in the process of the construction and colouring of the cairn? Following the suggestion of Wayne Bennett, we started to record another category of pebble that we termed 'specials'. These were recorded separately following the excavation of each individual excavation unit and layer, bagged up and taken away for later analysis (see Chapters 5 and 6). We also recorded the frequency of specials from our test samples and took these away for comparative purposes.

Tor Cairn

In all 968 specials were recorded from the two completely excavated quadrants of the cairn. This may be compared with only 83 special pebbles from all the test samples. Special pebbles were significantly more frequent in almost all of the cairn squares and levels than those recorded from the natural samples. The only exceptions were the two beach samples, in which special pebbles were far more common than in the 13 other test samples. In these special pebbles made up between 19 per cent and 24 per cent of the total number of pebbles recorded. The fact that there were far more special pebbles recorded from the beach samples than from either the cairns or the other natural samples is easily explained. The beach pebbles are clean and completely devoid of any soil staining. Since they are continuously being scoured by salt water, it is easy to recognize special and unusually patterned pebbles with their multiple colours and quartz veins and inclusions. By comparison, the pebbles recorded from the cairns are stained and discoloured by the soil matrix in which they are embedded, as is the case for the other natural samples. As a consequence, the frequency of special pebbles that can be recognized, even after washing and scrubbing the pebbles, is inevitably considerably lower. From the beach samples we can conclude that about 20 per cent of the pebbles in the Budleigh Salterton Pebblebeds as a whole are 'special'.

The more valuable comparison to be made is between the frequencies of special pebbles in the cairn and those found in the other samples from the natural. To take one example, for Square 9 of the SE quadrant of Tor Cairn the special pebbles varied between 4 per cent and 10 per cent of the total number of pebbles in nine recorded levels, whereas none were recorded from the four excavated test samples in its immediate vicinity. Overall the frequency of special pebbles in the other test samples from the natural varied from 1 per cent to 5 per cent. By contrast the frequency of special pebbles in the excavated metre squares and pebble layers of the cairn varied between 3 per cent and 20 per cent, with the highest frequency being the pebbles recorded from the pit under the cairn (22 per cent). It should be noted that the frequencies of special pebbles in some of the cairn excavation units and levels match those of the natural beach samples despite the fact that their frequency without being scoured by salt water is inevitably considerably depressed. The mean frequency of special pebbles from the cairns was *c.* 12 per cent, while that from the natural samples, excluding the two beach samples, was only 2 per cent. Furthermore the majority of the specials in the beach samples were 'mottled' pebbles with fine gradations in colours. These colour gradations do not show up well where pebbles are buried and earth-stained The vast majority of the specials from Tor Cairn were those with striking veins and quartz inclusions that are much easier to recognize and show through the discoloration of the pebble surface caused through burial under sandy and peaty soil. Considering this together with the striking contrast between the high frequencies of the specials at the cairns when compared with all the other samples from the natural leads us to conclude that special pebbles were deliberately selected during the construction of the cairn and that they occur in considerably greater numbers than we would expect from a random pebble selection. Their frequency varies considerably from metre square to metre square and between the various pebble levels from the top to the bottom of the cairn. There is no evidence for it increasing from top to bottom of the cairn or vice versa or from one part of the cairn to another. Special pebbles are found throughout and everywhere in Tor Cairn. The entire cairn is thus composed of both multicoloured and special pebbles.

Little Tor Cairn

Special pebbles range in relative frequency from 3 per cent to 26 per cent in Little Tor Cairn. They occur in consistently higher frequencies in N4 and S3 on the northeast side of the cairn than in N1 and S2 on the southwest side (between 3 per cent and 10 per cent on the SW side and 10–26 per cent on the NE side). They are thus between two and three times more numerous in the NE part of the cairn. In N1 the frequency of special pebbles is highest in level 2 and thereafter declines with depth, from 10 per cent to 4 per cent. In S2 the lowest frequencies of special pebbles occur (only 3–5 per cent). In N4 frequencies of special pebbles are twice or three times greater (9–12 per cent) in all levels except level 5 (19 per cent). In S3 most occur (11–26 per cent) with again the highest frequency in level 5, a basal level of the cairn.

Twin Cairn A

At TCA we recorded 101 specials in the NE quadrant and the centre of the cairn (10 per cent of the total). Special pebbles vary in relative frequency from 4 per cent to 42 per cent in the individual layers of TCA. They are particularly frequent in levels 6 and 7 (the central layers of the cairn) and in the basal level of the bowl shaped depression at the centre of the bottom of the cairn (Table 4.6).

Overall the frequency of special pebbles in the test samples from the natural across the heathlands varied from 1 per cent to 5 per cent. This strongly suggests positive selection of these pebbles for inclusion in the cairn construction. Some may have been collected in the vicinity, others possibly from much further away.

Choice and randomness: similarities and differences amongst cairn structures and pebble test samples

In order to formally verify whether there was a pattern in the construction of the cairns and to check similarities and differences between their structure and the natural disposition of pebbles on the landscape, a number of chi-square tests were performed. In other words, these tests are intended to ascertain whether there was positive selection in the process of collecting pebbles from nature to build a cairn or whether they were randomly picked up. Rejecting the null hypothesis of no difference between the cairn pebbles and the samples from the natural would lead to the conclusion that observed differences did not occur by chance, an indication that there was positive selection. In other words, if the test rejects the null hypothesis, it confirms that there was positive selection. If not, the patterns observed in cairns are not statistically different from the natural samples. The three cairns were tested against the natural test samples, and the results are shown in Table 4.7.

For all tests, the null hypothesis was strongly rejected (all p-values are far below 5 per cent), indicating that there are statistically significant differences for all categories across every pair of squares and, therefore, there was positive selection of pebbles in the process of building Tor Cairn, Little Tor Cairn and Twin Cairn A. These results can also be represented in the form of graphs, as in the three examples shown in Figure 4.7, that show the difference between the observed and expected frequencies for shape in a comparison between LTC and the natural, for weight in a comparison between TC and the natural, and for length between TCA and the natural (Figure 4.7) All cairns and

Table 4.7 Chi-square test statistics for pebble shape, weight, length and colour comparing Tor Cairn, Little Tor Cairn and Twin Cairn A with the 13 test samples of pebbles from the natural (excluding beach pebbles).

	Shape		*Weight*		*Length*		*Colour*	
	χ^2	*p-value*	χ^2	*p-value*	χ^2	*p-value*	χ^2	*p-value*
TC vs. Natural	35	0.000	874	0.000	860	0.000	209	0.000
LTC vs. Natural	58	0.000	476	0.000	212	0.000	152	0.000
TCA vs. Natural	85	0.000	484	0.000	273	0.000	265	0.000

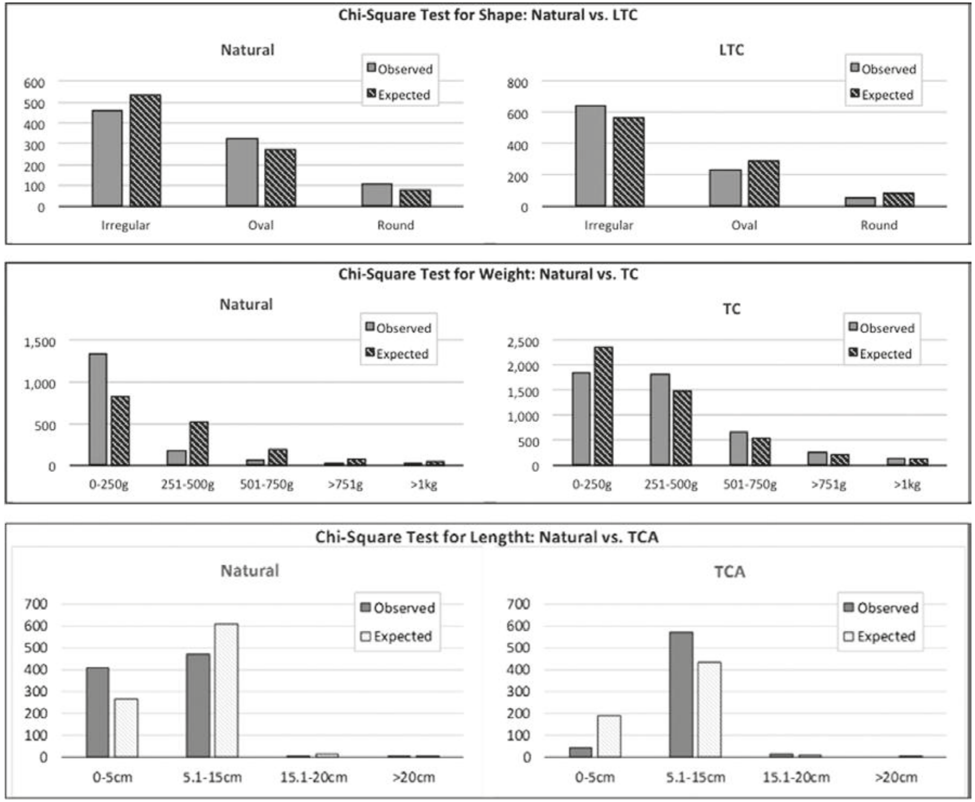

Figure 4.7 Examples of the observed and expected frequencies in the chi-square tests comparing the natural samples of pebbles 1–13 (see Fig. 5.1) with the pebbles from Little Tor Cairn for shape, with the pebbles from Tor Cairn for weight and with Twin Cairn A for length (Source: author)

categories of analysis were tested in the same way against the natural samples.

Chi-square tests were also applied to verify similarities or differences in the choice of pebbles used to construct the cairns. To do this, the cairns were tested in pairs against one another (TC vs. LTC, TC vs. TCA and LTC vs. TCA) according to each analysed category (shape, weight, length and colour). The null hypothesis affirms that there is no statistically significant difference between the frequencies of pebbles across cairns, for a given category. The chi-square statistics (χ^2) can be found in Table 4.8 alongside their respective p-values. The null hypothesis was strongly rejected (all p-values are far below the 5 per cent confidence level that this might occur by chance) in all tests, indicating that there are statistically significant differences for all categories across every pair of cairns and that there was no strict pattern in the composition of pebbles in these monuments. In other words, the tests indicate that each cairn was built in a different way, using a selection of pebbles that was not random.

All tests confirmed that the observed frequency of pebbles in all four categories of analysis for every square did not replicate the expected frequency and therefore rejected the null hypothesis. Figure 4.8 below illustrates this conclusion for all tested pairs of cairns.

The statistical analysis presented in this chapter allowed for two strong conclusions: first, that the construction of cairns involved intentional or positive selection and curation of pebbles. Second, that the building of an individual cairn was a singular event, that is, it was in part improvised rather than following strict patterns for the selection and the deposition of pebbles. The action of cairn building differed from one case to another even though many similarities can be observed in terms of the overall statistics for pebble length, weight, shape and colour.

Table 4.8 Examples of chi-square statistics for the three cairns for shape, weight, length and colour.

			Shape		*Weight*		*Length*		*Colour*	
			χ^2	*p-value*	χ^2	*p-value*	χ^2	*p-value*	χ^2	*p-value*
TC	vs.	LTC	16	0.000	171	0.000	163	0.000	84	0.000
TC	vs.	TCA	36	0.000	10	0.008	21	0.000	318	0.000
LTC	vs.	TCA	8	0.016	66	0.000	31	0.000	215	0.000

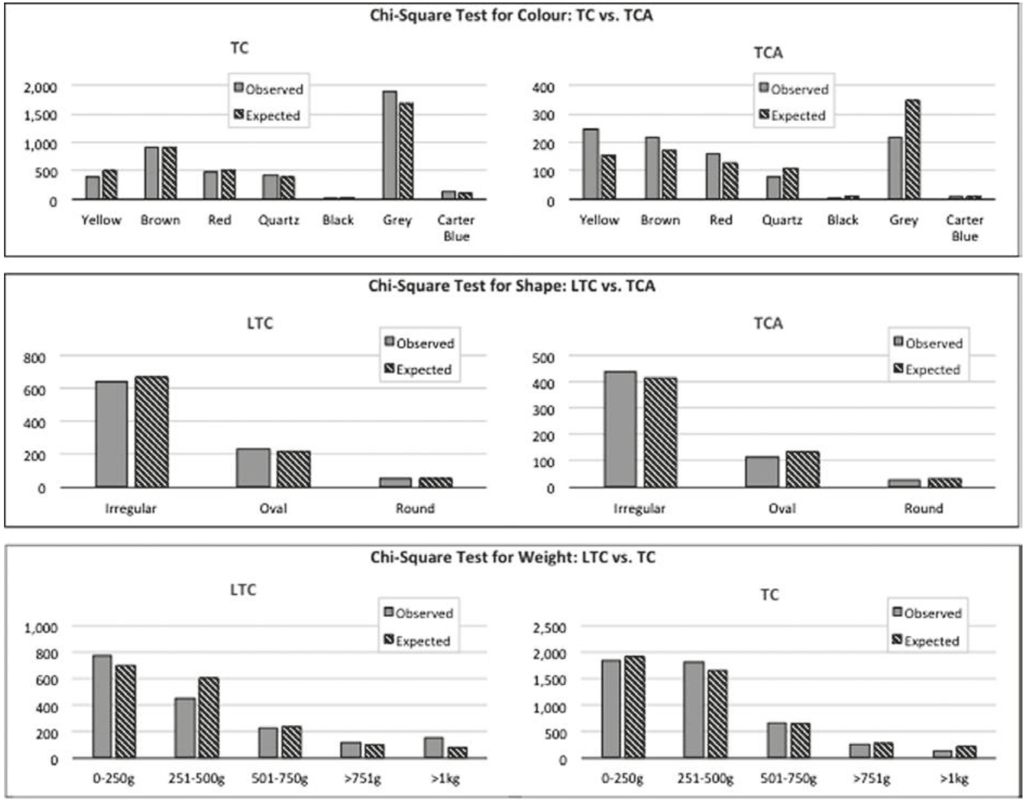

Figure 4.8 Examples of the observed and expected frequencies of the pebbles in the chi-square tests at the excavated cairns comparing Tor Cairn and Twin Cairn A for pebble colour, Little Tor Cairn and Twin Cairn A for pebble shape and Little Tor Cairn and Tor Cairn for pebble weight (Source: author)

5
The poetics of pebbles

Christopher Tilley and Clarissa Sanfelice Rahmeier

Pebble statistics and pebble poetics

The account provided in Chapter 4 is an abstract 'objectivist' standpoint that in fact may not tell us all that much that is important about the pebbles and their characteristics used in cairn construction. The intention of this chapter is to present an alternative perspective going far beyond measurable and quantifiable parameters that may be statistically analysed. We cannot understand a pebble adequately by isolating each of its qualities and thinking about them.

A pebble is a whole; it is its different features altogether and, at the same time, none of them. A pebble refuses to be divided into variables or classified according to labels. You name it yellow and it may appear brown. You say it is round and it will seem irregular. Yes, it can be between 5.1 and 15 cm long – but long in which way? Triangular (I mean, irregular) or oval? Is it heavy? It depends on how strong you are or how used you are to handling stones. Is it ordinary or boring or does it catch your attention? Then it is a 'special' one. But are all 'specials' equally special or are some more special than others? The point is that it is imprecise and desperately limited and inadequate to try and define pebbles in terms of their physical properties without simultaneously referring to subjective values and symbolic meanings. The two together – the physical properties of these stones and human interactions with them – make pebbles what they are.

We can make more sense out of them if we 'translate' their physicality into sensibility – how do we humanly sense pebbles? In which ways can our senses be stimulated by different kinds of pebbles? What matters is not how much they weigh, but how we carry their heaviness or lightness around; it is not how long they are, but how they fit into human hands. Although relevant, scientific precision, in this case study, does not communicate the properties of the objects in a better manner than a more humanized description. It doesn't make much sense thinking about the cairns as a sequence of pebbles layered according to their length. The information we have about the pebbles will generate a robust interpretation only when combined with our own accounts of the way we interact with them. And this is possible only because we have been there, because the past has become present through the process of excavation and analysis and because other people in this landscape interact with pebbles on a daily basis and have a sensibility for them.

The intention of this chapter then is to provide some phenomenological reflections on this data in order to offer an alternative humanist perspective and understanding of the material. In doing so we weave back and forth between the past and the present, from interpreting the pebbles in terms of their prehistoric contexts and understanding them in relation to how contemporary people, including ourselves, relate to the same material. We first provide some general observations on pebbles and their many synaesthetic qualities and then consider in more detail sensory aspects of touch and visual appearance.

Synaesthetics of pebbles: initial observations

A first and fundamental property of pebbles that is of great importance is their tactile properties: the manner in which they are smooth and rounded to the touch. The contrast with the coarseness of a stone such as granite is absolute, but they even feel smooth compared with fine-grained sandstones or chalk. Pebbles possess a quality of smoothness unmatched by any other kind of small stone in its natural state found in the UK. Quartzites are sandstones cemented together with silica which are incredibly hard and dense. This unyielding hardness and sheer density of the stones is an important quality that makes them so distinctive and contributes to their tactile effects.

These quartzite pebbles when struck tend to shatter and break in all directions, producing surfaces which both are shiny but also then feel greasy to the touch: an important tactile property that remains hidden within the pebble.

Going beyond the feel of pebbles, they have a definite smell. On the beach they smell and taste of salt. Inland they take on the odours and tastes of the streams and soils and vegetation in which they are embedded. Quartzites are also known in folklore as firestones. They produce orange sparks and smell like gunpowder when struck or violently rubbed together. They produce far better and bigger sparks than are emitted from struck flint. In darkness there is an orange flash and even when struck under water they emit a flash (Ellis 1971: 69). Some of the pebbles used in cairn building may also have been used as hammer stones. This is unlikely to have been purely for practical reasons in making things but as part of fire ceremonies taking place at them (see Chapter 3), in which flashing light together with a distinctive sulphurous smell was released from the pebbles.

Pebbles have a definite voice. Usually found solely in the littoral zone between land and sea, they mark the point of transition between the two domains. They constantly roar as they are rolled back and forth by the waves along the beach. Inland they chatter and clatter in the streambeds. Pebbles make a crunching sound when you walk on them. Sometimes you can hear movement by somebody along a winding pebble path before you can see anyone coming. Pebbles are exceedingly difficult to walk on, as anyone who has walked along a pebble beach knows. They slow movement down and tire the body in motion, an important kinaesthetic effect.

Pebbles are ready-mades. They are 'finished' stones and because of their inherent completeness of form, seem to almost naturally lend themselves to sorting and counting activities in terms of colour or shape or form or a combination of all of these. Visually pebbles vary in shape and size. They are inconstant in colour. Importantly pebbles are inherently transformative materials. Unlike other kinds of stone their colours do not remain the same. The colour of the outer skin can be very deceptive. Being exposed to the elements and to the rolling action of the waves, the outer surface is typically bleached a dirty white or grey. Dry pebbles on a beach or elsewhere can all look the same: dull and grey. Water dramatically transforms them: the colours, obscured when dry, leap out in a magical fashion. What was dull and grey matter becomes vibrant, differentiated forms infused by the latent colours within the stone itself that the water brings forth (see Figure 4.2). Pebbles are activated by rain or water that brings out and intensifies their colours. The brightest of the pebbles on the beach are always those washed by the waves of the sea. Conversely pebbles dry very quickly compared with other kinds of stones because of their lack of porosity. They lose their colours as rapidly as they acquire them. Pebbles disguise themselves. They have a skin which reveals its true colour only when wet. When struck pebbles produce fire and smell utterly different. They are thus transformed by both water and fire: an elemental opposition.

Considered in this way it is evident that pebbles have definite qualities and effects from the visual to the kinaesthetic in relation to which people may react and respond. In the following section we present an anthropological study of the relationship between people and pebbles located in the vicinity of the Pebblebed heathlands to further investigate some of the general points made.

People and pebble structures

This group of people were selected because they lived in towns or villages in the vicinity of the heathlands and had pebble structures in their gardens: paths, driveways, walls, outbuildings, etc. that were recorded during a comprehensive survey of pebble structures in the area (see Chapter 13 for a discussion of this). Interviews were conducted with 23 informants in their homes and gardens. Of these 13 had always lived in the area. The others had moved or retired here, anything up to 20 years or more ago. Eight were male, the rest female. Their ages ranged from 17 to 90 and of these eight were under 65. Only a few of them currently visited the Pebblebed heathlands frequently or knew them well. All, of necessity, drove across or around them but that was the limit of their knowledge apart from the odd short walk, usually in the vicinity of Woodbury Castle, located next to the main road running along the western edge of the heathlands. This reflects a much more general trend in the area: that most local residents do not go to visit the heaths except on a very occasional basis and their knowledge of them and their geology is slight (see Tilley and Cameron-Daum 2017). The heathlands remain a hidden and almost invisible landscape. All informants had, however, visited the beach at Budleigh Salterton and experienced the pebbles there.

All the people interviewed were owner-occupiers. Of these seven had built pebble structures in their garden or created something out of pebbles or curated them in various ways. The rest had inherited and maintained them after moving into their property. All were aware of the presence of pebbles insofar as they constantly encountered them when doing anything in their gardens. Only a minority, when asked, were aware that pebbles constituted a significant part of the vernacular architecture of the area and could remember memorable pebble structures elsewhere that they had seen, such as walls or paths, guttering and decorative edging. Most took them for granted and in this sense did not see or think about them. They were very much an unremarked and taken-for-granted aspect of everyday life. Keith, who has lived and farmed in the area all his life, remarked: 'We have never really studied them you see. They're just pebbles, we don't notice them because they have always been with us.'

Photographs of pebbles

Seventeen of the 23 informants were asked to take two photographs of their pebbles, anything that they wished. Of the 36 photographs, 7 were of individual large pebbles, close-up photographs of pebbles in walls and, in one case, of pebbles collected from the beach. The remainder were of walls, yards, patio features, outbuildings, path edging and water features, reflecting the wide range of structures commonly encountered in the area. When asked why they took these photographs there were a range of responses:

> 'The big rugby ball and the little egg there: obviously the size and showing the remarkable possibilities of colour, that if you dig long enough you will find remarkable little treasures like that.' (Michael)

> 'It is a great collection of pebbles. I like the ones in the courtyard. They were put there by garden designers and it's just a lovely contrast, we have the brick, we have artificially made flagstones … and we have gravel so it adds contrast; different size, different texture, and I love it.' (Bonnie)

> 'It was the variation in them, the colour and the shapes … natural stone … I suppose also it's the size. Some of them are huge.' (Patricia)

> 'They've got all shapes and sizes and colours. And not just plain, they're veined as well, some of them.' (Alan)

Size, shape, colour and contrasts with other types of building materials were the properties of pebbles that people regularly identified as being important to them, together with the fact that they were natural building materials that had been historically important and therefore were appropriate to the locality. Many were proud to have these structures in their gardens and to have maintained them. Most people remarked how uncomfortable it was to walk on pebbles and that paths, courtyards, etc. needed weeding in order to maintain them. When asked to choose up to five words to describe pebbles the most frequent responses were 'colourful' (eight) and 'smooth' (eight). Eight people also referred to shape – 'round', 'oval' – and a further five to 'tactility' as being important. If pebbles were regarded as being difficult to walk on, they were nevertheless regarded as good to hold in the hand: pebbles were said to feel comfortable. Five people also used the word 'hard'. To some they were 'warm'. Others referred to pebbles as being attractive, individual, variegated, different and decorative, as being like eggs. They were described as being useful, traditional, local, historical, travelled, noisy, water-worn and reminding one of the beach and the sea:

> 'They come in all shapes and sizes. You have the big ones and the little ones, and all the different colours, a huge variety so visually its really quite exciting to look at pebbles. And I love the sound, the crunching sound. And people are just moved to make things with them. So you find the little piles and structures that people produce spontaneously [on the beach].' (Bonnie)

The emphasis put on shape and tactility, that it felt warm and comfortable to hold pebbles, was clearly as important to some people as their colours and decorative nature. Pebbles felt warm because they were smooth and comforting to hold; the smoothness was associated with water and the sea:

> 'They're just so smooth, they're silky. You couldn't grind anything to that perfection could you?' (Geoff)

> 'You just feel like you want to touch them and you can just hold pebbles and each pebble you held would feel different.' (Brian)

The sheer hardness of these pebbles was a quality that keen gardeners had noticed. This mitigated against any attempt to shape pebbles or cut them to size in building anything. Unlike other kinds of building stone they had to be used as found. In people's gardens, pebbles were felt particularly appropriate to use as water features, placed next to ponds and fountains. Curating pebbles was commonplace; once dug up in the garden they would be saved in piles to be used in future construction projects, and building walls or paths of pebbles was one way of using up what was a ready-to-hand and free building material. Each project produced its own harvest of pebbles. Some people had collections of pebbles or individual pebbles displayed as decorative items in their houses or used ‘practically’ as doorstops, paperweights, to keep windows open, etc. Some of these had been picked up on the beach and were said to be irresistible despite the recent and signposted ban imposed by the local council on removing pebbles from the beach:

> ‘You pick one up and think you’ll keep it, find another one, I’ll keep that. Keep going on and on. And if you are not too careful you have a pocket full of them.’ (Susan)

Virtually everyone mentioned this pebble picking ban (mainly imposed to prevent commercial exploitation by builders) and it made some of them feel mildly guilty, but the attraction of the pebbles was too great. A number showed me polished pebbles or painted pebbles that they had bought or been given as gifts (Figure 5.1). Painting pebbles was a widespread practice in the 1960s and 1970s among local artists and also among school children during the Budleigh Salterton Gala week, with pebble painting competitions taking place in the day centre of the local hospital.

Wendy had retired to East Devon with her husband in 1986. They bought an old farmhouse with a paddock and started transforming it into

Figure 5.1 Painted beach pebbles from the 1970s (Source: author)

Figure 5.2 Wendy's pebble beach (Source: author)

a garden. Wherever they dug they found pebbles and started creating structures out of them: walls, paths, patio and courtyard areas, pebbles to line the vegetable patch. Having dug a large pond they created a pebble beach with the excavated material on one side, with the pebbles graded in size from larger to smaller ones at the water's edge (Figure 5.2). Like other people in the area who have constructed structures out of pebbles, they have an intimate knowledge of them: their different shapes, sizes and colours. Building these structures required careful selection and grading of the pebbles and choosing the right one to maintain an even and attractive surface. Building things out of pebbles requires one to gain a craftsperson's skill and knowledge of how to work the materials to the best advantage. Those who had not attempted to build anything from pebbles were largely unaware of the potential they offered as a building material and, more importantly, the problems faced by anyone trying to construct something out of such smooth and slippery stones without any straight edges except when they were broken and you could get a flat face.

The act of building things from pebbles substantially altered both people's knowledge of them and the manner in which they thought about them, reinforcing the significance of the Heideggerian link between building, thinking and dwelling (Heidegger 1962). Nigel, who had recently restored a dilapidated pebble pigsty, remarked:

> 'Oh if you pick a pebble up you can feel it's something different, every one you pick up is different, has a different feel because you've got years and years of erosion where they have been washed in the sea and each one is individual no matter what size they are, they're individual as opposed to something stamped out on a machine.'

As I walked around with people in their gardens and was shown things made of pebbles this often brought back strong memories of the event of their construction and the labour involved. The biographies of these people and those of the pebbles were intertwined and entangled. More generally pebbles themselves brought back people's memories of beaches, particularly beautiful beaches in different parts of the world that they had visited during their lives, since pebbles were always associated with the sea. Some had souvenir pebbles from these trips, others from the beach at Budleigh Salterton. Bathrooms were regarded as particularly appropriate places to display these pebbles, thus maintaining the association with water and its enlivening effects on pebble colour.

Alan was born on a farm situated on the edge of the Pebblebed heathlands, moved as a boy to the adjacent farm and has been cultivating the land ever since, having taken over the tenancy from his father. His photographs were of a cowshed constructed out of pebbles and a huge broken pebble, one of many large pebbles displayed in his garden (Figure 5.3). This pebble when weighed by me was found to be no less than 52 kg and was 40 cm long and 26 cm broad. Given that it was broken at one end it must have originally weighed 60–70 kg and been up to half a metre in length: the mother of all pebbles! His father had started deep ploughing, about 18 inches deep in the 1960s. One of the unintended consequences was the unearthing of pebbles everywhere: the family spent the next three years removing them from the fields, because pebbles wreck ploughs, and placing them along hedge banks. This was one of those pebbles that was important enough to be brought back to be placed in the garden beside the farmhouse.

Alan has strong memories of pebbles from childhood, of collecting them off the fields, the orange sparks that flashed when you hit them, and the strong smell of gunpowder, but also of how he imagined this landscape of pebbles to be:

Figure 5.3 Alan's huge curated pebble. The phone gives the scale (Source: author)

> 'I've always thought since I was young that this [the ridge of higher land running behind his farmhouse] was the edge of the beach. I always thought when I was younger I could imagine Ice Age man sitting on the edge of the beach and that ridge there which I've always been aware of was the ridge of the beach … and water would have lapped up to here [the farmhouse], that's how I always imagined it.' (Alan)

He described his pebbles as being 'historic' and 'well travelled' because he now knows that they had come all the way from France. Even if some people could not say much about the pebble structures in their own gardens, almost all had strong memories from childhood of pebble beaches and beachcombing: finding and collecting pebbles, building castles out of pebbles, skimming pebbles across the water. Pebbles were invariably strongly associated with childhood and happy times. On Budleigh Salterton beach a favourite childhood activity for some was to attempt to throw pebbles so that they landed onto ledges on the red sandstone cliffs running out into the sea to the east of the mouth of the river Otter, and onto the rock stacks at Ladram Bay to the east.

These interviews reveal how deeply connected local people feel in relation to pebbles and also that this had a deep somatic and habitual basis. Pebbles were part and parcel of their daily experience, something usually taken for granted rather than consciously noticed and discursively discussed unless except prompted to do so. Below we discuss in more detail the tactile qualities and visual characteristics of pebbles that were undoubtedly most important to the people we interviewed.

The feel of pebbles

We have demonstrated in Chapter 4 that the majority of the pebbles used to build the cairns fall within fairly restricted weight and length parameters. There are comparatively few small pebbles or very large and heavy pebbles. Only a few would require lifting and putting into place while building the cairn with two hands. The size of the pebbles is such that few could be picked up and put on the cairn together. So the construction of the cairn involved placing the pebbles side by side and in layers on top of each other, one by one. The excavations showed that most pebbles were placed side by side along their horizontal or long axis. The fact that most are of a similar weight and size indicates pebble selection and sorting prior to building the cairn. The cairn builders must have been working with piles of pebbles brought to the site that had already been sorted. Collecting material to build the cairns was therefore not a matter of shovelling unsorted material into baskets and carrying it to the site. The pebbles that were chosen were invariably those that could easily be grasped and fitted comfortably into the palm of the hand. The construction of Tor Cairn involved at least 31,000 individual acts of placing individual pebbles on the cairn surface side by side and pebble after pebble. The pebbles in any particular layer do not overlap with each other. They were placed in relationship to each other with a minimum of distance between them, a bit like building a jigsaw puzzle. The size and shape of one pebble required choosing another pebble of a suitable size and shape to put next to it from the collected material to hand. We might regard the whole process as thinking through the body involving the collection, transportation, selection and individual placement of pebbles. Knowledge of the sizes and shapes of the pebbles was grounded in the activities of those building the cairns, a process of thinking and perceiving through the body, of gripping the pebbles, an internal kinaesthetic relationship. Pebbles, because they have a ready-made form (they are naturally pre-shaped) and do not require fabrication into a suitable size or shape unlike quarried stone, seem to almost naturally lend themselves to sorting activities in terms of shape and size or colour or a combination of all these. They invite the creation of form and pattern. The grip (involving size and shape, visual perception and colour) of one pebble put in place determined the suitability of the next. The cairn builders would have worked side by side, utilizing their piles of building materials in a routinized fashion. Most probably they worked from the perimeter of the cairn to the middle and then, a pebble layer having been completed, filled in the gaps and covered the pebbles with a thin layer of sandy soil to create an even and uniform surface before starting to construct the next layer. Building the cairns involved a rhythmic process of moving from the outside to the inside and back again, starting at a distance and coming closer, meeting at the middle, something that was intimate, given the small size of the cairns, and intensely social. Building the cairns was part and parcel of the body habitus, a habitual understanding of the right way to do things. The resulting cairn was a material expression of these techniques of the body.

Most of the pebbles used to build the cairns are irregular in shape. Few are perfect oval or round forms and there is a gradation in shape between irregular, oval and round pebbles. In other words, some pebbles are more irregular than others. The irregularity of pebbles, of course, makes them distinctive, so that no two pebbles are exactly alike. The feel and grip is different. That which remains common to all the pebbles is the smoothness of their surfaces. Informants (as discussed above) say that they like to feel pebbles in their hands. To many of them, indeed, the feel of a pebble is its most significant aspect. A slipping, sliding, sleeky smoothness: there is something comforting and deliciously satisfying in experiencing holding a pebble that makes it very different from other kinds of stone. Because the pebbles have a surface patina they also look old, contrasting with the fresh surfaces of quarried stone. They are pre-formed or pre-made. Smoothness and age commingle in the tactile grip of the stone. Most note that these pebbles (quartzites) feel very dense and hard. The tactile experience combines these two qualities – smoothness and hardness – in an interesting way and in a very different manner from, say, a hard stone with a rough surface. A smooth, hard pebble does not cut or abrade the hands. Some also say that the pebbles feel warm. This 'warmth' of the pebble seems to stem from the smoothness of touch. Things that are smooth, like the human body, feel warm and one is comforted by them. It is clear that feeling a pebble thus creates an emotional reaction of well-being in the body subject, a harmonious relationship with the stone. From this point of view building a pebble cairn, irrespective of the labour involved, must have been an intensely satisfying tactile experience. Through the process of collective cairn construction people were building both themselves and their relationships with others.

Colour

We first describe the physical characteristics of differently coloured pebbles and then further consider our use of abstract colour categories as a basis for classification (outlined in Chapter 4).

Brown pebbles

Brown pebbles are variable in shape and size. Some have a very smooth and rounded outer surface, others feel coarser. They are the softest of the pebbles, with a relatively high sand content, and tend to split in a regular fashion along bedding planes in the acidic soils of the Pebblebeds. Some have fine parallel bands across their entire surface creating a subtle wood-grain-type appearance. Others have broader darker and lighter bands that are very distinctive, forming special pebble category 12 (see discussion below). There is much colour variation, from darker to lighter tones of brown through to red-brown. Some possess a rough surface.

Red pebbles

Red pebbles are very similar in their physical characteristics to the brown pebbles and are also prone to split in a regular fashion along bedding planes, but far fewer have a wood-grain-type surface and none have distinctive darker bands. Some red pebbles have a very distinctive hue, others shade into browns and greys to various degrees. According to sand content some are harder and smoother to the touch than others.

Yellow pebbles

These pebbles lack a wood-grain appearance and tend to be considerably harder than red or brown pebbles, with a higher silica content. They lack visible bedding planes and bands. There is considerable colour variation, with many merging into shades of brown and grey. All have smooth surfaces. These are frequently fissured with networks of very fine surface cracks. Unlike red and brown pebbles they tend to break vertically rather than horizontally because of the absence of bedding planes. A few have shallow surface holes and indentations. Unbroken pebbles feel very smooth.

Black pebbles

These are rare and infrequent. They invariably have many quartz veins and inclusions running across their surface. They break irregularly and feel rough in comparison with other pebbles. Some of these pebbles probably originate from Dartmoor, being carried east into the ancient Triassic river bed by feeder streams.

Grey pebbles

Some of these, like brown pebbles and some red pebbles, have a wood-grain surface appearance and they tend to split along their bedding planes. There is much variation in terms of colour, merging into shades of brown, red and yellow to various degrees. Most have smooth surfaces but others have a distinctively rougher surface texture. Harder pebbles have small surface cracks like yellow pebbles.

Quartz (white) pebbles

These are the most easily recognizable and distinctive of the basic pebble categories recorded. They are harder than the other pebbles and always break and fracture in an irregular way. They vary considerably in colour, from almost pure white through shades of white-grey, white-brown, white-pink and white-yellow. Some are perfectly smooth, others have a surface entirely covered with fine cracks and fissures and feel rougher. Others have larger and fewer surface cracks. Many have a mottled or multicoloured surface.

Carter Blue Stones

Prior to the 2008 excavations undertaken by the Pebblebeds project, Chris Tilley had been looking out for blue stones while carrying out field research on the heathlands. He never found any – not helped by the fact that he didn't know what they looked like. Carter had not published photographs of any of his blue stones nor drawn any of them, and he did not seem to have kept any from his excavations. The garden of Carter's house was searched for them but he had evidently not brought any back from the heathlands and put them there. As discussed in Chapter 2, the blue stones that Carter found were primarily significant to him because

Figure 5.4 Examples of blue stones from Tor Cairn (Source: author)

of their blue colour – sacred in Indo-Aryan mythologies and associated with Indra the great father-god.

There are a number of specific features of these blue stones that Carter does not mention which are potentially very important indeed in their interpretation. These pebbles are hard, with smooth external surfaces and all are irregular in form, 10–15 cm in size. They are almost always found broken (90 per cent of those recovered from Tor Cairn) and unbroken examples are irregular in shape (Figure 5.4). Only a very few are perfectly water-rounded on all faces. In contrast to the other pebbles, these blue stones lose their blueness when wet, becoming much darker. Their blueness is intensified when dry. This in an interesting manner inverts the situation found with other pebbles, whose colours are always intensified and enhanced when wet.

Roger Taylor examined the blue stones recovered from Tor Cairn and reported that they are quartzite, just like the other pebbles, but that they are highly unusual because they have not been subjected to the same water attrition processes and have a different transport history. Their source, in contrast to that of the other pebbles, may be quite close to East Devon, perhaps from rock outcrops now submerged under the English Channel. As a consequence the rocks have not been rolled and ground down into pebble forms as much as the other stone material by the ancient Triassic river. This accounts for the irregular shape and form of many of these blue stones – they are not like the other pebbles. What was the importance of these stones? These stones were significant because of the manner in which they were noticeably different from all the other pebbles in form, colour and the manner in which they react to water.

Classifying colour

As has been discussed in Chapter 3 and above, we recorded the pebbles from the cairns in terms of basic colour categories: red, brown, grey, etc. This was an attempt to avoid the kind of confusion and uncertainty that would inevitably arise if we attempted to record shades of brown or yellow or red or grey, etc. or use a much more extended range of categories, for example pink pebbles, olive-green, orange, mauve, etc. What this meant in practice was that a decision had to be made whether a pebble was, for example, more red than brown, in which case it was recorded as red, or more brown than red, when it would be recorded as brown. Using a colour chart such as the Munsell system (Munsell 1912) to 'objectively' record the colour of the pebbles was ruled out at the outset since one of the things that we do absolutely know for certain is that such a system would not have been used by the Bronze Age people constructing the cairn, and the numerical colour codes arising would have been as meaningless to them as a description or categorization of colour as they are to us. In practice, anyway, using the 'objective' Munsell chart is a subjective enterprise – we make a subjective judgement between a number of possible alternatives. More seriously such a way of categorizing colour gives us no insight into meaning. Their colour categories would have been culturally constructed in the same manner as our own modern classification system, using abstract colour categories.

Archaeologists generally use abstract colour categories in discussions of stratigraphic sequences and the colours of materials, such as clay and stone, as if they are unproblematic. So they do not ask how red is this red and how different is this red from brown. In many cases this may be justified when the materials being discussed are obviously different and contrasting. So for example some of the prehistoric stone circles on the Isle of Arran are composed of grey granite and red sandstone and there is no problem describing them as such (Jones 1999 and see discussions in Jones and MacGregor 2002). However, in the case of the pebbles of the Budleigh Salterton Pebblebeds this is far from easy since there are so many shades of red, brown, grey, etc., sometimes even on different parts of a single pebble. Having recorded pebble colours as a team we carried out a series of tests in order to ascertain how much individual variability there was in our own colour classifications and how this might affect the interpretations of the results.

Test results

We selected 50 pebbles, 10 from each of five colour-contrasting categories – red, yellow, grey, brown and white (which accounted for the quartz pebbles) – and numbered them accordingly. These particular colour categories were chosen because we knew from our own experience of recording colours that these were often problematic, except for 'white' or quartz pebbles, where there was good general agreement as to what white was (the same applied to black pebbles and blue pebbles that were not included in the analysis). We interviewed 57 people. Eleven of these were members of the excavation team who had colour-coded pebbles during the excavations, and had some experience of doing so, and 46 were students at University College London, who had none. We told the informants that there was no right or wrong answer, and asked them to group together ten pebbles under each of the five categories of colours. From the 2,850 answers given (570 answers for each colour), 1,908 (66.9 per cent) matched our classification. All the pebbles in the tests were wet so that their colours would be enhanced.

Among the 942 pebble categorizations that did not match our colour classification, brown was the colour which had the most 'divergent' answers (332 in total, of which 43 per cent were yellow pebbles, 33 per cent were grey, and the rest, red), followed by grey (a total of 299, of which 87 per cent were brown pebbles), yellow (195 in total, of which 74 per cent were grey pebbles), red (111, with 45 per cent being brown) and white (5 in total, 40 per cent being brown) (see Table 5.1).

Table 5.1 Answers that differed from our colour classification.

For brown	*For grey*	*For yellow*	*For red*	*For white*
143 yellow	262 brown	146 grey	50 brown	2 brown
112 grey	33 yellow	25 red	40 grey	1 red
77 red	4 red	22 brown	19 yellow	1 yellow
–	–	2 white	2 white	1 grey

There was no appreciable difference between the results of the students and the members of the excavation team. We can conclude from this that there is in general a high level of agreement between the manner in which different individual colours were classified by different persons, but up to 30 per cent level of disagreement. As a consequence, in the interpretation of colour statistics for the pebbles in the cairns discussed in Chapter 4 this has to be allowed for.

Special pebbles

As discussed previously, a category of special or extraordinary pebbles was first formulated mid-way through the first season of excavations at Tor Cairn in 2008. These pebbles are distinguished from others by having a far more complex and less uniform visual appearance. They may have multicoloured or mottled surface colours rather than being uniformly grey, brown, yellow, etc., and/or possess a wide variety of different quartz veins or inclusions of different forms. Each of these pebbles has its own unique characteristics. Figure 5.5 shows a general classification system identifying 13 basic categories. Any individual pebble may possess up to four of these categories somewhere on its surface. Frequently the same pebble may appear completely different according to which side or area is seen. The quartz veins and inclusions criss-crossing some pebbles vary from bright white to various shades of cream, pink or red, yellow or black.

Class 1 are pebbles with a mottled or variegated surface with two or more different colours. Such pebbles are seriously underrepresented in the cairns compared with the test beach samples because of erosion and iron staining in the acidic soils affecting the pebble surface. Only pebbles left exposed to the sun, wind and rain for two years following the excavation of Tor Cairn began to resemble the beach pebbles in this respect and it was evident that many special pebbles of this category had not been possible to recognize during the course of the excavations.

Classes 2 and 3 are pebbles with a single narrow or broader quartz vein running across their surface. Usually these veins are white but sometimes they may be grey to pink to red.

Classes 4 and 5 are pebbles with multiple narrow or broad quartz veins running across their surfaces. Sometimes these may be broad and roughly parallel bands. In other cases pebbles may be criss-crossed with such thread-like or broader veins in an almost infinite number of forms.

Class 6 are pebbles with quartz inclusions or surface areas made up by quartz of variable form and extent.

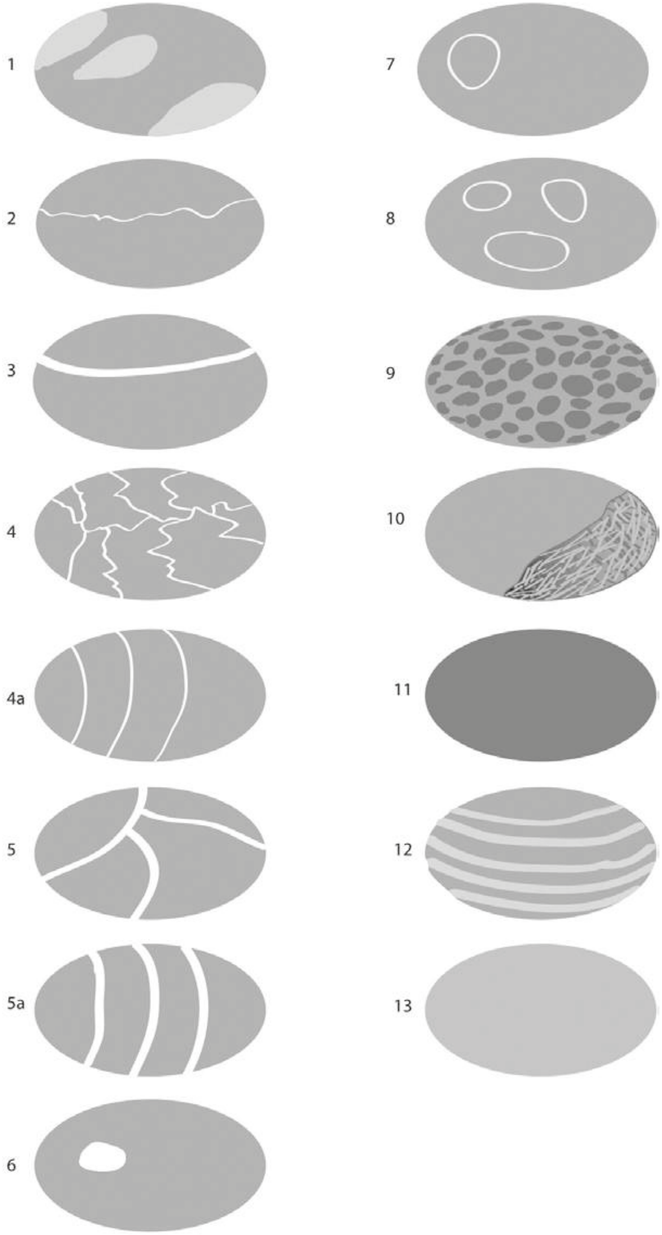

Figure 5.5 Schematic diagram of categories of 'special' pebbles: (1): pebble with mottled surface of different colours; (2): narrow quartz veins; (3): broad quartz veins; (4 and 4a): multiple thread veins; (5 and 5a): broad quartz bands; (6): quartz inclusions; (7): quartz rings or ovals; (8): multiple quartz rings/ovals; (9): conglomerate/spotted; (10): pebble with two or more distinct surfaces/colours; (11): blue stones; (12): distinctive bedding planes/stripes; and (13): other – any combination of the above categories (Source: author)

Class 7 are pebbles with oval rings resembling eyes. These are invariably found around the end of the long axis of the pebble, only rarely occurring elsewhere on its surface (Fig. 5.6). The shape of some bear a striking resemblance to a human eye. Once looked at by Bronze Age eyes, they now look at us.

Class 8 pebbles are those with multiple oval rings.

Class 9 pebbles are conglomerates with a conspicuously spotted surface that may take a variety of forms. Class 10 pebbles are those with two distinct surfaces; class 11 are Carter Blue Stones already discussed. Class 12 pebbles have distinctive broad bands or stripes running along bedding planes. Class 13 pebbles are a small number of examples of pebbles that have none of the above characteristics, possessing instead such features as black veins or unusual holes on their surface.

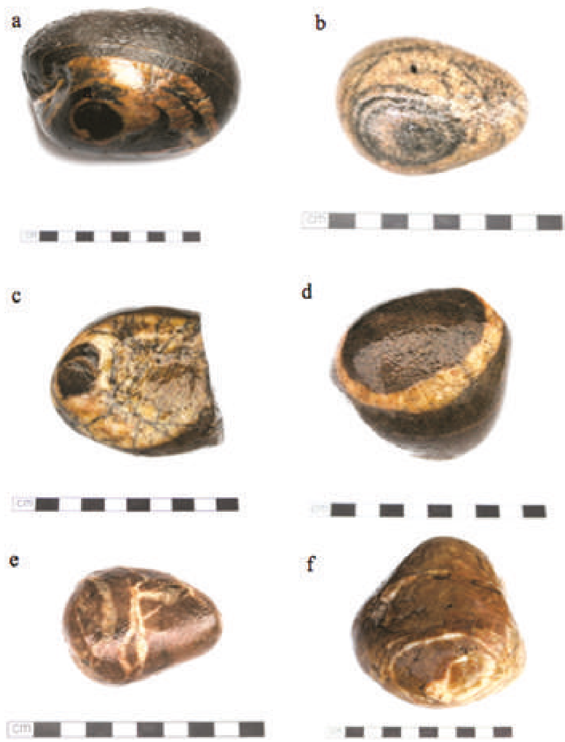

Figure 5.6 Examples of pebble 'eyes': (a): Little Tor Cairn north quadrant square N4 level 2; (b): Tor Cairn north quadrant square 4 level 3; (c): Tor Cairn south quadrant square 9 level 2; (d): Tor Cairn north quadrant square 3 level 1; (e): Tor Cairn south quadrant square 4 level 3; (e) Tor Cairn south quadrant square 6 level 2; (f): Tor Cairn south quadrant square 6 level 2 (Source: author)

Table 5.2 The percentages of different types of classes on the special pebbles recorded in the excavated cairns and the pebbles recorded from two excavated sections across the middle of the Aylesbeare ox hide and axe pebble platforms (see Chapter 6) and from the 15 test squares. For 'motifs' see Figure 5.5. Percentages are also given for pebbles with two, three and four different 'motifs'.

Classes recorded	*Tor Cairn (NW quadrant) percentage*	*Little Tor Cairn (W side) percentage*	*Little Tor Cairn (E side) percentage*	*Twin Cairn A (NE quadrant) percentage*	*Aylesbeare platforms sections percentage*	*Test squares percentage*
1	9	12	13	30	9	38
2	9	9	13	3	13	6
3	13	13	12	15	9	10
4	20	15	22	19	22	18
5	15	17	11	27	16	28
6	17	16	12	9	9	15
7	25	26	19	11	33	35
8	5	10	0.01	0	0	7
9	7	10	2	6	4	14
10	4	0.1	2	2	0	3
11	20	12	10	6	9	3
12	5	4	0.03	4	9	1
13	4	4	0.01	3	4	4
Number of pebbles	837	113	481	101	45	71
Two classes percentage	34	36	31	26	29	34
Three classes percentage	9	10	0.04	3	2	6
Four classes percentage	0.1	3	0.01	0	2	1

Any pebble may possess any combination of these characteristics up to a maximum of four, for example a single pebble might have a mottled surface, narrow quartz vein, multiple broad bands and a quartz oval.

Given that we know that special pebbles were differentially selected to include in the cairns, an important question to ask is whether this process of selection shows any preference for the different categories of 'motifs' or 'patterns' on these pebbles as outlined above. Table 5.2 shows the statistics from the excavated sites (both the cairns and the pebble sculptures discussed in Chapter 6) and the 15 natural test squares. The frequencies of mottled pebbles, as expected, are lower in the excavated sites compared with the test squares but the great majority of these were recorded in the beach samples. Otherwise there is little difference in the relative frequencies, except for cairn TCA where positive selection seems to have taken place. Class 2 is overrepresented in the pebbles recorded in the three platform sections on Aylesbeare Common discussed in Chapter 7 and TC and LTC but underrepresented at cairn TCA. Class 3 is slightly overrepresented in the cairns but not the platforms compared with the natural test samples. Class 4 is more common in the platforms than in the natural test samples but not the cairns. By contrast Class 5 is more frequent in the natural samples and is underrepresented everywhere except at cairn TCA. Class 6 is similarly less frequent in TCA and the platforms than in the natural but occurs in similar frequencies in TC and LTC. Class 7 is underrepresented at all sites compared with the natural and especially in TCA, as is class 8, except in the western half of LTC. Class 9 is underrepresented at all the excavated sites, while Carter Blue Stones are dramatically overrepresented compared with the natural samples, most especially at TC. Class 12 is overrepresented in all excavated sites. The relative frequencies of combinations of the different classes on the pebbles differs little from the natural, except at TC and the western half of LTC, where they are far more frequent than in the natural samples.

While we already know that there is very strong evidence for the preferential selection of Carter Blue Stones in all excavated sites, there also appears to be positive selection for classes 2, 3, 4 and 12 in the excavated sites, that is to say pebbles with single thin or thick quartz veins and multiple thin quartz veins running over the surface and multiple bedding plane rings. The platforms differ from the cairns in preferential selection of classes 2 and 4 and 12 as opposed to 3, the latter being more frequent in the cairns. Special selection differs somewhat from cairn to cairn and between the two halves of LTC but varies from case to case.

It is important to note that all the special pebbles are absolutely unique. Not only is this the case but many look very different from side to side or viewing angle. The same pebble is not one but many. The classification system for the special pebbles is necessarily very generalized and inevitably subsumes difference. Although we have identified certain broad preferences for different categories of special pebbles compared with the natural test samples these are only generalized trends. What was probably far more significant to the prehistoric populations was the individual form and unique characteristics of the individual ‘motifs’ and the ‘patterns’ and the ‘motif’ combinations on the special pebbles, which were almost certainly not conceived in terms of being, or not being, members of a particular class as in our analysis.

Describing specials

We have discussed above different broad categories of special pebbles. Here we want to instead stress individual differences. No two pebbles are exactly alike. Each has its own personality and integrity of form. Six special pebbles from three cairns are discussed in the following.

LTC 2010 square 4 level 7 (Figure 5.7)

This pebble is from the middle of the basal level of Little Tor Cairn in the SE excavated quadrant. It was therefore deposited at the outset of cairn construction. This small pebble is brown and perfectly oval in form. It is identical in form and size to many of the smaller pebbles found on Budleigh Salterton beach today and this might be its likely origin. One side is plain, the other has a striking quartz oval covering half of the pebble. The quartz is pinky-white and contains a number of black thread veins forming an irregular honeycomb-like pattern over part of the outer surface at one end.

Figure 5.7 Special pebble from Little Tor Cairn S4 L7 (Source: author)

TC 2009 N6 level 2 (Figure 5.8)

This pebble is from the uppermost level of square 4 in the centre of Tor Cairn. Irregular in form and grey in colour, the surface of the entire pebble is criss-crossed with thread-like white quartz veins and inclusions. These form a fine mesh across the pebble surface. They run parallel to each other diagonally across the pebble on one side together with others that curl around and across the pebble. On the other side they run parallel to each other with thicker veins cutting across the centre. The pointed and smaller end of the pebble has another thicker oval or eye-shaped quartz vein running around it, seen in Figure 5.8 at the top. This can only be seen in its entirety by holding the pebble upright. As one rotates the pebble in the hands the patterns of quartz veins alter and change in a kaleidoscopic manner. This pebble, like so many others found in the cairns, is both one and many. The patterning running and changing across its surface changes radically giving a sense of unfolding dynamism and fluidity of form (Figure 5.8).

Figure 5.8 Special pebble from Tor Cairn N6 L2 (Source: author)

LTC 2010 SE quadrant level 3

This irregular pebble found in the second pebble layer of the cairn on its western periphery has a mottled and slightly pitted surface with an irregular coverage of grey, pink and brown areas, all with merging surfaces and irregular outlines. It is crossed by a single broad and bold quartz band that stands out from the rest of the pebble in a striking manner (Figure 5.9).

Figure 5.9 Special pebble from Little Tor Cairn S4 L3 (Source: author)

TCA NE quadrant level 1

This striking irregular brown pebble has one face covered with pink quartz inclusions. These wrap themselves over the pebble surface in an extraordinary manner, creating meandering folded masses, sometimes broad, in other places narrow, creating a plethora of forms running across the surface. The other, 'back' surface of the pebble is almost uniformly brown, except at one end, where the quartz inclusions from the 'front' side continue and wrap themselves around it in a bold but broken band, revealing the brown surface beneath enclosing a series of irregular geometric shapes (Figure 5.10).

Figure 5.10 Special pebble from Twin Cairn A NE L1 (Source: author)

TCA NE quadrant level 1

This pebble from the surface of the cairn has a complex mottled surface. Across the brown 'front' surface run broad involuted and indented meandering yellow bands. Other areas of the 'back' of the pebble surface are flecked and splashed with yellow highlights (Figure 5.11).

TCA NE quadrant level 6

This is a conglomerate pebble spotted or flecked over its entire surface, with larger and smaller white and pink quartz inclusions, larger at the centre, smaller towards the ends of the pebble. It was found in a middle layer of the excavated NE quadrant. The perceived surface patterning differs considerably as one rotates the pebble in the hands. Quartz flecks are absent from small areas (Figure 5.12).

It is exceedingly difficult to either adequately describe these special pebbles or indeed to photograph them. They need to be physically experienced, held and moved in the hands to appreciate the sheer complexity of their forms and patterning. No two pebbles are exactly alike. Each has

Figure 5.11 Special pebble from Twin Cairn A NE L1 (Source: author)

Figure 5.12 Special pebble from Twin Cairn A NE L6 (Source: author)

its own personality and integrity of form. We have demonstrated that there are far more of these special pebbles in the cairns than are found in the natural. This suggests that their striking and unusual character was recognized and that they were picked up individually by different people and brought to the cairns during their construction rather than simply being shovelled into a basket as a bulk collection. Such an activity might appeal to children, in particular, who could be taught to recognize unusual and striking ones.

This may have been over a considerable period of time. As argued in Chapters 3 and 4, the pebble layers on the cairn might have been added to seasonally or annually as part of the rhythm of life or after a number of years. We undertook an experiment with beach pebbles, taking some away and leaving them exposed in a pile inland. After a period of six or seven years their surface begins to dull and go grey. This is the result of lichen growth. So adding fresh layers of pebbles to the cairn surface would in effect renew the vibrancy of its colours and the individual character of the specials.

Infinitely variable, these special pebbles invite and attract, compel one to examine their surfaces that flow and change as the pebble is rotated in the hands. Different patterns and images appear and disappear in the process, emerge and fade away. The meandering white quartz veins on some twist and turn, widen and narrow. Others have multicoloured patterns. Nobody made these pebbles, created their shapes and forms and patterns, but the inherent beauty and intricacy of their forms is nonetheless quite remarkable. Although this is, of course, a modern aesthetic response we can still ask how prehistoric people may have responded to them. Might they not have thought about them too as wonderful or magical, regarded them as talismans and emotionally responded to their forms? Most of the patterning on the pebbles is 'abstract' in character; sometimes they are strikingly geometric in just the same way as the motifs that occur on Early Bronze Age/Beaker pottery. On some one can read into the patterning representational forms. A considerable number of these pebbles have quartz ovals on their surfaces resembling the shapes of eyes observing the observer (Figure 5.6). As noted above, these are usually found on the ends of the pebbles. Usually there is only one, but sometimes two; more rarely, multiples. Other pebbles resemble in shape and form internal body organs: kidneys, livers, brains, etc. On others the patterns of quartz veins create forms analogous to sinews and binding. On some we can find 'depictions' of plants and animals such as the fronds of ferns, fugitive outlines of animals or birds, lobsters and prawns (Figure 5.13).

Figure 5.13 Pebble with a 'prawn' (Source: author)

In case the reader has not noticed, there is an intended irony in the illustrations: they juxtapose the pebble with a measuring scale in centimetres. What does the objectivity of the scale tell us about these pebbles? Does it capture their essence? We assume there is no need to provide an answer.

Contemporary tests

Fifty informants were asked to select their 10 favourite pebbles from a sample of 20 collected from the beach. Ten of these were plain pebbles of different colours, the others the kind of intricate pebbles with mottled and patterned surfaces and/or distinctive quartz veins that we had recorded as special from both the cairn and the test samples.

The first thing we wanted to verify with this test was whether our own classification for specials would be reproduced in the informants' choices. Nearly 70 per cent of the pebbles chosen by the 50 informants

Table 5.3 The number of times informants chose 'our' special pebbles.

Pebble number	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*
Number of choices	39	43	33	38	36	21	21	45	41	22

indeed matched our classification. Eighty per cent of the pebbles that we considered special were chosen (see Table 5.3). Only two pebbles from the 'ordinary' group were picked out as being more important than our specials: the completely white and the completely black pebbles.

We also wanted to know the criteria guiding the informants' selection of specials. Each informant gave us his/her reasons for that. Although their answers varied a lot, we could identify some patterns in their choices, and have grouped their answers under 51 different categories. The colour of the pebbles was the most mentioned category (66 per cent of informants mentioned it), followed by their smoothness (52 per cent), patterns (44 per cent), their regular or round shape (34 per cent), the presence of lines or stripes on their surface (34 per cent), their solid blackness or whiteness (34 per cent), and the presence of spots (quartz inclusions) on the surface (26 per cent). Another characteristic that caught the informants' attention was that the shape or the surface of the pebbles reminded them of something else, such as an egg (24 per cent), a semi-precious stone, jewellery or a gem (four people), the moon or a planet (three people), a heart (three people), a face (two people), a kidney (two people), a pasty (two people), a map, a coral, a whale, a tool, a fish, a cow, a snake, the Super Mario video game, a liquorice ice cream or a dinosaur egg (each of these mentioned just once).

The mineral properties of the pebbles also made them special for some informants: 20 per cent mentioned this characteristic. The fact that a pebble seemed to have been attacked, damaged, had creases or scars caught the attention of 16 per cent of informants. Fourteen per cent mentioned the different or interesting textures of the pebbles. Memories or remembrance of pebbles they had found in the past was also a point that cropped up – five people mentioned it. Prettiness was mentioned five times also. Among the less popular characteristics we have: 'it could be a piece of decoration', the marble or onyx effect, and the uniqueness (four responses each); the fact that it has quartz in it (mentioned three times); it looks like metal (two responses), it is humble/simple/natural (two responses). The power of bringing forth emotional responses was mentioned five times: 'I feel sorry for this pebble', 'it is calm', 'it is mystical', 'it is funny' and 'it is disturbing'.

Special pebbles were also regarded as powerful/intense (mentioned twice). Features that were mentioned just once were design; alien; man-made; different sizes; form of a triangle; skipping stone; camouflaged pebble; it is alive: it is sick, and it is perverse.

Choosing specials seemed to be an introspective exercise for most of the informants. Pebbles were looked at individually, not collectively, and it was very interesting to see informants holding and rubbing them as if they owned them. Some informants wanted to take the pebbles home. The way they connected with the specials was quite different from the way they manipulated the pebbles used in the colour tests – they did not show much interest in or care for these pebbles. With the specials, on the other hand, they were invited to talk – not by us, but by the pebbles themselves. For some it seemed to be therapeutic to choose a pebble: they held it with both hands, turned it round, grabbed it to feel its heaviness, looked very carefully at it, 'felt in love' with a particular one, 'felt sorry' for another one, remembered their past or their mother. One informant licked some pebbles to check their mineral properties.

Another exercise confirmed individuals' preference for pebbles that we have regarded as specials. A group of 35 UCL students on a fieldtrip in February 2012 were taken to Budleigh Salterton beach and asked to pick up one or two pebbles that appealed to them. All but two, who again chose black and white pebbles, picked up special pebbles with multiple veins or mottled colours, confirming the pattern we have found in the tests carried out with the 50 informants. At the very least these tests showed that our classification of special pebbles was not just a personal whim and that there was a high degree of agreement that these were indeed different from ordinary or plain pebbles.

Colour and its significance in prehistoric cairn building

Owoc (2002, 2004) has observed that for several southwestern cairn sites in the UK, the use of contrasting coloured materials has a significant role to play in understanding cairn construction and meaning. The most striking feature of the pebbles found in the Pebblebeds is their bright and varied colours. From our analysis we have demonstrated that the pebbles in the cairns were not selected or arranged and placed in the layers of the cairn in terms of these colours, that is, by grouping them together to make patterns using pebbles of the same colour. Throughout the different levels of the cairns we consistently find a mixture of pebbles of different colour, resulting in an architectural structure that was multicoloured throughout from top to bottom and directly reflecting in a mimetic way the natural colours of the Pebblebeds themselves.

None of this suggests, however, that pebble colour was insignificant to the builders of the cairns. Rather the reverse: the colours of the pebbles used to construct them had a mimetic relationship to the landscape out of which they were constructed. The cairns objectify this relationship. This suggests that we need to consider colour and its relationship to the body in a material way rather than in terms of abstract and idealized colour categories (red, brown, etc.) that are effectively dematerialized in our own thought because they remain aloof and separate from the things of which they form a part (Young 2006). In other words, colours require contextualization in terms of both landscapes and things, events and activities. They are part and parcel of all this, primary rather than secondary in significance. Colour is what makes things and landscapes what they are. We cannot describe the colours of a landscape or the colours of a pebble in an abstract way. The redness or the yellowness of a pebble is that of a certain kind of stone, with its shape, textures, qualities, and is different from the redness or yellowness of a flower. It cannot be abstracted from the thing itself (Merleau-Ponty 1962: 323). In other words, colours cannot be separated from that which they colour. Concomitantly, perceiving colour is more than visual perception but relates to all the bodily senses. Colour can be sound or smell or taste or texture: 'a thing would not have this colour, had it not also this shape, these tactile properties, this resonance, this odour' (319). As Merleau-Ponty concludes: colour 'in living perception is a way into a thing … The Maoris have 3,000 names of colours, not because they perceive a great many, but, on the contrary, because they fail to identify them when they belong to objects structurally different from each other' (305).

'A way into a thing': in the prehistoric world the multicoloured nature of the pebbles would be quite extraordinary, as well as their permanent nature in the landscape. Other colours in that landscape such as the colours of flowers and vegetation were by contrast transient and linked to seasonal change. They did not endure throughout the year or over the centuries. Today our culture is saturated with artificial colour in all aspects of everyday life, in the clothes we wear, the cars we drive, the houses we live in, in books, magazines, films and TV. We take colour for granted and in this sense its power and its effects have been anaesthetized. The abundance of colour has diluted our material, bodily relationship to it and its intense spiritual power, the manner in which colour may excite all the senses and not just sight alone. Yet as Taussig (2009) has argued, colour for us is inherently problematic. It both repulses and attracts. Goethe in his *Theory of Colours* ([1840] 2006), much cited by Taussig, felt it worth noting that 'savage nations, uneducated people, and children have a great predilection for vivid colours; that animals are excited to rage by certain colour; that people of refinement avoid vivid colours in their dress and the objects that are about them, and seem inclined to banish them altogether from their presence' (Goethe [1840] 2006: 30). Vivid colour in contemporary Western culture seems to requires containment and display only in appropriate contexts; it both repels and attracts: 'who of you reading this text would even dream of painting the living-room wall bright red or green, or any color than off-white? Then, safe in your whiteness, you can hang a wildly colored picture on the wall, secure in its framed being' (Taussig 2009: 14).

It is a notion of colour as inherently and materially part of doing and acting, possessing magical potency and spiritual power that seems to be most appropriate in interpreting the colours of the pebbles in the cairns and those of the East Devon landscape in general. 'Colour is the most sacred element of visible things', wrote Ruskin. 'Drawing gives shape to all creatures', says Diderot, but 'colour gives them life. Such is the divine breath that animates them' (Ruskin and Diderot cited in Taussig 2009: 254). Taussig, in a richly nuanced account, documents the demise of the power of bodily or visceral colour in the West, with the development of industrial pigments in the mid-nineteenth century. In the process things became effectively stripped of their colour. Colour became dematerialized and disembodied. Only vestiges remain today in the contemporary languages of colour nuances (sky-blue, olive-green, etc.). The names remain substitutes for what has gone, the notion that things have their own colour and that this is a non-transferable part of what they are. Taussig's project and ours is one of re-embodying colour phenomenologically, entertaining the possibility of producing a history of colour through entangling it with the bodies producing, perceiving and using it.

Goethe's comments, stripped of their negative connotations, suggest another prehistoric world of untamed colour, colour as something wild, visceral, stimulating the body, producing powerful effects, linked with ritual and the emotions, inhering in things and the landscape and making them what they are, something dynamic and intimately connected with the bodily practices of everyday and ritual life. Colour as an active hybrid part of things is perfectly suited to emphasize and employ in liminal places, transforming bodies interacting with the flows of colour.

The first point requiring emphasis is the transformational nature of the colours of the pebbles. When dry most appear to be the same somewhat dull 'greyish' colour. Their colours vanish by being exposed to the elements and the rolling actions of sea waves or river currents. As anybody who walks along the beach knows, the colour in pebbles is activated by water. If it is not raining the most colourful pebbles are those washed by the waves. The perception of pebbles is quite different depending on whether they are wet or dry. When we asked 50 informants to categorize pebbles in terms of different colours (red, yellow, brown, etc.) in their dry state, most remarked that they were all the same colour. When wet the pebbles become instantly and spectacularly transformed, glistening and differentiated into a myriad of different hues; then our informants found it relatively easy to assign colour categories. So we might ask, in an empiricist manner, what the 'true' colour of a pebble is: wet or dry, bathed in sunlight or drenched with rain? The answer would seem to be that the perception of colour is always conditional in relation to the context and the situation. There is no true or proper or constant colour of a pebble. Instead, the constant fluidity of colour transformation is part of what pebbles are, their essence, their material effects on human perception.

The essence of a pebble is that it is a transformative, polymorphous coloured entity. Pebbles, collectively and individually, have powerful sensory effects as a result of their multivalent and changing colours. It is the vibrancy of their contrasting colours in general that seems to be important, rather than any artificial modernist categorization in terms of abstracted colour categories discussed endlessly in the literature (e.g. Berlin and Kay 1969; Gage 1995, 1999; Jones and McGregor 2002; Turner 1967). While all other kinds of things, such as tables or beds or other kinds of rocks, may be regarded as changing somewhat in whatever primary colour term is attributed to them according to the conditions of the light or the time of the day or whether they are wet or dry, pebbles change colour quite dramatically or violently when wet, more so than the vast majority of other materials and certainly far more than any other kind of stone. This gives them an especial and magical significance. The transformation is not slow or continuous but instantaneous. Pebbles transform, become brilliantly multicoloured, in a flash. They 'lose' their colours when drying out more slowly. The transformation from brilliant to dull is more protracted and scarcely perceptible until the change has already occurred. The effects of the sun are at the expense of the colours of the pebbles. The magical, transformative and polyvalent colours of the cairns thus fluctuate or flow and alter according to whether it is wet or dry, in accordance with the metamorphic powers of water in relation to the qualities of the stone.

The second fundamental point is that the cairns also alter in the constant fluidity of the act of perception itself, in relation to the body of the observer, foreground and background, the part of the cairn that is being observed, and from pebble to pebble. In this sense the cairn becomes a constantly mobile thing in which colour flows from pebble to pebble and from one part of the cairn surface to another. Built with layer after layer of pebbles superimposed on one another, archaeological sections through the cairns reveal a kaleidoscopic depth of transforming colour in the cairn confined to its outer surface in normal circumstances, the visible external surface colour concealing the invisible colour of that which lies beneath. Building a cairn can be conceived as acts of layering colour upon colour, condensing colour in the process and creating an architectural form that of course concealed colour beneath the surface but at the same time sedimented, concentrated, magnified, animated and trapped it, giving the cairn fabulous power and potency. Colour thus pervades the cairn, is a fundamental element of its being, volubly concentrated in its mass and depth. The amassing of pebbles to build the cairns was simultaneously an amassing and concentration of colour, layer after layer, pebble beside pebble. The transformational colours of the cairn form part of both the visible and the invisible sacred world. Colour both is of this world, visible on the surface, and is sedimented in the depth of the cairn lying beneath the surface, part of another world. The cairns in turn conceal the pebbles on which they were built, geological depths of superimposed colour, layer upon layer descending beneath the surface of the land.

The Pebblebed landscape was above all a coloured landscape when compared with the dull and relatively colourless geologies of the surrounding hills and ridges of greensand and chert to the north, west and east. Humanly induced changes to the colours of the vegetation of the landscape further highlighted the vibrant colours of the cairns. The formation of heathland on the Pebblebeds transformed its colour. The dappled greens of a relatively open oak and hazel forest merging into the denser deciduous forest of the surrounding lowlands were replaced by gorse, heather and bracken. During most of the year the vegetation of such a landscape appears bleached, lacking vibrant colour. In winter it is only enlivened in patches by the yellow flowers of the common or European gorse. In spring and early summer in particular it appears grey-brown, barren and dead in contrast with the vibrant greens and the flowers of the surrounding lowland landscape. It is only in late summer and early autumn that this landscape comes alive with colour, with the purple blooms of heather and the yellow flowers of the shorter Western gorse. Thus throughout much of the year the vibrancy of the colours of the pebbles is effectively highlighted and accentuated through this contrast. The multicoloured pebbles were always there in the landscape.

During the excavations we were constantly spraying the pebbles with water in order to observe their colours. The pebble layers were transformed from dull to brilliant and the effect was magical but within a few minutes was lost. The action of rain has, of course, the same effect. In the prehistoric Pebblebed landscape the exposed cairn surfaces would thus gain and lose their vibrancy on a seasonal and daily basis that could be observed in everyday life.

The rainbow serpent is a mythological creature of immense spiritual power and potency to Australian Aboriginal populations (Radcliffe-Brown 1926; Mountford 1978). As the name suggests it has a vibrant, multicoloured skin. It lives in holes in creeks and comes out or is 'activated' when the rain falls and the desert turns green – a time of renewal and plenty. Its wanderings create the rivers and creeks. It is pre-eminently associated with the cycle of the seasons, water, human social relationships and fertility. It can be a giver of life with protective powers or potentially malevolent. The colours of a rainbow form when the rays of the sun pass through rain, and the serpent is associated with the rainbow in art and numerous mythological stories.

A rainbow is a kind of miracle that activates the sky. Just as the colours of pebbles are inconstant and only activated by water, a rainbow eventually fades and is lost in the sky. Water brings forth the colours of pebbles that are otherwise disguised beneath a pale skin. The notion that a pebble has a skin, an inside and an outside, activated by water, may also have been considered an essential element of their spiritual power and magical potency by prehistoric populations. We cannot of course draw any direct analogies with serpents or rainbows. But the suggestion that we can make is that multicoloured objects such as the Pebblebed heathlands themselves, at a macro scale, and the cairns, at a micro scale, had power and spiritual potency precisely because of their multivalent and changing colours.

The angular gravels found on the ridges and hills surrounding the Pebblebeds look pretty similar whether it is wet or dry and are not significantly different. In comparison, the colours of the pebbles are in a continual state of process and transformation. Young (2005) has discussed the manner in which surface colour changes in the land are indexical of the enormous power that ancestral forces exert from beneath and below the ground among Aboriginal populations. The surface changes of land and sky are created by the ancestors who are present inside the landscape, present beneath the surface. There is a whole ontology of colour that is a central part of the way people conceive of the potential in coloured things. In particular, highly coloured things and things that change colour are regarded as energetically charged. The image of fecund land is one of colourful flux, while a loss of colour is associated with a loss of vitality and life force. This idea may be linked to Rowland's argument that an understanding of materiality can be linked to processes of materialization such that some things and some people are more material and thus powerful than others (Rowlands 2005).

This perspective enables us to understand the deposition of the mushrooms in the central part of TCA (see Chapter 3) in a new light. Wild mushrooms (contrasting with the tasteless, uniform cultivated varieties), like pebbles and rainbows, are miraculous. They are activated by the autumn rains, spring up out of nowhere and appear overnight. They are spectacular both in terms of their varied forms and their bright colours. No other kind of plant takes on so many forms and has so many colours, from reds to yellows to browns, blues, whites, purples and so forth. Their caps, like pebbles, are smooth to touch, and like pebbles they may be round, oval or irregular in form. These direct and material metaphorical analogies between pebbles and mushrooms provide a parsimonious way of understanding why they should be deposited in the cairn.

To sum up, building the cairns required the gathering together and the layering of the multicoloured pebbles: they condensed and amassed and concentrated colour in potent and powerful constructions that marked rather than monumentalized sacred places and social identities in the Pebblebed landscape. They accentuated an already sacred landscape by creating nodes of power within it and tapping into spiritual powers inherent in the colours of the land itself. Trapped in the cairn itself, individual special pebbles with their intricate colours and quartz inclusions may have been considered to be magical stones with an especial potency.

6
Burnt mounds and pebble sculptures

Christopher Tilley and Karolína Pauknerová

During the Middle to Later Bronze Age we have evidence of new types of pebble structures: a burnt mound and sculptural forms made out of pebbles occurring on the heathlands. These represent radically different and opposed ways of relating to pebbles. In the burnt mound we see their ritual destruction, while in the pebble sculptures we witness their curation, selection and arrangement into patterns representing people or objects in the Bronze Age world in relation to mortuary rites taking place near to large summit pebble cairns of Early to Middle Bronze Age date.

Jacob's Well

Jacob's Well is situated at the foot of the western escarpment of the East Devon Pebblebed heathlands (SY 0250 8546). It is the site of a spring, a water pool and bog marked in prehistoric times by a large mound of fire-cracked pebbles. The site was excavated by George Carter during 1938/9. In his archive there are numerous photographs, a plan and line drawing of the mound, a plan of his excavation trench and some reconstruction diagrams. He did not write up the results of the excavations, presumably because they were undertaken just before the outbreak of the Second World War. The mound still exists today, cut through by Carter's excavation trench that he did not back fill. It is situated in a mature pine plantation on flat land 50 m to the east of the B3180 road below the summit of Black Hill, one of the highest points on the Pebblebed heathlands. Immediately to the east, the land rises steeply up the scarp slope, limiting views in this direction to a few hundred metres. To the northeast, Woodbury Castle is visible on the horizon some 2 km distant. To the northwest, there are extensive views to the Raddon Hills. To the west and southwest, there are fine views across the Exe estuary to the Haldon Hills, with the high peaks of Dartmoor just visible beyond. The ground around the mound is still very boggy today, especially to the south, and the nearby road is still wet with the spring water even during dry periods (Figure 6.1).

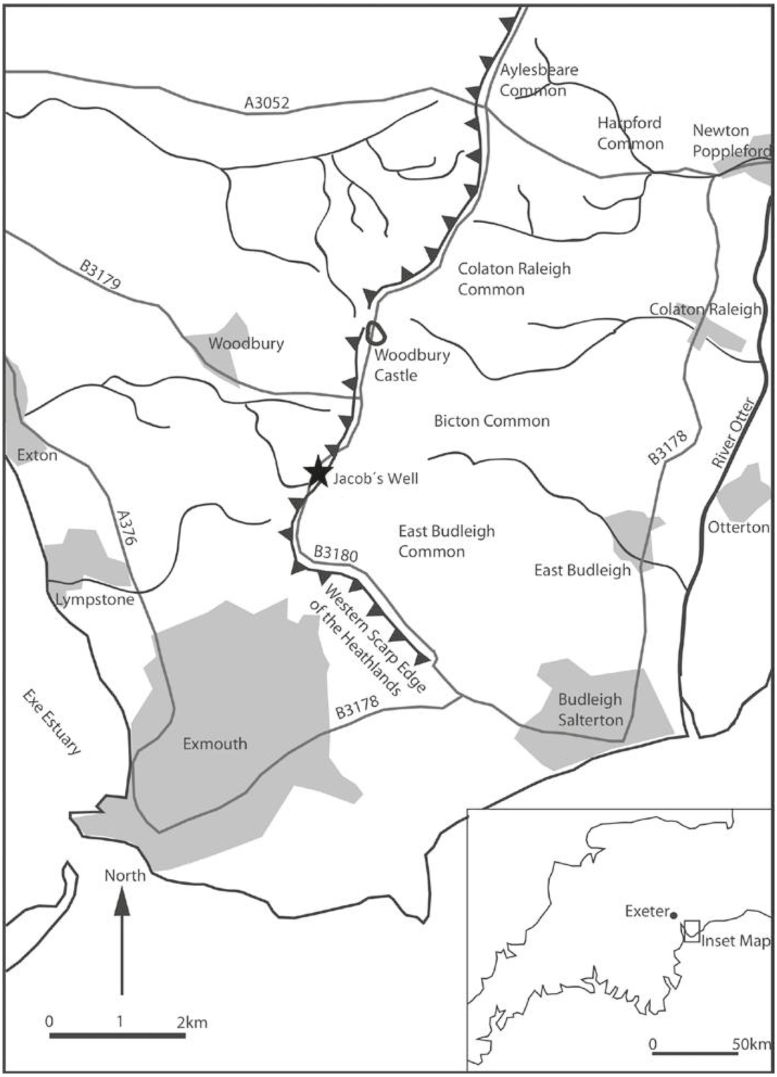

Figure 6.1 The location of Jacob's Well just below the western scarp of the heathlands (Source: author)

Carter's excavations

The mound, as planned by Carter, is a somewhat irregular oval with a west–east long axis of up to 23 m and a north–south short axis of up to 13 m. The mound is approximately 1.8 m maximum height. The profile is markedly asymmetrical, being considerably higher on the northern side, with what may be an extension on the southern side (Figure 6.2.)

Carter's section drawing shows a ditch at the eastern end of the mound. The north, south and western sides were surrounded by what he marks as a pebble 'pavement', which was about 2 m wide. In his section drawing (unfortunately without a scale) he distinguishes three main layers as follows:

1 [uppermost] A thick layer of fire cracked pebbles about 1.2 m thick. This contained much charcoal. Samples sent by Carter to Kew 'from within but on the outer edge of the mound' were identified as being of alder (*Alnus glutinosa* L.)
2 An approximately 0.3-m-thick layer of peat. In a letter addressed to the Director of the Royal Botanic Gardens, Kew, dated 18 August 1939, Carter writes 'the peat stratum was about one foot thick. Just below the surface was a thin layer, very extensive, of well-preserved wood,

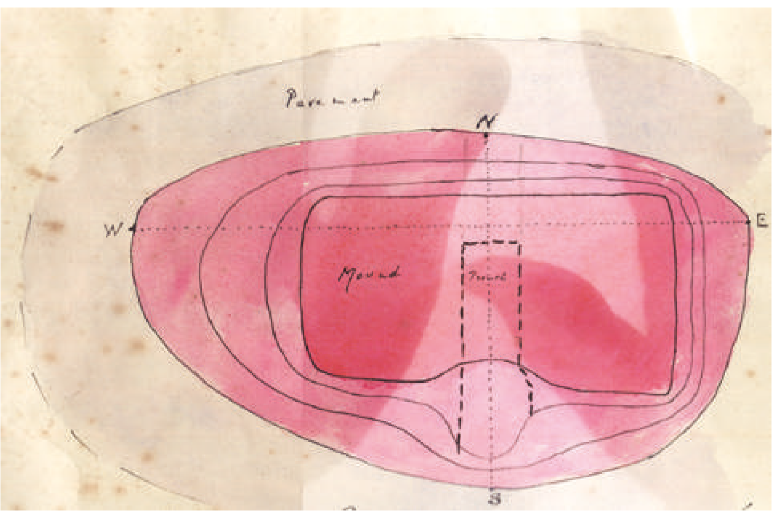

Figure 6.2 Carter's watercolour plan of Jacob's Well showing his excavation trench (Source: Carter archive)

or what appears to be wood. One large piece has an area of about two square feet, and was penetrated, when the mound was built, by a hole, square in plan, with two sides measuring 18″ in length. The surface of this exposure is gently corrugated with even ripples. If this was the bark of a tree peeled off, it would have to be a large tree to give the area now visible. It may represent the only portion of a large recumbent log which has not decayed. It may represent, say, thin objects like a shield or two of bark .... The large portion is being preserved in situ pending this examination.' Smaller pieces were identified at Kew Gardens as probably being oak.

3 A 0.3-m-thick pebble floor overlying a 'raft' of pebbles on the surface of the bog. This bottom layer Carter also describes as being 'a great mattress of pebbles allowing water to percolate freely under the mound' (handwritten note) (Figure 6.3).

Carter excavated one trench which was about 12 m long and 2 m wide. This extended north from the southern edge, cutting through the centre of the mound (Figure 6.4 and Figure 6.5). Beyond the paved mound perimeter he discovered a geometric arrangement of pebbles that he interpreted as resembling somewhat a human face. Just to the north of this was an unburnt area of clay. This was approximately rectangular in shape and measured 90 cm × 1 m. On it he recovered a large unusually shaped and flaked pebble. It is 15 cm long and parts of the water-worn and smooth external surface of the pebble occur on its bottom and on a small area of the flaked top. The pebble had been struck to remove the flakes at the pointed end. All surfaces are

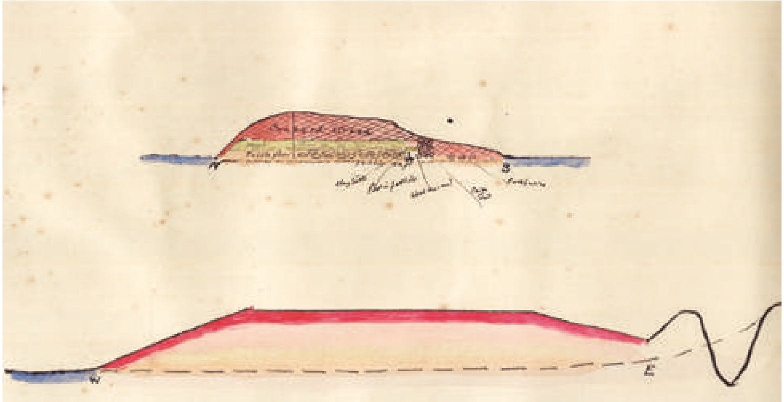

Figure 6.3 Carter's section drawing of Jacob's Well (Source: Carter archive)

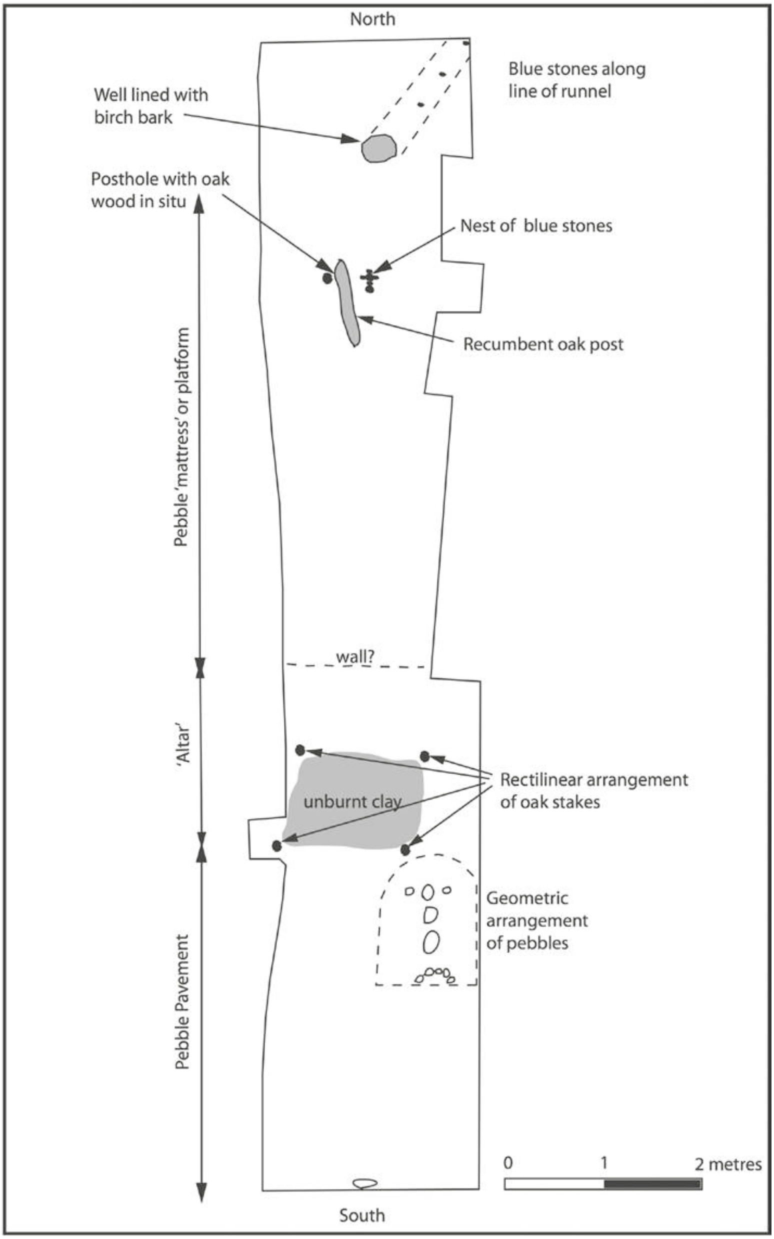

Figure 6.4 Plan of Carter's trench through Jacob's Well based on his drawings and notes (Source: author)

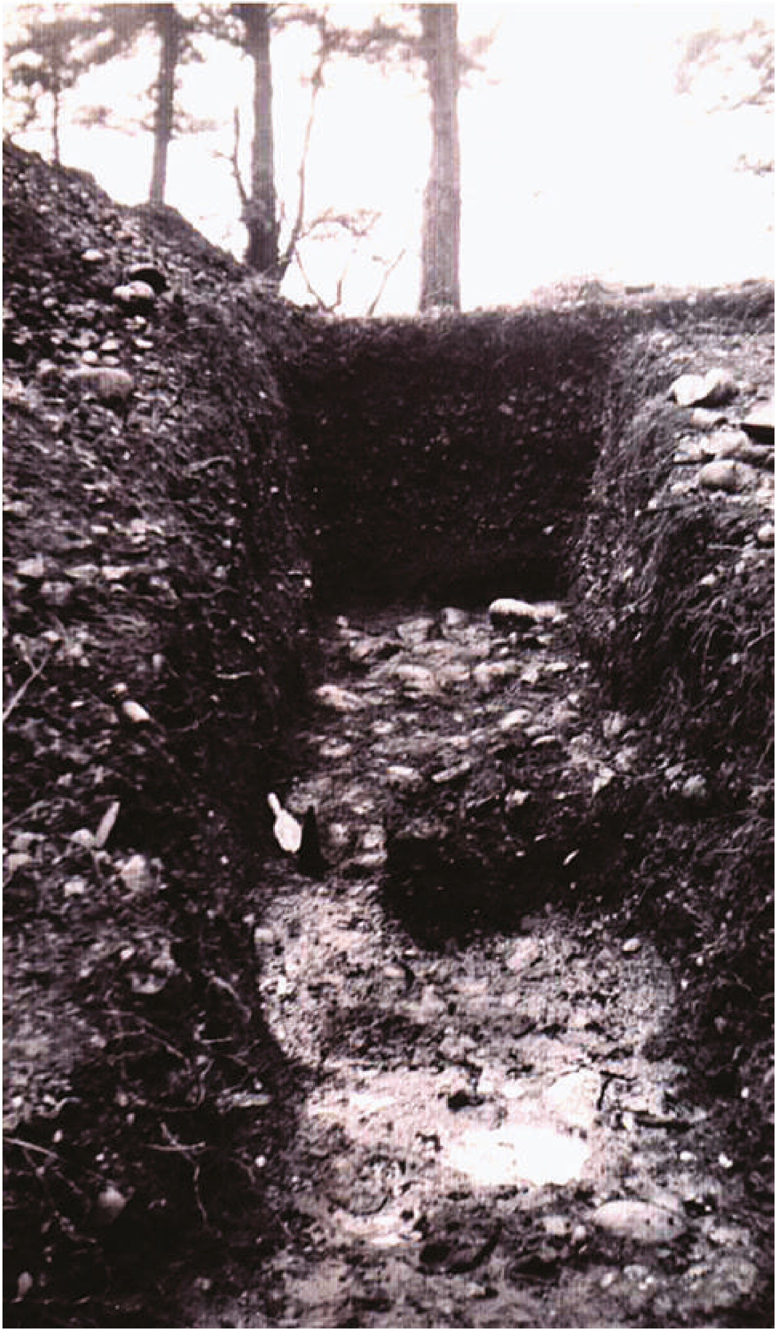

Figure 6.5 Carter's photograph of his trench through the mound looking north. Remains of clay 'altar' in foreground, remains of oak post *in situ* marked by trowel. Stone mattress or platform under mound: background (Source: Carter archive)

fire-cracked, indicating that it was subjected to burning after being flaked. It may have been used as a hammer stone for flaking other pebbles, which would, as these are quartzites, produce distinctive orange sparks. Because of its find context, Carter interpreted it as an 'idol' or magic stone. It was found together with much charcoal and three pebble flakes, with distinctive white quartz veins, all from the same pebble (Figure 6.6 and Figure 6.7). The four corners of the clay area were marked by sharpened and pointed oak stakes the basal parts of which were preserved in the bog water (Figure 6.8). Carter refers to this as being an altar. Under it there was a flint flake. Just over a metre to the north of it he found the remains of what may have been a dividing wall or, alternatively, a small cairn of pebbles. Four metres to the north of this structure he recovered the decaying remains of a wooden post or pillar, originally perhaps up to 3 m long. This lay along the north–south axis of the bottom of his trench (see Figure 6.4). Next to it was the post hole about 0.4 m deep with wooden remains *in situ*. The wood was identified as being oak, probably *Quercus robur L.*, the common English species (letter from Catherine Hill, then Director of the Royal Botanic Gardens, Kew, dated 6 September 1939). Carter estimated that the post was not less than 6 inches (15 cm) in diameter.

Figure 6.6 The flaked 'idol' or magic stone found at the base of the mound by Carter (Source: author)

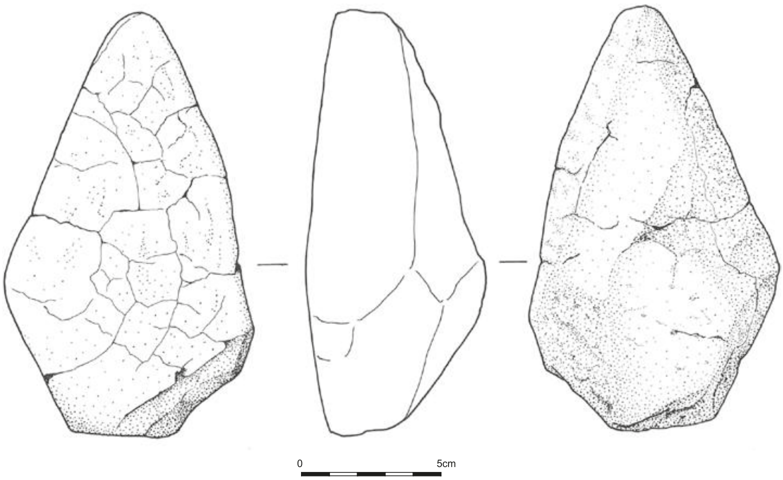

Figure 6.7 The flaked pebble: line drawing (Source: author)

Figure 6.8 The four oak stakes recovered by Carter at the corners of the 'altar'. The two to the right have been radiocarbon dated (Source: author)

Beside it, on the western side, there was a 'nest of blue stones'. These are unusual and rare quartzite blue-grey pebbles recognized by Carter as having symbolic significance (see discussion of blue stones in Chapters 2, 4 and 5). At the northern end of the trench he found a cut water channel leading away from a well or basin. The well was about 30 cm in diameter and 30 cm in depth. It had a birch bark surround and was cut into peat. From it a water channel or runnel, its centre marked by blue stones, ran away towards the northeast under the mound. There were no other finds of flint and no pottery in the excavation trench.

Carter's interpretations

Carter mentions Jacob's Well in one of his numerous unpublished manuscripts, *To Rome from the East: A Study in Comparative Religion*. He writes:

> The mound proper was apparently the scene for centuries of ceremonial fire (or steam) raising, since it could only have been constructed by a gradual process involving the bringing of pebbles, the making of a localized fire, the dowsing of the fire by water. Thus the stones became cracked and the fine charcoal washed down into the crevices. The ceremonial rites were performed for so long a period that ultimately well and altar were covered by debris – but local residents still go here to 'wish'. In the bottom or peat layer were found the broken remains of a beam of wood originally about 10/12 feet long. Of which the purpose can only be surmised. Here we seem to have the locale of rain-making magic, of which remarkable literary expression will be found in the Celtic tale of the Lady of the Fountain.
>
> (undated MS: 88–9)

Carter's reconstruction diagram of the 'altar' shows the four oak stakes supporting a roofed structure over it (Figure 6.9).

Carter firmly believed that the mound was of Iron Age date, in common with the mounds and pebble platforms that he had excavated earlier on Woodbury and Aylesbeare Commons (Carter 1936, 1938). Radiocarbon dating of two of the oak stakes has shown that one stake is of Early Bronze Age date and the second is Middle Bronze Age (see discussion below and Table 6.1).

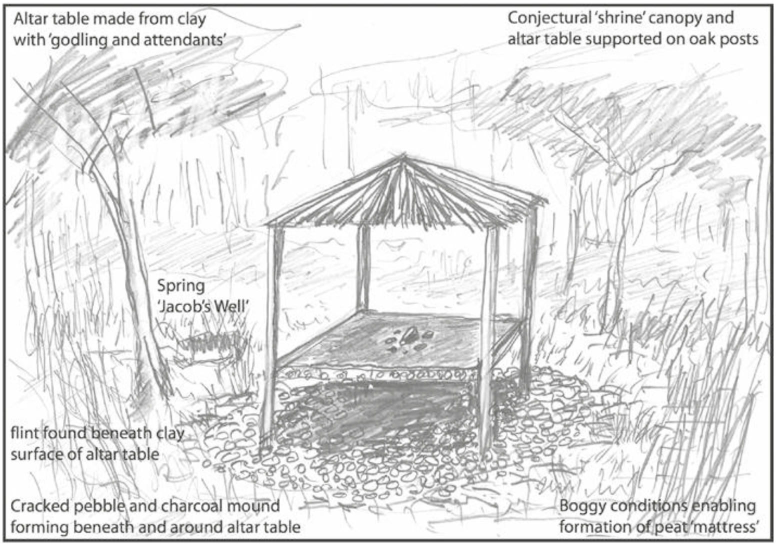

Figure 6.9 Carter's reconstruction diagram of the wooden shrine. Redrawn by Wayne Bennett

Table 6.1 Radiocarbon dates for Jacob's Well.

Material dated	*Radiocarbon age*	*Beta Analytic Florida no.*	*Calibrated date range, 95 per cent probability*
Trench – oak stake – wooden shrine	3410±40 BP	BETA 257337	1870 to 1850 and 1780 to 1620
Trench – oak stake – wooden shrine	3250 ±40 BP	BETA 257336	1620 to 1440 BC
Mound spit 14 – alder – charcoal	3210±30 BP	BETA 298040	1510 to 1410 BC
Mound spit 7 – alder– charcoal	3100±30 BP	BETA 298039	1420 to 1300 BC

Carter records the small bog beside it still being used as a wishing well by locals in 1938 at the time of his excavations, as it was, no doubt, in his childhood: 'people came to drop offerings in the then open hole in the swamp about two or three feet from the aboriginal well' (Carter unpublished note). Today Jacob's Well is forgotten and unvisited. The only person who knows and remembers the site is Mrs Priscilla Hull, George Carter's daughter, who took part in his excavations.

On the basis of Carter's excavation there appear to be four main components of the shrine: (1) a spring source defined and lined by birch bark with a runnel carrying water away; (2) an oak totem pole; (3) a raised structure supported by four oak stakes, with offering stones, perhaps roofed; (4) geometric (?) arrangements of pebbles and blue stones. This was covered, in the passage of time, as a result of repeated ceremonies at this sacred location, by a large oval mound of fire cracked pebbles containing much alder charcoal.

The 2010 excavations

The aim of new excavations undertaken in 2010 was to measure and document the state of the mound and cut a small section into the body of the mound, record further information about its structure and purpose and obtain further material for dating and environmental analysis. The wall of Carter's trench was cleaned and then a 1-m-square trench in the centre of the mound on the western side of Carter's north–south central trench was excavated (see Figure 6.10 and Figure 6.11). After cleaning the side of the trench, on the top a humic orangey-brown layer was visible and then down through the whole profile a layer of cracked pebbles and charcoal with no obvious stratigraphy. This rested on an underlying peat layer. Since it was apparent that there was no discernible stratigraphy within the burnt mound deposits we decided to excavate by 10 cm spits until reaching the basal peaty layer. One immediate question was where Carter had deposited the spoil from his trench. This proved to be in two places: (a) immediately outside the mound on the southern side and (b) on top of the mound itself, thus considerably increasing its height and altering its profile from an oval flat-topped mound to a much more rounded shape.

The material from each 10 cm spit, including Carter's spoil, was excavated into buckets and weighed. It was then dry-sieved using a 1 mm mesh and charcoal samples were taken for analysis. It was then wet-sieved and the fire-cracked pebble fragments were weighed separately. A 2 kg random sample of the broken fire-cracked pebbles from each 10 cm spit was individually measured (maximum length), weighed and examined for the presence of the cortex (smooth outer surface of the pebble) and this was recorded. The purpose of this was to enable us to distinguish whether any changes in the composition of the material were apparent

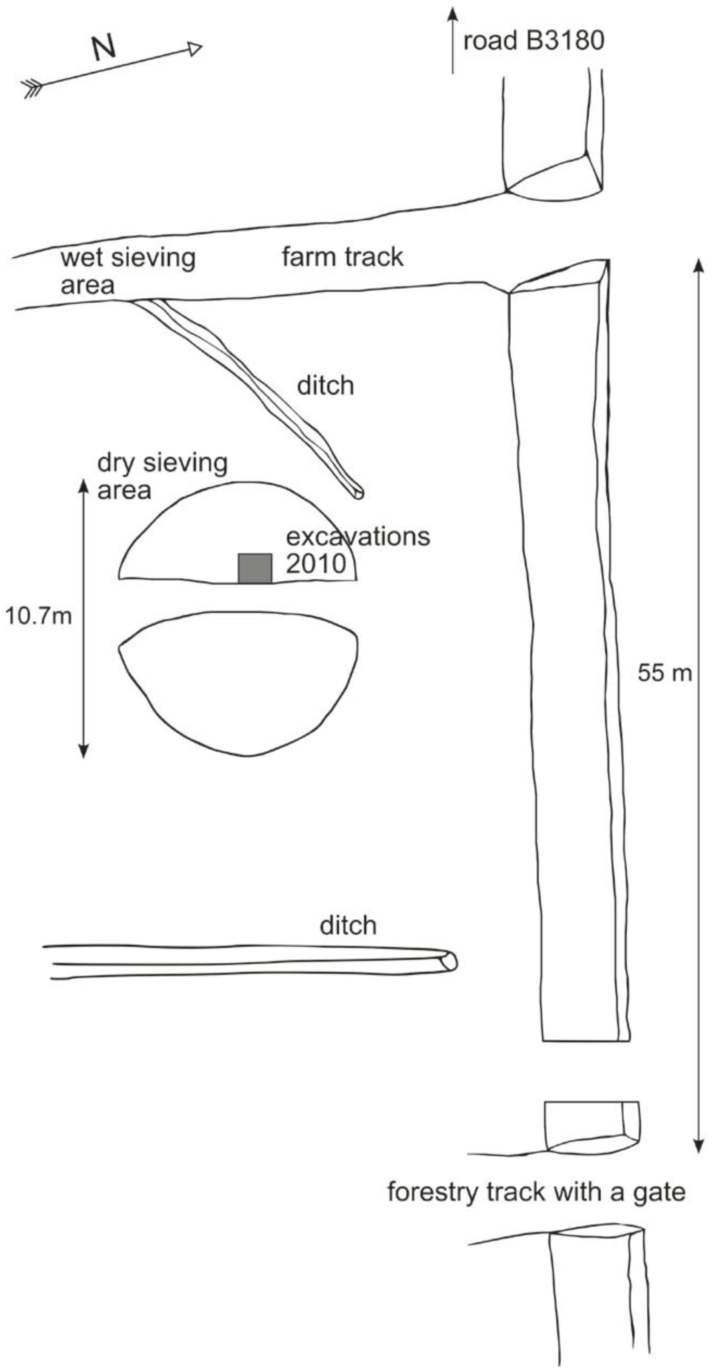

Figure 6.10 Jacob's Well: sketch plan of the mound and its surroundings (Source: author)

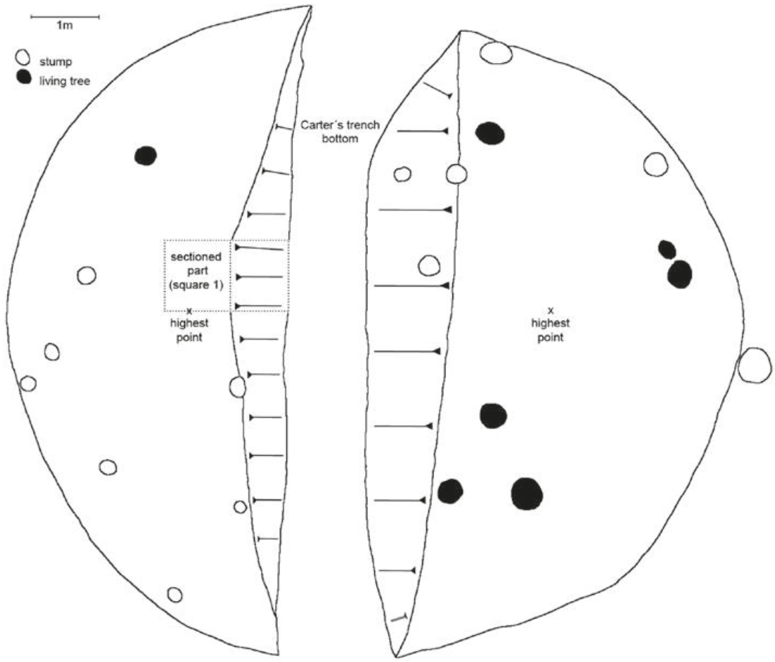

Figure 6.11 Jacob's Well: general plan of the mound (Source: author)

from the top to the bottom of the burnt mound (e.g. more or less charcoal and sooty deposits, or whether there might be proportionally more larger pebble fragments present at various depths through the burnt mound or a higher or lower degree of fragmentation of the pebbles).

After removing the top orangey-brown layer (context 1), five levels with cracked pebbles were excavated (context 2). This was the spoil from Carter's excavations, and in spits 5 and 6 two green glass shards, one a neck fragment with a bullet stopper, of a type typical of the 1930s, were found. Beneath the spoil another layer appeared similar to the top layer (context 3). Underneath this spits 6–14 consisted of undisturbed cracked pebbles and charcoal (context 4). The top of spit 6 is thus the highest level of the original mound. The undisturbed burnt mound deposits below were thus 90 cm in depth, overlaying the 'peat layer' that was 17 cm in depth (following Carter's description of the site) (context 5) (see Figure 6.12). Below this, large pebbles occurred in a natural grey clayey matrix. At the junction of spit 14 and the peat layer pieces of wood started to appear. This was collected for analysis and plotted (Figure 6.13).

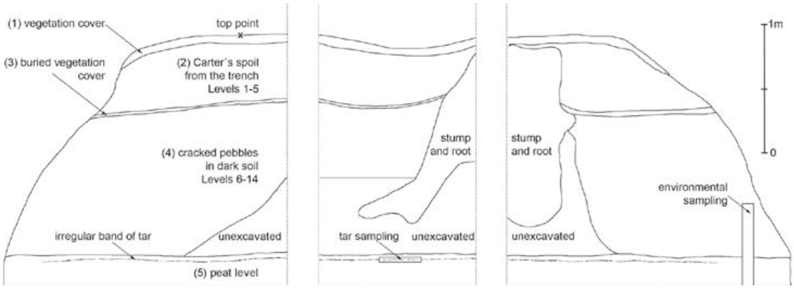

Figure 6.12 Jacob's Well: section (left side, back, right side)
context 1: vegetation cover, topsoil – orangey-brown material with roots
context 2: levels 1–5, cracked pebbles in dark black, humic, soil, interpreted as Carter's spoil heap
context 3: buried mound vegetation at the time of Carter's excavation: orangey-brown material with roots
context 4: levels 6–14, cracked pebbles in dark black, humic, plastic soil
context 5: – peat level (Source: author)

We had chosen to locate our section where there were no pine trees or tree stumps visible on the upper mound surface. However, an old and heavily rotten pine tree stump that must have been growing on the top of the mound in Carter's day emerged as we excavated down through his spoil into the underlying undisturbed deposits. The spoil had concealed it on the mound surface. Analysis of the wood material found in the basal peaty layer by Dana Challinor showed that it was heavily decomposed pine root wood, the roots of the tree stump discovered in the section. No artefact finds were recorded from the trench, and only a very few small quartz pebbles were found intact. The rest were very highly fragmented.

Within the peat horizon beneath the burnt mound three distinctive layers could be distinguished:

3–5 cm: light-brown peaty layer, possibly burned;
5–7 cm: an irregular sinuous black band with a distinctive smell of tar of a kind that is usually found under charcoal kilns. During burning with only small amounts of air, liquid tar soaks into basal layers, in our case into the basal peat layer, and at this depth formed a distinctive band.
7–17cm: a dark brown peaty layer (Figure 6.12).

There were no artefacts in this peaty basal layer. The sequence of contexts 4 and 5 were taken as a monolith sample and a separate sample was taken of the tar layer (for the position of samples see Figure 6.12).

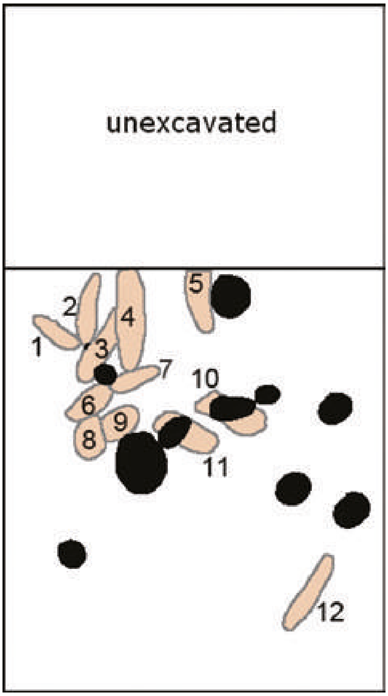

Figure 6.13 Jacob's Well: square 1, planned position of substantial pebbles (black) and pieces of wood (numbered) in the peat level (Source: author)

The results of pollen analysis undertaken by Rob Batchelor of the peaty deposits beneath the burnt mound show that common alder dominated the wetland environment, prior to the formation of the burnt mound, with an understory consisting of hazel, willow, ivy and holly. Grasses and sedges dominated the ground (see Batchelor, Appendix 12 and discussion in Chapter 8).

Dating

Table 6.1 gives the radiocarbon dates for Jacob's Well. The top of the burnt mound deposits below Carter's spoil is dated to 1300–1400 cal. BC and the bottom 1400–1500 cal. BC, so the burnt mound took approximately 100 years (or three to four generations) to accumulate. The dating of the oak stakes that Carter had found in the basal peaty layer under the mound provided older but different dates. The difference between the two dates can be explained by the fact that oak are long-lived trees and even dates from the same tree might differ. These stakes were chemically preserved by Carter and were analysed by Dana Challinor, who suggests that they were of large mature trunk wood. Whether or not this was heart wood could not be ascertained because of the nature of the chemical impregnation. The stakes had a minimum of 30 rings.

If we take the middle date of the stakes, 1620 cal. BC, as the date for the structure Carter found in the basal peat layer there was a 100-year hiatus between the construction of the shrine in the bog and the accumulation of the rest of the mound of fire-cracked pebbles. So there were in all probability, though it is impossible to be definitive about this, two main phases of human activity at Jacob's Well: (1) an Early to Middle Bronze Age phase in which a shrine was built on the site; (2) a later Middle Bronze Age phase during which the pebbles were cracked and the burnt mound deposits accumulated.

Analysis of the burnt mound deposits

The archaeological analysis of the excavated material from the 10 cm spits shows that there is a substantial difference between Carter's spoil and the undisturbed burnt mound deposits beneath. In the spoil the percentage of pebbles was considerably lower, varying between 53 per cent and 65 per cent of the total (mean frequency 59 per cent). In the other undisturbed spits the pebble frequency was much higher, up to 81 per cent (mean frequency 73 per cent). The proportion of pebbles in relation to ash and charcoal did not differ substantially between the 10 cm excavation units and there was no discernible trend apparent within the burnt mound, such as the proportion of pebbles increasing or decreasing with depth (Table 6.2).

The total weight of pebbles from each 10 cm excavation unit was up to 145 kg. The size of the crushed pebbles was assessed by weighing and measuring the maximum length of the fragments in a 2 kg random sample from each excavation unit. The vast majority of the fragments throughout weighed 50 g or less (83–99 per cent). In all the spits only one or two fragments weighed more than 150 g. The percentage of larger fragments measuring 4 cm or more in length was low in the undisturbed spits, varying between 5 and 10 per cent. Larger fragments were more common in Carter's spoil and, interestingly, in the two basal levels of the burnt mound where they made up between 18 and 25 per cent of the pebbles. This seems to indicate that the intensity

Table 6.2 Total weight of material (pebbles, soil, ash and charcoal) from 10 cm excavation spit, total weight of pebbles from the spit and percentage of pebbles by weight.

10 cm spit	*Total weight kg*	*Pebbles kg*	*Percentage pebbles*
1	–	65.9	–
2	54.8	32.8	60
3	66.3	43.2	65
4	82.1	47.9	58
5	93.8	49.4	53
6	107.1	62.3	58
7	121.2	81.3	67
8	109.6	81.3	74
9	144.3	101.7	70
10	164.8	119.1	72
11	131.6	98.2	75
12	128.6	96.2	75
13	178.3	145.0	81
14	116.0	81.7	70

Note: Spit 1: top surface uneven so only pebbles weighed.

of fire cracking of the material increased after an initial stage and then remained more or less constant throughout the period of use of the mound (Table 6.3).

The pebbles destroyed at Jacob's Well were relatively small in size, no more than 10–15 cm in length and originally weighing 500 g or less, or about the same size as the majority from cairns excavated on Colaton Raleigh Common, some 4 km distant to the northeast. The closest possible source of the pebbles would be the bottom of the western escarpment of the Pebblebed heathlands, only a short distance from the eastern edge of the mound, but some might have been brought from much further afield.

Throughout Carter's spoil and the undisturbed spits the number of complete or whole pebbles was fewer than 20. These were recovered from only a few of the 14 10-cm-deep excavation spits. This miniscule frequency may be compared with up to 200 or more pebble fragments from each 2 kg sample. The unbroken pebbles were all very small and

Table 6.3 The maximum length of the fire-cracked pebbles by excavation spit, based on a 2 kg random sample of the pebbles from each.

Spit	*0–2 cm*	*2.1–3 cm*	*3.1–4 cm*	*> 4 cm*
1	22	33	24	2
2	6	27	32	35
3	25	38	27	10
4	24	43	21	11
5	38	36	15	10
6	60	29	7	5
7	42	35	17	5
8	45	26	16	9
9	46	33	12	9
10	67	20	7	6
11	51	31	11	5
12	51	28	11	10
13	25	36	14	25
14	33	27	21	18

quite unremarkable quartz pebbles that had survived the fire and appear to be of no other significance.

Each pebble fragment from the samples was examined to see if any of the cortex or smooth outer surface of the pebble remained. The frequency of the fragments on which the cortex was present varied between 38 per cent and 61 per cent (mean 48 per cent). The spits with the highest frequencies (58 per cent and 61 per cent) occurred just above those making up the basal level of the mound, where interestingly enough the proportion of pebble fragments greater in length than 4 cm was considerably smaller (Table 6.3 and Table 6.4).

It should be noted that the presence of an area of remaining cortex on most of the pebbles was by no means obvious and could be detected only by close examination of each fragment. The intention was clearly to utterly destroy the pebbles. The quartzite pebbles of the East Devon Pebblebed heathlands are extremely hard material and difficult to fragment and break. The degree of attrition of the material at Jacob's Well is therefore quite extraordinary. The fire-cracking process reduced the pebbles to an irregular and jagged gravel resembling railway ballast or

Table 6.4 Frequencies of whole pebbles and pebbles with some area of the outer cortex remaining and percentage of these among the total number of pebbles analysed per excavation unit. Figures based on a 2 kg random sample of pebbles/unit.

Spit	*Whole pebbles*	*Pebbles with cortex*	*Cortex pebble percentage*	*Total pebbles*
1	0	55	38.2	144
2	0	59	49.2	120
3	0	80	39.8	201
4	0	80	44.2	181
5	11	80	64.0	125
6	0	83	42.3	196
7	0	78	39.6	197
8	0	59	37.6	157
9	0	65	51.6	126
10	0	108	47.6	227
11	0	86	61.4	140
12	0	93	58.9	158
13	0	46	52.3	88
14	0	50	50.5	99

any kind of crushed stone. In the process the pebbles became unrecognizable as pebbles. Not only did they lose their individual shapes and smoothness but also their colours (Figure 6.14). The fire-cracked material is almost all a uniform dull grey colour even when washed to remove the soot covering their surfaces and blackening them to such an extent that they resembled pieces of charcoal. Sometimes when wet-sieving the pebbles we initially misrecognized some very small fragments as charcoal and vice versa.

An analysis of the narrow band of the material that we identified as being tar in the peaty layer below the burnt mound was undertaken by Vladimír Machovič of the University of Chemistry and Technology, Prague. He reports that 'the infrared spectre was measured with a FTIR spectrometer Nicolet 7600 with DTGS detector, and ray diffraction KBr. Measurement parameters: number of spectre accumulation 64, resolution 2 cm^{-1}. Conclusion: Analysed material is composed of an

Figure 6.14 Sample of washed fire-cracked and crushed pebbles from Jacob's Well (Source: author)

extractable share (of chloroform-ethanol), which comes evidently from low-temperature wood pyrolysis.'

This result suggests that the fire-cracked pebbles from Jacob's Well were burnt *in situ* rather than elsewhere and then carried to the site. The tar layer in the peat under Jacob's Well is the result of repeated actions, the residues of fire with small amounts of air. It could not have formed as a result of material being burnt elsewhere and then subsequently transported to the site. A notable feature of the Jacob's Well deposits is that all the charcoal fragments recovered were small – 1 cm or less in size – and there was surprisingly little ash. Jiří Woitsch (Institute of Ethnology of the Czech Academy of Sciences), a forest industries expert, commented to us that in charcoal kilns tar layers are characteristic beneath the kiln when used repeatedly and where there is not much permeable bedrock, as is the case at Jacob's Well. Tar bands are usually found under charcoal kilns and they are formed by liquid components that soak into the ground during the process of pyrolysis. The process was repeated over a period of 100 years. In charcoal kilns there is almost no ash, sometimes none at all (Jiří Woitsch, personal communication). The absence of large pieces of charcoal at Jacob's Well could suggest that it was collected and taken away. One potential use for this material could have been in the smelting of metals elsewhere.

The results discussed here need to be put into context of the charcoal analysis and the results of experiments that were undertaken to crack the pebbles by fire. According to the charcoal analysis:

> The fuel used in heating the fire-cracked stones from the burnt mound deposits at Jacob's Well was drawn from locally available woodland, dominated by alder. A variety of other taxa were also utilised, apparently with little change over the 100 years that the deposits accumulated. It is suggested that charcoal, rather than wood, for fuel may have been used but whether this was a reasonable use of resources rather depends on the purpose of the stone-heating activity.
>
> (Challinor, Appendix 13)

It is interesting to note that alder wood burns with an intense heat and produces some of the very best charcoal; it was preferentially used in the production of gunpowder (Gale and Cutler 2000).

Four experiments were undertaken by us burning pebbles in order to investigate the conditions that resulted in the fire-cracked material excavated at Jacob's Well. In the first two we experimented with heating quartzite pebbles in an open bonfire for one and a half hours and then throwing them into running water. The pebbles cracked, but only into two halves, and on some only small pieces of the external cortex broke off. In the third experiment we heated the pebble, took it out of the fire, laid it on a flat stone and then broke it easily into bits with another pebble. In the last experiment we put the pebbles on a bed of gravel to simulate the situation in the mound. The pebble was heated and then easily broken on the gravel bed with another pebble. In all cases we learnt that the colour of pebbles was lost when the stones are heated for one hour or more in an open fire.

From the stratigraphy of the mound and results of the charcoal analysis, tar band spectrometry and the fire heating experiments with the pebbles we can make some further remarks about the possible process of the construction of the mound. Experiments showed that pebbles could easily be broken on a bed of previously fire-cracked pebbles. From the charcoal analysis we know that local wood was used, collected in the vicinity of the mound. Our interpretation is that people brought pebbles to the site and burnt them in a slow-burning open fire with little air. After at least one hour, because this is the minimum time needed for a pebble to lose its colour, they might have removed the burning wood and broken the hot pebbles with other pebbles used as hammer stones. Because of the presence of the tar band beneath the mound it is evident that a fire was present on the site.

We have already commented on the similarity of the fire-cracked pebbles to charcoal and this is worth conceptualizing further. The process of pebble destruction can perhaps be understood as a transformative process, turning stone into charcoal, itself the product of another transformative process involving the burning of wood. Once wood is burnt and only charcoal remains, the type of tree from which the wood came is no longer recognizable. All charcoal looks the same, except, of course, in the microscope of the environmental scientist. The fire rituals at Jacob's Well can be understood as producing an end product in which both wood and stone became symbolically reduced to a state of sameness in which the different qualities of both substances became erased. The fire rituals consumed and transformed both wood and stone into a blackened material resembling neither of them. The heat from the pebbles when cooled by bog water would produce steam rising up from the mound as a cloud of vapour, to ultimately disappear into the heavens above. Thus substances that were solid and material (wood and stone) became ultimately transformed into the immaterial, an essence.

Parallels

This is one of only two or possibly three or four burnt mounds recently recorded in Devon (Gent 2007; Hart *et al.* 2014: 10). The closest parallel to the Jacob's Well mound is the site of Burlescombe, near Tiverton, some 25 km north of the Pebblebed heathlands, where two Middle Bronze Age burnt mounds with timber-lined troughs and associated pits have recently been excavated (Gent 2007). One of these was 4 m in diameter and up to 0.3 m thick, with two layers of heat-shattered pebbles, gravel and charcoal. The other was 14.5 m long, 6 m wide and 1 m deep. No artefacts were found in these mounds (Gent 2007: 37). These mounds, like Jacob's Well, were both associated with a spring, fire and burning, had wooden structures and were constructed from pebbles from the Budleigh Salterton Pebblebeds. The calibrated dates of the oak stakes found underneath Jacob's Well overlap with the two dates from Burlescombe, but are earlier. One small burnt mound at Burlescombe was dated to 1720–1490 cal. BC to 1330–1340 cal. BC, with an estimated 10–170 years of use. The other larger mound was dated to 1530–1380 cal. BC to 1420–1250 cal. BC, with an estimated use of 60 years. The dates of this are approximately the same as those obtained for Jacob's Well.

There are significant differences between the Jacob's Well and the Burlescombe mounds. The landscape locations, Burlescombe on the western edge of a broad shallow coombe and Jacob's Well at the foot of a steep scarp edge, are very different. Jacob's Well is a much larger mound than either of those at Burlescombe and seemingly associated with a significantly larger bog and water pool. The structures Carter recorded, apart from the possible presence of a trough, have no parallels at Burlescombe.

It is not possible to compare the fire-cracked pebbles at Jacob's Well with those at Burlescombe or at Hayes Farm Clyst Honiton since at neither site do they seem to have been measured or analysed so one could compare, for example, the state of attrition of the pebbles.

Burnt mounds of fire-cracked stones in Britain and Ireland have a long temporal span dating back to the Neolithic. A few are associated with Beaker pottery but most radiocarbon-dated sites show that they were formed during the Middle to Later Bronze Age. They are particularly common in Scotland and southwest Wales, and Devon is on the extreme western edge of their overall distribution (Buckley 1990). Better excavated examples are associated with wooden troughs, as at Burlescombe and Jacob's Well, or stone-lined pits with the joints sealed with clay, and sometimes small internal structures or buildings. The association with water – small streams, springs and bogs – is normal. Interpretations include the heating of stones to boil water linked with cooking meat, but very few animal bones have been found in these mounds. Barfield and Hodder (1987) argue instead that the creation of large amounts of steam is more likely, so they may be understood as saunas or steam baths, perhaps like North American Indian sweat lodges linked to acts of purification and ritual cleansing. Gent's functionalist interpretation suggests that the Burlescombe mounds may have been used for some 'form of industrial activity, such as the production of textiles' (Gent 2007: 43). Brown *et al.* suggest a similar function for cleaning and dyeing wool or plant fibres and for hide cleaning and tanning for Irish burnt mounds (Brown *et al.* 2016). This seems very unlikely at Jacob's Well.

The character of the material – burnt pebbles – is unique, as is the extreme attrition that this material has been subjected to. The presence of the tar layer is unusual. Jacob's Well is thus not just another example of a burnt mound to be understood in the same manner as those found elsewhere. Kaliff, in his discussion of burnt mounds from Östergötland, eastern mid-Sweden, has called into question the standard functional interpretations in which the presence of fire-cracked stones is regarded as simply being the residue of other activities, either functional or ritual (e.g. steam raising, cremation, cooking): 'we ought to ask ourselves why we find it difficult to accept the burning of stone as a deliberate ritual element, whereas we have no problems accepting the same when it comes to the burning of the human body' (Kaliff 2007: 121). His argument is that the stone was burnt for ritual reasons as part of a deliberate process analogous with the manner in which a dead body is fragmented and disintegrated during cremation. This is a cogent and important argument but Kaliff does not take it further by discussing the material properties of the stones found in the Swedish burnt mounds, transformed by a combination of fire and water. In relation to Jacob's Well a much stronger argument can be made in this respect.

Reflecting on the ritual destruction of the pebbles at Jacob's Well we can draw clear parallels with the destruction of metalwork in the Middle and Late Bronze Age, often deposited in bogs (see e.g. Bradley 1990, 2000), and practices of cremation taking place elsewhere at the same time, reducing the body to the self-same fragments of bone through a fire ritual. Just as the individual pebbles at Jacob's Well lost their individuality of form, their self-identity, so did the corpse and the bones of the body. Pebbles and people are being treated in exactly the same way and both pebbles and people, when considered collectively, are at once the same and different. Furthermore the burning and crushing of pebbles needs to be considered and understood in relation to other contemporary and earlier practices taking place on the East Devon Pebblebed heathlands. The construction of pebble cairns (see Chapters 3–5) and pebble platforms elsewhere (see below) involved the collection and curation of pebbles in high places, dry, exposed to the heavens. At Jacob's Well the mound of fire-cracked pebbles covered an earlier water shrine with a wooden structure, situated in a bog and venerating a natural spring at the base of the escarpment of the Pebblebeds. Afterwards the place was abandoned.

The major constitutive qualities of the pebbles, their smoothness and their bright colours, were destroyed by the fire rituals and the systematic crushing of the pebbles. First, the fire metaphorically drained the colours of the pebbles; second, their smooth and rounded forms were reduced to jagged and angular fragments by hammer blows. Table 6.5 shows a set of structural contrasts between Jacob's Well and the pebble cairns.

We might regard the cairns as a celebration of the pebbles and their qualities. At Jacob's Well these are being systematically destroyed through acts of violence. If accumulating pebbles in cairns symbolized the wealth and power of the local community as argued in Chapter 7, then their destruction can be regarded as a ritual killing akin to practices such as the Potlatch ceremonies of

Table 6.5 Contrasts between Jacob's Well and Bronze Age pebble cairns.

Jacob's Well	*Pebble cairns*
Oval mound	Round cairn
Bog (wet)	Heathland (dry)
Low, below escarpment	Elevated on hilltop
Restricted views	Panoramic views
Views to setting sun in west	Views to rising sun in east
Fragmented stone	Curated pebbles
Grey and dull material	Brightly coloured
Jagged	Smooth
Jumbled deposits	Carefully placed
Dark	Light
Transformation	Curation

the northwest-coast American Indians in which wealth was ritually destroyed as part of a process of acquiring power and prestige (Boas 1966; Jonaitis 1991; Graeber 2001: 188–208).

Pebble sculptures on Aylesbeare Common

During the summer of 1937 George Carter and his small excavation team, which included his three daughters, Priscilla, Ruth and Mary, carried out a series of excavations of 'pebbled mounds' on the summit area of Aylesbeare Common, forming the northern part of the heathlands. These low and discreet features had been discovered following swaling (fire burning) of the area in 1936. Carter excavated, or part-excavated, six low mounds up to 20 cm high which he described as resembling a 'keyhole' in plan. They consisted of a small rectangular mound about 3 m long attached to, in some cases, a circular platform about 5 m in diameter. Excavation of the rectangular mounds revealed elaborate pebble platforms beneath of an entirely different shape. Two of them were in the shape of double-bladed ceremonial axes, tapering inwards at the centre and widening out at the ends but in a somewhat asymmetrical fashion. The other five platforms excavated by Carter were roughly trapezoidal in form, one short end of the pebble platform being significantly longer than the other (Figures 6.15–6.17).

Figure 6.15 Aylesbeare platform no. 1 during excavation, 1937 (Source: Carter archive)

The structures that Carter excavated were found on sloping ground dropping away to the north and the east down to a large amphitheatre-shaped bog below the hill summit, about 200 m to the northeast of the massive Early Bronze Age summit cairn. In this same general area

Figure 6.16 Aylesbeare no. 2 (Source: Carter archive)

of Aylesbeare Common but 200 m or more distant (Figure 6.18), lower down the slope and much closer to the bog, General Simcoe had set up a temporary encampment for his troops around 1799 at the time of the Napoleonic wars, when there was a threat of a French invasion (see Chapter 11).

Carter maintained that the pebble platforms that he had excavated were prehistoric, of Iron Age date, and could be understood as part of a sacrificial cult (Carter 1938). But given a lack of any artefacts associated with them and the absence of the technique of radiocarbon dating there was no possibility of dating them. For over 70 years no archaeological investigations have been made on Aylesbeare Common and Carter's work and the spectacular finds he made have been almost entirely forgotten. Some have assumed that the pebble platforms he discovered might be of Napoleonic date, too, and constructed by General Simcoe's troops, since they lack any direct parallels in either prehistoric Britain or Europe.

Figure 6.17 Aylesbeare no. 5 (Source: Carter archive)

However, they also lack any eighteenth- or nineteenth-century parallels and there is no evidence of any activity by Simcoe's troops in the area where they are found (see Chapter 11).

In September 2009 the East Devon Pebblebeds Project undertook a field survey following swaling by the RSPB of the general area where the mounds Carter excavated were found, and undertook a small series of excavations on Aylesbeare Common in order to attempt to locate pebble platforms of the same kind, but without success, although remains of Napoleonic date were discovered. Small areas of the heath were also cut of vegetation in the spring of 2010 in areas where Carter had found his platforms, but nothing came to light (he left no precise plan of their location). It seems likely that the platforms Carter excavated are now destroyed, probably during extensive military use of the area in the Second World War.

Figure 6.18 Aylesbeare Common summit area looking northwest. The summit cairn with path curving around it is in the foreground to the left. The topsoil-scraped area where one of the natural test pebble samples was excavated is the white patch in the middle of the picture. To the right of it is the amphitheatre-shaped bog. The pebble platforms are located to the left of the white track running away into the distance beyond the summit barrow (Source: author)

During 1996 the RSPB had undertaken topsoil-scraping operations in a different area of the Aylesbeare summit: about 200 m to the northwest of the summit barrow. A series of damaged pebble structures were uncovered and partly cleaned, and two were almost intact. These were subsequently covered over again with soil and their positions marked with small wooden posts. One of the best-preserved structures was uncovered in March 2010 by Toby Taylor of the RSPB and excavated during September by the project team. This structure had been covered with a blue plastic sheet and with redeposited topsoil, presumably from the immediate surroundings. This redeposited soil surrounds the platform today and it has no associated archaeological contexts or features. If any existed they may have been removed by the topsoil-scraping operations. The subsequent year two further structures were relocated by the RSPB in the dense heath vegetation of heather and gorse and excavated.

The 2010 and 2011 excavations revealed three spectacular pebble structures very similar to those reported by Carter (Figures 6.19–6.21). One was trapezoidal in form but with 'horns' or extensions at the shorter end. This is a unique feature of this particular platform. None of those recorded by Carter seems to have had 'horns' or extensions at the narrower end. Another platform was in the shape of a double-bladed axe and the third, more damaged example resembles an ox-hide. There were no traces of a rectangular covering mound or attached low circular platforms. If these did exist they had been removed by the earlier topsoil-scraping operations. All these structures were found on gently north-sloping ground, as were Carter's. It appears from one of his photographs that the attached circular platform was down-slope of the pebble structure. The long axis of all three platforms was NE–SW, matching Carter's description, and they were similar in size. Carter reported that the six structures he recorded were close together and parallel to each

Figure 6.19 The trapezoidal platform with horns (scale: 1 m) (Source: author)

Figure 6.20 The double-axe platform (scale: 1 m) (Source: author)

other, about 6 m apart (Carter 1938: 94). Those excavated by the project team were between 60 and 75 m apart, and located at various positions on the hill slope, the trapezoidal-shaped platform being highest up the slope and furthest to the west and the ox-hide-shaped platform lowest down the slope and furthest to the east (Figure 6.22).

Figure 6.21 The ox-hide platform (scale: 1 m) (Source: author)

The trapezoidal platform with 'horns' (SY 05327 90208) (Figure 6.19 and Figure 6.23)

The platform is made up of 1,337 multicoloured pebbles. It is 2.8 m long, 1.6 m wide at the broader end and 0.8 m wide at the narrower end. It is oriented NNE–SSW with two projecting 'horns' at the narrow NNE end. The southern part is level, the northern end with the extensions dips below the ground surface. Larger pebbles are used to define the edges of the platform. There are many broken pebbles used on the flat southern end but very few in the dipping northern end. The pebbles are set either with their thin edge uppermost or with their broad face uppermost. It was apparent from the section (see below) that the pebbles here had been set vertically rather than horizontally so that only the top of the pebble was visible and the bulk buried.

The pebbles are bright and multicoloured throughout the platform and there is no evidence for selective colour choice or arrangements of differently coloured pebbles. The platform was partially damaged on the western side towards the narrower end, where pebbles were missing. This might have occurred during the topsoil scraping or it could be earlier. There were also some recent fractures on some of the pebbles elsewhere on the western side.

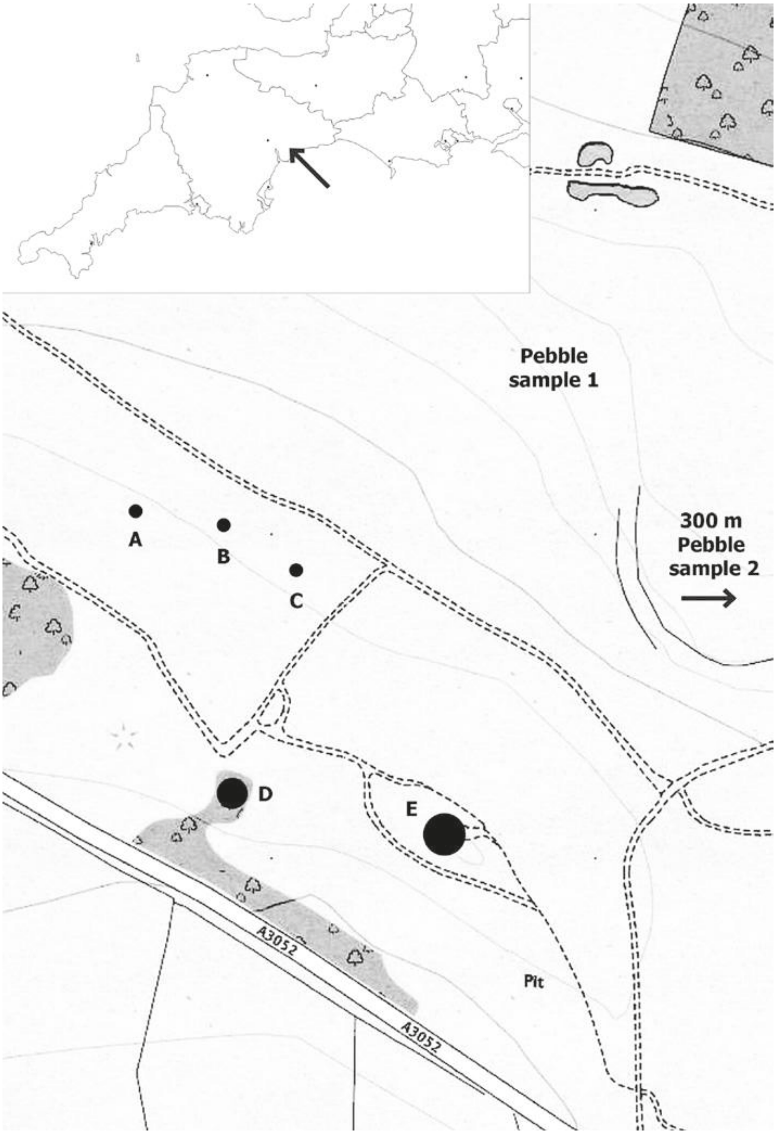

Figure 6.22 The locations of the Aylesbeare platforms and Bronze Age summit cairns and the pebble test samples. Platforms A–C trapezoidal, axe, ox-hide; summit cairns D and E (Source: author)

Figure 6.23 Plan of the trapezoidal platform (Source: author)

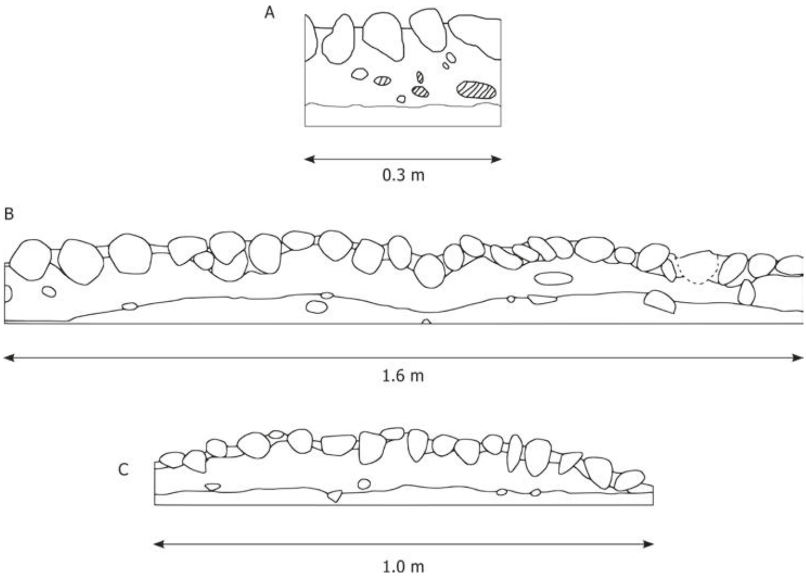

Figure 6.24 Sections through the three platforms. (A): trapezoidal platform (N–S profile); (B): the ox-hide platform (E–W profile); (C): the double-axe platform (E–W profile) (Source: author)

Larger pebbles, placed horizontally, make up the edges. A small section 24 cm wide and 60 cm long was cut into the platform in an area that had already been extensively damaged. The rest of the structure was left intact. The section revealed that the pebbles inside were laid, like teeth, with their long axis placed vertically, thus providing maximum stability. They are of a fairly uniform size, between 5 and 15 cm long (Figure 6.24).The section provided evidence of the manner in which the platform had been constructed. Clay was mixed with reddish sand, forming a kind of cement that was laid on the grey natural soil surface and the pebbles were embedded in it end-on, with only the top showing. The difference in the colours was apparent when excavating the section and small lenses of the orange material are visible in the photographs of the section. Forty-one small charcoal samples (and possible charcoal) were recovered from a secure context in the buried palaeosoil under the pebble platform and from the orange material in which the pebbles were embedded when being laid. This charcoal was in the orange mixture and does not indicate any fire under the platform. These were analysed by Dana Challinor. Six fragments were of *Ulex/Cytisus* (gorse) roundwood, two of birch (*Betulaceae*) and the rest indeterminate or sediment. One of the gorse samples from the clay matrix in which the pebbles were embedded gave an AMS date of 790±30 BP; cal. AD 1210 to 1280 (BETA 291085). One sample of birch charcoal from the junction of the palaeosoil and the clay matrix in which the pebbles were buried gave an AMS date of 3120±40 BP; 1460 to 1310 cal. BC (BETA 291086). Another, also of birch charcoal from the palaeosoil beneath the platform, gave an AMS date of 3010±40 BP; 1390 to 1120 cal. BC (BETA 288899), that is, both of later Middle Bronze Age date. There were no finds in the section.

The double axe (AB11-2) (SY 05402 90186) (Figure 6.20 and Figure 6.25)

The platform has the shape of a double axe. The long axis of the platform is generally oriented north–south (NNW–SSE), exactly the same as the ox-hide-shaped platform and very similar to that of the trapezoidal shape. The south-oriented blade is nicely curved, while the northern one is wider and flat. The long axis measures 3.77 m and it is 2.28 m wide in the northern end and 1.82 m in the southern, while the narrowest width in the centre is 1.12 m. It is composed of 1,234 pebbles. In the platform we discovered deliberate patterning – there is an elevated stripe of pebbles in the middle of the narrowest part symbolizing the presence of a haft. The top of this elevated stripe is about 2 cm higher than the rest of the platform. It consists of four lines of pebbles, which are all arranged so that their narrow oval side is turned upwards and set along the long axis of the platform (see Figure 6.25).

The vegetation cover of gorse and heather, which was about 150 cm high, was removed and the surface soil deposited on the structure by the RSPB to protect it in 1996. The thickness of the layer was between 15 cm to 25 cm. Under the deposited soil a piece of blue plastic was found – laid down by the RSPB to protect the structure. The plastic film covered the central part of the structure, uncovered during machine scraping of the area.

At the southern end of the structure five pieces of blue slate were found. Their context is insecure, as they might have been brought with the redeposited soil.

The structure was very well preserved: only minor damage was visible in the southeast part, northeast part and on the elevated stripe. The central part was probably hit by the machine and the damage on the edges could have been caused by roots of vegetation. A 20-cm-wide section was excavated across the middle of the structure. This revealed that the pebbles had been set with their long axis placed vertically. All

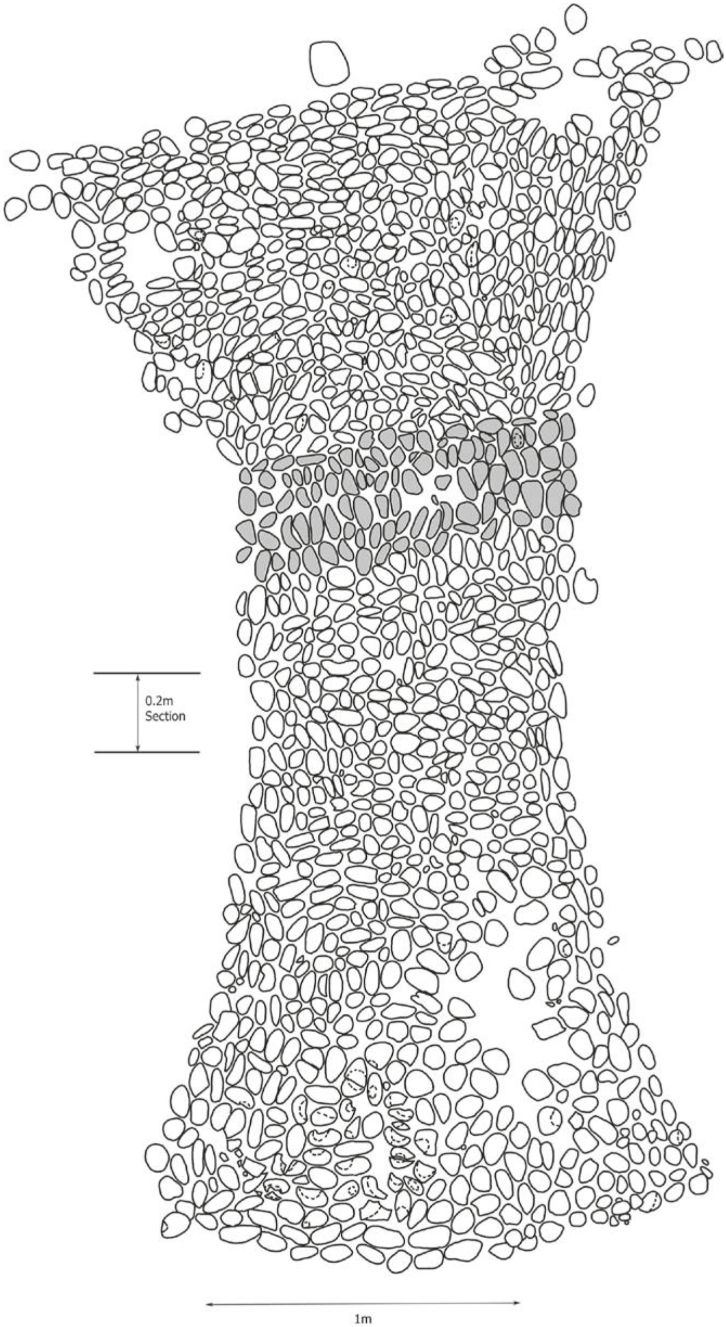

Figure 6.25 Plan of the double-axe platform. The raised pebbles forming the haft of the axe are shaded (Source: author)

pebbles were numbered and planned and their positions reconstructed in subsequent restoration. All the removed pebbles were colour coded, weighed and measured. Then the loose soil – residues from vegetation cover between the pebbles – was removed and the clay matrix in which the pebbles were set was excavated in millimetres, using small trowels. In the mix eight fragments of charcoal were found. Only two proved suitable for dating, an indeterminate twig and an indeterminate piece of round wood. One of these provided an AMS date of 750±30BP; cal. AD 1220–80 (Beta 308027). The mixture in which pebbles were set was very tough, strongly cemented. It had a red-brown colour and it was distinctively different from the natural ground surface. The mixture in which the pebbles were embedded was, compared to the other two excavated platforms, the most uniform, without any lenses of differently coloured components. It was hardened like cement and was composed of brown clay and red sandy soil. In it there were a few very small pebbles up to 2 cm in size (fewer than eight in the 10 cm^3 excavated). The mixture was laid on the natural surface and in the centre it was 12 cm thick.

The ox-hide platform (AB11-1) (SY 05455 90155) (Figure 6.21 and Figure 6.26)

This platform has a trapezoidal shape to which substantial rounded extensions are connected at the southern end. The result is that the platform has four corners and thus resembles an ox hide. It is composed of 1,844 pebbles. Some patterning in the placement of pebbles was recognizable at the southern end of the platform. There were pebbles arranged into two parallel lines going along the long axis of the platform, and in the extensions pebbles were arranged into curved lines, thus emphasizing the overall morphology (see Figure 6.21). The long axis of the platform measures 4.92 m. Its southern end with the extensions is 3.03 m long. The narrow part (about 1.5 m from the southern end) is 1.4 m wide and from that point the trapezoid opens out and if it was not destroyed in the western corner it would be about 4 m wide.

This is the largest of the three structures we excavated. During topsoil removal one piece of unworked flint was found; however, its provenience is uncertain. The southern part of the platform is very well preserved; however, the northeastern side was substantially damaged, probably by the topsoil-scraping operations. We cut a section across the middle of the structure 20 cm wide in an east–west direction. Pebbles in the section were numbered and planned. Excavation of the section was

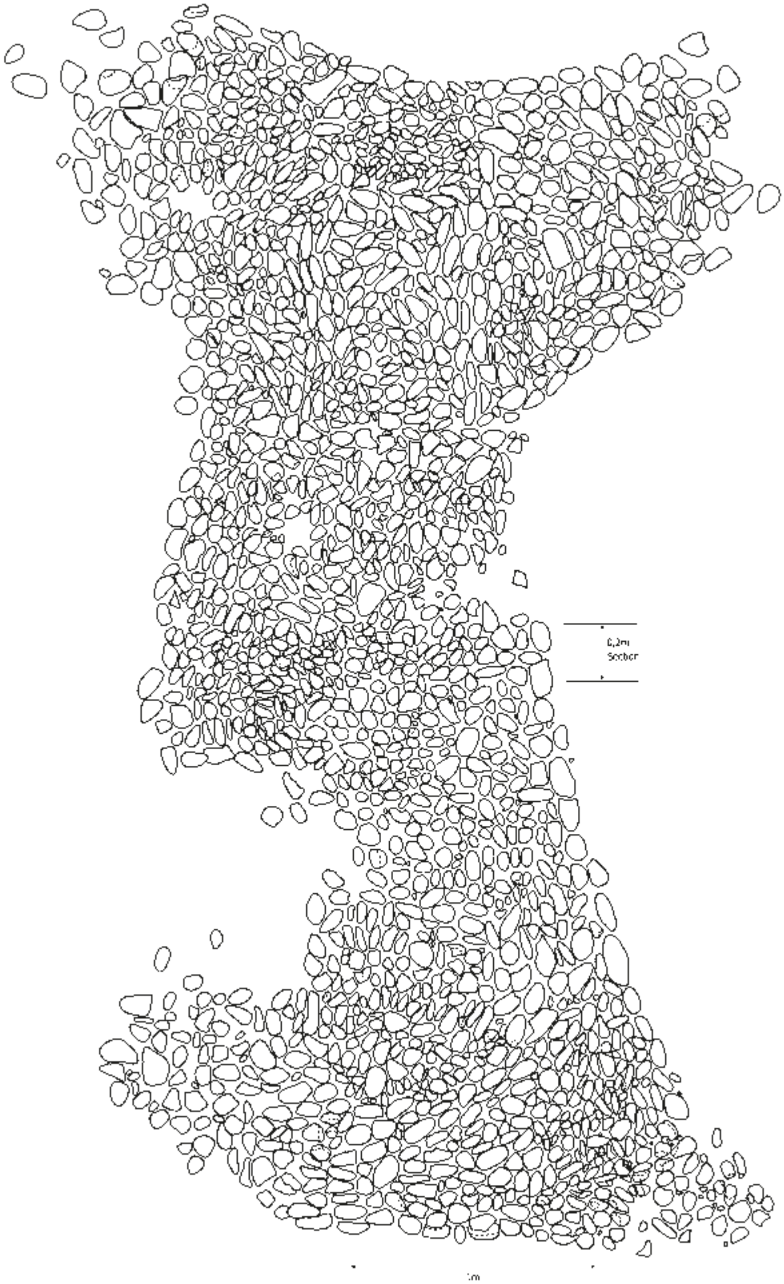

Figure 6.26 Plan of the ox-hide platform (Source: author)

the same as for the double axe. Twenty-seven small flakes of charcoal found in the section were collected and plotted. Two of these samples, both of *Ulex/Cytisus* roundwood proved suitable for dating. One of these provided an AMS date of 240±30BP; cal. AD 1640–70 and 1780–1800 (Beta 308028). The matrix in which the pebbles were set was far less uniform compared to the double axe. The general colour of the mix was red-brown; however, there were occasional lenses of grey colour. The pebbles were set in a clay material that was 12 cm thick in the centre and it was laid on the natural surface, again with the pebbles set with their long axis placed vertically. There was a clear distinction between the mix and the natural surface, which was of grey-brown colour.

Comparison with Carter's excavations

Carter, in his report on the pebble structures that he excavated, states that the circular platform that was part of his Aylesbeare no. 1 structure had a saucer-shaped pit below it with a maximum depth of 90 cm extending all the way to the perimeter, and that there were traces of 'prolonged fires' (Carter 1938: 91). He also suggested that there was a lower pebble platform beneath the pebble structure itself and again traces of fire with much ash but no charcoal. He recovered some flint flakes underneath the top (axe-shaped) platform. Carter's lower platform appears to be entirely natural. The details of the excavations provided report the presence of 'ash' under his Aylesbeare no. 9. In our sections of the three platforms we excavated there was no evidence of *in situ* preserved fire or detectable ash residues although the areas excavated were small so as to minimize disturbance to the pebble structures. Carter does not mention the type of material in which the pebbles were embedded. He reports that his Aylesbeare no. 5 and no. 8 had a belt of large pebbles across the narrower part (Carter 1938: 94). These observations match the raised band of pebbles we observed across the double-axe structure.

The character of the pebbles

Plans of the three platforms show their very different morphologies and states of preservation (Figure 6.23, Figure 6.25 and Figure 6.26). They differ in size from west to east across the area in which they were discovered, the smallest being to the west and the largest to the east. All the pebbles removed from the sections were weighed and measured. The size and

Table 6.6 Pebble lengths from the three platforms.

Platform	*0–5 cm (percentage)*	*5.1–15 cm (percentage)*	*Over 15 cm (percentage)*	*N*
Trapezoidal	3	97	0	57
Double axe	0	100	0	49
Ox hide	2	94	4	105

Table 6.7 Pebble weights from the three platforms.

Platform	*0–250 g (percentage)*	*251–500 g (percentage)*	*501 g or more (percentage)*	*N*
Trapezoidal	68	30	2	57
Double axe	8	55	37	49
Ox hide	18	29	54	105

weight of the pebbles used to construct them also differ consistently, with the smallest pebbles being used to construct the smallest platform and the largest being found in the biggest platform (Table 6.6 and Table 6.7). In all cases the vast majority of the pebbles were either oval in shape or somewhat irregular in form. The percentage of broken pebbles used to construct the platforms also differs: 44 and 45 per cent of those on the trapezoidal and ox-hide sections were broken, 18 per cent of those in the double axe. In most cases the broken end of the pebble was placed downwards with the top end uppermost to give a uniform appearance.

These different characteristics of the pebbles used to construct the three platforms suggest deliberate selection of pebbles of a different but fairly uniform size for each in advance of their construction. Test samples of all surface pebbles from two 1-m-square topsoil-scraped areas where pebbles were exposed to the northeast (SY 05603 90278) and east (SY 06019 89823) of the platforms were analysed (Table 6.8 and Table 6.9). The weights of the majority of the pebbles from the northeast test square are broadly similar to those in the trapezoidal platform but differ substantially from those in the other two. Otherwise both the pebble weights and lengths differ substantially between the platforms and the test squares, again suggesting deliberate selection of pebbles in terms of weight and size.

All the pebbles on the surface of the three platforms were colour coded according to basic colour categories (grey, yellow, brown, red, black, blue and white (quartz)). The frequencies did not differ significantly from those found in the test samples from the natural, so there was

Table 6.8 Pebble weights from the natural in two 1-m test squares.

1 m test square	*0–250 g (percentage)*	*251–500 g (percentage)*	*501 g or more (percentage)*	*N*
Northeast	68	15	17	59
East	90	9	1	119

Table 6.9 Pebble lengths from the natural in two 1-m test squares.

1 m test square	*0–5 cm (percentage)*	*5.1–15 cm (percentage)*	*Over 15 cm (percentage)*	*N*
Northeast	36	62	2	59
East	72	27	1	119

no differential selection of pebbles according to colour to construct the platforms. Pebbles of different colour were not used in different parts of the platforms; they are multicoloured, mimicking the colours of the pebbles found across the Pebblebed landscape as a whole, as is the case for the pebble cairns discussed in Chapters 4 and 5. It seems highly likely that pebbles of the right size were collected in the vicinity of the structures themselves, most probably those exposed at the surface, although the use of small and shallow quarry pits that would leave no trace cannot be ruled out. This might be the significance of the saucer-shaped pit Carter describes as underlying the circular platform attached to the rectangular mound overlying his Aylesbeare no. 1 axe-shaped pebble structure.

We further classified the pebbles from the sections according to whether they had 'special' characteristics such as unusual mottled and variable colours or striking quartz veins or inclusions. This was not really feasible to undertake for the surface of the platforms themselves since most of the surface area of the pebbles was buried. These special pebbles made up 28 per cent of the pebbles in the ox-hide platform section and 33 per cent of those in the double-axe platform, whereas those from the sample test squares were 0.9 per cent and 5.3 per cent. This striking difference suggests that there was differential selection of pebbles for inclusion in the structures not only in terms of size but also in terms of intrinsic qualities of the pebbles themselves: the often intricate patterns and colours of their surfaces, a form of inalienable local wealth as discussed above in Chapter 5 and in Chapter 7.

Dating and soil micromorphology

The five AMS radiocarbon dates from the three platforms provided strikingly different results. Two are of later Middle Bronze Age date, two are from the Middle Ages and one from the late eighteenth century. All the structures are highly likely to have been constructed at about the same time and therefore the validity of some of these dates needs questioning. The birch samples from the trapezoidal-shaped platform with horns are derived from charcoal in the buried palaeosoil beneath the platform and at the junction of this and the clay matrix in which the pebbles were embedded. The other three samples from the trapezoidal, axe-shaped and ox-hide-shaped structures derive from two gorse and one indeterminate fragment of charcoal recovered from the clay matrix in which the pebbles are set. Soil micromorphological analysis of the double-axe- and ox-hide-shaped structures has shown extensive bioturbation and mixing of deposits, with palynological data being moved down through the profile and possibly up through the profile by mesofaunal agents as well (Banerjea, Appendix 14).

There are three different C14 date ranges from the platforms. We understand the first two – the Middle Bronze Age dates – as the positive result and the three later dates as contaminated samples. From the soil micromorphology analyses carried out on the ox-hide and double-axe platforms we know that both the matrix in which pebbles are set and the buried old land surface are strongly bioturbated, which automatically puts all dating attempts into question. The Bronze Age dates and the three other dates come from contrasting environments – in the first two cases the dated charcoal comes from a woodland plant, whereas the three later dates are from heathland plants. The heathland has been repeatedly burnt, thus it is no surprise that the charcoal from these burning episodes has percolated down deep into the structure as a result of bioturbance. The charcoal from the birch samples that we interpret as the positive result represents for us a residue of a fire that was carried out to clear the area before the clay matrix was laid and that is why it was preserved at the junction of the two.

In case of the Aylesbeare platforms there is always room for questioning the dating – but in cases with strong bioturbation there is no way forward other than to use a cumulative argument. There are three strong reasons why we consider the Bronze Age date as the correct one: (1) the position of the charcoal samples; (2) the right type of woodland plant for the period; and (3) the morphology of the dated platforms typical of a common repertoire of forms in the Bronze Age discussed below. There is no evidence for any similar structures made out of pebbles anywhere in the area of the East Devon Pebblebeds. In the eighteenth and nineteenth century there was widespread use of pebbles to pave farmyards, church interiors, paths and roads, build walls and provide foundation stones for houses built out of wattle and daub, but 'ornamental' structures of the form and character that we excavated are simply not known either for this or the earlier medieval period (see Chapter 13).

The shapes and locations of these structures themselves immediately suggest that they are of Bronze Age date. We know that cairns constructed out of pebbles dating to the Early Bronze Age were built across the heathlands, including the two nearby summit cairns on Aylesbeare Common less than 200 m distant from the platforms. The Bronze Age people had considerable skill in building pebble monuments in the landscape and exerted much effort in this regard. The short distance between the structures that we excavated and those discovered by Carter, all located slightly downslope and in the immediate vicinity of the massive summit cairns, suggests a direct link between these two very different types of monument. The summit cairns are visible from all three platforms. The long axis of all three of the platforms is oriented towards Hembury, with its Early Neolithic causewayed enclosure, a monument that we might expect to have had a generalized ancestral significance during the Bronze Age (see Chapter 1). Bronze Age pebble cairns at Manor Farm are visible a few kilometres to the north. One of the 'horns' of the trapezoidal platform points in the direction of the Raddon Hills, with another Neolithic causewayed enclosure, the other in the direction of East Hill and the rising sun around midsummer. From all of them the dramatic equinoxal sunrise, framed by the Sidmouth gap between the East Hill and Peak Hill ridges, is fully visible (see Figure 1.15b) They might form part of a ceremonial complex connected with the summit cairns and ceremonial and mortuary rites taking place here as discussed below. The platforms are of a size that can comfortably accommodate a body on top of them and one possibility is that they might have been used as temporary resting places for bodies prior to cremation or as excarnation platforms, but any contextual evidence for this, for example the stake holes of a palisade fence surrounding them, is now lost.

Parallels and analogies

The shape of the pebble platform with its two 'horns' is most striking and it might be broadly understood as being anthropomorphic. Trapezoidal shapes have been repeatedly interpreted as a body or as an anthropomorphic shape in the archaeological literature. To mention a few

Figure 6.27 Double axes and images of objects with horns, trapezoidal and double-axe figures interpreted as anthropomorphic: engraving of a horned god on a boat with rowers from Bohuslän (Briard 1997: 168); seal impression from the beginning of the Middle Bronze Age from Mochlos in Crete (Furmánek *et al.* 1991: 263); silicone impression of LM II-III seal from Knossos (Haysom 2010: 40); gold double axe with incised decoration from the Arkalochori Cave from seventeenth to sixteenth century BC, Archaeological Museum of Heraklion (http://nam.culture.gr/portal/page/portal/deam/virtual_exhibitions/AMH);

examples: a golden pendant from Romanian Cucuteni culture, phase A-B (i.e. final phase of the Age of Copper in Romania) (Dumitrescu *et al.* 1983: fig. 13); Portuguese schist plaques (Lillios 2002, 2004; Thomas 2009) (cf. Figure 6.27: 10), a Bronze Age pendant from Ukraine, whose upper part resembles horns (Berezanskaya 1982: 175) (Figure 6.27: 9), a clay statuette from Romania (Bader 1978: 186) and a bronze pendant from Tállya, Hungary (Mozsolics 1985: 402).

In the Bronze Age the symbolism of horns, double axes and trapezoids (axes) are intertwined. General analogies can be drawn with an extensive repertoire of anthropomorphic designs in various media found elsewhere in Europe: with Bronze Age rock art motifs in Scandinavia, Copper Age schist plaque figurines from Portugal and anthropomorphic designs on pottery, bronzes and pendants from the central and eastern European Copper and Bronze Age, some of which we discuss further below.

Horns

Anthropomorphic figures with horns occur in many parts of Europe during the Bronze Age. A bronze head from Fogtdarp in southern Sweden with horns and a double axe between them directly resembles representations of a Minoan ox head with horns and a double axe between the horns (Kristiansen and Larsson 2005: 330). There are further parallels between images in Swedish rock art and those found elsewhere: the famous engraving of a horned god on a boat with rowers from Bohuslän (Briard

caption for Figure 6.27 continued form for an anthropomorphic pendant from Žichlice, Plzeň-sever region, Czech Republic, Nynice culture, Late Bronze Age (Jiráň 2008: colour supplement 4); female figure (a goddess) decoration on a square vessel, Hungary, Bronze Age (Kalicz 1970: b/w supplement, plates 28–9); a vase from Rákospalota, Budapest XV, Hungary with super-elevated handles resembling horns, Middle Bronze Age (Mozsolics 1967: 111); vase with two ram heads decorating the handles from the Middle Bronze Age shrine in Romanian Sărata Monteoru (Dumitrescu *et al.* 1983: plate XII); trapezoidal (anthropomorphic) pendant from Ilichevka, Ukraine, Bronze Age (Berezanskaja 1982: 175); trapezoidal (anthropomorphic) schist plaque from Portugal, Age of Copper (http://research2.its.uiowa.edu/iberian/view.php?cat_num=14)

1997: 168) (Figure 6.27: 1), which has similarities with seal impressions from Mochlos (Furmánek *et al.* 1991: 263) (Figure 6.27: 2) and Knossos (Haysom 2010: 40) (Figure 6.27: 3) in Crete, but also in France at Mont Bégo (Briard 1997: 100, 132, 168) or in a form of a pendant from Ukrainian site of Ilichevka (Berezanskaja 1982: 175) (Figure 6.28: 9.). These examples represent a group of horned figures with a head. There are also examples of headless horned anthropomorphs, such as a horned figure from Mont Bégo (Briard 1997: 132) with rather direct similarities to the platform from Aylesbeare Common, together with figures of horned headless lure players from Kalleby, Tanum Bohuslän (Westholm *et al.* 1964: plate 1).

Anthropomorphic figures with horns appear in various other artefacts. The shapes of horns can be discerned in the stylized form of pot and vase handles. Some very early examples of this can be found in the Late Copper Age Řivnáč culture in the Czech Republic (Pleiner and Rybová 1978: b/w plate 20, p. 255). A similar shape of elevated handles appeared also in the Middle and Late Bronze Age of Romania in the Vatina culture, with the most remarkable examples from Sărata Monteoru (Dumitrescu *et al.* 1983: plate XII) (Figure 6.26: 8) and from Hungary (Bóna 1975: table 112; Mozsolics 1967: 111 (Figure 6.27: 7). Handles with horns lower down pottery vessels also appear in the Otomani culture (Bader 1978: 170). Representations of what are indisputably bull horns that occur on pottery vessels as handles are commonplace from the Middle Bronze Age Terramare settlements of the Po valley, northern Italy (Brea *et al.* 1997).

Bronze and more rarely golden pendants are the most numerous category of artefacts discussed here. Their typology has been precisely elaborated (e.g. seven types of heart-like pendants are distinguished in Hänsel 1968: 115–18). The pendants we refer to have various shapes: that of a heart, lyre, moon, funnel (cast) or triangle (made from metal plates). Regardless of the chronology and the traditional typology, nine pendant types are shaped like horns (cf. examples in Figure 6.27) and these are commonplace during the Bronze Age throughout much of Europe.

Horns can also form part of a pendant, for example the case of the pendant from Včelince, Slovakia (Figure 6.28: 1) (type Nagyhángos), which has, because of the shape of its horns, parallels to the seal mentioned above from Crete (Furmánek *et al.* 1991: 263) (Figure 6.28: 2). Alternatively a whole pendant can have the shape of horns (Figure 6.28: 2–9). Horns can have a very simple form as pendants, for example those from Dunaújváros, Hungary (Bóna 1975: 55) (Figure 6.28: 4), from

Figure 6.28 Pendants with horns from middle and eastern Europe: pendant from Včelince, Slovakia, type Nagyhángos (Furmánek *et al.* 1991: 263); moon-shaped decorated pendant from Slovakia, fifteenth century BC (Furmánek 1979: 35); pendant with double horns, Rétzkörberencs, Hungary (Mozsolics 1985: 431); simple form of pendant, Dunaújváros, Hungary (Bóna 1975: 55); lyre-shaped pendant, Blučina (Salaš 2005 a: 292 and 2005b: 67); heart-shaped pendant from Včelince, Slovakia, culture of southeast Urnfields (Furmánek *et al.* 1991: 158–9); pendant from Koszidec, Hungary (Briard 1997: 50); ribbed pendant from Kisterenye, Hungary (Mozsolics 1973: 292); pendant from Szomód, Hungary (Mozsolics 1967: 229); golden pendant with three horns at the end from the Big Ipatovo kurgan in Stavropol region, Russia (Korenevskij *et al.* 2007: 189)

Koszidec, Hungary (Briard 1997: 50) (Figure 6.28: 7) and Szomód, Hungary (Mozsolics 1967: 229) (Figure 6.28: 9). More elaborated is a lyre-shaped pendant (Figure 6.28: 5) from Blučina, Czech Republic (Salaš 2005a: 292). Horns can be also duplicated (see Figure 6.28: 2 and Figure 6.28: 3). The former is a moon-shaped decorated pendant from Slovakia from the fifteenth century BC (Furmánek 1979: 35), the latter comes from Rétzkörberencs, Hungary (Mozsolics 1985: 431). Special types of precious artefacts can also be included into the category of the horn-shaped pendant, for example a golden pendant with three horns at the end (Figure 6.28: 10) from the Big Ipatovo kurgan in Stavropol region, Russia (Korenevskij *et al.* 2007: 189).

The double axe

The double axe is best-known from Crete (Figure 6.27: 4). Bronze double axes appear throughout the Bronze Age in eastern Europe (e.g. Romania, see Bader 1978: 217; Ukraine, see Berezanskaja 1986: 107 or Balaguri 1990: 98; Slovakia, see Furmánek *et al.* 1991: b/w supplement 30 or Furmánek 1979: 26–7; Hungary, see Bóna 1975: table 153 or Mozsolics 1967: 211; Czech Republic, see Stuchlík 2006: 183–4). These and finds in Western Europe (Hawkes 1940; Piggott 1953; Harding 1975: 190ff.) have often been cited as evidence of direct contact with the Mediterranean since there are no local antecedents.

The meaning of the double axe has been of great interest from the beginning of Cretan archaeology until today (see e.g. Haysom 2010). On rings and seals the double axe is carried by women. As Burkert puts it: 'The axe is never connected with a male figure, instead it is associated with a female figure, probably a goddess … an instrument and a sign of her power' (Burkert [1977] 1985: 38) (see Figure 6.27: 3).

There is a direct connection between the horns and the double axe on Crete in the Minoan period, where the double axe is often found as a votive offering and as a cult object between the so called horns of consecration (Pendlebury [1939] 1979: 274), which Arthur Evans understood as 'the original type [of horns and which] is, a kind of impost or base terminating at the ends in two horn-like excrescences' (Evans in *Journal of Hellenic Studies*, 21, p. 135 *et seq.*, quoted in Mackenzie [1917] 2008: 287). According to some, 'the double axe is a symbol of power …, and, in sublime stylization, the cult of horns, recall the overpowering of the bull' (Burkert [1977] 1985: 38). Double axes and horns also appear together in architecture – fragments from a cist in the Thirteenth Magazine in the Knossos palace (MM IIIb period) show a building with columns into which double-axes are placed between the columns. On the roof the sacred horns appear (Pendlebury [1939] 1979: 156). Gimbutas understands the double axe as an emblem of the 'Great Goddess', and describes the pillar shrine in the palace at Knossos as follows: 'here the raised central column is fitted into a socket of bull's horns, below which is the ideogram of the Great Goddess' (Gimbutas 1974: 80). In a small shrine from LM III period, found by Sir Arthur Evans in the palace of Knossos, Gimbutas comments that 'a higher platform with pebbled floor and plastered front, two pairs of horns of consecration … were set up. Leaning again one of them was a double-axe of steatite with duplicated blades. Each of the horns had a central socket which was meant to receive the shaft of the double axe' (Gimbutas 1974: 75 and 78).

The shape of the double axe is sometimes associated with a body, or more specifically, a female body. Such bodies can be found as a pottery decoration in Hungary and Romania (Kalicz 1970: b/w supplement, plates 28–9 and Dumitrescu *et al.* 1983:fig. 13), or in a form of clay statuettes from the Balkans (Letica 1973: tables 1, 2 and 7). Other types of clay statuettes with a double-axe shape have been found in Ukraine and Romania (Dumitrescu *et al.* 1983: plate XII and Balaguri 1990: 128). Finally, bronze pendants in shapes resembling the double axe have also been interpreted as anthropomorphic (e.g. Furmánek *et al.* 1991: 121; Salaš 2005b: 276; Jiráň 2008: 223 and colour supplement 4). We illustrate two examples from central Europe: a mould for an anthropomorphic pendant from Žichlice, Czech Republic (Nynice culture, Late Bronze Age (Jiráň 2008: colour supplement 4)) and a much earlier example of decoration in the shape of double axe: a female figure on a square vessel from Hungary (Kalicz 1970: b/w supplement, plates 28–9) (see Figure 6.28: 5 and Figure 6.28: 6).

The ox hide

It is well known that ox hides formed an important and standard part of burial rites in Bronze Age Scandinavia, with the best-preserved examples being reported from Denmark. These barrows with pronounced iron pans and exceptional preservation, from the middle and south of Jutland and Schleswig in northern Germany, are dated to the

Middle Bronze Age (1380–1330 BC) and are discussed at length by Glob (1974). To mention a few examples, in the huge barrow at Borum Eshøj three oak coffins contained an elderly man between 50 and 60, an elderly woman and a young man: all were wrapped in ox hides. These must have been freshly flayed as part of the funerary rites as one was covered with maggot skins (Glob 1974: 40). Uppermost in the old woman's coffin from the same mound was an ox hide with the hairs still intact, with grooves in it made by scraping (43). At Muldbjerg the ox hide covering the corpse of a 'chieftain' had the hair side uppermost (77).

So-called ox-hide-shaped copper ingots dated to the Later Bronze Age have a widespread distribution in prehistoric Europe throughout the Mediterranean from around 1600 to 1100 BC. Single examples are also found as far north as southwest Germany. Two or three tin ingots of ox-hide shape amongst a hoard of 44 others are known from one of two shipwrecks discovered off the Erme estuary in Bigbury Bay, southern Devon, only a short distance from the East Devon Pebblebed heathlands (Fox 1995; Harding 2009). The metal finds indicate that one of these shipwrecks dated to around 1200 BC, the other to around 900 BC. The shape of these copper and tin ingots bears a general resemblance to an ox hide because of the four projecting handles at both ends of the rectangular body of the ingot. Ling and Stos-Gale have reported recent discoveries of images of ox-hide ingots in Scandinavian rock art from Bohuslän along the west coast of Sweden and eastern central Sweden (Ling and Stos-Gale 2015). The numbers of such rock carvings are small, but their shapes are indeed suggestive of this interpretation. On the basis of trace-element and lead-isotope analysis they also suggest that some bronze tools in Sweden could have been made from Cypriot copper, the main source of production for the ox-hide ingots in the Mediterranean.

Bronze Age metalwork in East Devon

Finds of metalwork on the Pebblebed heathlands of East Devon or their immediate surroundings are sparse, amounting to only a few artefacts, including a dagger, a palstave and a hoard of three gold bracelets together with a folded sheet of gold dating to the Later Bronze Age (Pearce 1983; Taylor 1999). In this respect it is of great interest to note one additional find: that of a double-bladed copper shaft-hole axe of Cypriot origin from Mount Howe, Topsham. This was an unassociated find and was dug up in a market garden by a labourer around 1911 (Pearce 1983: 601; Briggs

Figure 6.29 The double axe from Mount Howe, Topsham. Original in British Museum; copy in Royal Albert Memorial Museum, Exeter. Photograph of copy by Lesley Strong, © Royal Albert Memorial Museum and Art Gallery, Exeter

1973: 318–19). The form of the blade is almost identical in shape to the axe-shaped Aylesbeare pebble platform (Figure 6.29). This axe is one of only four double axes recorded from Britain, the other three having been found in Co. Antrim, Northern Ireland, the Bog of Allen, central Ireland, and Whitby on the northeast coast of England (Branigan 1970: 90; Harding 1975: 185–93). Such finds are dated to around 1200 BC or earlier and have long been regarded as providing evidence of long-distance contacts and exchange between the Mediterranean and western Europe (e.g. Hawkes 1940: Piggott 1953; Branigan 1970). Briggs, however (1973: 320), casts doubt on any of these being genuine prehistoric imports, suggesting instead that they might have been acquired by collectors and subsequently sold to museums. The find circumstances of the three other British examples are indeed entirely unknown, unlike those recorded for the Topsham axe. Further examination of the general find location provides more suggestive evidence that this find at least is indeed a genuine Cypriot import.

Mount Howe is a distinctive dome-shaped hill situated between the confluence of the river Clyst and the river Exe in the southern part of

Figure 6.30 Mount Howe on the Exe estuary between the Clyst and the Exe: the area just beyond the buildings in the centre of the photograph (Source: author)

Topsham. This is the point at which the Exe estuary dramatically widens and salt and sea water mix together. The meandering river Clyst and its boggy floodplain together with the Exe estuary bound the hill on all sides, with land access only from the north (Figure 6.30). Formerly the river Clyst ended in its own estuary, meeting that of the Exe. The meeting of two estuaries providing a sheltered port, the dome-shaped hill between them and the mingling of salt and fresh water all suggest a highly charged symbolic location in the landscape (see Tilley 2010 for general discussion), at which the deposition of an exotic Cypriot Bronze Axe might well seem appropriate. Mount Howe is situated only 9 km to the southwest of the heathlands of Aylesbeare Common and is intervisible with the summit barrows in the vicinity of which the pebble platforms are found. Topsham itself was an important port from well before the Roman occupation, when it became the port of the Roman city of Isca Dumnoniorum (Exeter).

The anthropomorphic pebble platform with horns, the double axe and the ox hide can be broadly understood as ritual and cosmological symbols drawing together the worlds of the living and the dead. The first is a manifestation of a body with horns, perhaps a form of the 'bull body' found in western Swedish rock art (Ling and Rowlands 2015). There is an obvious link between this and the ox hide used to wrap the body in the context of mortuary rites symbolized by another of the pebble platforms. The ox hide itself can be understood as male, the bull with the head removed. In the centre and between the two there is the double axe, a widespread symbol of ritual power and authority found in various contexts from Mycenae to Scandinavia. It is also symbolically associated with the bull with horns and in its southern European context has strong female connotations. It is located between the horns of the bull that occur on either side of it. If we consider the three pebble structures as representing a set of widely held cosmological ideas linked to stages of mortuary rites we can broadly understand them in terms of a series of symbolic and ritual transformations. A dead body with horns in the west is sanctified by the ritual and female powers of the ritual double axe to be 'wrapped' for burial on the ox-hide platform to the east that is nearest to the pebble cairns. This progression of bodily states and rites from west to east is itself associated with the rising equinoxal sun in the east, dramatically framed by the gap through the hills on the skyline to the east, symbolizing the widespread theme found throughout the Bronze Age of death and the regeneration of life.

We have seen that during the Early Beaker period of the Bronze Age small pebble cairns were constructed that do not seem to be associated with mortuary practices but rather with fire rituals and solar rites. Later in the Early and Middle Bronze Age much larger monumental and prominent cairns were constructed at high points in the landscape, such as the two summit cairns on Aylesbeare Common, with which the pebble sculptures are closely associated. These large cairns amassed carefully curated pebbles and thus became charged with symbolic potency and power. At the same time pebbles were being symbolically killed in the bog at Jacob's Well: two diametrically opposed processes, the former involving the accumulation of pebble wealth, the latter its destruction. We now put forward a conceptual model for the Middle Bronze Age of the Pebblebeds.

Conclusion: rivers of life and rivers of death

The mouth and course of the river Exe to the west of the Pebblebed cairns may have been both actually and conceptually associated with death. By contrast, the Otter, to the east, may have been associated with birth and the regeneration of life. These possible associations are worth exploring a little further, with reference both to the physical characteristics of the two rivers and their association with Pebblebed cairns. The Exe, with its source on Exmoor, far to the north, is a major river linking different landscapes with Bronze Age settlement and barrows and cairns across the southwest peninsula. By contrast, the Otter, with its source in the Blackdown Hills, is of specific local significance. In other words, it is far more intimately related to the East Devon landscape and, as discussed in Chapter 1, the locations of the barrows on the Pebblebed heathlands are intimately related to valleys and streams flowing into it. No such intimate relation can be claimed in relation to the cairn locations and streams flowing west towards the Exe from the spring line at the base of the Pebblebed scarp. The lower stretches of the Exe, visible from cairn 19 (see Figure 1.10) and the highest part of Woodbury Common, are inundated by the sea twice a day as this is a wide tidal estuary. The river meanders sluggishly through shifting mud and sandbanks in an estuary up to 2 km wide (Figure 1.14). The mud and sand are left exposed and then covered by the tides and the smell is salty and brackish. At the mouth of the estuary there are particularly violent and dangerous currents. The water is saline, muddy and unfit to drink. The Exe estuary would make an ideal depository for the bodies of the dead, only a small minority of whom would ever have been buried in the Pebblebed cairns. Acting as a kind of sump it would soon conceal and bury or wash away the remains of the dead. The Exe could then have provided the ideal place for the disposal and forgetting of the dead. We know from numerous finds of unburnt bones from rivers that river burial took place during the Bronze Age (Bradley and Gordon 1988; Garton *et al.* 1997). In this respect it is interesting to note the large concentration of Bronze Age barrows clustering in the very bottom and lower slopes of the Exe valley itself just beyond its tidal limit. Here at least 29 are recorded by Grinsell (1983: 13) and about as many more as ring ditches by aerial photography of the same area (Griffith and Quinnell 1999c), just to the north of the symbolically important confluence of the river Yeo or Creedy, the river Exe and the river Culm about 9 km north of the normal tide limit (itself extending about 12 km inland from the river mouth).

No barrow cemeteries occur along the bottom of the Otter valley, whose normal tide limit extends only a few kilometres inland. The closest possible barrows to the Otter itself are a pair of ring ditch sites about 150 m to the east of Wrinkly Cliff, an impressive red sandstone river cliff, just over 1 km to the south of Newton Poppleford in the Pebblebed heathland area. Otherwise, the nearest to it are the barrows and cairns situated along the East Hill and Peak Hill ridges, those located further to the west in the central Pebblebed heathlands themselves and on the spurs and ridges of the Blackdown Hills to the north (Griffith and Quinnell 1999c: map 6.5).

The river Otter, in contrast to the Exe, has a shallow and stony bed. The water is fresh, clear and fast-flowing: a most unsuitable and inappropriate place for the disposal of corpses. Only its very lowest reaches, the last few kilometres, form a muddy estuary, that is itself today almost completely blocked by an enormous pebble bank at its mouth as a result of west to east longshore drift. A few hundred years ago the river was navigable as far inland as Otterton (now 3 km inland from the mouth). The Otter flows beneath what have been suggested to be two very significant ancestral hills, Dumpdon and High Peak, and mixes together angular stones from these hills together with those derived from the Pebblebed exposures, a river of life associated with ancestors, pebbles, pebble cairns, pebble streams and fresh drinking-water.

If the Exe, situated to the west and thus associated with the dying sun, represented a river of death, the Otter to the east might be conceptualized as a river of life. It was associated with the reborn sun, framed and shining through the gaps between the ridges and hills. In relation to the activities of the living and the disposal of remains of their dead, the locations of the cairns on the Pebblebed heathlands in between these two

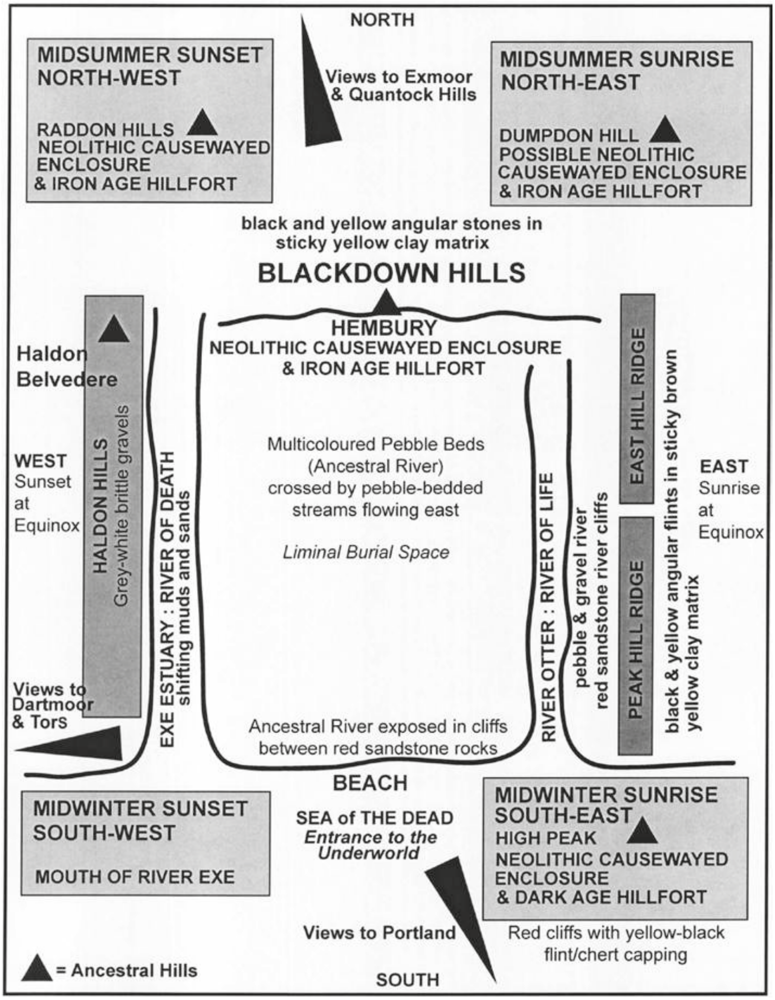

Figure 6.31 Conceptual model of the Pebblebed landscape in the late Early/Middle Bronze Age (Source: author)

rivers can be regarded as betwixt and between, liminal places (Figure 6.31). The pebble cairns erected here, with their complex internal patterning and structural organization, were perhaps associated with the remains of, and offerings to, founding ancestors.

The continued presence of the outcropping Pebblebeds inland from the sea in the form of surface pebbles covering the heathland may well have been recognized and understood as the inland presence of the same band of pebbles seen running through the red sandstone cliffs on the beach at Budleigh Salterton. This band of pebbles might well have been understood by prehistoric populations in a similar manner to the way in which geologists explain it today: as the course of a dead and ancient river. There could, then, be no more fitting place than the Pebblebed heathlands themselves to erect cairns to the memory of the ancestral dead.

The pebbles may have been understood as a special material created by the ancestors, a gift from the dead to the living that was then used to honour the dead. From the Neolithic onwards there is indisputable evidence, discussed in previous chapters, for both an interest in and use of the pebbles: their selective procurement, transport and relocation, use in broken form as temper for Neolithic pottery, arrangement into geometric patterns, the construction of large cairns and small pebble structures, the selection and arrangement of pebbles of unusual colour, their association with springs, water sources, the rising sun and the cardinal directions.

The multicoloured pebble cairns and their associated pebble platforms may thus have been conceived as transitional places situated between the world of the dead and the world of the living. They themselves were constructed from and rested on the colour-charged pebbles of an ancestral river connecting together these two domains. The pebble cairns thus represented conceptual entry points into an ancient dry river bed associated with the ancestral dead and their ultimate journey to a nether world beyond and beneath the sea.

Thus the pebble cairns were monuments and memorials to the memory of the ancestral dead and the old dead river of pebbles associated with them, while the river Exe became the medium by means of which corpses of the vast majority of the recently deceased in the Bronze Age could be moved and themselves transported, in a living river, to another world beneath the sea. Here it is of interest to note that the Otter flows out to the sea through a pebble bar laterally wedged between red sandstone cliffs to both the west and the east, just as the Pebblebeds are vertically wedged between red sandstone above and below them in the Budleigh Salterton cliffs. By contrast the muddy and sandy mouth of the Exe has no blood-red cliffs or pebbles bordering its exit to the sea. The other world may have been conceptualized as a watery world under the feet of the living, connected by ancestral and contemporary rivers with the sea through which one entered it. Glimpses of the actual course of the ancestral river to the sea were only visible in the cliffs at Budleigh Salterton. Here a dry river of pebbles could be seen running through the cliffs and disappearing into the pebble beach and the sea. Above this river a layer of 'burning' (blackened strata with ventifacts) occurs, and above this again a bright yellow band of sandstone perhaps associated with the rays of the rising sun and thus symbolizing the regeneration of life (Figure 1.8). The red cliffs themselves and their pebbles perhaps provided inspiration both for the rituals taking place at the cairns and the pebble platforms and those involving the burning and crushing of the pebbles at Jacob's Well, situated just below and to the west of the heathlands, closest to the Exe and from which the setting (death) of the sun was visible but not its rising (birth).

The old, dead or ancestral river is seen flowing through the cliffs and running downwards, west to east, in the direction of the rising sun, before reaching the sea. It narrows, rather than widens at its lowest point where it reaches the sea. By contrast the Exe and Otter rivers both flow north–south and widen in their lower reaches before they enter the sea. The relation between these two watery rivers and the dead ancestral river thus involves a triple inversion, or reversal, in terms of materiality, directionality and breadth. Thus the domain of the dead was an upside-down existence compared to that experienced by the living.

7
The value of pebbles in an original affluent society

Only 10 km distant due east from the Pebblebed heathlands on the flat greensand tableland (*c.* 230 m OD) of Broad Down and Gittisham Hill there is an extensive and tightly clustered group of Bronze Age cairns and barrows. The area is bounded by the river Sid to the west and numerous tributaries of the Axe to the east, principally the Coly and the Yarty. The soils, like those of the Pebblebeds, are poor and thin, affording, at best, rough grazing land. Substantial areas today are covered by gorse and bracken. At least 100 barrows and cairns occur in a continuous 5 km stretch of the narrow ridge dividing the Sid from the Coly that is at most 1 km wide and in many places considerably less. They centre on a circular banked and ditched enclosure, Farway Castle, 60 m in diameter.

From here there are extensive and panoramic views south across the sea, west to the East Hill ridge, north to the Blackdown Hills and to the east across plateau areas of East Devon deeply dissected by valleys. More than 100 barrows have been recorded in fieldwork surveys (Jones and Quinnell 2008: 27). The largest barrows are 25–40 m in diameter and up to 3.5 m high and ditched, others are between 10 and 15 m. There are also numerous small mounds less than 10 m in diameter. The concentration and the size of many of these monuments contrast markedly with the dispersed pattern and generally small size of the cairns on the Pebblebed heathlands.

Antiquarian excavations by Kirwan (1868a, 1868b, 1870a, 1872) and reports by Hutchinson (1880, 1870–81) and R.H. Worth (1899) and R.N. Worth (1880) (see Butler 2000) of some of the largest mounds revealed that they had a funerary use and that all the burials were cremations of Early to Middle Bronze Age date, periods 3–4. The evidence has been reviewed by Fox (1948) and Jones and Quinnell (2008) and the discussion below draws on these discussions. Kirwan's Barrow C was originally 21 m in diameter and 1.8 m high. It contained sherds from a food vessel lying over cremated bones. Over it was a flint cairn 6 m in diameter edged with large boulders of flinty conglomerate laid horizontally. A second interment in the cairn 18 feet east of the centre consisted of burnt bones laid on the flints and a comb-impressed long-necked beaker found on its side with an approximate date of around 2250 cal. BC (Needham 2005; Jones and Quinnell 2008: 36). The flint cairn was covered with a layer of burnt earth and extended outwards. The end result was a composite structure with successive constructional phases (Fox 1948: 5). The structure of this Beaker burial contrasts markedly with those of Early Bronze Age date. Both the food vessel and the beaker are very fragmented and incomplete and may have been buried as sherds (Jones and Quinnell 2008: 36).

Barrow A, about 35 m in diameter and 1.4 m high with an encircling ditch, was constructed of alternate layers of blue clay and peaty earth, probably turfs. This was surrounded outside its surrounding ditch by a ring of chert boulders. Under the mound the centre was paved with flints set in clay with traces of burning that Kirwan interpreted as being from a cremation pyre from which there was much charcoal. In the centre of the charcoal there were cremated bones and a finely engraved shale cup of material that probably originated from Kimmeridge in Dorset, dated towards the end of the Early Bronze Age, around 1600 cal. BC.

Barrow E had a small central cairn of flints covering a corbelled cist with burnt bones with fragments of a small copper alloyed dagger of Early Bronze Age date, around 1800 cal. BC. Nearby was another shale cup. Barrow D was very similar, with a central cairn and cist covered by an earthen mound possibly dug up from a surrounding ditch. The cist contained remains of an adult and an infant with a segmented bone bead. A date on the cremated bone is 2020–1860 cal. BC (Jones and Quinnell 2008: 36). Barrow B was about 34 m in diameter and 1.7m high with a bed of charcoal and calcined bones at its approximate centre, with the rest of the structure probably formed of turfs. Bones from a small, elaborately decorated 'accessory vessel' with cover, filled with clean and compact bone, found by a visitor on Kirwan's spoil heap, has given a date of 1940–1750 cal. BC (32).

Piggott (1938) in a very influential paper interpreted the evidence given above as a link between the Farway necropolis and a wider Early Bronze Age Wessex culture of central southern England that he understood as arising from an intrusive elite from Brittany. The Farway barrows, like those of his broader Wessex culture, were the burial places of a chiefly elite with long-distance contacts exemplified by the presence of exotic materials and stylistic influences in the grave good assemblages. No equivalent finds of rich burials are known from the Pebblebed heathlands, although it has to be emphasized that the largest and most prominent cairns have not been excavated and we know nothing about their contents.

Centre and periphery in Bronze Age England?

After Piggott developed the idea of a rich elite living in Wessex with exceptionally rich burials with metalwork and items of exotic origin indicating the presence of a warrior aristocracy, the only really significant change to this general perspective was an insistence on the indigenous rather than the continental European origins of the Bronze Age elite. This became a standard way to interpret the evidence for almost 50 years, repeated in almost every book or discussion (e.g. Ashbee 1960; Renfrew 1976; Megaw and Simpson 1979: 207ff.; Cunliffe 2001; Kristiansen and Larsson 2005: 125).

Piggott (1938) had singled out about 100 elite burials in Wessex, virtually all on the chalk downlands, and these remained the focus of discussion and were linked to another Early Bronze Age elite, with richly furnished graves, in Brittany. They are all dated to a period of 600 years from about 2000 to 1400 BC. The rich grave sets identified by Piggott later came to be interpreted in terms of the control of metals, the command of exotic prestige goods and the consumption of wealth by warrior aristocracies or chiefs. Precious materials were conspicuously buried with the dead in societies that were increasingly complex and stratified. Cunliffe puts it succinctly as follows: 'the social energy which had been channelled into monument building for the community [during the Neolithic] was now directed to celebrating the power of certain individuals among the elite. The adoption of the "Beaker package" around 2400 BC was simply a stage in this process of social transformation' (Cunliffe 2001: 248).

If Bronze Age Wessex was the major elite centre during the Early and Middle Bronze Age, East Devon, 130 km distant to the west, was very much a peripheral area in relation to it: a few rich graves in the Farway cemetery, none on the Pebblebeds. But with the proximity of the Channel coast and given the importance of long-distance travel by boat, rather than overland, East Devon could be considered to be simultaneously well connected in terms of exchange and wider social networks.

Needham has recently pointed to the significance of the English Channel coast in the Earlier Bronze Age, with a series of exceptionally rich graves stretching from Kent to Cornwall along it with evidence of long-distance contacts extending into continental Europe in general and close connections with the rich Breton graves in particular (Needham 2006). He thus displaces the notion of an inland Wessex centre for the elite to a more dispersed distribution of rich burials nearer to the coast. The 'rich' Farway burials would thus form part of this overall coastal distribution.

Recent research has indicated that many of the first round barrows built on the chalk downland of southern England were built near to older Neolithic monuments: long barrows, enclosures, cursuses and henges and in areas of fertile land that had never been densely wooded (French *et al.* 2007). This, the inland heart of Piggott's Wessex culture, might thus be quite distinct from Needham's postulated 'Channel Bronze Age' with its elite coastal burials. The origins of both in relation to the preceding Neolithic were different.

In the case of the Pebblebed heathlands we have an area that was similar to the Wessex chalk downlands with their dense concentrations of sometimes richly furnished graves in one respect, in that it too was not densely forested (see Chapter 8). However, the cairns are numerically few (the total would amount to just one cemetery area in the vicinity of Stonehenge) and most are small. The area is completely lacking in earlier prehistoric monuments, the only exceptions being Early Neolithic hilltop enclosures. However, even these are situated some distance away. High Peak and Hembury are, respectively, 5 and 10 km distant from the heathland fringe. There are no henges or cursus or other Later Neolithic monuments.

But did an Early Bronze Age elite really exist in central southern England or is it an exaggeration of the evidence – or perhaps even a figment of the archaeological imagination? It is worth noting that the number of these elite burials is tiny, six per year over a 600-year period. The attention paid to them in the interpretation of the character of Early Bronze Age society might be described as an archaeological version of the great man or woman view of history in which the majority of the population is effectively ignored.

As Bradley recently notes, 'a small selection of exceptional artefacts has come to dominate the discussion' (Bradley 2007: 153). Cunliffe (2001) gives two examples of these rich burials: Bush Barrow, visible with and to the south of Stonehenge, and the burial of a woman at Upton Lovell in the Wylye valley to the west. He is hardly alone in doing so – the same two exceptional graves are used over and over again to demonstrate the presence of a rich chiefly elite, possessing gold, weapons and other bronze artefacts, amber, jet shale and faience, etc. All but a few of the other 98 elite Wessex graves are furnished with far fewer 'riches'. A few of the East Devon Farway barrows, mentioned above, with only an occasional exotic or precious item, fall into this category. Woodward (2000) points out that only a very few of the barrows even around Stonehenge, a supposed centre for a Wessex elite, are in fact rich. Other exceptionally rich graves are widely spread and situated at long distances from each other and occur as single barrows rather than part of cemeteries (Woodward 2000: 105).

Cunliffe and others refer to Wessex as a great trading and exchange hub commanding riverine and overland routes all over England along which the exotic prestige goods flowed. Despite his reservations about the representativeness of the evidence, Bradley still argues that concentrations of richer burials in Europe are closely related to the proximity of metal sources and that communities in Wessex were well placed to control the cross-Channel movement of tin between northwest France and Ireland (Bradley 2007: 156). This seems somewhat strange, since a supposed centre of Bronze Age Wessex, if we place it around Stonehenge, is over 110 km from the nearest coastline and about twice that distance from the tin sources of southwest England. Who could realistically control the movements of metals and materials from that distance?

There is one thing that links together all the discussions of the distributions and relationships of elite graves and those of contacts and exchange routes in either Early or Later Bronze Age Europe. They are somewhat surreal views of the landscape derived from looking at small-scale modern maps. They are truly representative of a modern cartographer's eye, but we can be sure that Bronze Age populations did not think like that nor did they conceive of Wessex or Europe in the modern way. Wessex itself constitutes a huge and differentiated area, and knowledge of both it and the world beyond would have been improvised, localized and fragmented. 'Rich' burials occur in local landscapes with local meanings and need not necessarily be connected together at all in any simple way or in terms of a single interpretative framework supposedly good for Europe in general.

One highly influential model has come to dominate our understanding of society in the European Bronze Age and that is the prestige goods model of tribal societies first put forward by Friedman and Rowlands

(1977) and further developed by Rowlands and Kristiansen (Kristiansen and Rowlands 1998; Kristiansen and Larsson 2005). They argue that the diverse histories of individual tribal societies in Europe are all manifestations of shared structural principles governing their social reproduction. This is dependent on a primary relation with the supernatural in which wealth and group prosperity are regarded as controlled by supernatural spirits, conceived as ancestors of competing lineage groups, who need to be celebrated through offerings and who in turn bestowed prosperity. This sophisticated model integrates consideration of local agricultural production involving tribute relations, the exchange of marriage partners between groups and the exchange and consumption of valuables, whose circulation is controlled by the elites, in an overall model of tribal social reproduction. Different types of exchange are constituted by relations of indebtedness and patronage between local populations and chiefly elites in which the conspicuous consumption of wealth is linked to status and its attainment. This involved the procurement and movement across the European continent of metals and exotic items and presumed prestige goods that became fundamental to the development of political institutions, power and prestige. The conspicuous consumption of wealth indicated by its presence in rich burials represents competition for status between elites and exchange of materials between them in a restricted sphere of exchange from which the general populace were excluded. Thus metals were being exported to continental Europe from England and Ireland while bronzes of continental origin were being imported into Britain as part of a much larger exchange system in which metals and other precious materials were circulating.

Earle (2002), Kristiansen and Larsson (2005) and others have interpreted the European Bronze Age not only in terms of controls on the flows of materials but widespread mobility between chiefly elites in Scandinavia and the Mycenaean world through central and eastern Europe, or in terms of a western European route involving movements of persons, bronze artefacts, cosmological ideas, copper and tin ingots and Scandinavian amber.

According to this model, towards the end of the Early Bronze Age increasing demand for copper and tin seems to have led to a change in trade routes to Scandinavia around 1600 BC, with copper being acquired directly from Cypriot and other sources and tin from Devon and Cornwall. Competitive social elites were engaging in interaction with distant peers and journeying widely.

Long-distance contacts between the Mediterranean world and northern Europe are now quite well documented in terms of both artefact distributions and shipwrecks containing metals. Shipwrecks in the English Channel from off the Erme estuary in Devon and from Dover demonstrate that the tin sources of Devon and Cornwall were being exploited during the second half of the third millennium BC and the first half of the second millennium BC, with trade and exchange growing in intensity around 1600 BC (see e.g. Kristiansen and Larsson 2005; Harding 2009; Van de Noort 2009). In terms of a western European maritime route, the highly valued tin resources of Devon and Cornwall played a key part in links between Scandinavia and the Mediterranean world with its palace civilizations.

Most of the metal in Scandinavia from around 1700 BC was refined and alloyed there and the metal must have arrived in ingots, some of which would have been of tin from Devon and Cornwall (Ling *et al.* 2013). Flows of metals, etc., being part of a broader and integrated set of cosmological and spiritual relationships and ideas, may have had various and very different expressions in local contexts. Controlling flows of gold and metals, amber from south Scandinavia and other raw materials with high economic and ritual value provided a means by which local chiefly hierarchies and elites could reproduce themselves through exchange. But there was inherent instability in a situation in which economic exchange creates forms of value and the supplies of raw materials and finished items such as bronze swords were both unstable and unpredictable. The social reproduction of status was always difficult to secure in such circumstances.

There is of course a constant danger of anachronistic interpretations in which the presence of gold, metalwork and exotic materials in, it should be stressed, a very few graves in barrows in so-called 'elite centres' becomes considered the sole measure of wealth, and therefore prestige, and becomes a measure of hierarchy. We might say that archaeologists have quite literally adopted a *gold standard* of wealth: a fascination with such 'riches' may just be a contemporary preoccupation of archaeologists, a reflection of our own cultural bias in which value is something synonymous with price. Any grave with gold in it is *ipso facto* considered rich or wealthy, as social capital, but there are many other ways to understand what richness and wealth might be. There is no reason to automatically assume that everyone in the Bronze Age understood wealth in this manner, as will be argued below. Standards of wealth and value are always likely to have been local productions with local meanings.

There have been a number of cogent recent critiques of this model of competitive wealthy elites in Bronze Age Europe controlling and consuming prestige goods in the attainment of personal power and status. In terms of an analysis of the burials we cannot make the simple assumption that the grave goods found are necessarily either the possessions of or represent the real identity of the dead and their status in society.

Instead it has been argued that we could understand them in terms of relations between the living and the dead (Brück 2004, 2006; Brück and Fontijn 2009; Fowler 2013) in which a social persona was constructed during mortuary rites. Consequently the character of relations that made that person what they were in burial rites were multiply authored by the local communities conducting them, a gathering and bundling of relations. This is essentially the application of a Melanesian model for the European Bronze Age, clearly heavily influenced by the work of Strathern (1988), Battaglia (1990) and others.

Brück and Fontijn put it like this:

> [E]arly Bronze Age communities in different regions and in exceptional circumstances [objectified in 'wealthy graves'] chose to portray particular people in a way that gave material form to widely shared understandings and beliefs: as such the key concern in these 'princely' burials may have been to express dominant cultural values rather than wealth and status.
>
> (Brück and Fontijn 2009: 206)

Fowler notes that 'the term "elite" holds unqualified connotations of hierarchical power relations over an unspecified and undifferentiated broader community, and terms such as "high status", "wealthy", "leaders", "paramount chiefs", and "prestige" have become rolled together and also represent only a narrow range of possible interpretations' (Fowler 2013: 89).

The biographical history of objects deposited in graves embodying social memory may have been important: their landscape origins, the technologies involved in their production and the social relations involved in production and exchange.

Woodward has pointed out that in relation to the rich Wessex graves, two of the most important features of the artefacts found is their colour and texture (2000: 111, 113). The objects when freshly buried were 'all brightly coloured, shiny, lustrous, smooth, mainly cool to the touch, and neatly shaped … blue and green objects, mainly faience but also incorporating various polished stone pieces would have stood out in strong contrast to the predominant red/gold and black/white schemes apparent among the individual assemblages' (113). This represents a very different way of thinking about what 'wealth' means. The counterpoint in the prestige goods model has been to weigh metalwork in one grave, compare it with that in another and thus provide a quantitative evaluation of relative wealth. 'Rich' burials from the alternative perspective discussed above thus relate to the constitution of personhood relationally in society. Personhood is emergent from networks of social relations and may have little to do with the lived identities of the dead (Fowler 2013: 80). Instead the grave goods found in barrows and cairns may represent the ritual practice of the burial rite itself by the local community. The individual social persona and status of the deceased is not necessarily at the centre of this, or at the very least it is relationally constituted.

Weiner discusses objects that are withdrawn from circulation, or never enter it, as constituting inalienable wealth (Weiner 1985, 1992). Inalienable possessions have absolute value, placing them above the exchangeability of one thing for another. Inalienable objects are a materialization of biographical, historical and spiritual values. They are replete with cultural meanings and values through association with individual owners who have held and used them, ancestral histories and sacred connotations. Early Bronze Age grave good assemblages can be regarded as inalienable in just this sense. Burying objects in a grave was the ultimate act in ensuring that they could no longer circulate or be exchanged among the living, be treated as mere commodities through which status might be acquired. This act was about the *veneration* rather than consumption of a thing and is indicative of a very different way of valuing things.

In this manner we can regard grave good assemblages as deeply symbolic acts: things were made absolutely inalienable by burying them in the ground. This act of giving things away was a means of keeping or retaining them for ever. Beyond that, these acts took place at a particular place in the landscape associated with a particular social group. In this manner things in burials *placed* identities in particular landscapes. Society was thus in part primarily reproduced through the loss of things rather than their acquisition, clearly an inversion of the prestige goods exchange model of value.

Strathern (1988) argued that while in contemporary Western societies all the emphasis is on individualism (each individual is considered to have a unique identity, a core of their Being) and owning personal possessions, so you own what you produce, by contrast in Melanesia individuals have no unique core. They are instead constituted by the manner in which they are perceived by others. This is partible or multiple personhood. The corollary is that you don't necessarily own what you produce, so simple Western notions of exploitation and alienation in exchange relationships no longer apply and notions of wealth and value have to be rethought. Production is always a social relationship. Both people and possessions, or things, are multiply authored and their past is part of them. Social relations make some potential aspects of a person visible in one context, while hiding others. A person or a thing thus has latent properties and potentialities brought out and made manifest in some circumstances, such as a burial ritual, but not in others. Meaning, wealth and value are constituted by what others think they are. They remain relative and shifting, not absolutes. Exchange relations shift what things mean from one social context to another so that, for example, a pig is the product of a marriage relation between a man and a woman but when it enters into an exchange relationship between men its meaning and value shifts from embodying a husband–wife relation to embodying male relations in the context of ceremonial exchange. In the process its former social value and meaning gets detached and a new one arises. So we might argue, if we liked, that 'rich' Bronze Age burials involved the creation of new sets of values and relations between always multiply constituted persons and things rather than simply representing a person's status and individual wealth. This certainly provides an effective critique of a prestige goods version of the Bronze Age, but the Melanesian alternative is hardly a panacea.

Strathern's interpretation of what persons and things mean in Melanesia and how this contrasts with Western conceptions of personal identity, wealth and value is entirely rhetorical, a fictional ideal type. One is apparently the simple inversion of the other. Personhood and identity in the contemporary West can be easily understood in a 'Melanesian' way. In fact Strathern's model of the Melanesian Other is simply a version of contemporary post-structuralist thought applied to a Melanesian context and juxtaposed to an old model of Western individualism. Our identities are created in multiple ways, we have no inner core of being, we are as we appear to be to others, our identities are fashioned out of relationships and shift and change, the values of things are relative to the social contexts in which they occur. However, there still remains one very clear and dominant notion of what wealth is based on: commodities and their prices in relation to what people desire.

The general idea that special objects in graves indicate personal or dynastic wealth and prestige implies the spread of specific kinds of value systems along with the objects. However, the values attached to different kinds of things obviously vary. Fowler suggests that changes in ritual activity and material culture during both the Chalcolithic and Early Bronze Age can be understood perhaps as changing relations of desire arising from new entanglements between people and things: 'perhaps those moving notable distances during their lives and those exchanging valued material and objects desired new social partners, new interactions … new knowledges and ideas, new lives for themselves even, rather than new (hierarchical) statuses, generic power or particular possessions' (Fowler 2013: 90). To put it another way, the endless pursuit of hierarchy and power is only one rather limited desire. Furthermore, ideas of what wealth and value actually are may be expressed in often highly different and culturally variable ways, as discussed below.

An emphasis on the variable meanings, social relations and ritual practices bound up with the deposition of assemblages of grave goods usefully redirects interpretations away from a mantra of Bronze Age elites. We can argue that rich graves are rich in terms of complexity of relations, they objectify rather than necessarily being related to the individual status of the deceased. There is both a density of objects in them and the symbolic entailments and metaphorical associations of these objects (Tilley 1999; Brück 2004). But such a position still has to cope with precisely why there are such significant differences in the Bronze Age, from barrows and cairns that contain nothing to those replete (or 'rich') with a whole array of different artefacts and materials, some of which were acquired over huge distances.

Clearly there is considerable differentiation in grave assemblages across Europe. If this is not necessarily a reflection of the individual status of the deceased but his or her social relationships, this implies that those group relationships differed considerably in terms of movement of persons, knowledges, access to materials and relationships to things. To put it at its simplest: some grave assemblages are far more complex than others and this suggests important differences between local communities in terms of the breadth and depth of social ties and dependencies and their ability to acquire and keep things. At the heart of this are two questions: what was of value? What did people value and why? These questions can have no general answer. We need to try and understand the *specificity* and *difference* of the past. Rather than applying top-down, ready-made ethnographic models to illuminate the past, an alternative is to try and build an archaeological model of that past from the material evidence to hand.

Landscape, value and identity

Anthropological studies of value show over and over again how value is a relative concept, defined and redefined by local communities, each having its own cosmology and type of value. Things considered valuable in one context may have little or no value for people in another (e.g. Gregory 1982; Appadurai 1986; Munn 1986; Graeber 2001). This is the primary and most important anthropological insight that is worth pursuing. The first premise is that social groups in European Bronze Age societies valued things in different and multiple ways. Giving value to things did not involve an equivalent standard of value applicable everywhere. It was always a local production and has to be understood in the context of a local landscape. Value was something intimately related to the embodied identities of persons in those landscapes.

If we examine Bronze Age barrows and cairns in detail in either Wessex, southwest England or elsewhere in Britain, or at a European scale of analysis, the overwhelming and consistent point to be drawn out of the evidence is that what we witness is a record of difference, not repetition. What is found in one barrow or cairn compared to another is largely unpredictable. The contributions in a recent collection edited by Last exemplify this point strongly (Last 2007), as does Jones's discussion of Cornish barrows (2005), Jones and Quinnell's discussion of the Farway barrows and cairns in East Devon (Jones and Quinnell 2008) or Fowler's (2013) analysis of the Early Bronze Age in northeast England.

The differences are not only related to assemblages of grave goods but to the architecture and histories of barrows and cairns. Some, like the small cairns on the Pebblebeds, are not even places for burial and so are not associated with the dead. Equally they are not even monuments in the sense of being monumental. These differences need to be understood within the contexts of the local landscapes in which they occur. This is unfortunately largely absent in the studies cited above(apart from Jones 2005), in which the individual barrow or cairn treated as an isolate remains the primary entity being analysed and the landscape gets reduced to dots on a distribution map.

The counterpoint to this almost infinite difference is that we simultaneously find broadly similar architectural expressions in different places, such as the circular form of barrows and cairns, and artefacts that resemble each other, partly as a result of circulation and exchange and partly because of a shared repertoire of ideas and knowledges as discussed in Chapters 3, 6 and above. Places were linked at local, regional, inter-regional and European scales. We witness a network of interacting communities and movement of some individuals between them who shared similar artefact types and similar burial practices.

Kristiansen and Larsson (2005) make the very important general point that imported metalwork, such as the copper double axe from Mount Howe discussed in Chapter 6, was not just random artefacts stripped of their original social, economic and political meaning, but can instead be understood in terms of the transmission of knowledges and cosmological beliefs in which economic and political and ritual cosmological and shamanic powers were often intertwined (Kristansen and Larsson 2005: 200ff.). The meanings and symbolism of some types of artefacts were something shared between people, but as often as not would become reworked and transformed in local contexts.

Wealth and value in East Devon

Where does East Devon fit into a wider prehistoric context? Despite its proximity to the tin resources of Cornwall and Dartmoor there is very little metalwork. The pebble cairns that were built occur in a heathland tract unsuitable for agriculture (unlike the Jutland and Wessex barrows they are not swallowing up huge quantities of arable land) and, relatively speaking, even the very biggest are modest in scale.

In terms of a wider European Bronze Age world and a prestige goods model of that world, this was definitely a marginal and peripheral area. However, considered in terms of the availability of land, crops and livestock East Devon was far from being a marginal area in the Bronze Age (see Chapter 8). The soils, particularly those on the Otter sandstone, were easily tilled and fertile, while the heath provided good grazing ground. There was abundant fish, fowl and shellfish to be exploited along the Exe estuary and along the coast, no shortage of timber for constructing round houses, fuel for cooking, mushrooms and nuts and berries and plant foods in the woods, etc. How important were gold, metals, exotic artefacts and so forth in the everyday life of people? What relevance has that concept of value to understanding anything about the past? Were local populations much exercised because they might not have lots of metal to consume, display or bury with the dead or amber beads from Scandinavia to adorn their clothes?

Most things of value to people today, in a market economy, in their everyday lives, are valuable precisely because they have no price, they are too valuable to be priced, and wealth and notions of what is *of value* are conceptually separated and not linked to prestige. This is because most cultural values are drawn from social relationships and personal experiences, notions of what makes a good life, and not from general economistic mental abstractions in which value is to be solely understood in terms of the kind created by exchange. Value instead relates to sentiment, thought and feeling constituted relationally through living and experiencing the world with others.

Pebble affluence in East Devon

Some time ago Sahlins argued that hunter-gatherers with only basic technologies available in abundance, such as digging-sticks, plenty of easily exploitable food resources and much leisure time, represented the original affluent society, because needs were easily satisfied and very little labour time was required. They were a happy lot and to be envied (Sahlins 1972: 1–39). This perspective, while much debated in hunter-gatherer studies (anthropological and archaeological), has not been considered beyond that specific context, but in fact it has a much wider relevance because this perspective directly addresses the two fundamental questions of what value is and to whom the concept applies. It raises the question of what an affluent society is and what makes it affluent. Once Sahlins had formulated this position dispelling the notion that all hunter-gatherers had a short, brutish and miserable life because they did not have stores of grain and domestic animals to eat, giving them a secure life, the vexed problem became why people should ever start to farm and adopt a 'civilized' way of life in the first place. It required a much greater investment in technologies, labour and land and inevitably led to various forms of social inequality and exploitation. As Sahlins notes, wants can be satisfied by producing much or desiring little (Sahlins 1972: 2). We can easily adapt this line of thinking to a consideration of local Bronze Age evaluations of wealth in the Pebblebeds landscape.

Another pertinent anthropological observation needs to be made here. In all studies of exchange it has been noted that items of rank and value are durable things. Because food is perishable it can have only transitory value and always ranks low on a scale of value. It has value (in an economic sense) because it can be converted through exchange to the acquisition of durable things such as shell necklaces and stone axes; things that endure may acquire histories through their exchange that give them further value (Graeber 2001: 44).

If the pebbles amassed in cairns and easily collected from the landscape, requiring no fabrication and little labour investment, are regarded as a form of wealth then the East Devon Bronze Age society was fabulously wealthy. In fact it had an endless source of durable material wealth unmatched by any other area of Europe. This wealth was used in building cairns and platforms. Pebbles, as far as is known, were not drilled and used as body adornments and no objects were made out of them apart from the two flaked pebbles from Tor Cairn and Jacob's Well discussed above.

The reason may well be that a pebble transformed is no longer a pebble. It loses its power. This was collective wealth and not individualized. What this society clearly lacked were other trappings of wealth expressed in the form of gold and metals and exotic artefacts acquired through exchange that were being valued elsewhere. Even these kinds of things might be produced anyway in sculptural arrangements of pebbles such as the double axe on Aylesbeare Common, and this was huge in size compared with any petty copper axe in circulation. Indeed the giant pebble axe can be interpreted as a grandiose display of what these people lacked: the metalwork they did not have but which they knew others elsewhere desired. However, unlike the portable artefact their axe was fixed in the landscape and could not be taken away or given to others. This static axe safely remained in place.

In a similar fashion if the Stonehenge bluestones were being transported to Wiltshire along the sea coast of southern England from south Wales to dramatically transform the Stonehenge landscape, they would be passing beneath the cliffs at Budleigh Salterton and past the Pebblebed landscape at about the same time as the small pebble cairns were beginning to be constructed. Perhaps those moving the bluestones sheltered in the mouth of the river Otter on their journey and came into direct contact with the cairn builders, who acquired knowledge of the power of these exotic stones. They found locally, amongst the pebbles, their own tiny versions of the bluestones, and duly incorporated these into their cairns. Again the pebbles substituted for exotic imports and the effort and labour that would be required to obtain them.

The cairns, as we have seen in Chapters 3 and 5, amassed pebble wealth redolent with the power of brightly coloured materials concentrated together in the landscape of pebbles. In them pebble jewels (our category of 'special pebbles') were deposited in place, in the landscape. The cairns were great treasure troves in which those things of utmost value, the pebbles, were carefully grouped together, side by side and layer upon layer.

These pebbles represented perfection, completeness, finesse, to the Bronze Age populations of East Devon in just the same way as a bronze sword might signify these things to others elsewhere. In fact pebbles were a superior form of local wealth, because unlike the sword they could never be made, they could only be found in this landscape of pebbles. Pebbles embodied value precisely because they could not be made and that made them more important than anything that could be made. The colours and patterns on the surfaces of these pebbles were infinitely different from each other, infinitely complex, unlike bronze swords produced from standardized moulds that all looked the same. While swords could be duplicated, pebbles could not. Each was absolutely unique.

Pebbles were the inalienable wealth of the local community, the material media of value, which were symbolically consumed by depositing them in the cairns but the supply never ran out. Pebble wealth burst forth from the landscape: it was everywhere. These pebbles were not exchanged or given away to others, because they were the unique medium through which value was realized and understood in this local context, and that required local knowledge.

Pebbles are, as argued in Chapter 5, above all uniquely transformative stone materials. The pebbles themselves, some with eyes, were perhaps understood as sentient beings with a spirit, animate and alive. The pebbles when dry were dead. They could be animated, brought alive or be born again, by wetting them with water. Thus their value emerged from the transformation, dull to brilliant. In the brilliant state the personality of the individual pebble was displayed, contributing to its magical power, something that was immediately lost when the pebble dried out.

In other societies in the Bronze Age only permanently brilliant and colourful things seem to have been appreciated as powerful things of value in some local contexts: the amber and faience and metals found in some Wessex barrows and graves (see above). These things, however, lacked the kind of power manifest in the transformative potentialities of pebbles, in which value was linked to process.

The symbolic destruction of pebbles at Jacob's Well made perfect sense in such a local context with its own local conception of wealth. Destroying this pebble wealth made sense locally. This was a rite of destruction forming the other side of the coin from accumulating the pebbles in the cairns. Both were alternative ways of realizing and putting on display the power of pebbles in the local context of a landscape made of pebbles, an act of celebration. Such practices would make no sense and have no meaning or value anywhere else. These were displays in which people showed themselves to themselves and their wealth to themselves. Through these ritual acts they put on display their embodied identities in relation to the world of pebbles that they inhabited.

Gathering together and destroying pebbles was about the ability to maintain an assembly of practices, knowledges, objects and places, a sacred assemblage of pebbles. Ultimately the pebbles represented the local community in a pebbled landscape and their shared values of care and concern. They formed a medium for the material expression of identity and objectified it.

8

How landscape defines communities in prehistory: an environmental reconstruction of the prehistoric Pebblebeds landscape

Michael J. Allen and Christopher Tilley

Why environmental archaeology?

Environmental archaeology should be used to inform archaeological enquiry and not just gather palaeo-environmental data from an archaeologically derived data set. Environmental archaeological scientists undertake excellent programmes of analysis. In the past few decades, although they have addressed an archaeological agenda (*contra* Thomas 1990), all too often their reporting is more directed to fellow archaeological scientists (i.e. their peers) than either the archaeology of the project or, more specifically, to how their evidence may allow us to consider and experience landscape from a prehistoric community or personal perspective. Ironically, environmental archaeological science is well set to address issues of landscape, land-use and the lived-in environment in a holistic way and help define prehistoric life-ways and the constraints of the environment in which past communities lived; they were immersed in the detail of the changing landscape for their survival and their livelihood (Tilley 2010). As archaeologists we must attempt to recreate the world in which they lived; of which the physical landscape, vegetation and soils were more than just a stage upon which they acted their lives but were the world *in which* they lived and within which they learnt, engaged, reacted to, modified and tamed.

Environmental archaeologists are good at taking samples and analysing soils to provide data and interpretations of these physical elements and also to track changes through time, especially those directly or indirectly caused by human action (cf. Bell 1983). They are less good when applying scientific, objective principles to wider, more ephemeral interpretation, and find it harder to explore areas less easily and demonstrably definable. Defining vegetation and land-use *histories* is one thing; commonly done exceptionally well within the archaeological discipline (e.g. Scaife 1991; Macphail and Scaife 1987; Fyfe *et al*. 2003a, 2003b, etc.), but attempts to actually define and map vegetation and land-use over time *and* space are very few and far between. This praxis seems to be unconsidered and, surprisingly, archaeologists have not engaged with it. Allen's work in the Stonehenge landscape nearly 30 years ago, for instance, was quite naïve and simplistic (Allen *et al.* 1990); the four maps of the Stonehenge landscape at different periods (Allen *et al.* 1990: fig. 155) showed the environmental reconstruction (woodland, secondary wood, grassland and tillage) only around each site or sample point. Restricted by 'academic honesty' or lack of self-confidence, the rest of the area was left uninterpreted and blank – a failure in one respect as the white spaces looked like an open, rather than the wooded, landscape that at the time we assumed existed in the earlier prehistoric periods (Mesolithic – Neolithic). Nearly 10 years later, the acquisition of more data (20 years of research) and increased boldness allowed land-use or vegetation 'envelopes' to be draped over a 3-D terrain model of the landscape (Allen 1997) and thus, for the first time, provided a complete map of prehistoric vegetation and land-use based on environmental archaeological data and interpretation, to date surprisingly still one of the few examples of this approach. These data also provided the basis for the landscape video on display in the Stonehenge Visitor Centre. Obviously we cannot verify every location, but it does provide a more scientific, data-based, interpolated landscape map; and one that can be tested and modified with new fieldwork and data. The current research from Parker Pearson's Stonehenge Riverside Project will do just that (Allen unpublished MS).

Time depth is easy, but the spatial parameters are more difficult to prescribe and define with any degree of confidence without the vast amount of data required (cf. Allen 1997, 2000a; Table 8.1), and there is also a real lack of self-confidence and engagement amongst the analysts as a whole. The next step, of trying to really recreate that landscape as a living world and get a feel for the landscape, is seen by many as a 'step too far'. Yes it is difficult, and yes in many ways it is unprovable, but if it allows archaeologists to better understand people and communities in the past then it is clearly an avenue that should, with appropriate data and

Table 8.1 Comparison of density of environmental data sets in chalkland landscapes and the calculation of a 'confidence factor' (based on Allen 2000a: table 4.2).

Study area	*No. of data sets*	*Km² study area*	*Density (data-sets km²)*	*Confidence factor (density × 100)*
Allen Valley/Down Farm	35+	12	2.917	291.7
Dorchester	12	35	0.343	34.3
Stonehenge 1	13	54	0.240	24.1
Stonehenge 2	19	80	0.238	23.8
Winchester	3	16	0.187	18.7
Avebury	20	130	0.154	15.4
Cranborne 1	22	150	0.147	14.7
Isle of Wight	9	64	0.140	14.1
Pebblebeds	15	150	0.1	10.0
Strawberry Hill	1	10	0.100	10.0
Lewes	9	106	0.085	8.5
Kent	3	1,500	0.0002	0.2

albeit with caution, be attempted. In Cranborne Chase we have one of the largest and densest palaeo-environmental data sets. Using our palaeo-environmental interpretations based on land snails, soil analysis and more limited charcoal and charred plant remains, I have attempted holistic landscape reconstruction from two viewpoints; first passing through the Allen Valley, Cranborne Chase, Dorset in the Later Neolithic and describing the landscape (Allen 2000b), and second as a view from Gussage Down looking out over Down Farm and Wyke Down as Middle Neolithic 'Cranborne woman', and then again in the Later Neolithic and Later Bronze Age, describing the landscape, vegetation and land-use she could see (Allen 2002).

Our aims for the Pebblebeds

The Pebblebed heathland (Figure 8.1) is about 153 km², and although it contains over 30 prehistoric cairns (see Figure 1.10), only 7 prehistoric sites have environmental data which span the Neolithic to Later Bronze

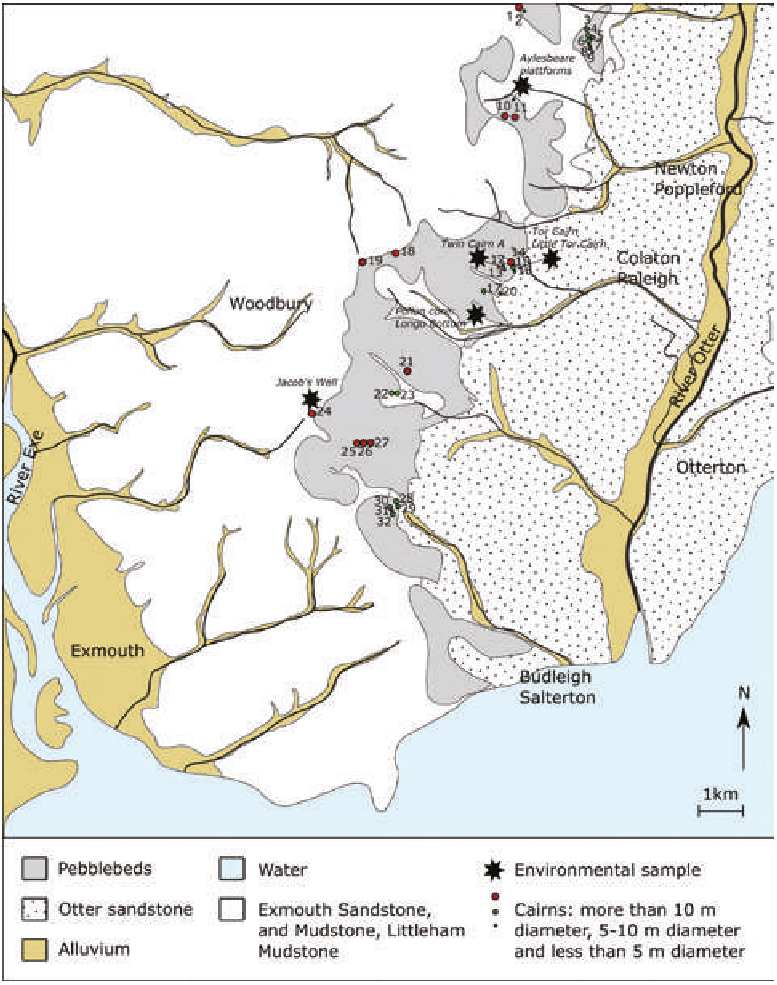

Figure 8.1 The geology of the Pebblebeds landscape showing the cairns and location of the palaeo-environmental evidence (Source: author)

Age (Table 8.2). We do not have enough data to look at environmental reconstruction in any great temporal or spatial resolution (see Table 4.1), so instead of examining this in landscape detail (cf. Allen 1997: plates 1–5), our aim here is to define a series of prehistoric landscape types and see change over time between those zones, and thus develop a narrative defining and characterizing the landscape and land-use, and examine changes in, principally, the area of the Pebblebeds. We are limited by just 15 reports covering three or four disciplines, some of which are only assessments or species identifications. The most useful data are

Table 8.2 Palaeo-environmental data sets from the Pebblebeds.

Site	*Phase*	*Charcoal*	*Pollen*	*Soil microscopy*	*Geoarchaeology*
Colaton Raleigh settlement	M-LBA-IA	Challinor (n.d.) 13 ids	–	–	–
Aylesbeare platforms	MBA *c.* 1400 BC	Challinor assessment	–	Banerjea (Appendix 14)	–
Jacob's Well	Neo-MBA peat 1400–1300 BC structure 1700 BC	Challinor (Appendix 9)	Batchelor (Appendix 12)	–	–
Tor Cairn	EBA/Beaker	Challinor (Appendix 2)	Scaife (Appendix 6) – old land surface; Pokorný (Appendix 4) – centre	Macphail (Appendix 6)	Allen (n.d.)
Little Tor Cairn	EBA/Beaker	Challinor (Appendix 8)	–	–	
Twin Cairn A	EBA/Beaker	Challinor (Appendix 9)	Pokorný (Appendix 10)	Lisá (Appendix 11)	–
Longo Bottom bog	Neo–BA	–	Batchelor (Appendix 16)	–	–
Data sets	–	6	5	3	1

the pollen analysis from Jacobs Well, Tor Cairn and Little Tor Cairn, and soils and geoarchaeology of the Aylesbeare Platforms, Tor Cairn and Twin Cairn A.

The Pebblebeds landscape and study area (Figure 8.1 and Figure 8.2)

The Pebblebeds are framed by two different geologies and landscapes; to the west is the Exmouth Sandstone and Mudstones and the Littleham Mudstone formations and the river Exe and its estuary, and to the east the Otter Sandstone formation and river Otter. The main Pebblebeds (Budleigh Salterton Pebblebed formation) exposure extends for about

Figure 8.2 The Pebblebeds landscape. The big late Early/Middle Bronze Age cairn is visible in the cut patch above the heather to the north. Tor Cairn below in heather. Twin Cairn A is to the right and at the end of the vegetation-cut area on the spur to the left of the valley to the west (left) of Tor Cairn. Areas of scarring are topsoil-scraped areas. The two semi-circular ones are at the top of the valley separating Tor Cain and Little Tor Cairn from Twin Cairn A. Variations in vegetation cover are the product of rotational heathland management (Source: author)

1 km from West Hill to Budleigh Salterton along the coast and runs parallel with the river Otter for 13 km inland. They are currently lowland heath supporting humo-ferric podzols of the Goldstone Association (Findlay *et al.* 1983) with a scarp edge to the west overlooking the Exmouth Sandstone and Mudstones and the Littleham Mudstone formations, which generally support stagnogley argillic brown earths of the Whimple 3 association. The Pebblebeds slope gently southeast onto the Otter Sandstone formation, supporting typical brown earths of the Bromsgrove association, with the river Otter about 5–6 km to the east.

Land-use history

Human activities and use of the landscape modify, alter and both directly and indirectly fundamentally change the vegetation cover, the soils and local hydrology, create a changing landscape which is the stage upon which societies act, and within which they react. It is the resource base for much of the food economy, as well as for expressing social, political and individual identity. This is exemplified in the Pebblebeds by the selected use of colourful and attractive pebbles to create non-funerary cairns; monuments that reside in a landscape to be engaged with from construction to visitation (see Chapters 3–7). They are monuments specifically located with extensive viewsheds; locally the small cairns often overlook a local dry valley or small stream, but generally not over the contemporary heath landscape. Beyond this, most look out and over the landscape of the Otter Sandstone formation to the east and southeast (see Chapters 1 and 3). In contrast to many of the later Early and Middle Bronze Age monuments, despite a careful choice of location and viewsheds, the very Early Bronze Age Beaker cairns are deliberately but not conspicuously located. They cannot be seen from many locations in the landscape. In fact these small, modest cairns are hardly visible even in the current low open heath, predominantly of herbaceous plants and grasses, until you are within metres of them.

Defining the precise nature of the landscape, vegetation cover, soils and the land-use before, during and subsequent to their construction is crucial to attempting to understand how past communities saw and used this landscape and how the Pebblebed cairns became an integral and significant part of that landscape in the Earlier Bronze Age. The aim is to try and mantle the visible and viewed contemporary landscape with an experiential interpretation of prehistoric land-use and vegetation patterns in order to further develop an understanding of human actions, activity and even decision-making in the prehistoric Pebblebed landscape. We attempt to provide a reconstruction of the changing landscape and land-use patterns from the pre-cairn (later Neolithic) to post-cairn and Early Bronze Age cairn phases (Mid to Later Bronze Age). We may begin by posing a number of questions. How did the vegetation cover affect communities' decisions to use this landscape? How did the communities respond to the some of the inadvertent changes in the vegetation and soils and their unintentional consequences? How is this reflected in the surviving archaeological record? The Pebblebeds landscape has subtle but significant topographic variation in its slopes and the minor dry and wet peat-filled valleys that are an important part of this landscape. The generation of just large, broad generic and landscape-wide changes in vegetation types allows only very non-specific generic interpretations that cannot do justice to the landscape lived in and used in the past.

We need, therefore, to be bold and aim to provide a reconstruction of the changing land-use *patterns* at a scale that is valid for archaeological interpretation – and this needs to be undertaken in relation to specific site locations and their immediate environs, rather than at a sub-regional scale. Allen previously attempted such a reconstruction in relation to the environmental landscape of the prehistoric monuments of Cranborne Chase in Dorset by adopting the perspective of a Neolithic woman surveying the landscape she could see from a specific and single viewpoint (Allen 2002). Such reconstruction stresses the central role of the imagination in the environmental reconstruction of landscapes, without which a picture of how it might have been to live in, and experience, these landscapes in the past will never emerge. A map with 'envelopes' of uniform single vegetation types draped over the whole Pebblebeds area, or even schematic landscape profiles, is not very useful here. We do not wish to create a two-dimensional 'stage' with a single vegetation or land-use type, nor to view the twenty-first-century landscape inhabited by prehistoric monuments, but to inhabit the prehistoric landscape and attempt to view it, to some extent at least, as prehistoric inhabitants may have done (cf. Allen 2002).

The date of the construction of the first cairns on the Pebblebeds (see Figure 3.4) is early: the first of these (2130–1890 and 1920–1690 cal. BC; Bronze Age period 2/3) is much earlier than that for many other well-studied heathland and podzolic landscapes such as the Dorset Heath (e.g. Cox and Hearne 1991) and Surrey Heath (see Macphail and Scaife

1987, and to a lesser extent Branch and Green 2004). Recent research by Groves *et al.* (2012) on the Lower Greensand areas of Hampshire and West Sussex has suggested that heathland vegetation here only became established in the Late Bronze Age, *c.* 1000 BC, period 6, in association with human activity involving animal grazing and burning. The extent of the heathland area subsequently changed in tandem with less or more human activity but reached its maximum during the medieval to post-medieval periods. Elsewhere archaeological evidence has suggested that the oldest monuments in heathland areas in eastern and central southern England were constructed during the Middle Bronze Age (Dimbleby 1962; Branch and Green 2004). None of the barrows in these heathland areas contained Beaker burials. The first diagnostic artefacts associated with them are dated to the later part of the Early Bronze Age (period 4) (Bradley and Fraser 2010: 20). The development of heathland on the East Devon Pebblebeds associated with cairns of Beaker date is thus significantly earlier than in lowland areas in central southern and southeast England and, like much else in southwest England, represents a quite distinct regional tradition.

Many of the first round barrows built on the chalk downland of southern England were constructed near to older Neolithic monuments – long barrows, causewayed enclosures, cursus monuments and henges – and in areas of fertile land that had never been densely wooded (French *et al.* 2007). In the case of the Pebblebed heathlands we have an area that was similar to the Wessex chalk downlands with their dense concentrations of sometimes richly furnished graves in that it, too, was not densely forested. However, the Pebblebed cairns are comparatively few in number (the total would equal just one cemetery area in the vicinity of Stonehenge or on the south Dorset Ridgeway). The Pebblebeds are completely lacking in earlier prehistoric monuments. Known Neolithic hilltop enclosures are situated some distance away to the south, northwest, north and possibly northeast (Chapter 1). The nearest of these, High Peak and Hembury, are, respectively, 5 km and 10 km distant from the nearest heathland fringe.

In the coastal area between south Dorset to the west and the South Downs to the east most heathland barrows were built in a single phase on newly opened ground in areas that had not been inhabited before. Most are significantly smaller than those found on the chalk downlands of central southern England and they are either isolated or occur in much smaller groups. Extensive areas of land around them were stripped of turf and a mound of sods constructed. The mound was then enlarged by enclosing it with a ditch and completed with a capping of sand and gravel. Few of these mounds have produced any grave goods (Bradley and Fraser 2010: 22–3). There are significant contrasts between these Middle Bronze Age barrows and the Beaker cairns on the Pebblebed heathlands that were (a) constructed in a number of distinct phases; (b) not ditched; (c) had no extensive areas of cleared sods around them; (d) involved the curation of materials to construct them from a wide area in their surroundings; and that (e) did not cover a burial but were associated with multiple fires prior to and during their construction (see discussion in Chapter 3). The only direct point of similarity is the relative absence of artefacts and the fact that both are associated with the development of an open heathland landscape.

The evidential basis

Before we go any further, we review the data on which our interpretation is based, thus clearly identifying both the strengths and weakness in time, space and resolution. What we are attempting is a nested land-use reconstruction; at one end a slightly more general but intimate vegetation and land-use map, and secondly at the site scale (i.e. around Tor Cairn/Little Tor Cairn, Twin Cairn A and at Jacob's Well) a higher-resolution interpretation of the lived-in landscape at the walk-over scale.

Our nested landscape interpretations are based on limited but targeted environmental work: pollen analysis (and assessment), charcoal identification, soil micromorphology and geoarchaeology. Our data sets derive from the excavation of three Early Bronze Age (Beaker) cairns, Tor Cairn, Little Tor Cairn and Twin Cairn A, on the southeast part of the heathlands, the Middle Bronze Age (period 5) burnt mound of Jacob's Well situated just below the western scarp edge of the heathlands, and three pebble platforms on Aylesbeare Common in the northern area of the heathlands. It also includes peat and pollen analysis at Longo Bottom in the southeast heathland area. Numerous attempts were made to obtain pollen cores from bog valley sediments across the heathlands but we were successful in just this one location. Elsewhere there was insufficient depth of deposits to provide viable samples for study. Detailed work of a small area of *c.* 4 km^2 provides the basis for attempting to provide a concept of land-use patterns over the wider Pebblebeds landscape comprising some 50 km^2 (Figure 8.1 and Figure 8.2). The weakness in our interpretations can be seen in the distribution of the locations of environmental work (Figure 8.1), and the list of the analyses, some of which are just assessments (Table 8.2).

A landscape and land-use history for the Pebblebeds

Land-use history will be examined for four periods: (1) the Mid to Later Neolithic (i.e. pre-cairn construction landscape); (2) Beaker/Early Bronze Age period 3 (cairn construction); (3) Early Bronze Age (immediate post-cairn construction); and (4) Mid to Late Bronze Age period 4/5 (a wider landscape of cairns). There is relatively little archaeological activity or palaeo-environmental evidence for the pre-cairn environment and land-use so we have, in part, to turn to evidence from wider afield, set against a regional background provided by analysis from other projects such as the A30 Honiton to Exeter (Fitzpatrick *et al.* 1999), southwestern gas pipeline (Mudd and Joyce 2014), the Exe valley palaeo-environmental studies (Fyfe *et al.* 2003a, 2003b) and from regional overviews (e.g. Wilkinson and Straker 2008; Straker *et al.* 2008). We have little tangible evidence of the nature of the landscape in the Neolithic for the Pebblebeds. Changes did not occur coevally across the Pebblebeds, although this text may to some extent imply this. The broad changes have been highlighted though at individual places where they may have occurred at slightly differing times.

The cairn landscape as seen through 'prehistoric' eyes

Evidence for a pre-cairn landscape (Earlier to Mid Neolithic)

The Pebblebeds are clearly marked out in the published map of 'climax' woodland at *c.* 3750 BC in the southwest (see modified map in Wilkinson and Straker 2008: fig 3.3, 67, based on Bennett 1989; Jones and Keen 1993: fig. 10.5, 232), as an area of alder within an otherwise oak woodland, excepting birch woodland on high Dartmoor. Otherwise a lime, oak and elm woodland is seen as prevalent (Wilkinson and Straker 2008), but researchers have just draped this interpretation over the entire Triassic and Devonian hills and valleys of south Somerset, Devon and Cornwall (70). Much of the Southwest is considered to have been wooded throughout the Neolithic and the Early Bronze Age (Robinson 2002: 55; Wilkinson and Straker 2008), with clearance only occurring later in the Bronze Age across most of the high moors, where, as a consequence, heathland had developed by the end of the Bronze Age. The model for South Devon (based on pollen from numerous workers across the southwest) suggests that these large-scale clearance episodes had occurred by the Mid–Late Bronze Age. The work in the Exe Valley (Fyfe *et al.* 2003a) provides a long vegetation history, but that for the Neolithic and Bronzes Ages does not differentiate readily between upland and lowland heath/moor, and certainly does not attempt the finer-grained ground-level land-use interpretation we seek for the Pebblebeds. There are, however, three elm declines in the southwest which are accompanied by a decline in oak woodland and increases in grasses, and this, together with the suggestion of the upland having scrubbier woodland and open grassland in the Later Mesolithic (Fyfe *et al.* 2003a, 174), may suggest an open woodland with grasses and herbaceous vegetation.

So what was the Pebblebeds landscape like? For Tor Cairn we have two pollen spectra. One of these is derived from inverted turfs beneath the cairn. The other is from context 22, a dark, charcoal-rich sandy layer beneath the primary core cairn overlying a central pebble-filled pit, discussed in Chapter 3. If we are correct in assuming that the material composing context 22 in Tor Cairn was raked up from the area in the vicinity of the cairn and represents deposits below the humic A horizon of the former soil then the pollen from it (Pokorný, Appendix 4) relates to a pre-cairn environment, and possibly the post-clearance phase. This shows the area in the vicinity to be an open oak woodland with an understorey of hazel, grasses and ferns. There is limited heath in the area. The oak woodland at this time would be significantly different from that occurring off the Pebblebeds to the east along the Otter valley and on the soils mantling the Otter sandstone and to the west below the scarp slope of the Pebblebeds extending to the Exe estuary. The trees would have been much shorter, relatively speaking, and stunted, with less prolific growth and the canopy significantly less dense, allowing more sunlight to penetrate, with an understorey providing more browse. Such woodland would have been significantly easier for people to move through and would have provided excellent resources for hunting and gathering.

The pollen analysis from Longo Bottom (Batchelor, Appendix 16) by contrast suggests a much more open scrub woodland of hazel and grassland and ferns, with alder (reflecting the valley location), oak, lime, pine, birch and elm at 3660–3530 cal. BC during the Neolithic. The Pebblebeds at this time constituted a complex mosaic of a relatively open oak woodland in the higher areas (now mantled by dry heath) and a more open landscape along the valleys with their mires. For Jacob's Well, immediately below the western scarp of the Pebblebed ridge, the pollen analysis of peat below a Middle Bronze Age burnt mound shows it was located in drying damp open alder carr with hazel, willow, holly, ivy and honeysuckle shrub understorey, with grasses and herbaceous vegetation including sedges and fern (Batchelor, Appendix 12). The drying of this wetland wood and the increase in birch as alder carr dwindled occurred prior to the burnt mound and fewer fens occurred in the grasses and sedges. Drying locally occurred to such an extent that the soil surface was dry, enabling relatively easier human passage (Figure 8.3). Perhaps this drying out might have enabled easier access to, and in part facilitated, the later burnt mound activity, which itself may be a part of the process of opening up the landscape and clearing the wetter areas of woodland on floodplains and around springs (cf. Brown *et al.* 2016).

Later Neolithic open woodland and moorland

Prior to cairn-building, the Pebblebeds would have been a mosaic of open, principally hazel woodland with some oak, with denser oak and hazel woodland on sheltered gentle slopes and valley sides, and valley bottoms containing some alder and willow. The oak trees would have been perhaps no more than 5–10 m high. The closest contemporary analogy would be the stunted oaks of Wistman's Wood on Dartmoor (Figure 8.4), where in contrast the trees grow in a dense jumble of boulders hindering movement, whereas on the Pebblebeds the forest floor was free of stones. Even at this stage higher areas on the Pebblebed bedrock supported thinner soils, some of which were already becoming podzolic (i.e. patches of heathland were developing, of limited extent). Visibility of the wider landscape would have been limited. The Otter and the Exe and the hills beyond them and the sea to the south, although clearly important to the local communities for fishing and fowling (see Figure 1.9), would not have been visible even during the winter months following leaf fall. The woodland allowed the further penetration of sunlight through the woodland, making the movements of animals more visible. The open nature of the woodland, with bright and dappled light, can be seen from the mixed alder carr at the base of the peat at Jacob's Well (Figure 8.3). Again at Longo Bottom, although also from peat, the openness of the woodland in the surrounding drier landscape is also hinted at with oak, lime, pine, birch and elm and open grassy vegetation; there is also a small heathland component there throughout as far back as the Neolithic with a hint of development towards the top of the sequence (Batchelor, Appendix 16).

Trackways through the landscape showed where animals have foraged, browsed and drunk in shallow pools and where water seasonally trickled; the valleys were not yet true wet mires as the soil cover was generally a thicker brown earth or acid brown earth (possibly 40 cm thick), with patches of weak podzolic soils acting as a sponge soaking up much of the rain-water. Some small incised gulleys and rivulets may have channelled some water into valley bottoms where seasonal streams flowed

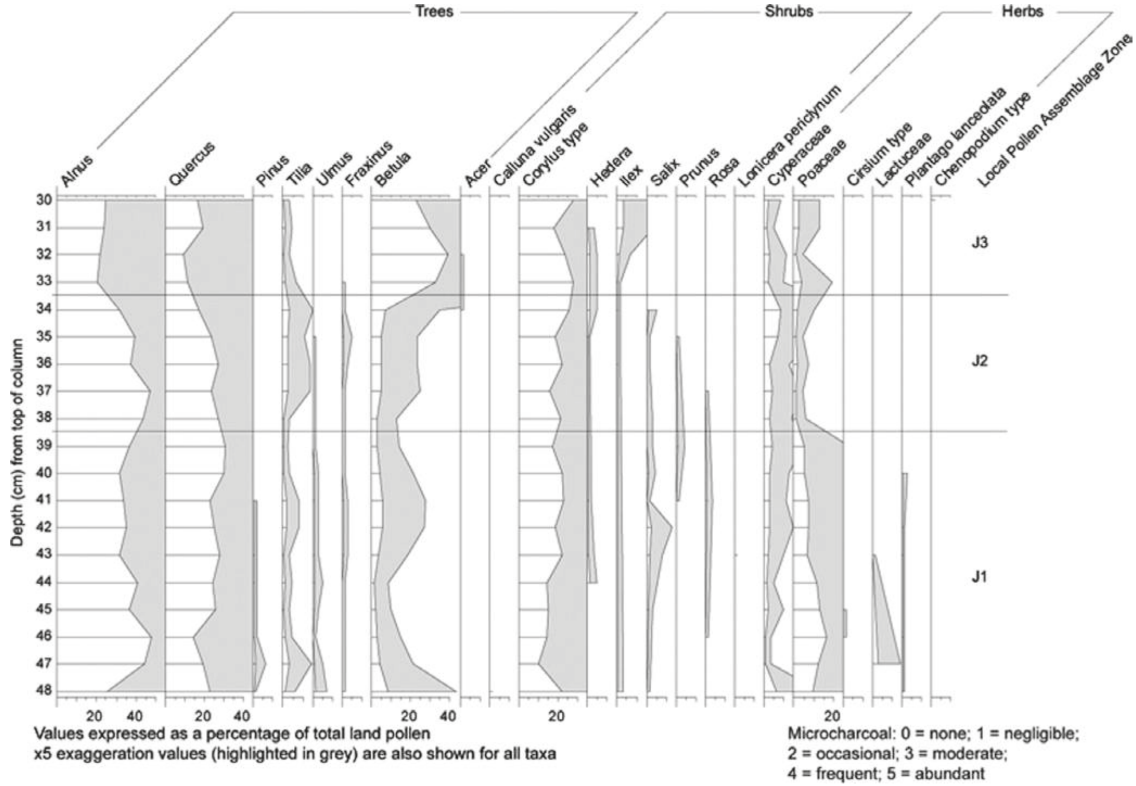

Figure 8.3 Percentage pollen diagram from Jacob's Well, Woodbury Common, Devon (Source: author)

Figure 8.4 Wistman's Wood on Dartmoor (Source: author)

over ground and, in so doing, locally exposed the pebbles. Elsewhere they were still concealed by a mantle of dark soil.

With patchy heath on the upland exposed moor and grass and ferns providing a good ground cover, parted only by animal tracks, rivulets, stream cuttings and localized balding patches in the most exposed places, only rare and limited but important glimpses were given of the Pebblebed geology; the wet rounded pebbles with their smooth multicoloured surfaces gleaming against the greens of the ferns, bracken and undergrowth. Looking out from this upland the Otter Sandstone landscape would have been more uniformly and densely covered by alder within an otherwise oak woodland interspersed with hazel. From the Pebblebeds the local mosaic and variations within this woodland would not be that apparent, as only the woodland canopy would be seen. The surrounding landscape would have resembled an almost complete 'sea' of woodland that effectively concealed the movements of people through it, their presence apparent only from the smoke of fires. Although not visible at this time from the Pebblebeds, the river Otter, an important communication route and source of a variety of resources, would have been visited regularly – so although hidden it was not an 'invisible' part of prehistoric communities' life-way.

The occasional glimpses of the Pebblebeds, the rounded, colourful, attractive stones, would have made them a rare, and by the Early Bronze Age, possibly prized commodity, valued by communities in the area, and imbued with more than just esoteric value and significance. Their rarity, being exposed only within and along the sides of the occasional slope or gully, although much more frequently along rivulet and stream beds, and more rarely and randomly distributed bare patches in higher areas and the steeper slope edges, would have contributed to their perceived social and symbolic value. The local populations of the Later Neolithic, Beaker and Early Bronze Age were familiar with these beautiful pebbles from their visits to the beach at Budleigh Salterton as part of their seasonal round. Seeing such stones normally only found in the liminal space of the beach between the sea and the land must have been a source of wonderment and surprise: how had they ended up so far inland and on a ridge brushing against the sky? Some were collected and taken away to their temporary seasonal dwellings on High Peak and Hembury. There the woodland had been removed and the hilltops were bald. Neither settlement was visible, but from both one could look down and across the Pebblebeds to the north of High Peak and to the south of Hembury. The lighter character of the woodland running along the Pebblebed ridge would have been apparent and provided a stark contrast in relation to the density of the forest cover elsewhere.

Beaker and Early Bronze Age period 3 immediate pre-cairn environs: open moor and open wood

The pre-cairn construction land-use is evidenced in data from the Tor Cairn buried soils (pollen, soil and to a lesser extent geoarchaeology). The immediate pre-cairn environment is, however, missing from Tor Cairn as a result of truncation and loss of the A horizon (Macphail, Appendix 5; Scaife, Appendix 6), but was possibly a grazed glade within open woodland of oak, hazel and lime with some birch and alder existing with grasses and pasture, and again hints of heathland development (Scaife, Appendix 6; Pokorný, Appendix 4). The presence of heather in the truncated soil suggests greater heath existed at the time of construction and is confirmed by the presence of acid soil formation and weak podzolization (Macphail, Appendix 5) – and possibly even management of the heath by fire as indicated by micro-charcoal presence. Although much of the pollen and soil data refer to the phase 1 Neolithic environment, the fact that the soil shows podzolization indicates clearances, grassland and heath. This is a developed open landscape, thus clearance must have occurred prior to, and not for the construction of, the Early Bronze Age and Beaker pebble cairns. The cairns were built in a landscape that had already been cleared and had become locally relatively open, characterized by grasses, ribwort plantain and dock/sorrel-type plants typical of pasture with ferns (*Dryopteris*) and herbaceous flowering plants (*Melampyrum*) possibly typical of forest grazing, and heath occurring within areas of open woodland that had been little altered.

In the Earlier Bronze Age the Pebblebeds had become a wider, and more varied, landscape in terms of the vegetation that grew on it. Much of it was still forested but substantial open areas now existed. On these there developed a fine-grained mosaic of vegetation consisting of tussocky grasses and herbs, with heath and ling and stands of scrub and shrubs (such as hazel, *Prunus*, blackberry, heather and honeysuckle). The valley slopes were dry and locally supported light oak- and hazel-dominated woodland, elsewhere dominated with patchy scrub – typically shrubby plants such as hazel, blackberry and some heather – that is, an intermediate community between grass or heath and high forest. The valleys to the east of Tor Cairn and to the west, between it and Twin Cairn A, contained intermittent streams cutting through sandy soils further exposing the bedrock of pebbles. Some of the valleys cutting into the Pebblebed ridge at this time were broad, dry and open. Other smaller valleys were much more overgrown. Up and down all of them were trackways through the vegetation made by animals and communities moving from the Otter Sandstone landscape and the Exmouth and Littlesham Mudstone areas and up onto the Pebblebeds ridge. This was a seasonally visited, opened but not tamed landscape. The opening of the original woodland cover allowed and encouraged more graze, altering the vegetation, encouraging coarse grasses and herbs and low-growing shrubs, and exposing patches of bare soil and pebbles. Soil erosion and runoff increased, gullying locally and intermittently some of the ridge slopes and the valley sides, feeding water to the streams. Around the edges of the pebble ridge clearance was also occurring and some of the denser woodland was shed. Localized activity and probably temporary settlement took place on the spurs of higher land fringing the Pebblebeds to the south and southeast by the edge of the Otter Sandstone and overlooking the Otter valley. At this time small pebble cairns were constructed on the spurs bounded by valleys. The pebbles were collected or dug up from exposures in the valley sides. Other special pebbles and blue stones were curated and transported from elsewhere, where they were exposed during journeying across the landscape, and the cairns were both enlarged and their multicoloured surfaces renewed. Some of these small, discreet structures were locally intervisible but never from very far away. Because the landscape around them had been cleared of woodland, views out from them across the more densely forested areas below became extended to the sea to the south. Pairs of cairns were aligned with the midwinter sunrise. High Peak, now no longer settled but a hill of ancestral significance, was prominent on the skyline. At Twin Cairn A, mushroom spores indicate construction taking place during late September or early October (Pokorný, Appendix 10), at the end of the grazing season. Fires were lit during the construction of this cairn. Much of the material that was burnt was mature oak wood derived from further forest clearance in the vicinity (Challinor, Appendix 9). The oak itself was a tree redolent with a particular symbolic load related to the hardness of its wood, its use in domestic dwellings and its longevity.

Shortly after, or in tandem with, the construction of the pebble cairns the first domesticated animals were introduced to the Pebblebed ridge as a supplement to the traditional diet of game (red and roe deer and boar), fish and fowl, nuts, mushrooms, roots, blackberries and other berries. The domesticated animals, principally cattle but also sheep, had kept the cleared areas open and made those areas that were still wooded much more open through intensive grazing of the understorey. The Pebblebed ridge was never permanently settled, since the soils in the cleared areas were becoming too poor and thin and increasingly acidic. The domestic animals were taken up onto the heathlands around May and collected and taken down to the surrounding lowlands in late October/early November, as they were in medieval times and the first half of the twentieth century. Purificatory fire rituals at the cairns, protecting the animals and humans against danger and sorcery, may have taken place in association with these movements of animals up onto the Pebblebeds ridge and down again to byres and enclosures where they were overwintered (see Chapter 3).

Landscape in transition: open heathland (Early Middle Bronze Age and Middle Bronze Age, periods 4–5)

The opening up of the Pebblebed landscape and creation of the cairn lands free of many trees enabled graze and browse. It was a visited and utilized landscape, but not a landscape that was lived in by Middle Bronze Age populations. The mosaic of open herbaceous vegetation included more heath, with heather (ling) and possibly gorse becoming locally more dominant; soil podzoilization characterized the surface and sandy soils were drained of colour by leaching. Their lower, and mainly hidden, soil profiles were richer browns and reds as a result of iron enrichment, and these mantled the bedrock of pebbles. Grazing and numerous pathways led to faster erosion of the loose sandy soils. Areas of bare soil grew and low vegetation and sandy trackways leading off the Pebblebeds upland were commonplace. As the soils no longer acted as a 'sponge' mantling the landscape, the thinner and sandier soils led to greater runoff and greater erosion, and the valley floors became wetter and infilled, if only temporarily, with sediments. Localized peat formation with a boggy herbaceous vegetation of rushes and open alder carr developed along the stream valleys, transforming some of them, making them less readily passable. This was now a landscape in transition – the grassland and the soils were disappearing, heath was more dominant, valleys wetter and woodlands and stands of trees thinner and fewer. The underlying pebbles were becoming more common on the surface as large areas were exposed on the higher ridge, and were increasingly exposed along valley sides, and in trackways becoming sunken in places and incised by both footfall and water runoff.

Heath and grassland (Bronze Age periods 5–7)

Long-term grazing led to the open heath with sparse heather and ling kept down by grazing and burning to maintain a grassland sward. Beneath this, thinned, poor podzolic soils existed and peat formation in the valleys was locally appreciable, with up to half a metre of wet spongy peat existing under the tussocky sedge and alder carr. No longer was this a landscape rich for its seasonal graze; no longer was this a landscape with just glimpses of rare Pebblebed 'jewels' – they were commonly found over the entire landscape, in pathways, valley sides and on the top of the localized ridges traversing it. The landscape was being turned from one of life into one intended for the dead, with the more typical monumental cairns of the Mid to Late Bronze Age being constructed on the highest places, intervisible with each other and from the hilltops of the wider landscape beyond. In association with these, pebble sculptures/platforms perhaps associated with mortuary rites were constructed in close association with the monumental barrows, while at Jacob's Well the pebbles were crushed and met a symbolic death (Chapter 6). Human intervention had by now revealed the bones of the land by the removal of forest cover not only on the Pebblebed ridge but beyond it to the west and the east along the Otter and Exe valleys. On the Pebblebeds podzolization had occurred, and an open heath with low vegetation and heather (*Calluna vulgaris*), dense tussocky grasses interspersed with low woody plants and some patches of bramble might have been typical. Grazing and human presence and possible management by fire kept woody vegetation at bay, kept grasses

Figure 8.5 Heath and light woodland on the Pebblebeds (photo: Mike Allen)

down and enabled open bare soils to be exposed and eroded, exposing patches of pebbles here and there, especially on large open areas, the edges of slopes, the slopes themselves and in tracks and pathways. A sensory revolution had taken place in which for the first time the intricacy of the contours of the hills and valleys was revealed (Tilley 2007). Settlement remained, however, on the periphery of the Pebblebeds and along the Otter Vale – the economic value of the Pebblebeds diminished and so did the range and variety of human tasks undertaken there. Hayne Lane, situated just above the floodplain 300 m south of the river Otter, and Castle Hill, about 500 m distant from and west of the Otter, represent well the situation of MBA settlements with enclosures and round houses along the Otter valley. They are situated respectively just 6 km and 3 km to the northeast of the top of the Pebblebed ridge. Here the environmental evidence shows a well-developed MBA heathland landscape in the vicinity of these settlements, characterized by extensive open areas with heather and gorse as well as birch, oak and pine present (see Figure 8.5). The representation of blackthorn and hawthorn suggests, together with the tree species, a shrubby habitat in which open areas were regenerating in patches while others were being cleared (Gale 1999: 194–6). Crops grown include bread, emmer and spelt wheat, barley, bean, pea and flax (Clapham and Stevens 1999: 197). We suspect that in the Later Bronze Age, as elsewhere, localized high-ground peat occurred in patches as a result of localized soil runoff and generally wetter climatic conditions; peat growth at this time is seen in a number of places in the Southwest. Both soil and localized peat development may have led to reparation of the bare soil-stripped areas, covering pebbles and once again hiding them from immediate view and accessibility in many places.

Discussion

Clearly the Pebblebeds today are an open, managed landscape with few resources and sparse tree cover (excepting modern plantations), with some open valleys and other wooded and boggy valleys. This is a humanly created landscape, and one very different from that experienced by prehistoric communities. The area was an open heathland; one exploited and used many centuries before any of the comparable heaths of Dorset, Sussex or Surrey. The Pebblebeds landscape was probably one of the first such landscapes to be utilized and was exploited starting with the Early Bronze Age/Beaker communities for economic and other resources.

Early use

The Southwest is generally seen as being backward and peripheral in prehistory compared with societies in Wessex and the southeast. This perception has led to some landscapes receiving only a little archaeological attention, which has tended to reinforce such a picture. During the last 20 years numerous arguments have been made with regard to the Bronze Age in the Southwest as representing a distinct regional tradition in terms of both domestic and funerary architecture and grave good assemblages (Quinnell 1988; Johnson and Rose 1994; Bender *et al.* 2007). The evidence from the Pebblebeds discussed in Part I of this book indicates that, rather than being backward, these communities had a very different set of traditions, not only in terms of dwelling and burial practices but also in the manner in which populations related to the landscape and exploited its resources. The heathlands were created and utilized many centuries before comparable areas in south and southeast England. Areas such as Wytch Farm on the south Dorset heath (Cox and Hearne 1991), the West Sussex heath (Drewett *et al.* 1988) and Surrey heath (Bird and

Bird 1987; Cotton *et al.* 2004) show extensive heathland only in the Mid to Late Bronze Age as a result of clearance and human activity, whereas on the Pebblebeds there was podzolization and heathland in the Beaker period and Early Bronze Age, in tandem with the cairn building in this landscape.

Why is the Pebblebed landscape exploited so early? A combination of local Late Neolithic and Early Bronze Age communities resident in the South Devon landscape and the comparative openness of the Pebblebeds landscape invited early exploitation; not for woodland resources, which were almost ubiquitously abundant, but for open graze and browse, for the provision of commanding views especially to the east and southeast across the Otter vale, and perhaps too for the mystical powers of the pebbles themselves. It was, however, the utilization of the landscape for graze, the removal of the vestiges of open woodland, that, as is the case on Surrey, Sussex and Dorset heaths, led to soil degradation and acidification, podzolization and heathland development, and larger-scale exposure of the pebbles.

From the Beaker period onwards we can clearly recognize certain long-term continuities in the manner in which the heath area was utilized up until the 1950s: its use for seasonal summer grazing on grassland created and maintained by animals and by fire burning or swaling. The medieval parish boundaries are long linear strips including both low-lying areas and upland heath areas and the heath was common land. It was only when this usage stopped following the Second World War that the entire area reverted to the 'classic' dry heath vegetation of heather, ling and gorse. Settlements since the Bronze Age have always concentrated on the heathland fringes and along perennial streams flowing off the heathlands, while they themselves have never been permanently settled. Clear evidence of this is in the settlement site of Colaton Raleigh, just below the Early Beaker pebble cairns and the Bronze Age sites discovered just to the north and east of the heathlands during the A30 and gas pipeline excavations (Fitzpatrick *et al.* 1999; Mudd and Joyce 2014).

Hidden treasures

One of the attractions of this landscape may have been the pebbles themselves. Initially these attractive, rounded, colourful pebbles would have been hidden in the landscape, with rare glimpses of them in the open woodland and in rare exposures. Most were hidden by moderate soil cover and vegetation. Their rarity added to their social and special value. Exploitation of the landscape, however, gave rise to soil deflation, podzolization and erosion, with gullying in the valleys and exposures on hillslopes and stream beds in valley bottoms, eventually leading to larger exposures on the upland itself. Although they had become socially and symbolically important materials utilized in the construction of the early pebble cairns, with the opening up of the heathland these same materials were now available in abundance and they were used to construct large cairns high up in the landscape and symbolic sculptural forms. Meanwhile at Jacob's Well the pebbles were being burnt, crushed and destroyed. By the Early Iron Age they appear to have lost their symbolic significance. Pebbles now became simply useful and abundant local building materials utilized in the construction of Woodbury Castle and domestic dwellings. It was only in the late eighteenth century onwards that their material and aesthetic properties became appreciated once more (see Part II). This loss of significance is concomitant with soil developments and regrowth of the peat engulfing pebble exposures and erasing them, temporarily, from the landscape.

Summary and a social landscape model

Landscapes are not passive platforms upon which communities acted, but holistic arenas in which people acted and interacted (Tilley 1994, 2004, 2008, 2010). The changing landscape provided the potential that enabled and facilitated human actions, that is, environmental possibilism (cf. Bell and Walker 1992, 8), rather than determined human action (environmental determinism); those communities had choice and decision. The changing landscape invited and encouraged those actions and activities. From this we can create a model for the interaction and development of the prehistoric landscape and land-use at the Pebblebeds, for they are integrally entwined.

1. The Pebblebeds, by virtue of the thick bed of pebbles and the soils developed over it, probably supported a more open woodland and vegetation subtly but significantly and distinctly different from that of the surrounding area.
2. Glades already clear and free from extensive woodland (cf. Vera 1997, 2000) were exploited for graze and pasture from earliest times, and probably from the Mid to Later Neolithic.
3. Within this landscape, rare multicoloured pebbles came into view; pebbles that had been seen elsewhere such as the Otter river and the

beach at Budleigh Salterton, but here they were appearing from the ground almost as if being born. The pebbles are visually attractive, and most of a size that is easily collected and handled. In the Beaker period they were less visible and rarer, and became special, important and significant – and so did the Pebblebeds.

4. As human activity increased in the Middle Bronze Age (visitations, tree and shrub removal, and extensive grazing), podzolization and the development of heath increased. The sandy soils were prone to deflation, erosion and colluviation, revealing exposures of pebbles on the hilltop and slopes, as well as in narrow cuts made by footpaths and tracks.
5. Subsequently in the later Middle to Later Bronze Age pebbles were selected, collected, treasured, used and made into big cairns and pebble platforms. Each pebble is unique and the colours attractive, and pebbles became significant and part of the valued social 'currency' of the landscape – they are imbued with meaning and may represent a form of 'wealth'. This wealth of pebbles enriched the communities venerating them or 'owning' this landscape (see Chapter 7).
6. After this period and at about 1300–1400 BC the use and significance of the pebbles diminished, and this coincides with soil development and local high peat growth in the Late Bronze Age that swallowed up what were once larger exposures, again hiding many of the pebbles below the soil – taking them back into the earth.

Postscript (Michael Allen): The spatial visualization of these landscapes requires the palaeo-environmental scientific data, interpretative and imaginative cognition, familiarization with the physicality of the landscape and a certain amount of empathy. In the chalk downlands, where I have worked for over 40 years, that empathy clearly exists. The interpretation here has been more difficult because this is a more challenging landscape and my familiarity with the topography, soils and landscape is not yet as great, and I have, in part, been reliant on Chris for this.

9

Signing the land: Woodbury Castle and hilltop enclosures in the Iron Age of East Devon

Woodbury Castle is one of only two Iron Age hillforts situated on the Pebblebed heathlands. The hillfort is univallate, consisting of a massive bank and external ditch and a counterscarp bank to the east of original entrances to the south and the north, through which the modern and very busy B3180 road passes. In addition there are outworks on the northern, southern and western sides. The hillfort is within a mature plantation of beech trees and is situated at the highest point in the landscape (175 m OD) with panoramic views from its ramparts as far as the distant tors of Dartmoor to the west, Exmoor, the Raddon and the Blackdown hills to the northwest and north, the sea to the southwest and the East Hill and Peak Hill ridges to the east. Views south to nearby Black Hill are the most restricted. By contrast views out from the interior are blocked by the bulk of the massive ramparts, except for a small part of the northern sector of the monument where, standing close to the rampart, you can just see over to the western aspect. The interior, enclosing an area of 2 ha, slopes markedly to the south and east and the interior slope is remarkably even and uniform. This was probably achieved by the careful removal of the natural surface material when construction of the ramparts was undertaken.

The shape of the hillfort (Figure 9.1) is most unusual, almost resembling a figure of eight with the centre removed. There is a marked difference between the northern sector and that to the south. The rampart on the western side between the north and the south entrances has a broad curvilinear flow. This is repeated on the eastern side of the north entrance for a short distance of about 40 m. Thereafter the course of the rampart diverges at an angle running a straight course to the southeast corner, where it bends sharply in a southwest direction for 60 m (Figure 9.2).

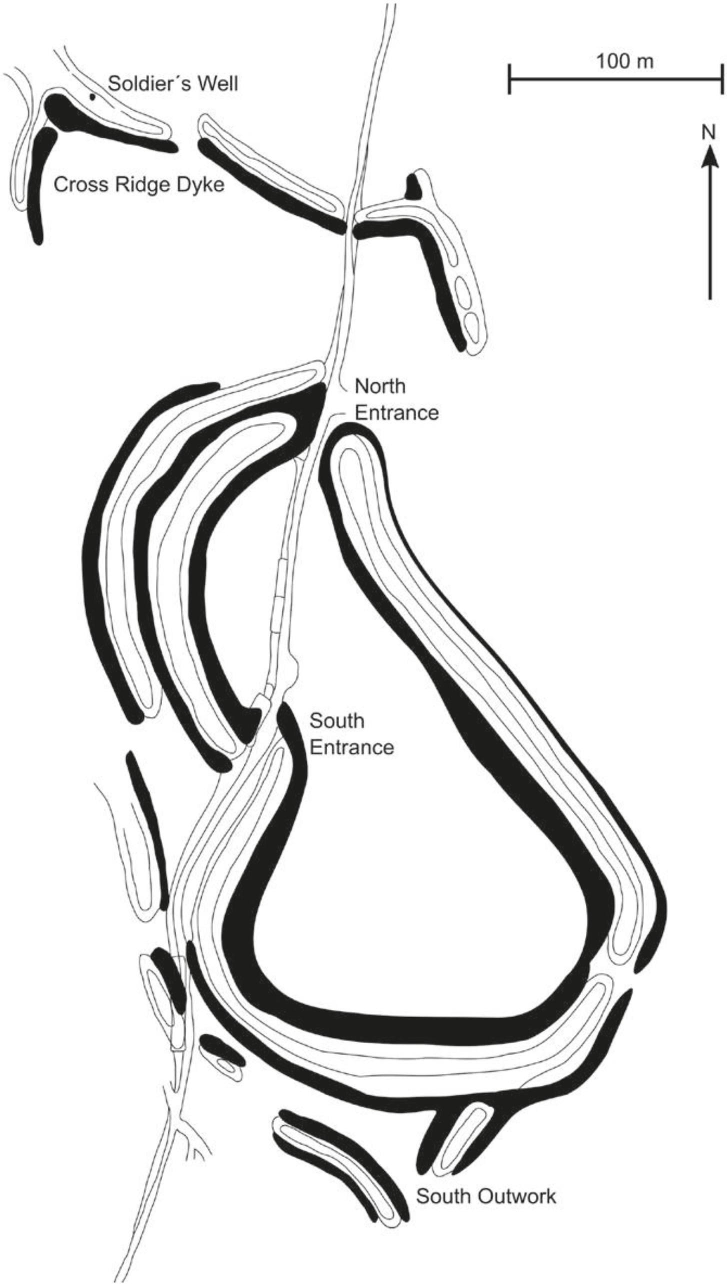

Figure 9.1 Plan of Woodbury Castle (adapted from Miles 1975)

Figure 9.2 The ramparts of Woodbury Castle: eastern side (Source: author)

It then turns to the west for 120 m before sharply turning to the north for another 60 m to adjoin the southern entrance on the eastern side. These two distinct forms of rampart style, that to the north oval in form and uniformly curved, and that to the south with straight lines and sharp corners, suggest a hillfort that was built in two phases with an extensive remodelling of the overall design.

The earliest hillfort seems to be the sector to the north, originally quite small, covering an area of about 100 m north–south and 60 m west–east, roughly oval in shape, and occupying, as we might expect, the highest part of the hill. It probably had a single north-facing entrance situated at the very highest point, although this cannot be verified. It is suggested that the much larger southern part of the enclosure was a later addition. So it seems likely that the hillfort started out as a rather modest univallate construction with a single bank with external ditch, which was then dramatically remodelled and enlarged to three times its original size with the addition of an external rampart. Some support for this idea is given in a recent RCHME survey, which identified traces of a bank in the centre of the northern part of the hillfort interior (Fletcher 2000: 168, 170). The southern entrance might have been created when this enlargement took place, with the material that originally formed the southern side of the original hillfort being removed as part of the process of constructing the new ramparts further to the south.

The curvilinear line of the northern sector of the western rampart runs along and follows the line of the western scarp slope of the Pebblebeds that is steepest and most dramatic here. The remainder of the western rampart of the Phase II hillfort is, by contrast, set back some distance from the scarp edge in an area where the head of a shallow coombe cuts into the ridge from the west. To the south and east the land drops away gently in the same manner as the hillfort interior.

About 60 m to the north of the entrance an outwork or cross-ridge dyke, of more modest scale, marks the point at which the land drops down to the head of a wide, shallow coombe that runs to the southeast in the direction of the river Otter. This outwork consists of a ditch with two parallel banks running west–east. At the eastern end the outwork changes direction at an angle to run southeast. This may again have been a later addition. To the west the dyke runs dramatically, and unnecessarily, in the manner of the Wessex cross-ridge dykes (Tilley 2010: ch. 4) to the very bottom of the scarp slope and the spring line, where a stone-lined pit, the Soldier's Well, is found.

The internal rampart of the hillfort was probably constructed from material both taken from the interior and dug out from the external ditch. There is much flint and chert visible and exposed along the course of the ramparts, together with pebbles and soil, and it seems likely that this material was originally exposed locally on top of the pebbles along this part of the ridge top, as it is today along the top of the Crook Plantation ridge only 2 km to the southeast. There could have been no possibility of creating a rampart construction with external timbers given the nature of the primary building material – pebbles – and the sheer scale of the monument.

The rampart adjacent to the original northern entrance is markedly heightened but there is no evidence of an inturn that may have been destroyed by road construction in the past. The outer counterscarp bank of the hillfort on the eastern and southern sides is considerable slighter than the main rampart and looks impressive only from the inner rampart looking out across the ditch. From the exterior it appears relatively slight, suggesting it is an embellishment rather than defensive in nature.

To the south of the hillfort there is a series of slighter banks and ditches creating a roughly triangular-shaped enclosure of uncertain function, with an entrance to the southeast but lacking any connection to the main hillfort interior. The shape of this outwork is reminiscent of that of Blackbury Castle (see below and Figure 9.8)

On the western side of the hillfort in the northern sector there is an additional outer bank and ditch with a counterscarp bank below.

The latter does not run round to the northern entrance, and the outer bank and ditch terminate about 50 m short of the south entrance. In addition there is a series of short and much slighter irregular outworks consisting of an internal bank and external ditch running along the scarp slope on the southern part of the Phase II enclosure. To the north large sections of the rampart have slumped down into the main ditch as a result of extensive badger activity. The internal ditch here is situated approximately half-way down the scarp slope, with the bank at the very top. There may have been artificial scarping of the slope in this sector to steepen and exaggerate it. Fletcher (2000: 170) notes that the additional outworks on the western side, where the slope is steepest, are hardly necessary from a defensive point of view and may have been added for visual effect from the west, where the hillfort, on the skyline, looks most dramatic. There may also have been a trackway following the line of the modern track, running diagonally up the hillslope from the northwest towards the southern end of the hillfort in this area.

Excavations

In 1971 the road through the hillfort was widened and rescue excavations were undertaken in advance of this work along parts of a narrow 3–4-m-wide strip beside it. Beneath the inner rampart at the south entrance a line of nine post holes were discovered cut into the old ground surface. These were filled with large pebbles: collapsed packing for the wooden posts. The posts were small, about 15–20 cm in diameter, and appear to have been deliberately removed rather than having rotted *in situ*. This was probably the remains of a palisade enclosure that pre-dated the construction of the rampart (Miles 1975: 187). So initially Woodbury Castle was a hilltop enclosure defined by wooden posts.

Excavation of the defences on the west side of the south entrance demonstrated that the rampart had been constructed in two distinct phases. The first phase of the rampart had an original height of 1.9 m. It was carefully constructed with bands of sandy gravel and pebbles and was probably capped with a wooden palisade fence. In a second building phase it was heightened to 2.7 m, forming a more robust barrier, again capped with a wooden palisade fence at the front that had an inturn to the original entrance. The exact position of this could not be determined as it is concealed beneath the modern road (Miles 1975: 191). Within the hillfort the excavations revealed traces of post holes indicating the

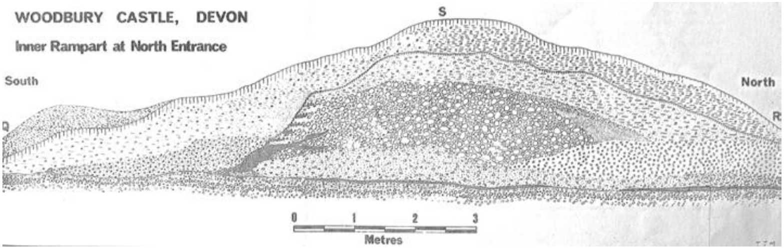

Figure 9.3 Woodbury Castle, section through the inner rampart at the north entrance. Source: Miles 1975: fig. 7. Reproduced by permission of Henrietta Quinnell and of the Devon Archaeological Society

presence of timber structures, of uncertain form: some may be circular, others rectangular.

Excavations on the west side of the north entrance showed that the bulk of the inner rampart was composed of large pebbles revetted at the rear to half its height with turfs in order to maintain the stability of the structure and at the front with sandy soil (see Figure 9.3). Again a two-phase construction of the rampart is indicated increasing its height. The west side of the entrance had a revetment formed by large, substantial timber posts, up to 50 cm in diameter, set in pits with a pebble packing. The second-phase rampart appears to have had a revetment of chert blocks (Miles 1975: 195). Contrasting with the pebbles, these chert blocks would have served to emphasize it.

The cross-ridge dyke to the north of the hillfort was again constructed in two phases, the first-phase rampart being about 1.9 m high without any timber structures. This was heightened to about 2.5 m and capped with a timber structure (Figure 9.4) that Miles suggests may have been a fighting platform (Miles 1975: 199).

Thus Woodbury Castle had a complex history with at least three constructional phases. The place was altered dramatically. Initially it was a hilltop wooden-fenced enclosure, possibly approximately oval in form, constructed on the very highest point of the ridge and rather slight. This enclosure might date back to the Late Bronze Age (*c.* 1000–500 BC). It was destroyed and the place then seems to have been abandoned since a thin layer of soil formed over the top of the post holes. After a period of time a new enclosure was built on the ridge top. This was a substantial earthwork enclosure consisting of two banks with external ditches on the western side and possibly a single bank and external ditch to the east. The bank was capped with a wooden palisade fence. There

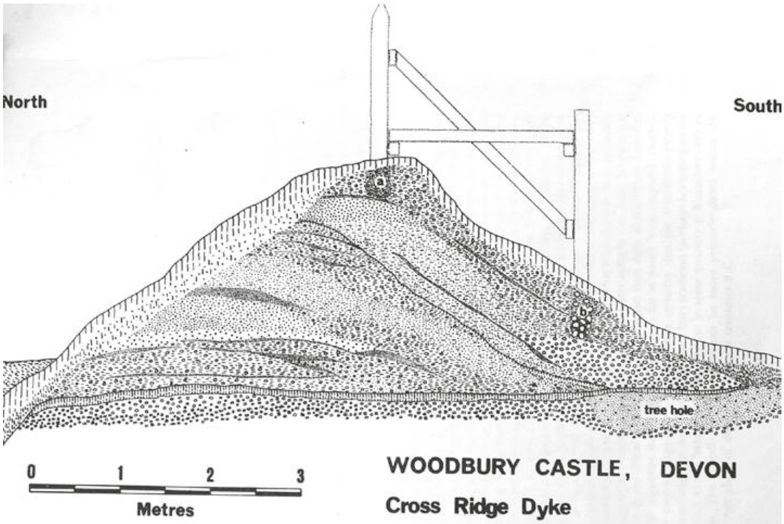

Figure 9.4 Section through the cross-ridge dyke to the north of Woodbury Castle. Source: Miles 1975: fig. 10. Reproduced by permission of Henrietta Quinnell and of the Devon Archaeological Society

may have been just a single north-facing entrance. At some later stage the enclosure was substantially enlarged to the south and provided with an additional south-facing entrance. At the same time the banks were heightened, a new palisade fence was constructed on top, together with additional outworks on the western side and counterscarp banks on the eastern and southern sides. The cross-ridge dyke to the north was also enlarged and strengthened, with a timber structure being built on top of it. This might originally, like the initial timber palisade structure, have dated back to the Late Bronze Age. The north entrance of the hillfort was much elaborated in the second phase, being flanked by large timbers and chert blocks.

Finds from the limited rescue archaeological excavations were meagre: about 16 small sherds of pottery, 10 struck or worked pieces of flint, part of a polishing stone and a loom weight, both fashioned out of pebbles (Miles 1975: 199–201). The few sherds can be roughly dated to between 500–300 BC. One charcoal sample from the base of a small clay-lined pit beneath the inner rampart at the south entrance gave a date of 180 BC to AD 220, but this does not provide a reliable date for the hillfort construction.

On the basis of the pottery evidence at least Woodbury Castle does not appear to have been occupied during the main phases of occupation at Hembury, or at Blackbury Castle to the east (see discussion below). Miles suggests a virtually aceramic tradition in this area of East Devon is indicated.

Iron Age domestic settlement and the heathland

Apart from Woodbury and Belbury Castles there are no known prehistoric settlements on the Pebblebed heathlands themselves. In 1985 part of a curvilinear single-ditched enclosure with an entrance gap was recorded by aerial photography as a cropmark in a field adjoining the heathland at Colaton Raleigh Common by Frances Griffith (SY 05658 87686). It had a probable entrance gap on the eastern side and was presumed to be of Late Bronze Age or Early Iron Age date (Figure 9.5). The enclosure is located on a very gentle east-facing shelf of land that begins to drop more steeply

Figure 9.5 Aerial photograph of the Colaton Raleigh enclosure, clearly visible as a cropmark by the trees to the left of the middle of the photograph. Devon County Council (ref. DAP/FB 12). Courtesy of Frances Griffith and Devon County Council, Copyright reserved

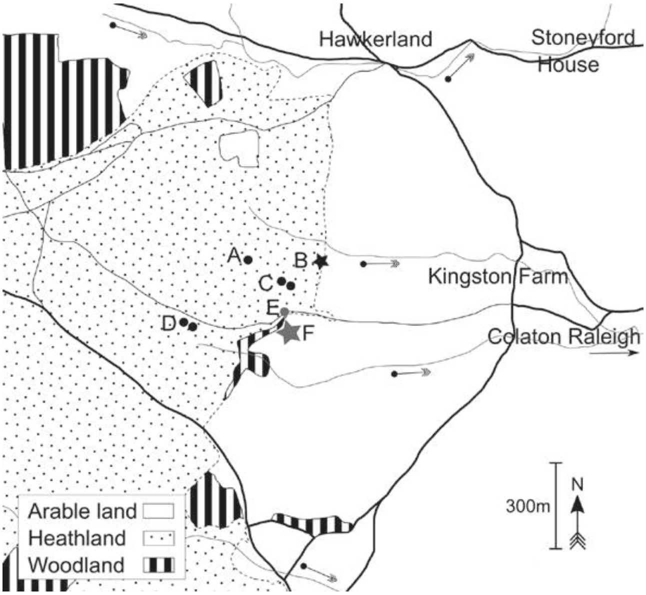

Figure 9.6 The location of the Colaton Raleigh enclosure. (A), (C), (D): pebble cairns of Beaker/Early Bronze Age date; (B): Late Bronze Age gold bracelet find; (E): eighteenth/nineteenth-century house foundation; (F): enclosure site (Source: author)

away just to the east of the enclosure at a height of *c.* 80 m OD. Nothing is visible on the ground.

The location is of considerable interest because of its proximity to five Early Bronze Age pebble cairns discussed in Chapter 3 only a short distance away to the north and the west. From these cairns it is possible to look down onto the enclosure below them, suggesting that these places might be related. A Late Bronze Age hoard consisting of three gold bracelets together with a folded sheet of gold was discovered only 250 m distant to the north (Taylor 1999) (Figure 9.6). It is located in a sheltered position at the base of the Pebblebed heathlands with land rising sharply to the north and the west. There are wide-ranging views to the south towards the coast, with High Peak and the Peak Hill Ridge visible on the skyline.

Trial excavations showed that virtually all the enclosure ditch and the interior had been destroyed by deep ploughing. One gorse sample that proved to be suitable for AMS radiocarbon dating from the base of the enclosure ditch gave a date of BP 2090+/–30; 160 to 130 BC and 120

BC to 10 to 20 AD (BETA 308029). This date shows that the enclosure ditch was open in the middle Iron Age and contemporary with Woodbury Castle 2.25km distant to the east. Other diagnostic artefacts suggest that the general area of the enclosure site was used or occupied during the Mesolithic, the early and middle Bronze Age, the Iron Age, and during the eighteenth or early nineteenth century (Tilley *et al.* n.d.).

The Colaton Raleigh enclosure is situated in precisely the right position to make possible both the production of crops and the seasonal exploitation of the heathland in spring and summer for grazing in its immediate vicinity, a practice dating back to the Early Bronze Age. This was when the virgin oak/hazel forest of the present-day heathland areas was opened out for the first time and the earliest monuments on it, pebble cairns, were constructed (see Chapter 8).

The Colaton Raleigh enclosure is one of ten cropmark sites presumed to be of Late Bronze Age or Iron Age date recorded in the vicinity of the heathlands between the Exe estuary to the west and the river Otter to the east (Griffith and Quinnell 1999a). Excavated settlements and house circles of Bronze Age and Iron Age date with associated fields occur to the north of the heathlands along its fringe in the same places, demonstrating long-term settlement continuity in the area (Fitzpatrick *et al.* 1999; Mudd and Joyce 2014).

Woodbury Castle in its regional context

Woodbury Castle is one of a series of Iron Age hillforts and enclosures in East Devon. In this section I review Woodbury Castle in terms of its regional context and relationship with other hilltop enclosures in the wider landscape going beyond the Pebblebed heathlands.

Traditionally the Iron Age is the period from 700 BC to AD 43 and the Roman conquest (Cunliffe 1995: 27). The enclosure of these hilltops probably began in the earlier first millennium BC as elsewhere in western and southern England, but at present there is no direct excavation evidence confirming this. Late Bronze Age metalwork is recorded as chance finds in the vicinity of Membury and Woodbury (Pearce 1983). The construction of hilltop monuments is the most important defining feature of the period.

In the vicinity of and between the river Axe to the east and the river Exe to the west there are 19 hillforts and enclosures attributable to the Iron Age (Wall 1906; Fox 1996) (Figure 9.7; Tables 9.1–9.5). One, Raddon, is known only through aerial photography and limited

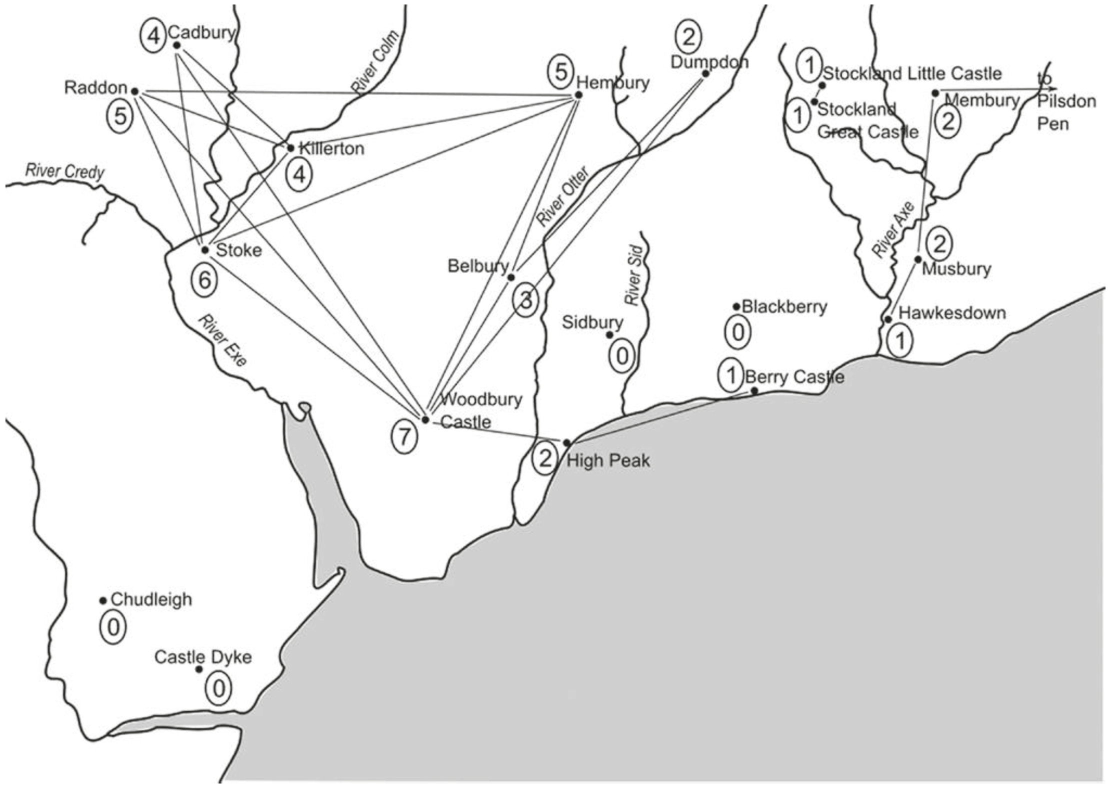

Figure 9.7 East Devon hillforts: locations and intervisibility. Numbers on map refer to frequencies of visible Iron Age hillforts and enclosures (Source: author)

Table 9.1 East Devon hillforts and enclosures: locations and topography.

Name	*Site number*	*HASL*	*Visible hill forts*	*Topography*	*Hill slopes*	*Relationship to contours*
Branscombe: Berry Castle	1	140	0	Cliff edge	Cliff edge to S	Imposed
Otterton: High Peak	2	157	2	Cliff edge	Cliff edge to E	Mimetic?
Axmouth: Hawkesdown Hill	3	132	1	Spur	Steep to N, S and W	Mimetic: 3 sides
Cadbury: Cadbury Castle	4	253	4	Hill island	Steep to N	Imposed
Luppitt: Dumpdon	5	261	2	Hill island	Steep S, W and E	Mimetic: 3 sides
Membury: Membury Castle	6	204	2	Hill island	Steep S, W and E	Mimetic
Musbury: Musbury Castle	7	179	1	Spur	Steep to S, W and E	Mimetic: 2 sides
Ottery St Mary: Belbury Castle	8	115	3	Hill island	Gentle all directions	Mimetic: 3 sides
Payhembury: Hembury Fort	9	245	5	Spur	Steep S, W and E	Mimetic: 3 sides
Sidbury: Sidbury Castle	10	196	0	Hill island	Steep all directions	Mimetic
Stockland: Great Castle	11	205	1	Slope	Gentle all directions	Imposed
Stockland: Little Castle	12	180	1	Slope	Gentle all directions	Imposed
Woodbury: Woodbury Castle	13	183	7	Scarp edge	Steep to W, gentle to S, N and E	Mimetic: 1 side
Chudleigh: Castle Dyke	14	140	0	Hill island	Steep to N	Mimetic: 1 side
Killerton Park: Dolbury	15	130	4	Hill island	Steep to E and S	Mimetic
Southleigh: Blackbury Castle	16	180	0	Ridge top	Flat W and E, steep to N and S	Imposed
Exeter: Stoke Hill	17	155	5	Hill island	Steep to N	Mimetic
Ashcombe: Castle Dyke	18	225	0	Ridge top	Flat or gentle slopes	Imposed
Stockleigh Pomeroy: Raddon	19	214	5	Hill island	Steep to N and S	Mimetic?

Note: For locations see Figure 9.7.

Table 9.2 East Devon hillforts: views out from the enclosures and entrances and to the sea.

Name	*Site number*	*Views out across landscape*	*View from entrance*	*Sea visible*
Branscombe: Berry Castle	1	Extensive to W, E and S; restricted to N	NW: across ridge	Yes
Otterton: High Peak	2	Panoramic	Not known	Yes
Axmouth: Hawkesdown Hill	3	Extensive to N and S along Axe valley and to west; restricted to E	E: along ridge top	Yes
Cadbury: Cadbury Castle	4	Panoramic	SE: down Exe valley to sea	Yes
Luppitt: Dumpdon	5	Extensive to S; limited to W, E and N	NE: up Otter valley	No
Membury: Membury Castle	6	Extensive to S; limited in other directions	SE: towards Axe valley; W to ridge	Yes
Musbury: Musbury Castle	7	Extensive to S and N up and down Axe valley; limited to W and E	NE: along ridge top; SW: to tributary of Axe	Yes
Ottery St Mary: Belbury Castle	8	Extensive to S and N; limited to E and W	E: to Otter valley	Yes
Payhembury: Hembury Fort	9	Extensive to W, S & N; limited to E	SW: down Clyst valley; NE up Wolf valley	Yes
Sidbury: Sidbury Castle	10	Extensive to S down Sid vale to sea; limited to N, W and E	W: to nearby ridge	Yes
Stockland: Great Castle	11	Limited to W, E, S & N	E: to Corry Brook	No
Stockland: Little Castle	12	As above	NE: to ridge	No

Woodbury: Woodbury Castle	13	Restricted to S; extensive in all other directions	S: towards Black Hill; N: up to Clyst valley	Yes
Chudleigh: Castle Dyke	14	Extensive to NE; limited to S and E	E & SE: to stream valleys	No
Killerton Park: Dolbury	15	Panoramic	NE: up Culm valley	No
Southleigh: Blackbury Castle	16	Restricted to E and W along ridge top, to N and S across valleys to nearby ridges	S: across valley to ridge beyond	No
Exeter: Stoke Hill	17	Panoramic S to sea; extensive to W and E	Entrance facing approx. SE down Exe valley	Yes
Ashcombe: Castle Dyke	18	Panoramic	E: across ridge	Yes
Stockleigh Pomeroy: Raddon	19	Panoramic, limited to NE and E; extensive to W and S	Not known	Yes

Note: For locations see Figure 9.7.

Table 9.3 East Devon hillforts: the size and characteristics of the enclosure interiors.

Name	*Site number*	*Enclosed area (ha)*	*Interior*	*Max. internal dimensions*	*Visibility across interior from rampart to rampart*
Branscombe: Berry Castle	1	3	Flat	285 m E–W; 110 m N–S	Yes
Otterton: High Peak	2	?	Destroyed	?	?
Axmouth: Hawkesdown Hill	3	2.5	Slopes from E to W and from centre to ramparts	250 m E–W; 100 m N–S	No
Cadbury: Cadbury Castle	4	1.6	Domed interior rising to centre	120 m E–W; 95 m N–S	No
Luppitt: Dumpdon	5	2.6	Slopes from S to N	260 m N–S; 120 m W–E	No
Membury: Membury Castle	6	1.3	Rises to centre	225 m N–S; 60 m W–E	No
Musbury: Musbury Castle	7	3.4	Rises to centre	390 m NE–SW; 130 m NW–SE	No
Ottery St Mary: Belbury Castle	8	1	Flat	150 m N–S; 60 m E–W	Yes
Payhembury: Hembury Fort	9	3.0	Rises to centre and from S to N	325 m N–S; 90 m E–W	No
Sidbury: Sidbury Castle	10	4.0	Slopes markedly from S to N and from E to W	500 m NW–SE; 100 m W–E	No

Stockland: Great Castle	11	4.0	Slopes from west to east	270 m N–S; 230 m E–W	Yes
Stockland: Little Castle	12	1	Flat	126 m N–S; 104 m E–W	Yes
Woodbury: Woodbury Castle	13	2	Slopes from north to south	230 m N–S; 130 m W–E	Yes
Chudleigh: Castle Dyke	14	2.5	Domed, high point SE end	240 m NE–SW; 180 m NW–SE	No
Killerton Park: Dolbury	15	2.2	Rises to centre	300 m W–E; 100 m N–S	No
Southleigh: Blackbury Castle	16	1.3	Flat	180 m E–W; 70 m N–S	Yes
Exeter: Stoke Hill	17	1.9	Domed, rising to centre	213 m E–W; 120 m N–S	No
Ashcombe: Castle Dyke	18	0.6	Flat	90 m N–S; 90 m W–E	Yes
Stockleigh Pomeroy: Raddon	19	1?	Rises to centre	?	No

Note: For locations see Figure 9.7.

Table 9.4 East Devon hillforts: types (U: univallate; M: multivallate), presence of additional ramparts and entrance orientation.

Name	*Site number*	*U*	*M*	*Additional ramparts/ ditches*	*Entrances facing*
Branscombe: Berry Castle	1	+		W end	1: W
Otterton: High Peak	2	+		None	1: E?
Axmouth: Hawkesdown Hill	3	+		None	1: E
Cadbury: Cadbury Castle	4	+		None	1: SE
Luppitt: Dumpdon	5	+		N end	1: NE
Membury: Membury Castle	6	+		None	2: W, SE
Musbury: Musbury Castle	7	+		NE end	2: SW & NE
Ottery St Mary: Belbury Castle	8	+		None	1: SE
Payhembury: Hembury Fort	9		+	N/A	2: SW & NE
Sidbury: Sidbury Castle	10	+		None	1: W
Stockland: Great Castle	11	+		None	1: E?
Stockland: Little Castle	12	+		None	1: NE?
Woodbury: Woodbury Castle	13	+		NW end	2: N & SW
Chudleigh: Castle Dyke	14	+		None	2: E, SE
Killerton Park: Dolbury	15	+		None	1: NE
Southleigh: Blackbury Castle	16	+		None	1: S
Exeter: Stoke Hill	17	+		None	1: SE
Ashcombe: Castle Dyke	18	+		None	1: NE
Stockleigh Pomeroy: Raddon	19	+		None	?

Note: For locations see Figure 9.7.

excavation. Belbury Castle and High Peak are almost totally destroyed through demolition and coastal erosion respectively. Limited excavations at the latter have recovered no Iron Age finds from the surviving fragment of the earthwork and its interior (Pollard 1966; Rainbird *et al.* 2013); nevertheless it may also be of Iron Age date and so is included in this analysis.

The rest survive as reasonably well-preserved extant monuments in the landscape. Of these 19 monuments only 2 occur on the

Table 9.5 East Devon hillforts: outworks, elaborated entrances, rampart dimensions and long axis of interiors.

Name	*Site number*	*Outworks*	*Elaborated entrances*	*Ramparts*	*Long axis of interior*
Branscombe: Berry Castle	1	No	No	Slight	W–E
Otterton: High Peak	2	No	No	Slight	N–S?
Axmouth: Hawkesdown Hill	3	Yes	No	Slight	W–E
Cadbury: Cadbury Castle	4	No	No	Strong	W–E
Luppitt: Dumpdon	5	No	Yes	Slight	N–S
Membury: Membury Castle	6	No	Yes	Slight	N–S
Musbury: Musbury Castle	7	No	Yes	Strong	NE–SW
Ottery St Mary: Belbury Castle	8	No	No	Slight	N–S
Payhembury: Hembury Fort	9	No	Yes	Massive	N–S
Sidbury: Sidbury Castle	10	No	Yes	Strong	NW–SE
Stockland: Great Castle	11	No	No	Strong	N–S
Stockland: Little Castle	12	No	No	Slight	Circular
Woodbury: Woodbury Castle	13	Yes	Yes	Massive	N–S
Chudleigh: Castle Dyke	14	Yes	No	Strong	NE–SW
Killerton Park: Dolbury	15	No	No	Slight	W–E
Southleigh: Blackbury Castle	16	No	Yes	Strong	W–E
Exeter: Stoke Hill	17	No	No	Slight	NE–SW
Ashcombe: Castle Dyke	18	No	No	Slight	Circular
Stockleigh Pomeroy: Raddon	19	No	?	Slight	W–E

Note: For locations see Figure 9.7.

heathlands: Woodbury Castle and Belbury Castle. The rest are found to the west, south, north and east and are situated on hills with a very different geology: chert, greensand and sandstone. Broadly the overall distribution is riverine, with five monuments being located along the river Axe and its tributaries, four along the river Otter and streams flowing into it and a further five, including Woodbury Castle, near to the river Exe and its tributaries.

The Axe has long been regarded as being the eastern ethnic boundary of the Dumnonii, bordering the territory of the Durotriges of Dorset to the east. These sites form a fairly coherent geographical group. From Membury on the eastern edge the nearest hillfort is Pilsdon Pen, 12 km distant to the east (visible from Musbury). To the north the nearest hillfort from Cadbury is Cranmore Castle, nearly 8 km distant; to the south Milber Down is 8 km from Castle Dyke, Ashcombe and to the west Cotley Castle is 9 km from Stoke Hill. Beyond these more isolated sites the next major concentrations of hillforts are found on the fringes of Dartmoor some 20 km to the west, along the margins of Exmoor 20 km to the north and in south Dorset 40 km to the east (Fox 1996; Riley and Wilson North 2001; Cunliffe 1995; Sharples 1991).

The heights of the hills chosen vary considerably, from Belbury Castle situated only 115 m above sea level to the highest, Dumpdon Hill, at 261 m (Table 9.1). Seven occur on the very highest hills, over 200 m high, the rest (63 per cent) on hills between 100 m and 200 m high. Figure 9.7 shows the intervisibility between the hillforts and enclosures. Woodbury Castle, despite it being situated on one of the lower hills, is intervisible with a greater number of these places than any other, seven in total. Five hillforts are visible from Hembury, Raddon and Stoke Canon, the first two of which have considerably higher elevations. Woodbury is thus in a perfect location as regards inter-site visibility. From five of the hillforts no others are visible, from the rest between two and four other sites (Table 9.1; Figure 9.2). Despite the fact that some hillforts, such as Cadbury, are located quite far inland, the sea, on a clear day, it is visible from all but five of them (Table 9.2).

Being located on hilltops the views out from these places across the surrounding landscape might be thought to be of considerable importance. However, there are panoramic views out across the landscape for about the same distance in all directions from only six of these locations. For the rest views out are limited in one or more directions by surrounding hills and ridges. The most extensive views are usually to the south and the coast or towards the east (Table 9.2). Woodbury Castle differs

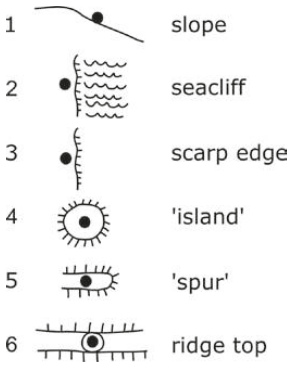

Figure 9.8 Sketch of the topographic locations of the hillforts and enclosures (Source: author)

from this general trend, having the most extensive views to the west, with Dartmoor visible in the distance, and towards Exmoor to the north.

The local topography of these places differs considerably. Six different types of locations were chosen. Two (Stockland Great Castle and Stockland Little Castle) are situated on gently sloping land beneath ridge tops. Two others (Berry Castle and High Peak) are situated on cliff tops, with one side being bounded by the sea. Woodbury Castle is unique in being located along the steep escarpment edge of the Pebblebed heathlands on its western side. Nine hillforts (47 per cent) are located on hill 'islands' where the land drops away more or less steeply on all sides. Three are on the ends of spurs with the land dropping away steeply on three sides and two are situated in the middle of flat ridge tops (Table 9.1; Figure 9.8 and Figure 9.9). So in almost half the cases distinctive and topographically well-defined hills with slopes on all sides were preferentially chosen and it was these hill 'islands' that were preferentially chosen as opposed to spur ends or ridge top locations.

The hillforts differ considerably in terms of both size and shape (Figure 9.10; Table 9.3). A basic distinction can be drawn between those hillforts and enclosures that have a mimetic relationship to the land, following or replicating the contours of the hill, and those that are superimposed without any such clear relationship. Others may follow the hill contours on one or more sides but not others. This accounts in part for differences in both the internal area enclosed and the overall shape of the hillfort or enclosure (see Table 9.3). The ramparts at Sidbury Castle clearly follow the contours of the hill on all sides, as do those at Stoke Canon and Membury. They run along natural breaks of the hillslope where either the slope drops away either very steeply or there is a significant

Figure 9.9 Hawkesdown Hill from the west (Source: author)

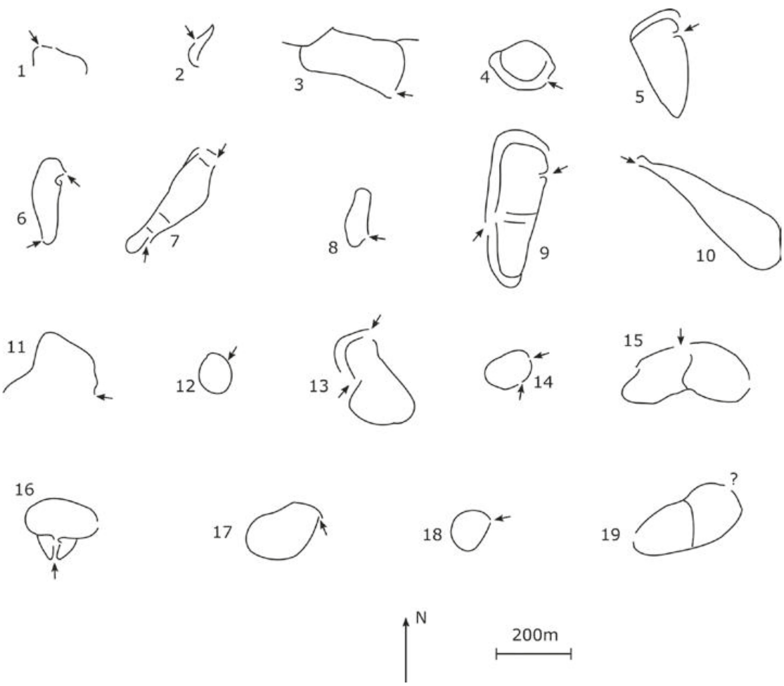

Figure 9.10 The shapes of the East Devon hillforts (Source: author)

dip or change in character of the hill slope. At Sidbury this is the case on all sides of the enclosure, and for Membury too. At Stoke Canon it is most significant and pronounced on the northern side. Other enclosures such as Berry Castle, Branscombe are clearly imposed landscape features. The rampart and ditch does not follow any natural break of slope to the west, north and east, with the enclosed area being terminated to the south by sea cliffs. Similarly the ramparts of Blackbury Castle are set well back from the steep slopes of the ridge top to both the south and the north, with those at the western and eastern ends crossing it. In both these cases the area enclosed might have been considerably larger or smaller. The same is true for the positioning of the ramparts at Cadbury Castle, Castle Dyke, Ashcombe and Stockland Little Castle and Great Castle.

Other hillfort ramparts both mimetically follow the hill contours and are imposed to a greater or lesser extent (see Table 9.1). The ramparts of the spur-end hillforts, Hawkesdown Hill and Hembury, follow the contours of the steepest break of slope on all but one side where the ramparts cut off the spur. At Dumpdon the ramparts follow the steepest break in slope except at the northern end where they cut across a point where the slope is relatively slight. Musbury is interesting in that it has a large rampart and ditch cutting off the far southern end of the spur on which it is situated, whereas normally one would expect the steep hill slopes to be followed (Figure 9.11). This unusual feature may relate to the provision of an entrance at this point. At Belbury the ramparts artificially cut across the hill slope on the eastern side. At Chudleigh Castle and Woodbury the ramparts only follow a steep break of slope on one side, but are imposed on the other sides of the enclosure, the interior of which might have been either larger or smaller.

These monuments vary significantly in size, with the area being enclosed varying from 0.6 ha to 4 ha. The largest are Stockland Great Castle and Sidbury Castle (Table 9.3). The spacious interiors were capable of physically enclosing and expressing the identities of the local communities that constructed them, expressions of their solidarity and territorial control of the surrounding landscape. Woodbury Castle, enclosing an area of 2 ha, is of medium size. It also has the most distinctive and unusual shape, which I have argued is a result of its two-stage construction and considerable enlargement. Other hillforts, such as Dolbury in Killerton Park, that were significantly enlarged maintain a more uniform and regular shape and clearly this was related to the contours of the hill to a greater or lesser extent in those cases.

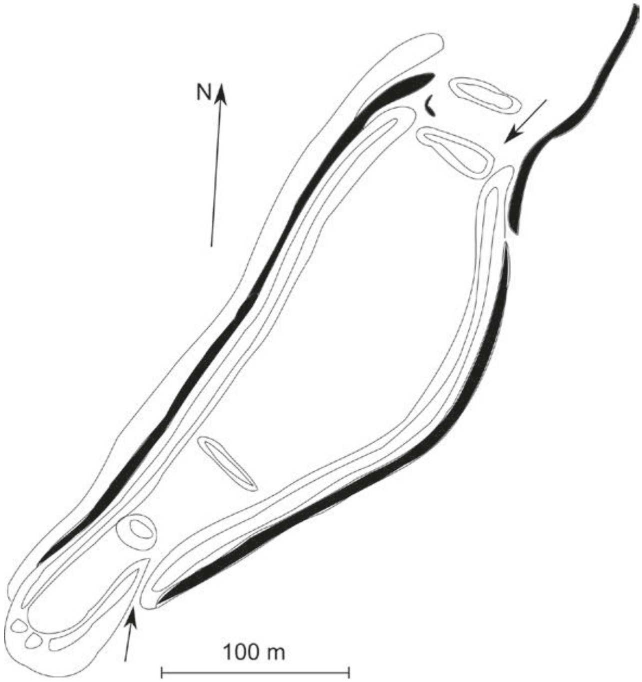

Figure 9.11 Plan of Musbury (Source: author)

The interiors of seven of them are almost flat or only gently sloping and it is possible to see across the entire hillfort interior from any point (Figure 9.12). These include those sites that are superimposed on the landscape and Woodbury Castle, whose ramparts are imposed on the land except on the western side. For the majority of them it is not possible to see from one side to the other across the hillfort interior because the land either slopes markedly in one direction or rises up towards the centre, creating a domed interior. This is the case for most of the hill 'island' enclosures in which the ramparts are slung at a lower point round the hill and all three spur-end enclosures (Table 9.3). In a few cases such as Cadbury, Stoke Canon and Chudleigh it is possible to see across the entire enclosure from the highest central point but not from elsewhere (Figure 9.13).

The fact that the land is often significantly higher in the hillfort means that it would be possible to see out across the landscape over the tops of the ramparts even if they possessed a crowning palisade fence in one or most directions. At Hembury only views to the north would be blocked by the massive ramparts cutting off the spur on which it

Figure 9.12 Looking east across the interior of Blackbury Castle (Source: author)

Figure 9.13 Looking south across part of the interior of Cadbury Castle (Source: author)

was built. At Hawkesdown Hill the view to the east would be blocked, at Musbury that to the northeast, at Stockland Great Castle that to the north. Blackbury Castle is unusual in that, being sited on flat land with high ramparts, views out would be blocked in all directions. At Woodbury Castle the view out from the interior would similarly be blocked, except possibly to the west from the northern part of the monument, as already noted. Clearly, while it was important to site most of these enclosures so that it was possible to see out across the landscape, internal visibility across the enclosure was usually a secondary consideration in hillfort use and design.

Entrances, ramparts, outworks

In southeast England and Wessex most of the orientations of hillfort entrances are towards the west and east (Hamilton and Manley 2001: 12; Hill 1996). In contrast the entrances to the hillforts in East Devon face in a wide variety of directions: to the north, south, east and west and almost all the points of the compass in between (Table 9.4). There appear to be no coherent design rules at stake in relation to sunrise and sunset directions, as has been claimed elsewhere in relation to Iron Age house doorway orientations (Parker Pearson 1996). Five of them appear to have had two original entrances, the remainder only one. Access to the interiors through these entrances was in most cases relatively easy because they are sited on either flat or gently sloping ground. At only five of them, Dumpdon, Musbury, Membury, Sidbury and Hembury, are the entrance or entrances sited on a steep slope requiring a considerable and arduous climb. Even in these cases access was afforded by a diagonal rather than vertical climb up the hill slope and could have been made considerably more difficult.

At Musbury there was easy access into the enclosure across the top of the spur on which it is sited from the NE and a more difficult SW entrance. Only six hillforts have entrances with a marked or exaggerated elaboration of the ramparts extending out down the hillslope and constricting passage to a narrow corridor and/or being inturned or extending into the hillfort interior: Dumpdon, Membury, Musbury, Hembury, Sidbury and Blackbury (Table 9.5).

At Blackbury excavations have demonstrated the presence of inner and outer gates at either end of an embanked passageway 60 m long (Figure 9.16). The passage through the entrance was covered with a spread of fine gravel, probably taken from the stream bed in the valley to the south of the enclosure (Young and Richardson 1955: 49). At a later date triangular ramparts and ditches were added to create a striking geometric outwork without any parallel in southwest England. The closest resemblance to it is in an early phase of Maiden Castle, Dorset (Young and Richardson 1953: 50ff.; Wheeler 1943: 33).

At Sidbury the interior is entered from a steep embanked passageway 50 m long, possibly with gates at either end (Figure 9.14; Figure 9.16). At Dumpdon the entrance is embanked and inturned, with the inner and outer ramparts being inturned and constructed 30 m into the interior thus creating a restricted passageway (Figure 9.15; Figure 9.16) (Fox 1996). At Membury the northeast entrance has been much disturbed but may have originally defined an oblique and curving narrow corridor into the interior. At Musbury entry from the northeast side was through a narrow corridor passing through two ramparts and ditches set one behind the other 40 m apart. At Hembury approach to the western entrance involved passing diagonally through the outer ramparts along a sunken track. A low bank on either side shut off the ditch ends, which were surmounted by a palisade fence (Todd 1984). These elaborated entrances were designed to constrict passage and block any view into the interiors of the enclosures. At other sites the

Figure 9.14 The entrance to Sidbury Castle (Source: author)

Figure 9.15 Dumpdon: view out from entrance (Source: author)

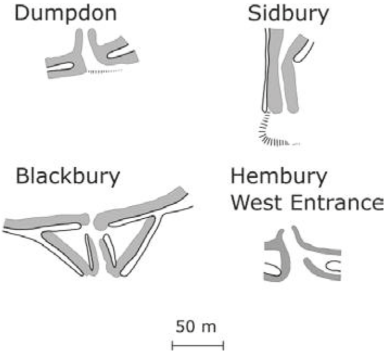

Figure 9.16 Complex hillfort entrances (Source: author)

entrances appear to be little more than breaks in the enclosing banks with little elaboration.

The usual inference is that these complex entrance ways were defensive structures. The alternative view, proposed here, is that they elaborated passage from the outside to the inside of the enclosures and were thus symbolically significant in the transition being made from the domain of everyday life to another, sacred domain associated with ceremonial and ritual within the hillfort interiors. In other words these entrances marked a rite of passage and elaborated a liminal space between the inside and the outside.

The enclosures are defined at most sites with a single rampart and ditch and usually a counterscarp bank. In most cases the hillslope itself was scarped or steepened as part of the process of construction, requiring considerably less labour than digging a ditch and throwing up the material to form a rampart. At six hillforts there are multiple ramparts at one end of the enclosure: Hawkesdown Hill, Dumpdon, Musbury, Blackbury, Woodbury and Hembury. Recent excavations have also suggested that High Peak may have been bivallate (Rainbird *et al.* 2013).

Of these Hembury has by far the most massive ramparts and is the only true multivallate hillfort (Table 9.4; Figure 9.17). At Blackbury these form part of the unusual entrance elaboration to the south. At the other sites including Hembury the multiple ramparts occur where the hillslope is gentlest. Woodbury is an interesting exception to this principle. Here the multiple ramparts occur at the northwestern end of the enclosure where the external hill slopes are steepest. The ramparts and ditches at Hembury are by far the most impressive and elaborated, followed by

Figure 9.17 The massive Hembury ramparts (Source: author)

those at Woodbury. The ramparts and ditches at 11 sites, even allowing for subsequent removal of material and destruction, are relatively slight in comparison (Table 9.5). At Membury, Sidbury and Cadbury soil quarries are visible along the inside of the ramparts, where material was scraped up to form the bank.

At Hembury the Earlier Iron Age ramparts were box ramparts. They were faced and revetted at the back by timber walls set in trenches. The width of these ramparts was 6 m and they were composed of sand, earth and stone derived from an external ditch. Todd (1984) estimates the date of construction to have been between 600 and 450 BC. The original structure was completely replaced by multiple ramparts of more complex construction in size and number sometime after 300 BC. Here an original box rampart with timber revetments was replaced with glacis or dump ramparts 9 m wide and 5 m high revetted with a low stone wall at the front (Todd 1984). Since the rampart was on the very edge of the scarp slope its vertical height above the ditch bottom was a massive 18 m.

Hembury and Raddon are the only known hillforts in East Devon where a timber-framed box rampart is known (Todd 1984; Gent and Quinnell 1999), as opposed to dump or glacis-style ramparts that are everywhere generally later in date (Cunliffe 1991). Excavations at Blackbury Castle showed the rampart to have been of dump construction and built of clay and flint nodules over a small turf marking-out bank probably dating to the fifth or fourth century BC (Young and Richardson 1955: 48). It has been argued that some hillforts, such as Dumpdon, may never have been completed. Todd's excavations at the southern end of Dumpdon showed that the Iron Age rampart here consisted largely of chert blocks heaped up to form a wall 2.15 m wide. There was no evidence for revetment or careful construction and the rampart was only 0.4 m high. Along the western side of the enclosure the rampart becomes indistinct, in places appearing as a series of dumps (Todd 1992). The ramparts at Dumpdon, which Todd suggests were unfinished, may never have been intended to be high or carefully built in the form of a wall since the hill slope is so steep at all but the northern end. The notion that some hillforts were uncompleted has become something of a mantra in the literature. Another way of putting it is that many were being continually constructed and reconstructed: they were all in this sense unfinished works and continuous building sites while in use. The primary purpose of the more prominent of these earthworks may have been to sculpt the hill and make it into a highly visible landscape marker. Such a situation exists at a number of other sites in areas of the enclosures where the slopes of the hill are precipitous: Membury, Musbury, Hawkesdown Hill.

At least three – Hawkesdown Hill; Castle Dyke, Chudleigh; and Woodbury – have associated outworks (Table 9.5). At Hawkesdown Hill a bank lies 100 m to the east of the main enclosure crossing the top of the spur. At Castle Dyke, Chudleigh part of a single bank and ditch survives 500 m to the south of the main enclosure. This runs down-slope, crossing the contours to the Ugbrooke stream. Woodbury Castle is unique with its Wessex-type cross-dyke to the north.

Enclosures, chronology and the Iron Age

Excavations have demonstrated that at Hembury, High Peak and Raddon the hillforts occupied sites of Neolithic causewayed enclosures. At Membury a Neolithic feature that might be a ditch terminal indicates much earlier occupation of the hill (Tingle 1995). This suggests that many if not all these locations were chosen because they already had meaning and significance in the landscape. However, none of these enclosures include Bronze Age barrows or cairns in their interior. The distribution of these two very different monuments seems to be genuinely mutually exclusive. Two large cairns do occur a short distance to the north of Woodbury Castle along the western scarp edge of the Pebblebed heathlands. Five very small flint cairns are known in the vicinity of Berry Castle, Branscombe, to the west and the east of the enclosure. Otherwise Bronze Age barrows are conspicuously absent from these hilltop locations crowned by forts and enclosures.

At Raddon two phases of first-millennium BC enclosures have been distinguished. The earliest phase may have been a simple palisaded enclosure enclosing about 1 ha, dated to 810–410 cal. BC, on the top of the hill (Gent and Quinnell 1999: 66). This is in accordance with the evidence from Woodbury Castle discussed above for a palisaded enclosure pre-dating the construction of the hillfort. Such an early palisaded enclosure may also be indicated at Hembury (Liddell 1936). Subsequently at Raddon an enclosure with a box rampart was constructed, with a similar appended enclosure to the west (Gent and Quinnell 1999: 68). The site appears to have continued in use from the fifth to the second centuries BC, although the early box ramparts, once they collapsed, do not seem to have been remodelled and replaced with dump ramparts. So 'defence' of this location was no longer considered necessary.

There is much uncertainty with regard to the length of occupation of these places because of limited excavation. Some sites such as Hembury may have not been used for long periods and others such as

Woodbury appear to have been abandoned long before the Roman conquest (Miles 1975: 207). The excavations at Blackbury Castle produced no finds later than the Iron Age. Almost all the East Devon hillforts and enclosures thus appear to have fallen out of regular use before or after the Roman conquest (Grant 1995). A short phase of Roman military occupation, however, took place in the northern part of Hembury around AD 50–70 (Todd 1984). Here substantial timber buildings were erected, including a courtyard building and a narrow block, possibly a barrack. The excavation evidence did not suggest any evidence of a Roman attack and construction seems to have taken place on a site long abandoned. Both of the Iron Age gates into the hillfort were remodelled. Roman occupation is known at Stoke Hill, Exeter from the later third century AD (Radford 1937). At Cadbury antiquarian excavations in the nineteenth century found a 17-m-deep shaft with Roman artefacts of the third and fourth centuries AD in the fill (Fox 1952b).

The only evidence of some form of post-Roman occupation comes from Raddon and High Peak. At Raddon there was no evidence for any activity during the Roman period but two radiocarbon dates may indicate use of the area during the fourth to seventh centuries AD (Gent and Quinnell 1999: 70). Excavations at High Peak recovered imported pottery of late fifth to sixth century AD date (Pollard 1966).

Hillforts have traditionally been argued to be heavily defended defensive sites (e.g. Wall 1906; Fox 1996; Cunliffe 2005). This view of the primary reason for their construction has been strongly challenged in recent years (e.g. Bowden and McOmish 1987; Hill 1996; Hamilton and Manley 2011). Alternatively, they have been understood variously as places of permanent settlement or temporary refuge, central places in the landscape serving a local community for grain storage (Williams 2003), as agricultural stockades (Todd 1987), meeting points for social territories defined by linear ditches (Bradley, Entwhistle and Raymond 1994; Bowden 2005); centres for specialist production and for trade and exchange (Cunliffe 1991) or as ritual and ceremonial sites with structured deposition of artefacts associated with shrines (Hill 1996; Bradley 2005: 165ff.). Excavation of the hillfort interiors in East Devon has been too limited to establish if any of these possibilities might be the case (Griffith and Quinnell 1999a).

The huge amounts of labour required to construct these enclosures has been linked to the development of social hierarchies and political centralization in Wessex and southeast England (Cunliffe 2005) but such a model seems inappropriate for the southwest of England, as Cunliffe acknowledges. Todd suggests that ‘in the fragmented south-western landscape …

there was so little conducement to political centralization or even association. The overall picture of later prehistoric settlement is one of a multitude of small fiefdoms, of which the hill-forts were the centres of power and the hill-top enclosures the main repositories of wealth' (Todd 1987: 167). There was no coinage, and important central places such as oppida, known in eastern England in the Later Iron Age, simply did not develop.

Overall there is little evidence at present of any intensive or permanent occupation of these enclosures. The complete lack of any evidence from the interior of Dumpdon led Todd to suggest that it was never occupied, but as he himself noted it is dangerous to infer from negative evidence of very limited excavation trenches (Todd 1992). Limited trial trenching of the interior of Blackbury Castle to the west and east of the south entrance revealed the presence of a possible hut 26 yards to the west of the entrance. Fifteen stone-edged post holes were discovered and three irregular gulleys to the west of them. Postholes indicate that these may have been palisade trenches. Another trench was found to the southeast of the main cluster of post holes. Other features of this structure were an area of stoneless clay, possibly an earth oven, and a fire pit

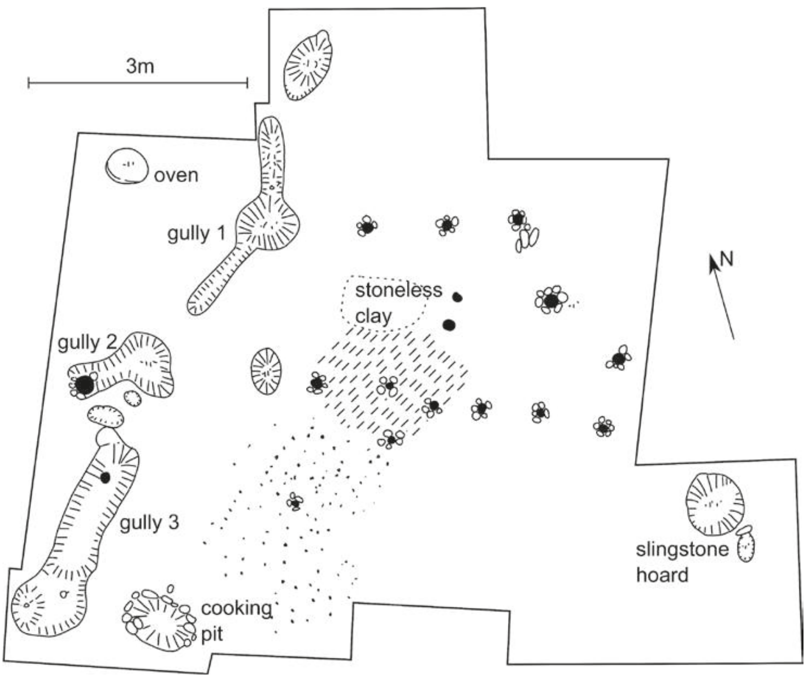

Figure 9.18 The structure at Blackbury Castle (after Young and Richardson 1955)

containing pot sherds and a lump of iron slag (Figure 9.18) (Young and Richardson 1955: 52–3).

In the southwest of England the traditional house structure from the Bronze Age onwards was the round house, which persisted well into the Iron Age. Inside the interior of Blackbury Castle a possible rectilinear structure was discovered and post holes may indicate similar structures at Woodbury. These might possibly be understood as shrines rather than domestic or 'functional' structures. Shrines in hillfort interiors are well documented at Danebury in Hampshire and South Cadbury in Somerset (Cunliffe 2005).

Young and Richardson suggest that Blackbury Castle had little defensive significance and was not a habitation site. They argue that it was probably an agricultural stockade (Young and Richardson 1955: 57). No large storage pits were found at Hembury or Blackbury Castle in the excavated areas of the interior. A large area near the northern end of the Hembury enclosure contained no evidence of structures or other features throughout the construction and use of the hillfort. No storage pits have been found and no groups of four or five post-hole structures linked to raised granaries and grain storage at sites such as Danebury in Hampshire (Cunliffe 1991).

Some authors have argued that stock raising was the most important occupation in the southwest, hence the lack of granary structures (Todd 1987). Fox recognized another type of enclosure in southwest England and south Wales, generally small in size and sited on hill slopes and sometimes on flat ground defined by roughly circular or sub-rectangular earthworks and sometimes widely spaced outworks (Fox 1952a). She noted that these often occur near to water sources and suggested that they formed part of a stock-raising economy and were intended to corral and herd cattle during the winter months. This clearly influenced Young and Richardson's (1955) interpretation of Blackbury Castle. Other enclosures in East Devon – Castle Dyke, Chudleigh,' Stockland Great and Little Castle; Berry Castle, Branscombe and Castle Dyke, Ashcombe – could be understood in this manner. However, with the exception of Stockland Little Castle, Castle Dyke, Ashcombe and Berry Castle, the ramparts are so massive and required such a huge labour investment that it seems unlikely they were built simply to house stock, although this may have formed part of the reason for their construction in an economy in which cattle were of central economic and social significance: signifiers of the wealth, importance and prosperity of the local social group and linked to their identity.

Some enclosures elsewhere in southern England provide evidence of specialized craft production such as the working of iron and glass.

Excavations at Blackbury Castle discovered iron slag (also discovered at Hembury), whetstones and spindle whorls, indicating a range of craft activities. Iron slag was also found at Raddon (Gent and Quinnell 1999: 67) and Stoke Hill (Radford 1937).

The significance of pebbles

While pebbles were carefully chosen and selected to build the comparatively small Bronze Age cairns on the Pebblebed heathlands, they appear to be of no significance whatsoever in this respect for the construction of the massive monument of Woodbury Castle during the Iron Age. Here they did just provide huge quantities of locally available building material worked up to form the ramparts.

The widespread presence of beach pebbles on hillforts in south-east England and in Wessex has always traditionally been interpreted as sling stones, direct evidence for warfare and the use of hillforts for defensive purposes. The argument is tautologous: pebbles are understood as sling stones because it is assumed that hillforts were primarily defensive enclosures where slings would be used (Cunliffe 1991: 489; Sharples 1991). Beside the rectilinear structure excavated at Blackbury Castle an oval stone-lined pit was discovered containing a hoard of 25 pebbles. In all, 1,271 pebbles were recorded, many from the entrance area, some from the body of the main rampart (where they would not be accessible for use as sling stones) and others from the trial trenches dug in the interior.

Discrete hoards of up to 40 and 50 pebbles were found at Hembury (Liddell 1930: 47). Liddell notes that these are quartzite pebbles from the Pebblebeds and that they were of a uniform size averaging about 50 g in weight. One small 'nest' of these pebbles was discovered consisting of ten carefully chosen pebbles weighing less than 25 g. (Liddell 1930: 47). Liddell collected 1,188 of these pebbles during the 1930 season; these were found in the hillfort interior. They were deposited in the area crossed by transverse banks in the centre. None were found in or under the Iron Age ramparts (Liddell 1930: 47). Unfortunately, most were reburied in a post hole at the end of the excavations and so cannot be examined. During the second season of the excavations 637 pebbles were recovered in the same general area. They were found in Iron Age rather than Neolithic contexts in pits, post holes and as 'hoards' (Liddell 1931: 95). A further 624 pebbles were found in the 1932 season, including a hoard of 77 pebbles. These were again associated with Iron Age rather than Neolithic contexts (Liddell 1932: 179). These may well be deliberate structural depositions but we know too little about the find contexts.

Pebbles have been recorded from a number of other East Devon hillforts: High Peak (Kirwan 1870b: 650), Stockland Great Castle, Sidbury Castle and Hawkesdown Hill (Hutchinson 1862: 375–6, 378). At Sidbury Castle Hutchinson reports 'in digging against the outside slope of the inner agger [at the southwestern entrance end] they [labourers] came upon a sort of cavern which was packed full of round pebbles; there may have been as many as would fill one or two wheelbarrows' (376). Only six of these are preserved in the local museum at Sidmouth. They are very small oval pebbles (about 3 cm long) derived from the local beach and unlikely to do much harm to anybody attacking the place if used in a sling, unless they were hit in the eye! While pebbles provided ready-to-hand material for building the ramparts of Woodbury Castle those pebbles found elsewhere and off the heathlands might be understood as structural depositions that could have had a quite different aesthetic and symbolic significance. Unfortunately, it is not possible to investigate this further as the find material has not been kept.

Conclusions

From this landscape study and general review of the excavation and survey evidence it becomes apparent just how different Woodbury Castle is from other Iron Age hillforts and enclosures in East Devon. The main points can be summarized as follows:

1. Its unique pebble construction in a heathland landscape;
2. its unique scarp-edge location;
3. its highly unusual and distinctive shape;
4. that it is intervisible with more hillforts than any other within East Devon;
5. the extensive views to the west as far as Dartmoor and to the north as far as Exmoor;
6. its associated 'Wessex-type' dyke or outwork to the north;
7. the construction of multiple ramparts on the northwestern end where the hill slope is steepest. The reverse is the case for the other enclosures with multiple ramparts.

Woodbury Castle was a relatively late addition to the Pebblebed landscape. It is anomalous and atypical compared to other hillforts in the area. We could describe the first phase as a modest attempt which was then enlarged in an unusual way, possibly part of a process of competitive emulation with social groups undertaking hillfort construction elsewhere in East Devon.

In hillfort studies secondary and primary reasons for their construction, use and significance have frequently been confused. What was of secondary importance, for example defence, settlement, acting as ritual and ceremonial centres, central places for exchange, etc., has been taken as being primary. It has been argued above that these enclosures are best understood as being massive monuments indelibly marking the landscape and defining the hills they enclosed in various ways. Many of them were designed primarily to impress as massive features, part and parcel of the landscape itself, visible for miles around (Hamilton and Manley 2001: 10–11). They provided places from which the surrounding landscape could be viewed and places to view from the surrounding landscape, that indelibly marked that landscape and visually redefined and gave a new identity to it. They might enclose only a small area of a hill or a spur, but this act of enclosing the land was not significant in terms of the area enclosed, larger or smaller as the case might be. The point was that this act of enclosure should be visually dominant in the Iron Age landscape. The hillforts were therefore signatures of local group identity *in place*.

In the far more heavily wooded lowland landscape of the Iron Age past these hilltops, cleared of trees, with their massive encircling banks and ditches, would have been far more visually dominant than they are today. We often see prehistory in the 'negative' since these locations are now typically crowned with trees, their banks and ditches concealed. Some of the locations chosen, those with a greater visual 'reach', such as Woodbury Castle, were clearly more successful in dominating the landscape than others. These are by far the largest monumental constructions in British prehistory, collective expressions of the power of local social groups to shape, control and dominate their surroundings and lay claim to it by signing the land.

Part II
The heathlands in modernity

10
Landscaping the heathlands

This chapter considers the impact of the Bicton estate on the Pebblebed heathlands during the eighteenth and nineteenth centuries. The estate consisted of a grand house surrounded by parkland and landscape gardens set on the eastern edge of the Pebblebed heathlands, across which one had to travel from Exeter, the nearest settlement of any size, to reach it. In the mid-sixteenth century Bicton was sold to Sir Robert Dennys, who demolished the medieval manor house and built a Tudor mansion and enclosed a deer park to its south. This marks the beginning of the modern Bicton estate, which then moved by inheritance and marriage to the Rolle family.

Through time the Rolle family acquired or married into more and more land until they were among the wealthiest landowners in England in the nineteenth century, and were once lords of 45 manors. They also controlled landholdings and slave plantations on the Exuma islands in the Bahamas until 1835, when Lord John Rolle gave them up and set the slaves free. The Rolle Estate Act of 1865 and Bateman's *Great Landowners of Britain* published in 1883 record the Devon estate as having 55,592 acres in east and north Devon. This included all of the commons of the Pebblebed heaths, and yielded an annual income of £47,170 (over £2.25 million today) (Ford 2001: 9). An agricultural labourer's wage at that time was around 7 shillings a week or about £18 a year (Vancouver [1808] 1969: 361). This extraordinary wealth naturally allowed the Rolles to spend lavishly on the estate and entertain influential guests. Louden notes that the house, 'which is well placed on a knoll, is extensive and commodious, containing a suite of magnificent apartments on the principal floor, and very extensive offices' (Louden 1842: 552). It was Lord John Rolle and his second wife, Louisa, whom he married in 1822 when he was 66 and she was 28, who had the major influence on the development of the estate, gardens and heathlands from 1820 until 1885, the year Lady Rolle, the richest woman in Devon, died. An American traveller, Elihu Burrit, wrote of Lady Rolle, after a visit to Bicton in 1864:

> [T]his lady is a remarkable woman without equal or like in England …. She is a female rival of Alexander the Great …. It seems to have been an ambition for nearly half a century to do what was never done before by man or woman, in filling her great park and gardens with a collection of trees and shrubs that should be to them what the British Museum is to the relics of antiquity and the literature of all ages. And whoever has travelled in different countries and climates and visits her arboretum, will admit that she has realized that ambition to the full.
>
> (cited in Gray 2009: 6)

In the grounds of Bicton House during this period a new ornamental lake was constructed, along with a shell house to keep a collection of shells from all over the world, an iron and plate-glass palm house, a new church, a hermitage, otter pool, orangery, China tower and other ornamental structures. After Lord Rolle's death in 1842 Lady Rolle continued to live at Bicton and still had the major influence on the house and its grounds.

Following Lord Rolle's death the Bicton estate passed to Mark Rolle, then a child, who did not live there until after 1885 and then for only a few months at a time. He was largely an absentee landlord, investing much of his energy and time in the Stevenstone estate in north Devon. However, in relation to Bicton he set about embarking on an extensive building programme, renovating farms and constructing labourers' cottages, and was a benefactor of numerous projects, such as a public water supply in Colaton Raleigh and East Budleigh (see Ford 2001 for a detailed account).

Different areas of the heathlands, which were common land, were inherited and acquired by the Rolle family from the early seventeenth century onwards. In tandem with developing and improving the grounds of Bicton House and its gardens, the wider heathland was also romantically improved by planting ornamental tree clumps and enclosures and constructing landscaping mounds in the form of prehistoric barrows during the eighteenth and early nineteenth century (Figure 10.1).

The 1758 map of the parish of Bicton shows four circular tree clumps at Four Firs along the Woodbury to Yettington road, along with two others: one to the north beside this road, about 200 m to the east of Four Firs, and another next to the road on its southern side, about 1 km

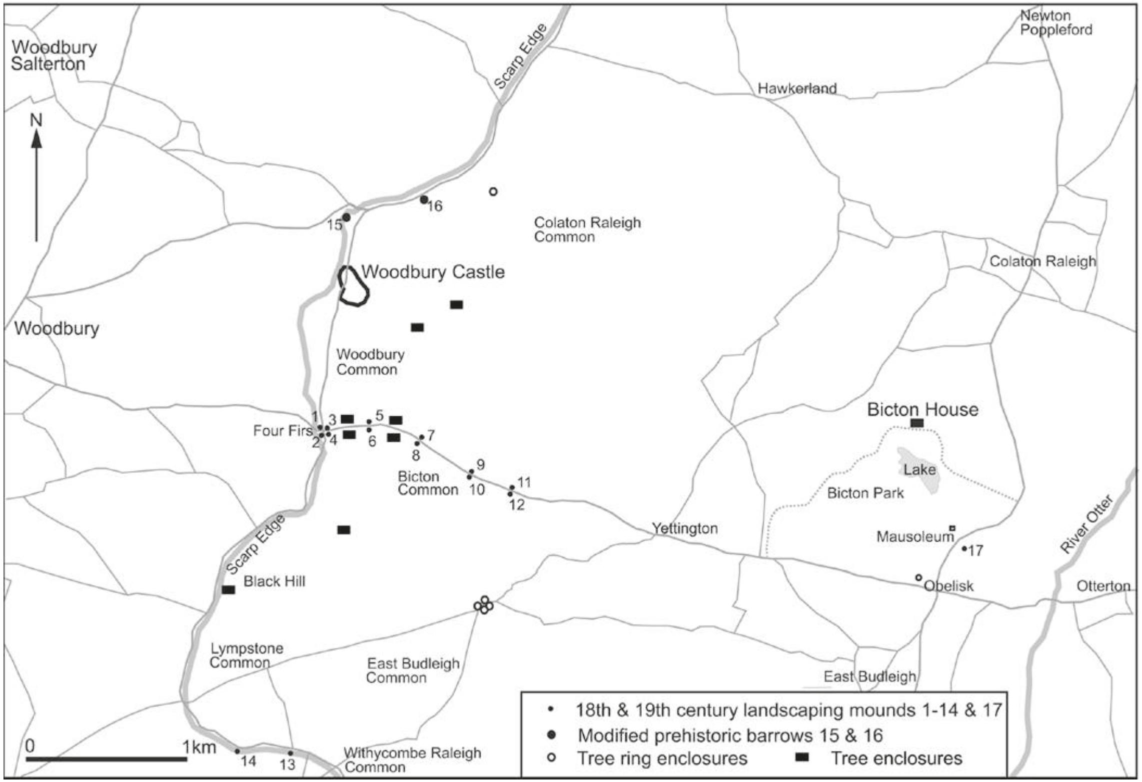

Figure 10.1 The locations of eighteenth- and nineteenth-century mounds and other landscaping features on the Pebblebed heathlands (Source: author)

to the east. Other ornamental tree-ring enclosures were made on the top of the hill known as Crook's Plantation and on Tidwell Mount. It is doubtful whether any of these were trees planted on landscaping mounds. This was a later early nineteenth-century development. The tithe map of Bicton parish of 1838 shows clearly some of the landscaping mounds and other features (Figure 10.1: 1–12) that occur along the Woodbury to Yettington road today, indicating that they were constructed sometime in the early nineteenth century, possibly at the same time as the construction of a new ornamental lake in the grounds of Bicton House, from which the material to create them might have been obtained.

During the early to mid-nineteenth century another landscaping mound was constructed on the top of a hill to the southeast of the church (Figure 10.1: 17; Figure 10.2); it is prominent from the top of the early formal Italian gardens (first made around 1735), although it is not shown on the 1840 tithe map, unlike some of the others. Two prehistoric barrows were enhanced with surrounding ditches and planted with Scots pines to the north of Woodbury Castle (Figure 10.1: 15–16), and another square enclosure was planted with trees in a prominent position 500 m to the east of them. Two further massive landscaping mounds were constructed on the western scarp edge of the heathlands to the south of Black

Figure 10.2 Landscaping/tree mound 17 seen from the orangery at Bicton Gardens (Source: author)

Figure 10.3 Massive landscaping mound adjacent to the B3180 road to the south of Woodbury Castle, located on the western scarp edge of the heathlands (Fig. 10.1: 13) (Source: author)

Hill (Figure 10.1: 13–14; Figure 10.3). The prominent prehistoric summit barrows on the top of Aylesbeare Common to the north of the heathlands were landscaped by planting Scots pines on top of them as well (see Chapter 7). The romantic temperament of the times regarded certain trees as especially appropriate for landscaping follies and ruins and the top choice was Scots pines (Jones 1974: 4). Four circular or oval tree enclosures shown on the 1838 tithe map were made at Frying Pans and three at the road junction known as Tucker's Plants along the Lympstone to Yettington road. There are three others of probable later date on the northern part of Colaton Raleigh Common. Two pairs of square tree plantations to the east of Four Firs and another two further to the east further enhanced the Woodbury to Yettington road shown on the 1838 tithe map (Figure 10.1). The top of Black Hill also had an embanked ornamental polygonal feature (now destroyed on one side by the construction of a reservoir) set in woodland with radiating drives.

A nineteenth-century carriage drive along the heathlands, following its western scarp and then going east across them to the grounds of Bicton house, would have entailed encountering and passing through a whole array of different prehistoric cairns and modern landscaping barrows, a cross-ridge dyke and entering and exiting the interior of Woodbury Castle hillfort. A clear effort was made to duplicate the landscape situations of the prehistoric cairns on the western scarp edge of the heathlands and in particular their solitary and asymmetrical locations in the landscape. An entirely different formal arrangement of multiple modern 'barrows' is encountered along the Woodbury to Yettington road.

At Four Firs four landscaping mounds are symmetrically arranged around a crossroads (Figure 1.10: 1–4). This is the beginning of a series of such mounds positioned along either side of the road running east towards Yettington. This was the main carriage drive to Bicton House and park from Exeter that the Rolle family and their numerous visitors would take. The Four Firs mounds are all about 20 m in diameter and about 2.5 m high. All but the northwest mound have surrounding ditches. The northeast and southwest mounds are enclosed by a low bank and external ditch on two sides, running up to and terminating at the two roads forming the crossroads. The northwest mound has a substantial quarry hollow on its north and western sides and the mound here is up to 7 m high above the surrounding ground surface and had a stabilizing revetment of corrugated iron and metal posts (Figure 10.4).

Figure 10.4 The northwest landscaping mound at Four Firs (Fig, 10.1: 1) (Source: author)

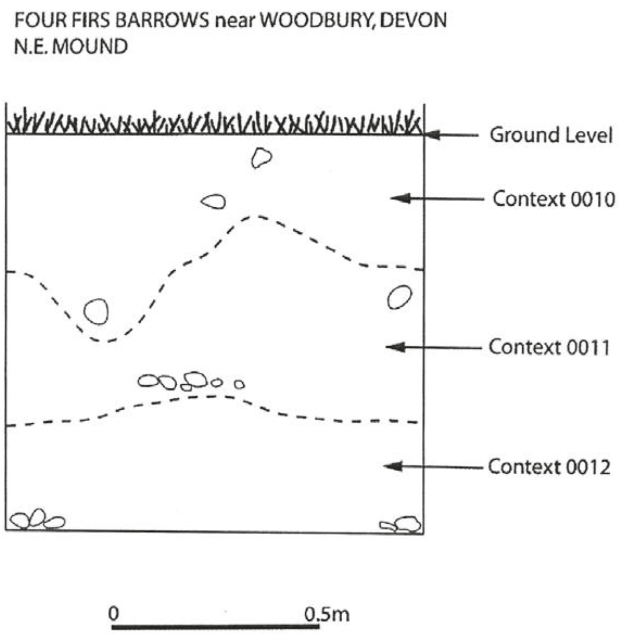

Figure 10.5 Section through the base of the northeast mound at Four Firs (Source: author)

A small section which had been cut into the northeast mound at Four Firs by an unknown party was cleaned up, recorded and back filled. The section was approximately 80 cm in length and 80 cm in depth (Figure 10.5). On cleaning it became apparent that the barrow was composed of at least two layers of deposited soil. The lowest layer (context 012) is a reddish-orange colour typical of the ploughsoil of the area surrounding the Pebblebed heathlands region. The natural was not reached, as the remit of the excavation of this scheduled monument was simply to clean up the existing section and record it. However, the natural at Four Firs as elsewhere across the Pebblebed heathlands is grey gritty sand and pebbles. This layer was followed by context 0011, a mid-brown friable soil layer, and by a further reddish-orange soil (context 0010), also interpreted as redeposited ploughsoil. The soil from the original excavation of the hole and from the archaeological excavation was sieved. No finds came from the hole. Notably the composition of the barrow, on the basis of this section, is completely different from the heathland prehistoric cairns which are composed of pebble and turf layers. This provides further confirmation that the mounds at Four Firs are not prehistoric but modern landscaping mounds.

Experiencing the mounds along the Woodbury to Yettington road

Walking up the steep hill on the road from Exeter, east of Woodbury, marking the western escarpment of the heathlands, the mounds at Four Firs are first visible only from a very short distance away as one reaches the crossroads. Effectively they mark the end of the cultivated farmland on the route from Exeter and the beginning of the uncultivated wilderness of the heathland. All the mounds were originally planted with Scots pines that still grow on them together with an old beech tree on the southeastern mound. Scots pines were clearly chosen to be symbolic of a heathland wilderness and were planted not only on these landscaping mounds but also on the larger and more visible Bronze Age cairns across the heathlands – those that are close to roads such as numbers 15 and 16 on the western scarp edge mentioned above and the summit cairns on Aylesbeare Common. Smaller prehistoric cairns and those situated away from roads were not planted – simply because were insignificant as landscape markers. The whole point of these landscaping mounds was to make a visual impact from carriage drives across the landscape and the trees highlighted their presence.

From Four Firs, Exeter is visible to the northwest but passing beyond the barrows to the east it falls out of sight. This marks the first and last point from which the cathedral city is visible from the heath. The Iron Age hillfort of Woodbury Castle marks the horizon to the north. From an eighteenth-century point of view one enters a pagan realm associated with the deep past and the ancient British – untamed, uncultivated and thoroughly romanticized. The overall ground-plan with four 'barrows' arranged around a crossroads with encircling banks and ditches resembles that of the great henge monument of Avebury in Wiltshire, with its crossroads at the centre. Might this have been the inspiration – to create something similar in miniature?

From Four Firs the road dips gently to the east. To the north of it the land rises up, restricting visibility to a few hundred metres, blocking the view to Woodbury Castle. The road is situated towards the bottom of a north–south slope that terminates about 50 m to the south of the road. The land then rises up to Black Hill about 1 km distant, forming the horizon line to the south. Moving east, the Four Firs mounds soon fall out of sight and are marked only by the presence of the trees crowning them. One next passes two square-shaped banked tree enclosures symmetrically placed on either side of the road and almost certainly constructed at the same time as the mounds, adding to the scenic effect.

Figure 10.6 Landscaping mound to the south of the Woodbury to Yettington road (Fig. 10.1: 6) (Source: author)

These are equidistant between the mounds at Four Firs and another pair of landscaping mounds 300 m away to the east (Figure 10.1: 5, 6). These are again symmetrically placed and identical in form. They consist of a central steep-sided mound about 10 m in diameter and 2.5 m high surrounded by a ditch, a berm and encircling bank about 1 m high with an external ditch (Figure 10.6).

The outer banks and the mounds are extremely sharp and well preserved and do not resemble prehistoric barrows in this respect. However, they are very reminiscent of the sometimes exaggerated and stylized visual perspective found in the antiquarian drawings of Stukeley and others in the mid-eighteenth century (Figure 10.7) and the illustrations of Colt Hoare in his *Ancient History of North Wiltshire* published in 1819 (Figure 10.8). It is likely that Hoare's publications were to be found in the extensive library that existed at Bicton House (sold and dispersed without a record of its original contents in 1957) and provided illustrative models for the landscaping mounds. The external encircling ditches of mounds 5 and 6 are only 4 m away from the edge of the modern road. These two elaborate 'barrows' appear to be replicas of Wessex type 'fancy' barrows, most likely bell barrows, and are totally unlike genuine Bronze Age cairns on the Pebblebed heathlands, which are simple bowl-shaped

Figure 10.7 Stukeley's drawing of Bush Barrow near to Stonehenge

Figure 10.8 Illustration of Hackpen Barrow from Colt Hoare's *History of Ancient Wiltshire*

structures mostly lacking external ditches (see Chapter 1). These were clearly not fancy enough to provide a template for the construction of the landscaping mounds that seem to be replicas of depictions of those found primarily on the Wiltshire chalk downlands. We can interpret this as a form of intellectual aggrandizement of the past in the present: the inferior local cairns required improvement.

About 100 m distant to the east another pair of square-shaped tree enclosures occur on either side of the road and after another 150 m another pair of ‘barrows’ occur on either side of the road (Figure 10.1: 7–8). These have no encircling banks or ditches. The mounds are 18 m in diameter and 1.4 m high. The mound to the south of the road has a particularly exaggerated profile on its down-slope side. The material from which all these landscaping mounds appear to have been constructed is redeposited topsoil brought from the farmlands surrounding the heathlands, red-brown in colour, contrasting with the black peaty heathland soil. They contain very few pebbles in contrast to the genuine Bronze Age heathland cairns.

From these mounds the road now flattens out to the east and clumps of pine trees mark the position of the next ‘barrows’, which are 400 m distant (Figure 1.10: 9, 10). These have no central mounds but consist of encircling banks with external ditches, their centres being planted with Scots pine trees. These resemble prehistoric disc or saucer barrows found in Dorset and Wiltshire.

Beyond this point the road now begins to dip down to the east again and the Otter valley. Its relationship to the surrounding landscape changes significantly. This part of the road is effectively a spur now bounded by deep valleys with coombes to the north and the valley of the Budleigh brook to the south. The views from it are now extensive to the north and south rather than being quite restricted by rising land on either side. The final two earthworks are situated 300 m down the slope, affording the first view of the Otter valley beyond to the east (Figure 10.1: 11, 12). These consist of banks with external ditches duplicating the previous two earthworks – another pair of disc or saucer barrows internally planted with Scots pine trees situated right next to the road. That to the south of the road has a continuous bank and ditch; part of the ditch of that to the north has been lost probably as a result of road widening (Figure 10.9).

These are the last of the landscaping features on this road across the heathlands. It now descends steeply down a slope to Yettington, off the Pebblebed heathlands and into rich farmland. Just beyond the village the western carriage drive to the grand house begins running through verdant parkland with stately spreading oak trees.

By the middle of the eighteenth century England was ‘wrapped in the miasmic folds of the “Gothick” cult. A barrow on a blasted heath became an object of aesthetic satisfaction and intellectual speculation for many’ (Ashbee 1960: 19; Piggott 1968: 146ff.). This was bound up with a new-found romantic appreciation of wild landscapes, almost universally associated with the Druids, and a Rousseauesque notion of the noble savage. The blasted heath found its intellectual counterpart

Figure 10.9 Landscaping mound 12 along the Woodbury to Yettington road (Source: author)

in the sublime park and manicured landscape gardens adjacent to Bicton House.

Moving a stone circle

The construction of fake prehistoric mounds along roads crossing the heathlands and their further ornamentation with tree enclosures was accompanied by the destruction of the Seven Stones Bronze Age stone circle situated on Mutters Moor at the southern end of the Peak Hill ridge, to the east of the river Otter and 4 km from Bicton House and park, around 1820. The stones were moved to the park, where they may have been re-erected as a garden feature in the area now known as the American gardens. The current location of the moved stones is uncertain. They now may form part of the rockery garden feature next to the shell house. James states that they are to be found 'behind the Shell House, on the path leading to the main entrance drive' (James 1969: 11). Today the entrance to the grotto is flanked on its western side by a row of eight tabular limestone and flint stones, two of which appear to be broken parts of the same stone (Figure 10.10).

Figure 10.10 The possible seven stones of the Seven Stones stone circle on Mutter's Moor next to the shell house in Bicton Gardens (some behind the bench) (Source: author)

This is exactly the same kind of stone that occurs locally on Mutter's Moor, leading to Gibbens's suggestion that these may indeed be the stones (Gibbens 1952: 345). Other English landscape gardens were furnished with small-scale imitations of Stonehenge or Druid circles of standing stones, cromlechs and temples (Jones 1974: 244ff.) but what makes Bicton rather different is the transportation of a pre-existing stone circle to the garden. Where, how and if it was ever first re-erected as a circle somewhere in the gardens remains uncertain. One possibility is that it originally stood in the vicinity of the shell house constructed in 1845 and was removed and lost when that house and the rock garden in front of it were constructed in 1845 with stone material of the same kind derived from quarries at Salcombe, some 8 km distant to the east.

Improving the heathland

The landscaping of the heathland in order to make it aesthetically more interesting in relation to the roads crossing it also went hand in hand with taking areas of it in and converting it, where possible, into productive agricultural land. Vancouver reported that in 1808,

> upon the wastes of Woodbury, and other commons connected with it, Lord Rolle has been much in the practise of encouraging the peasantry to build and make small improvements: the inducing of the labourers thus to leave the village, and settle upon the borders of the commons, must be considered by far the most likely means of promoting the comfort, and improving the morals of these people. The quantity of land first permitted to be enclosed is about an acre. This improvement conducted to his Lordship's satisfaction, a further enclosure is suffered to be made, to the extent of 3.4 or 5 acres, and which, in some cases have led to the cottagers obtaining a long lease of his improvements at a very moderate rent, and with the further privilege of enclosing more of the waste … in thus withdrawing the cottager from his former haunts in the village, the time that would otherwise be spent at the ale-house, or in frivolous conversation with his neighbours, is now employed to the immediate benefit of himself and his family, and ultimately to the increase of the national stock.
>
> (Vancouver [1808] 1969: 98)

Thus moral improvement and the agricultural improvement of the heathlands were deemed to be parts of one and the same process. Improving the heathland increased the income of the Rolle family. A small farm was built within the Iron Age hillfort of Woodbury Castle in the early nineteenth century with enclosed fields to its south. Even gorse (furze) was being grown as a crop in enclosed fields on the heathlands. In 1808 furze fields of European gorse were being rented for 15–20 shillings annually per acre. Generally cut after four years of growth, their stems were burnt for charcoal. Dwarf gorse was valued at 6–8 shillings per acre and cut for fuel (Vancouver [1808] 1969: 250).

Bermington (1986) has noted two parallel trends that took place in the eighteenth century in relation to grand estates such as Bicton. In the eighteenth century there was a drive towards the systematic enclosure of the common land to create great unified estates under the control of the landowner and his or her agents. Vancouver's survey of the agriculture of Devon published in 1808 had the identification of land suitable for improvement as a primary aim. He notes,

> the encouragement held out by Lord Rolle to the peasantry in his neighbourhood, to settle and make improvements on the borders of Woodbury-common and its dependencies, with the healthy appearance of the fir and some deciduous trees in the clumps and plantations of that common, sufficiently denote its powers for improvement, which being disposed of in planting, enclosing, and proper management, are capable of contributing essentially to the enlargement of the national stock. The soil along and towards the heads of some of the hollows, is found of a much better staple than would be expected from an examination of the ridges and higher parts of these commons, and affords opportunities for immediately enclosing some large tracts for the purpose of pasturage and tillage.
> (Vancouver [1808] 1969: 293)

Improvement went hand in hand with an increase in agricultural production and a more scientific approach to agriculture. What had been an open English landscape around the heathlands was rapidly transformed into a network of small enclosed fields. The land itself was cultivated by leasehold tenant farmers employing landless labourers. At precisely the same time the garden was transformed by wealthy landowners from being a relatively small-scale formal structure by the house into an extensive, natural-looking landscape garden. The landscape garden's aesthetic effect depended ultimately on its utter contrast with productive agricultural land. The 120 acres of the deer park at Bicton grazed only by 200 fallow deer (Whittaker 1892: 48), economically useless and romantically ('naturally') landscaped, has to be considered in its contrast to the rescaling and redesigning of the wider landscape through enclosure into an artificial-looking network of more or less rectangular enclosed and hedged fields. Consequently 'a natural landscape became the prerogative of the estate, allowing for a conveniently ambiguous signification, so that nature was the sign of property and property the sign of nature' (Bermington 1986: 14). During the great period of enclosure between 1750 and 1815 the garden and 'nature' were not regarded as being in opposition but in symbiosis.

The Bicton parkland had its ha-ha, whose introduction to England is attributed to Charles Bridgeman, allowing one to dispense with fences or hedges while keeping unwanted livestock out of the estate (Figure 10.11). Horace Walpole noted how it allowed 'the contiguous ground of the park without the sunken fence … to be harmonized with the lawn within' (cited in Bermington 1986: 12). However, as the process

Figure 10.11 Part of the ha-ha at Bicton (Source: author)

Figure 10.12 View from the orangery at Bicton looking across the mirror lake to the distant obelisk (Source: author)

of enclosure proceeded, creating an increasingly artificial landscape external to the park, visual prospects had to be refined to avoid the 'raw-looking new enclosures' (14). The establishment of tree belts along the margins of the estate and the judicious planting of tree clumps facilitated this. The 1845 estate map of Bicton contains an explicit statement that the land in front of the obelisk visible from the formal Italian gardens was not to be ploughed but left as pasture (Figure 10.12).

The entire Bicton estate was an ostentatious display of wealth, power and social domination, from the grazing deer in the extensive parkland to the structured views from the Italian gardens across the landscape to the various architectural elements of the estate: bridges, gatehouses, tower, palm house and so forth. The collection of exotic trees in the arboretum, the collection of exotic shells, the equally exotic collection of birds and animals in a menagerie near to the house, the extensive library, the exotic plants in the palm house all distinguished the Rolles as being people of learning. Cultivation and culture were one and the same thing and the Bicton estate was quite literally a place where culture was being cultivated in stark juxtaposition to its adjacent wild and pagan heathland.

11

Early military occupation and use of the heathlands

Christopher Tilley and Karolína Pauknerová

A limited series of excavations and a survey of a part of Aylesbeare common down-slope to the north of the Bronze Age summit cairns was undertaken in 2009, centred on SY 0500 9050 (Figure 11.2). Work was undertaken here because of the presence of archaeological features revealed in a roughly rectangular area that had been topsoil-scraped a few years previously. This was on northwest-sloping ground running down to an amphitheatre-shaped marshy area immediately below it and measured approximately 50 m × 20 m. The scraped material had been piled up in a bank running along the edge of the wetland. At the far southeastern end of the scrape part of a structure composed of large pebbles had been revealed (Figure 11.3). Within the remainder of the scrape subsequent vegetation growth revealed the base, or part of the base, of five circular structures forming a NW–SE row running along the contours of the hill slope (Figure 11.4). Subsequent fieldwork established that this row of circular features continued to the northwest, where the land had not been scraped, and that they were just discernible in the dense heathland cover of gorse and heather as circular ditches surrounding level platforms about 5 m in diameter. This tallied with the diameters of the five structures in the scraped area (4–5 m in diameter) and it was clear that all but a basal fragment of the ditch, only a few centimetres deep, had been removed.

A ground-walking survey of the area up-slope from the scrape and to its east that had been recently swaled revealed the presence of two large circular structures consisting of a low bank with an external ditch and a very low, irregularly shaped mound within the southern circle (Figure 11.4). Back in 1937 George Carter had carried out a series of archaeological excavations on Aylesbeare Common, including part of the summit area in the vicinity of the Bronze Age pebble cairns, and had

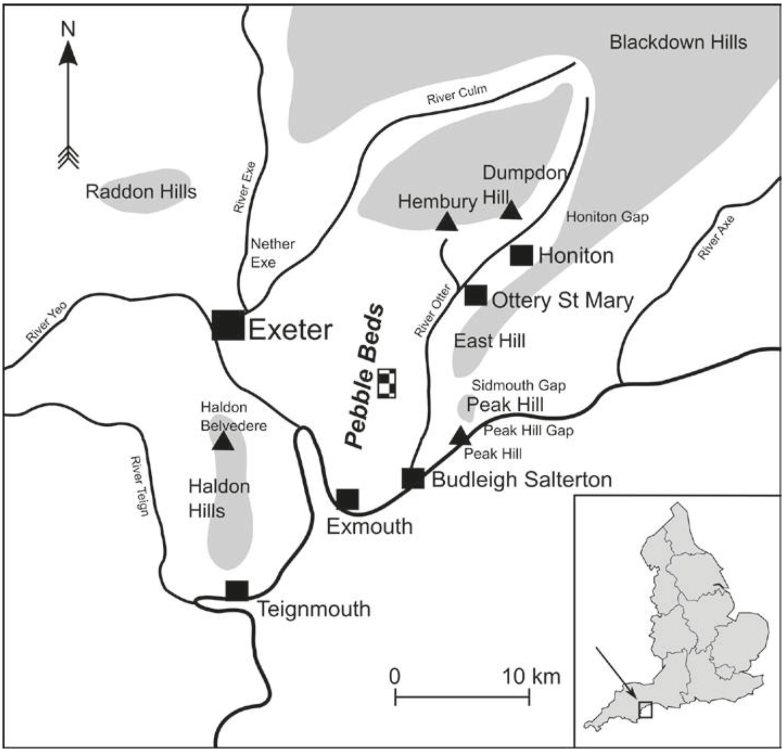

Figure 11.1 Location map of Aylesbeare Common with survey area (Source: author)

discovered a series of spectacular pebble platforms that we now interpret as being of Middle Bronze Age date (discussed in Chapter 6). In the same publication Carter reported on the excavation of a small barrow in the bog to the north of the summit area. He describes it thus:

> Aylesbeare No. 6. On the edge of the bog in the great natural amphitheatre, below the hill on which these mounds are situated [here Carter is referring to the prehistoric pebble platforms that he excavated that were covered by low mounds] is a low earthen mound about 16ft in diameter, surrounded by a shallow trench. Its surface was not paved. It had been erected over ashy earth, at the base of which was a red pebble lying on water-bearing ground. The mound was apparently erected over a fire sanctifying a spring.
>
> (Carter 1938: 94)

Carter believed this mound to be prehistoric in date, in common with the pebble pavements he had excavated near to the summit of

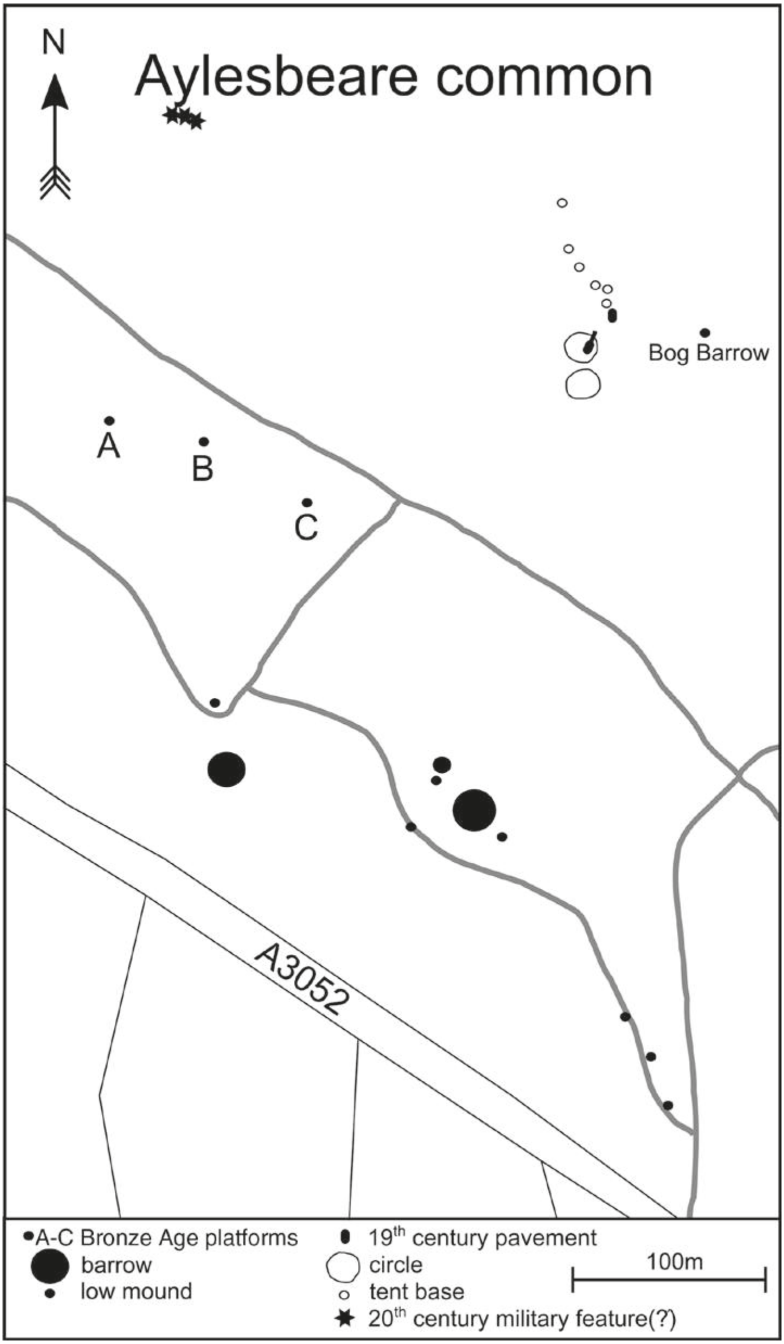

Figure 11.2 GPS survey map of Aylesbeare Common by Hazel Riley showing prehistoric cairns, low mounds and late eighteenth-century military structures (Source: author)

Figure 11.3 The rectangular structure exposed in the scrape (Source: author)

Figure 11.4 The circular structures exposed in the scrape (Source: author)

Aylesbeare Common to the north and in the vicinity of the Pebble cairns.

Extensive field walking failed to locate any of the pebble platforms that Carter had found (he left behind only an annotated map with their locations that was unfortunately left unnumbered) (Figure 11.5) but the barrow he described was still visible, with Carter's excavation trench, left unfilled, running through its middle.

In the same report that Carter had published about the barrow in the bog he briefly mentions another group of sites as follows: 'Aylesbeare No. 22 was one of a group of six mounds very similar to No. 6 [the bog barrow], but standing on the hill side. It is a flat unpaved mound, roughly hexagonal in plan, surrounded by a trench, oval in plan, and by a very low

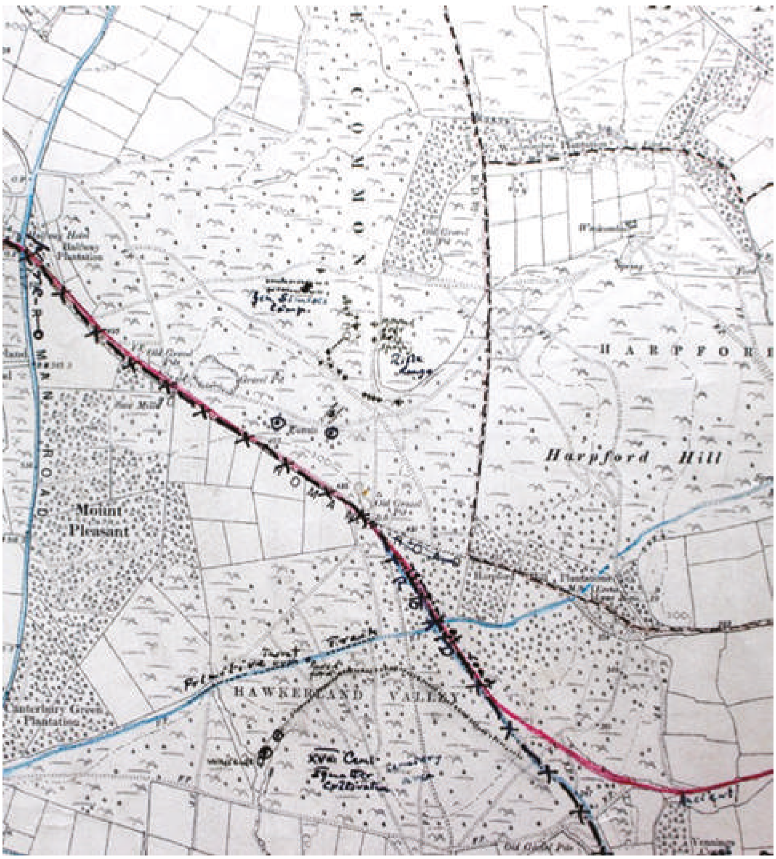

Figure 11.5 Part of Carter's annotated 1906 6-inch Ordnance Survey map of Aylesbeare Common showing the places he excavated in 1937 (Source: Carter archive)

bank of earth whose outer edge is circular. The axes of the mound measure 13ft. 9ins and 11ft. 9ins. Another mound of the group is hemispherical in cross section' (94). He goes on to report that 'the upper portion consisted of barrow earth, below which at the centre stood a great cairn of stones, encased in alternating layers of clay and ash …. No charcoal or flint was found in the digging. The surrounding ditch was examined. It was found that it and the others of the group were provided with a drain for water at the lowest point. The drain was paved and in and under the paving was much charcoal.' He published no photographs but in the somewhat chaotic archive of unpublished manuscripts, correspondence and photographs belonging to him there are a number of photographs labelled on the back as 'Simcoe's circular tent' and 'Simcoe's flagstaff' (Figure 11.6 and Figure 11.7). The precise location is unknown and Carter appears to have written nothing further about these structures.

Figure 11.6 Carter's photograph of 'Simcoe's tent structure' from 1937, one of his sites numbered Aylesbeare no. 22 (Source: Carter archive)

Figure 11.7 Carter's excavation photograph of 'Simcoe's tent' from 1937 showing detail of surrounding ditch (Source: Carter archive)

The local antiquary P.O. Hutchinson visited this area of Aylesbeare Common on 31 May 1861 with Mr Heineken for an 'antiquarian expedition'. He records in his diary:

> We then examined a number of very curious pits on the open heath, of which we had before heard but never seen. They are called 'Soldiers pits' tradition says they were made by soldiers once encamped on this hill. We mean to come another day expressly to examine them.

On 14 June 1861 they did so:

> Started with Mr Heineken to examine the 'Soldiers Pits' on Aylesbeare Hill. They lie some 300 to 400 yards north east of the two tumuli planted with fir trees on the top of the hill between Newton Poppleford and the Half House. They consist mostly of pits dug in the ground and the east used to make walls. The pits were evidently reduced. A gap or door appears in each. They are 6 feet by 8 feet, and 6 feet by 12 feet and some larger. They are mostly extended like a street in two parallel rows for more than half a mile. These are also several circular trenches. Perhaps these

were gutters cut around tents to prevent the wet getting into them. We also found two ridges in the form of circles. One we measured was 60 feet across. The other was larger, between one of these and a long square pit we found some parapets made of pebbles found on the hills. We had been told that many patches of products existed in different places. Some had been destroyed by the men cutting turf. Round a bottom, on the north, there are many curious earthworks. There is also a tumulus in the bottom. That all these were pits where soldiers made camp fires, as tradition says must be incorrect. If they are not the remains of an ancient village, some suppose that may have been made about 1799, when a French invasion was expected, or in 1803, when Lieut. Gen Simcoe had his forces on Woodbury Hill and perhaps a portion of them here. The following fancy sketch [Figure 11.8] may give some idea of their position.

(Hutchinson 1870–81)

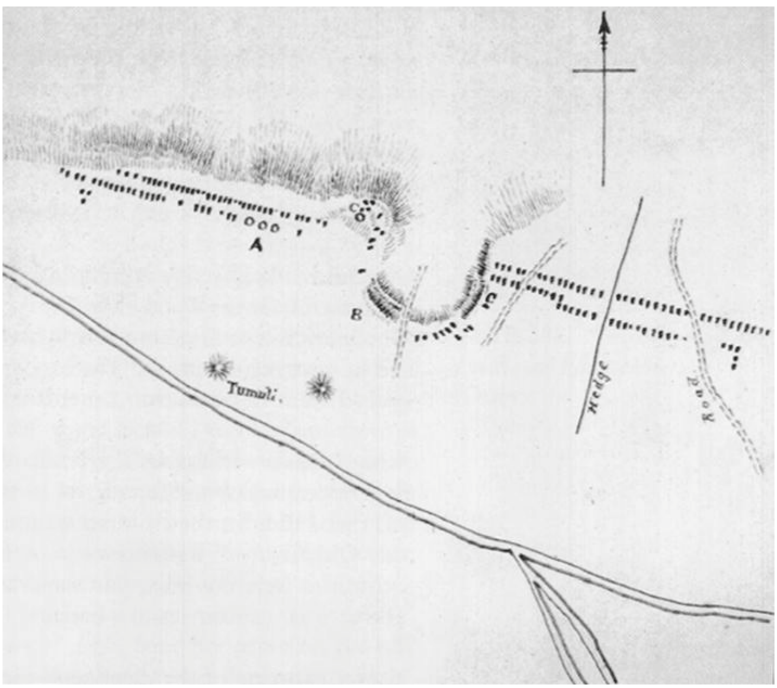

Figure 11.8 Hutchinson's 1861 sketch map of the soldier's pits on Aylesbeare Common

The ‘soldiers pits’ are visible on 1947 RAF aerial photographs as two parallel rows of structures, not too dissimilar to Hutchinson’s depiction. We decided to excavate across the middle of the destroyed structures in the scrape and the pebble structure that had been uncovered as a salvage exercise. In connection with this we took a trial trench across one of the preserved circular structures on the same line as the others and investigated a low mound discovered in field walking 11.7 m distant to the south of the SE end of the scraped area within a low circular bank (Figure 11.9).

The excavated structures

1. The circular structures

Five shallow circular ditches (I, II, III, A, B) had been exposed by the machine scraping (see Figure 11.3 and Figure 11.9). The circular ditches were on average 5.6 m in diameter (measured to the outside side of the ditches) and during excavation parts of them were visible because of the vegetation that grew in them. These features form a group, the average distance between them about 4.6 m (see Figure 11.10). This structure was simply a levelled feature in the natural surrounded by a cut ditch (see Figure 11.11 and Figure 11.12). There were no finds.

Interpretation

Features I–III and A and B are very similar in size and morphology to the undamaged feature C. All of them have a similar diameter, in average 5.5 m. from the outer edge of the surrounding ditches. All of them have a circular shape and C a slightly (0.2 m) elevated centre. They are all surrounded by ditches. There were no finds with which to date the structures or their use: no artefacts or fire residues.

The excavated structures confirm Hutchinson’s 1861 account, cited above, of the soldiers’ pits on Aylesbeare Common, that they were arranged in rows, just above the marshy ground below. The pavements formed the base of circular ‘bell tents’ used by the British Army at the time (Haythornwaite 1979: 149), with the surrounding ditches channelling away rain-water from the interior. The bell tent is ‘a round tent, with perpendicular walls, one or two feet high, and a conical roof, supported by a central pole and short stay-ropes [see Figure 11.6]; the diameter of its base is 14 ft. [i.e. 4.27 m], its height 10 ft., and the area of its base 154 square feet. It cubes about 512 ft., and is presumed to be capable of sheltering on the march from twelve to fifteen men. It weighs when dry

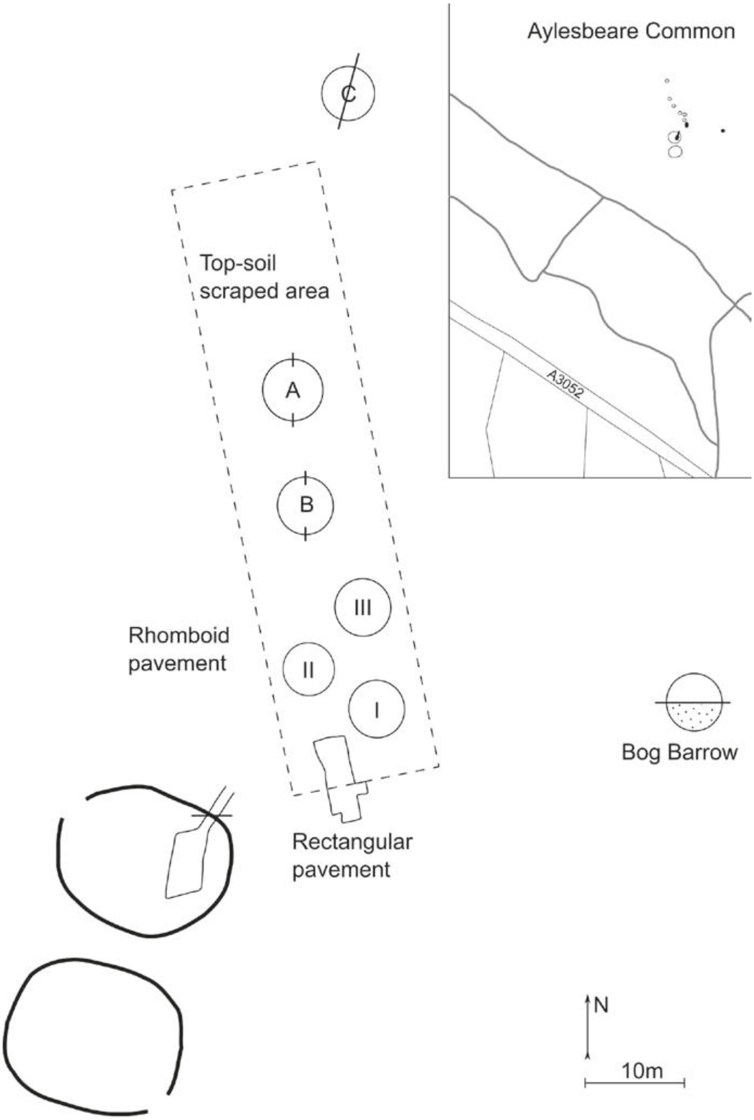

Figure 11.9 General plan of the excavated sites and sections (Source: author)

65 or 70 lbs. The covering is of linen canvas of fair quality, although it has occasionally been made of cotton canvas' (Evans 1873) (Figure 11.13).

Francis Galton, speaking of this tent, says: 'It is so peculiarly objectionable, as to make it a matter of surprise that it was ever invented and

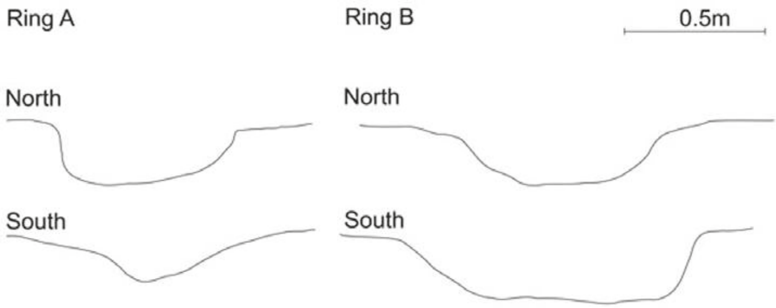

Figure 11.10 Circular ditch A and circular ditch B: profiles

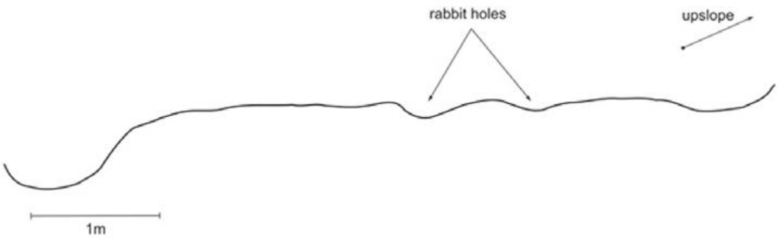

Figure 11.11 Feature C: profile

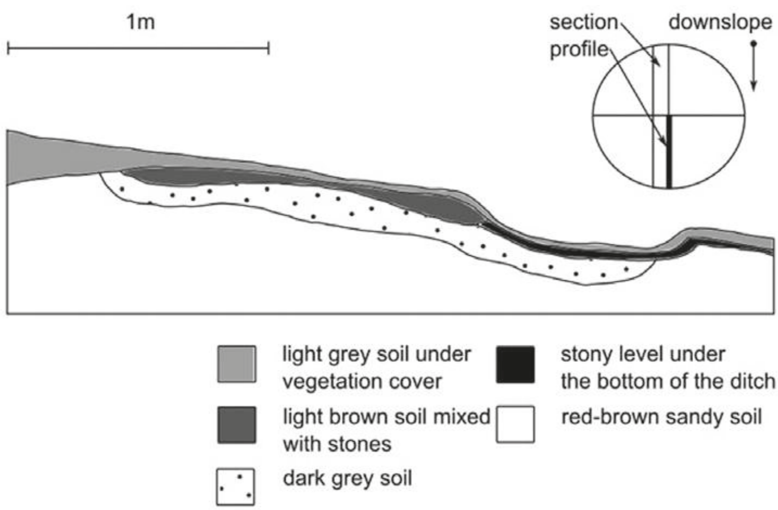

Figure 11.12 Feature C: section (Source: author)

Figure 11.13 Bell tents of the British Army. Roger Fenton's Crimean war photograph series ('Balaklava from Guard's Hill', LC-USZC4-9168). Source: http://allworldwars.com/Crimean-War-Photographs-by-Roger-Fenton-1955.html (accessed 19 April 2016)

used. It is difficult to pitch, it requires many tent-pegs, it has ropes radiating all around it, over which men and horses stumble, and it is incommodious and ugly' (Galton 1867: 154, quoted in Evans 1873).

2. The bog barrow (SY 05661 90249)

This structure (134 m OD) is situated just below a gentle east-facing slope on the edge of an extensive boggy area of wetland heath. It is just below and *c.* 30 m to the east of the end of the topsoil-scraped area with circular features discussed above. It is a round mound surrounded by a circular ditch with an irregular bottom. The mound is perfectly circular and 6 m in diameter and 0.5 m high in the middle. The surrounding silted ditch was 0.9–1 m wide and 0.3–0.5 m deep. In the centre Carter's 1937 square section was 0.8 m × 0.8 m wide; he also cut a shallow section across the surface of the mound in an easterly direction but did not finish it (Figure 11.14).

In 2010 surface vegetation was removed from the entire mound and the SE quarter was excavated. The surface layer consisted of turfs and roots and a red-brown humic soil and contained a modern bullet casing.

Figure 11.14 Photograph of the deturfed bog barrow with Carter's 1937 trench in the middle (Source: author)

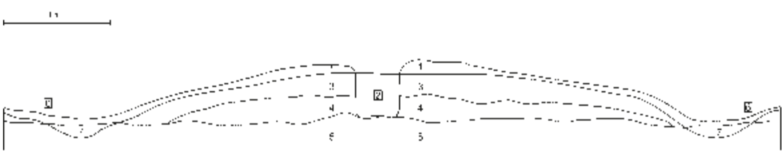

Figure 11.15 Profile of the Bog Barrow showing the position of Carter's trench. (1) Vegetation cover; (2) Carter's 1937 trench; (3) very compact hard material of brownish-grey colour, a mixture of soil, grit and very small pebbles, with a few lenses of white and red sand and black soil; (4) soft very fine-grained material of black colour with small flecks of charcoal; (5) old land surface; (6) cut of ditch; (7) fill of ditch (Source: author)

The remainder of the material (context 3) was very compact and hard. It had brownish-grey colour and was a mixture of soil, grit and small pebbles. In it were lenses of white and red sand and black soil appeared. There were no artefacts in context 3. Near to the base of the mound differently coloured material appeared (context 4). It was soft, very fine-grained and black with small flakes of charcoal (that were all plotted) and covered the entire quadrant. Underneath was the natural surface. Charcoal was the only find material (Figure 11.15 and Figure 11.16). We

Figure 11.16 Section of the Bog Barrow seen from the south while taking environmental samples. The two differently coloured layers of contexts 2 and 4 (see Figure 11.15) are clearly visible. To the right the receding part of the profile is part of Carter's trench in the centre of the mound (Source: author)

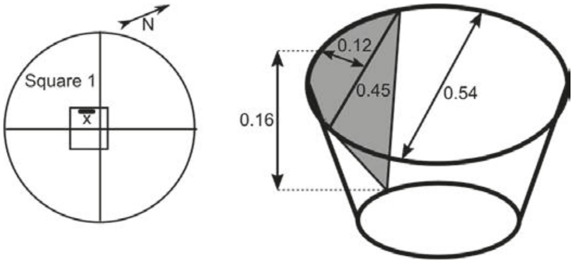

Figure 11.17 Part of a pit from Carter's section; the grey part was recognized in the side of Carter´s trench. The position is marked by the letter 'x' (Source: author)

Table 11.1 Radiocarbon dates for the bog barrow.

Material dated	*Context*	*Lab. number*	*Date B.P.*	*2 sigma calibrated date*
Corylus avellana	Base of ditch	BETA 292812	150±30	AD 1660 to 1890
Quercus r-w, 8 years	Base of ditch	BETA 292813	160±30	AD 1660 to 1710 and AD 1710 to 1880
Quercus r-w, 5 years	Base of mound	BETA 292814	190±30	AD 1650 to 1730 and AD 1810 to 1920
Quercus r-w, 9 years	Base of mound	BETA 292815	70±30	AD 1690 to 1730 and AD 1810 to 1920

also found part of a pit. Carter had drawn this in his section. Its edge was inlaid with small pebbles (Figure 11.17).

Following the excavation the mound was restored and Carter's trench infilled. Thirty charcoal samples were analysed by Dana Challinor (Challinor, Appendix 15). She reports that the vast majority were of oak, much of it from fairly small-diameter roundwood. Two samples contained some heather/ling and one a quantity of alder/hazel. Four of the charcoal samples were submitted for radiocarbon dating, two from the ditch and two from the base of the mound. The results were consistent: all were from around AD 1800 (Table 11.1). This accords very well with the dates given by Hutchinson, 1799 or 1803, for the construction of the soldiers' pits on Aylesbeare Common.

Interpretation

It seems possible that the mound with its surrounding ditch was just another tent base constructed by Simcoe's militia and that the central pit inlaid with pebbles supported a pole. If this was a tent base its purpose remains enigmatic. Why did Simcoe's troops dig a tent base with surrounding ditch on the edge of a bog in very wet ground (as we were excavating the surrounding ditch was constantly filling with water and was clearly situated on a spring line)? All the other structures of similar size and shape are located higher up on the sheltered hill slope, a short distance from but not actually in the bog.

3. The pebble structure in the scrape

This had been partly exposed and damaged by the machine-stripping operations and was excavated in 2009. It proved to be a flat rectangular pavement composed of large pebbles, 7.3 m long and 2.3 m wide, levelled into the hill slope. Down-slope there was an adjoining area of pebbles measuring 1 m square. The pavement is composed of pebbles of various sizes, some laid flat, others vertically, creating a relatively smooth and stable level surface that was comfortable to walk across (Figure 11.18). This was interpreted as a house floor with an entrance on the down-slope side. The pavement was sectioned along the up-slope edge. This showed that the

Figure 11.18 Photograph of rectangular structure in the topsoil-scraped area fully exposed (Source: author)

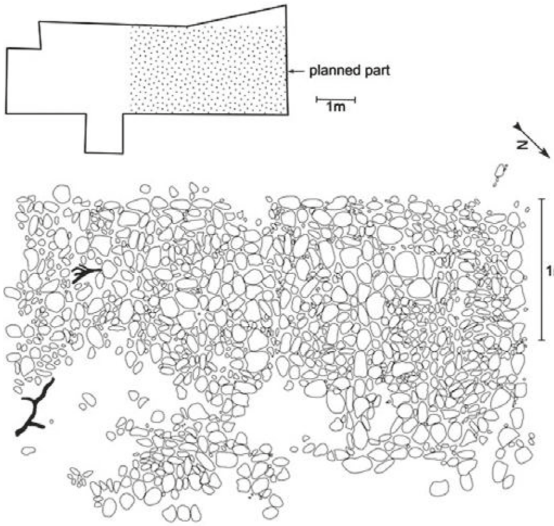

Figure 11.19 Plan of the rectangular structure (Source: author)

pebbles used to construct it were large, 10–18 cm in length and set 6 cm deep into the underlying soil, the colour and composition of which did not differ from the natural surface. There were no artefacts or charcoal. Most pebbles were set vertically but some of the very large ones flat or horizontally. On Hutchinson's 1861 plan he mentions 'officers' tents' at the eastern end of the middle of two rows of the soldiers' pits (see Figure 11.8). It may be that the officers at Aylesbeare did not live in tents at all but in a much more substantial rectangular house with a well-laid pebble floor.

4. Structures found underneath a low irregular mound to the southwest of the scrape

Another pavement was discovered 11.7 m directly up-slope from the rectangular house pavement described above. The presence of some feature here was indicated by a low (0.2 m high) and very irregularly shaped mound approximately 2–3 m in diameter just visible on the surface. This mound was enclosed by a low irregular circle (see Figure 11.23 and discussion below). Excavation revealed beneath and beyond the extent of the mound a pebble pavement. It was situated on ground sloping to the ESE and had a rhomboidal shape with long sides of 5.85 and 5.3 m and short sides of 3.45 and 3.1 m. At the east side a paved path adjoined it. This was 0.85 m wide and ran straight ESE for 5 m down the hill slope in the direction of the bog below. Its direction then turned slightly towards the SE. Excavation did not continue after this point. The path was very well preserved for the most part, but 1 m from the point at which it turned direction from running ESE to SE the surface pebble structure was very different from the rest. The pebbles here were random in size and not well laid. It might have been repaired here or built by a different person who was unskilled. There were two pebble gullies running across the path to divert rain-water, one where it was connected to the rhomboidal pavement, the other 3 m distant down-slope.

The upper rhomboid-shaped pavement was at least one third destroyed, hence the irregularity of its form The whole structure comprised pebbles and had edgings of large pebbles on the sides that were preserved. There was also a depression that we interpreted as another water gully running across the shorter dimension, where some of the pebbles were noticeably smaller than the rest and carefully chosen to construct the shallow sides and base of the gully. Most of the structure was composed of pebbles of between 8–15 cm in size laid vertically, contrasting significantly with the larger pebbles used for the edging, which were laid flat or horizontally. This was documented only by a sketch plan, photographs and section drawings (Figure 11.20, Figure 11.21 and Figure 11.24).

Following their exposure both the rhomboidal-shaped pavement and the path were sectioned. These sections did not reveal any artefacts or dateable material. In both cases the pebbles were set in soil whose colour and composition was the same as the natural.

5. Large circular structures to the south of the scrape

Following swaling of the area two large circular structures were located by ground survey and subsequently plotted as part of the GPS survey of the area. They consist of a low bank with slight traces of an external ditch (Figure 11.22 and Figure 11.23) situated on a gentle N–S slope. The GPS survey revealed that both were somewhat irregular in shape. The northern circle has an internal diameter of 16 m W–E and 13 m N–S. The southern circle situated immediately above it on the hill slope 2.5 m distant from it has the same W–E and N–S internal dimensions. Entrance ways into either circle were unclear on the ground and the small gaps marked on the GPS plan are probably damaged areas of the banks rather than entrances. A small section 1 m wide was dug across the middle of bank and ditch of the northern circle on the eastern side. The ditch was U-shaped, 1 m wide and 0.15 m deep, while the bank was also 1 m wide and 0.18 m high (Figure 11.24). The material from the ditch had simply been scraped up to form the bank and was of a uniform light grey colour, containing

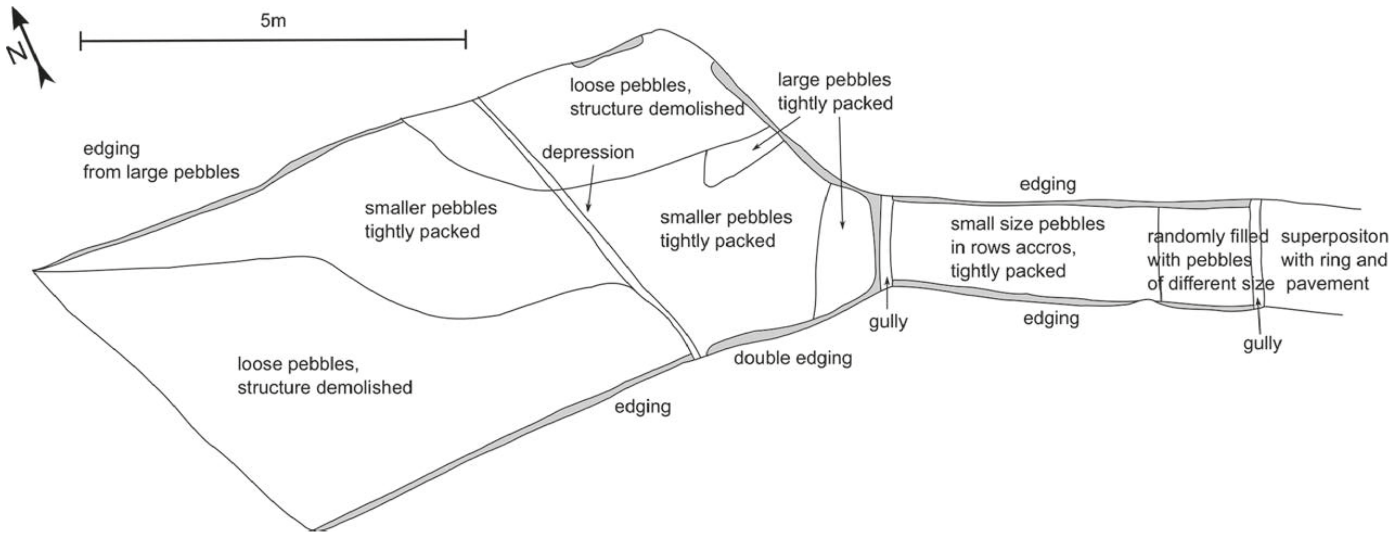

Figure 11.20 Sketch plan of the rhomboid pavement and path (Source: author)

Figure 11.21 (A): Photograph of rhomboid pavement and path; (B): detail of the path leading away from the pavement (Source: author)

only a few small pebbles. There were no finds or dateable material. The northern circle enclosed the irregularly shaped mound (marked on Figure 11.23) under which the rhomboidal pebble pavement discussed above was discovered. The bank ran over the path leading away from it. Thus the circles, both of similar form and morphology, are, we presume, contemporary and post-date the construction of the path. Without further excavation their purpose and date remain obscure but they are in all probability of Second World War date, part of the Exeter airfield decoy structures located on Aylesbeare Common (see Chapter 14).

Discussion and conclusions

The radiocarbon dates for the mound in the bog, similar in size and morphology to the other circular structures, indicate a date of around AD 1800.

Figure 11.22 The circular structures marked with flags seen from the southwest (Source: author)

There can be little doubt that these circular structures were part of a line of bell tents as discussed above. There is an interesting difference between the example (or examples) of the bell tent structures that Carter excavated in 1937 that had pebble floors and the one that we trial-trenched and the barrow in the bog that did not. One possibility is that those that Carter excavated are examples of the officers' tents that Hutchinson refers to in his diary. Another is that the original pebble floors were removed and the pebbles taken away for building work. Hutchinson's account refers to 'parapets of pebbles' during his 1861 site visit and that 'we had been told that many patches of products existed in different places. Some had been destroyed by the men cutting turf.' What is probably meant by this is that local labourers were digging both turf for burning and pebbles for building work and piling them up ready to cart away. The soldiers' pits, if they were all originally paved with pebbles, would have provided a readily exploitable source easy to locate on the hill slope.

On the 1840 tithe map of Aylesbeare parish no buildings are marked in this area and so it is likely that the rectangular house base at the end of the scraped area and the pebble structure with a path leading off it post-date 1840. They might also be contemporary with and related to the row of bell tents. The rhomboidal shaped pavement area and the

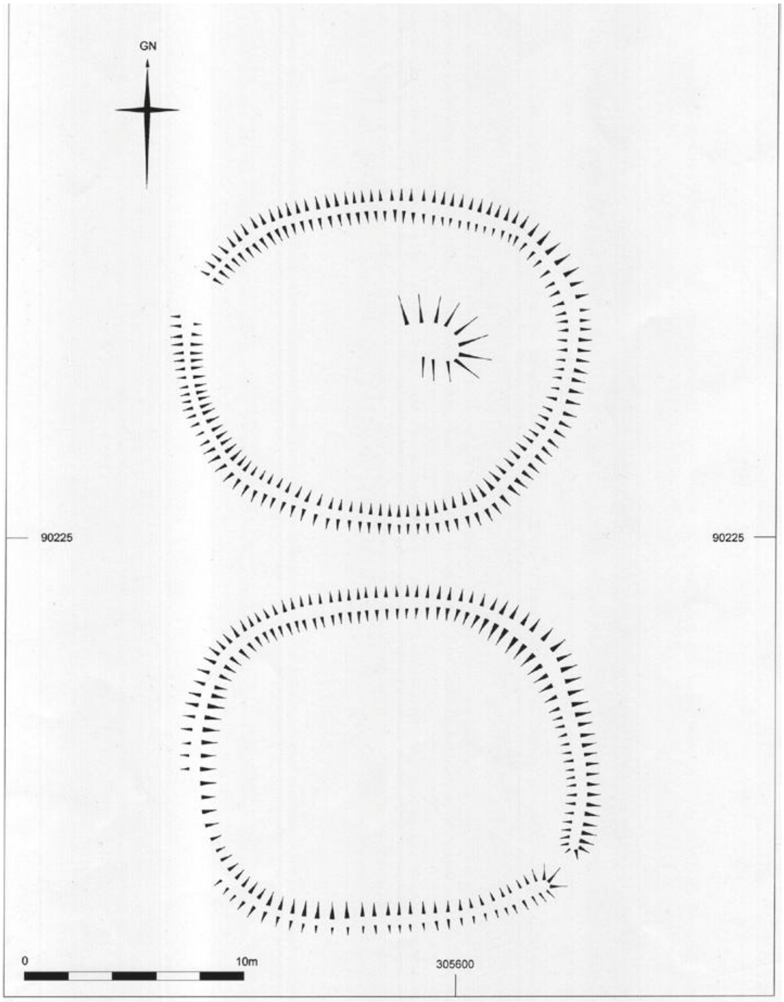

Figure 11.23 Plan of the circles (Source: author)

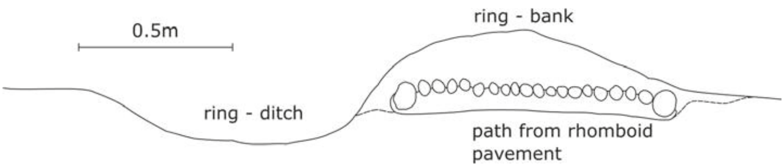

Figure 11.24 Profile of the bank and ditch of the northern circle showing the underlying path from the rhomboid pavement (Source: author)

path leading off it, both with their drainage gullies, are entirely typical of surviving examples of farmyards and paths in the area of the East Devon Pebblebed heathlands from the eighteenth and nineteenth centuries (see Chapter 13). The two irregular circles still remain enigmatic. One possibility is that they are the two circles 'in the form of ridges' that Hutchinson mentions in his diary. The one he measured was 60 feet in diameter (18 m), that is, the same approximate size.

General Simcoe (1752–1806), a gifted and strategic commander, had been appointed the first lieutenant-governor of Upper Canada in 1791 and founded the town of York (now Toronto) the following year. During almost all the eighteenth century Britain was at war with France, but following the French Revolution in 1789 the ruling classes in Britain were increasingly worried about the development of revolutionary tendencies among the populace. This was a time of social unrest and bread riots in the wake of rural destitution. In 1793 Britain had declared war against France and the Napoleonic wars began. Simcoe returned to his native Devon from Canada in 1798, being appointed to command the forces of the west of England because of the very real threat of a French invasion. He had particular responsibility for Somerset and Devon. From 1799 he spent a considerable period of time in his new house at Budleigh Salterton. Perched high up on the side of a hill, from here it was possible for him to watch for any French ships approaching from the west or east along the English Channel.

Woodbury Castle was occupied by Simcoe's troops on an intermittent basis between 1798 and 1803 (Wall 1906; Todd 2005: 211) and it is probable that this occupation resulted in damage to the hillfort interior on the southern side at this time where guns were located on the ramparts. They also made use of Castle Farm in the hillfort interior (now demolished), which had a series of fields (eighteenth-century improved land: see Chapter 10) on the southern side. The field banks now contain a modern pine plantation.

During June 1799 Simcoe arranged a spectacular review of his troops at Woodbury Castle. This included 139 pieces of artillery with horses, 734 cavalry and 2,748 infantry (Fryer and Dracott 1998: 211). Simcoe's review must have been political since there were bread riots at the time in Honiton, Ottery St Mary and other towns across the southwest. At least some of his troops, including contingents from Honiton and Ottery St Mary, were probably temporarily stationed on Aylesbeare Common in a line of bell tents. Such cramped and miserable living conditions could not be sustained indefinitely. The encampment on Aylesbeare was almost certainly relatively short-lived since a temporary peace was made with France in October 1801 before a new outbreak of hostilities.

The account of the British Army bell tents discussed earlier in this chapter is interesting not only in describing the miserable living conditions but also in that these tents were regularly used by the British Army *on the move* and could be erected very quickly. Military manoeuvres took place elsewhere with temporary camps of bell tents for the men taking part in them (Smith 1995).

Simcoe's troops would have been, for the most part, farm labourer 'volunteers' forced into military service. The troops were stationed on Aylesbeare Common because it was barren land and of no agricultural value and so would produce little hostility among local landowners. They pitched their tents in the lee of the hill in a sheltered position away from the prevailing southwesterly wind and rain. The marshy ground with a spring line directly below the line of bell tents would have provided a ready water supply. Aylesbeare Common was an ideal location for an encampment in another respect. From the summit of the hill to the south of the tent line the sea could be seen and any approaching French ships observed. To the north the site was only a short distance from the main turnpike road to London (the current A30), along which any invading army was likely to march.

12
The embodied poetics of a nineteenth-century heathlands landscape

Apart from Vancouver's account discussed in Chapter 10 there is very little historical information about the use of the Pebblebed heathlands. We know that they were not settled. All the villages and farms occur on their fringes. The general pattern of their use continued from the medieval period and before. The open character of the landscape with a virtual absence of trees was maintained by periodic swaling that would take place during the drier summer months and by the grazing of animals, principally cattle and sheep. Although they were owned by the Bicton estate, Commoners from the surrounding villages had grazing rights. Additional activities were furze cutting and digging for peat to provide fuel. Pebbles, the only local source of stone, were quarried or collected for building materials (see Chapter 13).

The principal 'historian' and 'ethnographer' of the English lowland heathland, who provides a vivid insight into how the land was used and its local meanings in the nineteenth century, is the novelist Thomas Hardy (1840–1928), who was born and brought up on the edge of the Dorset heathlands. His knowledge of them gains full expression in *The Return of the Native* ([1878] 1965).

Hardy's Egdon Heath, described in the novel, is a fictional creation from his experience of at least a dozen different heathland areas in southeast Dorset, 'these being virtually one in character and aspect, though their original unity, or partial unity, is now somewhat disguised by intrusive strips and slices brought under the plough with varying degrees of success, or planted to woodland' (Hardy [1878] 1965: v). The importance of the novel in relation to the present account resides both in its historical and social realism and in Hardy's descriptions of a lowland heathland landscape well known since his youth. His Egdon Heath is only just over 80 km due east of the Pebblebed heathlands. Such is the power of Hardy's work that it has firmly entered, directly or indirectly, into the contemporary social imagination, colouring our ideas of what heathland is and why such a landscape might now be worth conserving. Natural England, the Environment Agency, the Royal Society for the Protection of Birds and other environmental organizations have since the late 1980s been cooperating to restore and manage a vision of Hardy's Dorset heathland in their own Egdon Heath Project, in which reference to the novel has become a publicity tool (see www.dorsetforyou.com/336679).

In the novel Hardy describes the wildlife of the heath, traditional heathland occupations and the deep-rooted and enduring pagan customs of its inhabitants. On his heathland the grazing animals were primarily a breed of small, wild, hardy Exmoor-type ponies, herds of up to 30 animals but too few to detract much from the solitude of the heath. These are the 'heath croppers' that occur throughout the novel. Sheep and their shepherds were only to be found on the downland to the north and west lying off the heathland areas. Dairy herds similarly occur off the heath and there are no grazing cattle. The wildlife of the heaths that he mentions include night hawks, buzzards, night jars, rabbits, adders, grass snakes, toads and frogs breeding in shallow pools that dry up during the summer, glow worms, spiders, ants, moths, bats, rare orange butterflies, emerald green grasshoppers and huge flies 'ignorant of larders and wire netting' (156, 258 and elsewhere). The vegetation consists of tall and short furze or gorse, bracken, heather and brambles, thyme, lichens and moss.

The primary heathland occupations consist of furze and turf cutting to provide fuel and there are numerous gravel pits. Brambles are used for furze faggot bonds (259) and bracken for numerous purposes including animal bedding and preserving apples (118). The heath provides its fruits of whortleberries and blackberries and there are numerous fungi in the late summer and autumn. Furze faggots, subsequently collected and built up into ricks, could be sold for half a crown a hundred (256). Furze and turf cutting are solitary, monotonous and arduous occupations requiring few tools: large heart-shaped spades for the latter, a whetstone and a billhook for the fomer. Special protective attire is a necessity for working in the furze, sturdy boots, thick, bulging leather leggings, long gauntlets and sleeve waistcoat: 'the silent being who thus occupied himself seemed to be of no more account in life than an insect. He appeared as a mere parasite of the heath, fretting its surface in his daily labour as a moth frets a garment, entirely engrossed with its products, having no knowledge of anything in the world but fern, furze, heath, lichens and moss' (283).

Although Hardy does not romanticize his heathland characters, as he was only too aware of the vicissitudes of rural labour, he clearly has a passion for a landscape that in his day had already become virtually obsolete from an economic point of view: 'a place which had slipped out of its century generations ago, to intrude as an uncouth object into this [the nineteenth century]' (181).

William Cobbett, farmer and radical politician, in his famous *Rural Rides* undertaken during the 1820s, consistently describes the heathlands that he encounters as being 'ugly', 'wretched', 'villainous' and 'rascally' (e.g. Cobbett [1830] 2001: 39). Hardy's veiled comment on such a perspective is this:

> How could this be otherwise in the days of square fields, plashed hedges, and meadows watered on a plan so regular that on a fine day they look like silver gridirons? The farmer, in his ride, who could smile at artificial grasses, look with solicitude at the coming corn, and sigh with sadness at the fly-eaten turnips, bestowed upon the distant upland of heath nothing better than a frown.
>
> (Hardy [1878] 1965: 181)

What Hardy was commenting on was that until the early nineteenth century the heath had been a valued resource and was an integral part of the rural economy. A will then developed to improve this barren and useless land through its agricultural transformation.

Hardy's heath, as an obsolete landscape, is one in which rural traditions and pagan customs endure, long forgotten elsewhere. In name the scattered inhabitants of the heath are Christians and parishioners 'but they virtually belonged to no parish at all' (128). The only time any of the characters in the novel attend church is for wedding ceremonies that take place off the heath. Eustacia Vye, one of the central characters in the novel, is believed by some to be a witch. Susan Nonsuch makes an effigy of her out of beeswax and pricks it with pins to protect her son. Maypoles are lavishly decorated with wildflowers, the mummers play out a traditional St George play at Christmas time. Oil extracted from freshly killed adders is used as a cure for snake bite. Dancing takes place on Guy Fawkes night around a fire lit on top of a prehistoric barrow, itself an ancient rite of pagan origin (see Chapter 3).

The fire takes place on top of a Bronze Age barrow situated in the centre of the heath. Fire is also used as a messaging device for secret lovers' trysts taking place at the barrow. Hardy's heath is transiently occupied by the striking figure of the itinerant reddleman, his clothing and flesh saturated with the red dye that he sells as redding for the sheep that graze in fields beyond it. A traditional bogeyman for children, 'he was one of a class rapidly becoming extinct in Wessex, filling at present in the rural world the place which, during the last century, the dodo occupied in the world of animals' (16). Hardy's characters play out roles and take part in customs and events which he learnt of through stories told at his parents' hearth at Higher Bockhampton on the edge of Piddletown (now Puddledown) heath, much of which is presently occupied by conifer plantations.

Landscape and topographical descriptions give verisimilitude to the novel, establishing a historical and cultural setting, grounding it 'out there', and are essential to its realism and appeal:

> [T]he scene before the reddleman's eyes was a gradual series of ascents from the level of the road backward into the heart of the heath. It embraced hillocks, pits, ridges, acclivities, one behind the other, till all was finished by a high hill cutting against the still light sky. The traveller's eye hovered about these things for a time, and finally settled upon one noteworthy object up there. It was a barrow.
> (Hardy [1878] 1965: 19)

The narrative takes place in terms of named topographic features and their spatial relationships, joined by paths and roads, some well worn, others scarcely used. The novel is a figurative mapping of the heathland in relation to which the lives of its characters are embodied. In the map that Hardy drew for the first edition (1878), the heath is depicted as being twice as long, west to east, as it is broad (north–south). A river, the 'Shadwater Weir', bounds the heath to the south. The main characters live at Bloom's End to the west, Mistover to the north, the Quiet Woman Inn to the south and on the eastern side on the periphery of the heath and beyond. There are few roads across the heath, and the characters in the novel generally walk across it to meet each other following the numerous fugitive heathland paths: 'those who knew it well called it a path; and while a mere visitor would have passed it unnoticed even by day, the regular haunters of the heath were at no loss for it at midnight …. The whole secret of following these incipient paths [at night] lay in the development of the sense of touch in the feet' (63).

In the novel the space of the landscape becomes charged with the particular subjective meanings of the enacted story. This is a complex form of metonymy in which the landscape and the characters interact to establish a double meaning and sense of place. Each forms part of the other in their material relations. The landscape of the novel is therefore not a pre-existing self-sufficient entity. It is made into a landscape, into a humanly meaningful place, by the acts of labour and dwelling that are described and the events that take place within its contours. An important role for the landscape is that it reflects the inner emotional state of the characters. Thus it is made human, made into a landscape rather than being a mere environment, by being both inhabited and recorded by Hardy himself.

The realism of Hardy's novel is made possible because this was a landscape that he himself inhabited throughout his life. Being brought up on the edge of Puddletown heath, his embodied relationship with that landscape is described through the medium of the characters. Clym, the native of the heath who returns from Paris to make the heath his home once more, had been 'so inwoven with the heath in his boyhood that hardly anybody could look upon it without thinking of him' (175). Furthermore he was

> permeated with its scenes, with its substance, and with its odours. He might be said to be its product. His eyes had first opened thereon; with its appearance all the first images of his memory were mingled; his estimate of life had been coloured by it; his toys had been the flint knives and arrowheads which he found there … his flowers, the purple bells and yellow furze; his animal kingdom, the snakes and croppers; his society, its human haunters.
>
> (Hardy [1878] 1965: 180)

Hardy's own mental map of the heath and the semi-fictional map of it that he drew to illustrate the book are materialized in the novel. His own individual experiences become distributed through those of the characters that play out their lives within the heathland landscape, while he himself stands outside these lives, orchestrating them as 'independent' narrator. Hardy sets the novel in the period 1840–50, that of his own childhood, and there is little doubt that some of the descriptions are recollections of his own childhood experiences of crossing the heathland. Its frightening aspect at dusk and in the dark is described when the boy, Johnny Nonsuch, returns home: the gorse bushes 'whistled gloomily, and had a ghastly habit after dark of putting on the shapes of jumping madmen, sprawling giants, and hideous cripples' (80). The novel both creates the landscape and the events that take place within it and in turn is created by that landscape. Representation and reality are thus in a perpetual 'artful' and shifting relation in the novel and its pictorial representation in the form of the map that Hardy made out of it. Hillis Miller puts this well: 'novel and map; real map and imaginary map; landscape and map. Each is both prior to the other and later than it, causer and caused, inside it and outside it at once' (Hillis Miller 1995: 21).

The houses of the characters in the novel are distributed around the periphery of the heath. In the map that Hardy drew, a prehistoric barrow, Black Barrow (in the first edition) or Rainbarrow (in later editions), is at the centre (Figure 12.1). It is the fulcrum around which the novel revolves. It provides an important orientation point for the characters as they wend their way across the heath, and it articulates their actions and movements as they move towards or away from it. Hardy describes the barrow thus:

> This bossy projection of earth above its natural level occupied the loftiest ground of the loneliest height that the heath contained .... It formed the pole and axis of this heathery world.
>
> (Hardy [1878] 1965: 19)

The prehistoric barrow itself links past and present through its continued pagan presence in the landscape. It has far more significance to the lives of the heath dwellers than any church, all of which are decentred off the heath. Probably the best description we have of a fire festival (discussed in Chapter 3) is from Hardy:

> It was as if these men and boys had suddenly dived into past ages and fetched therefrom an hour and deed which had been familiar with this spot. The ashes of the original British pyre which blazed from that summit lay fresh and undisturbed in the barrow beneath their tread. The flames from funeral pyres long ago kindled there had shone down upon the lowlands as these were shining now. Festival fires to Thor and Woden had followed on the same ground, and duly had their day. Indeed, it is pretty well known that such blazes as this the heathmen were now enjoying are rather the lineal descendants from jumbled Druidical rites and Saxon ceremonies than the invention of popular feeling about Gunpowder plot.
>
> Moreover to light a fire is the instinctive and resistant act of men when, at the winter ingress, the curfew is sounded throughout Nature. It indicates a spontaneous Promethean rebelliousness against the fiat that this recurrent season shall bring forth foul

times, cold darkness, misery and death. Black chaos comes, and the fettered gods of the earth say, Let there be light.

(Hardy [1878] 1965: 23)

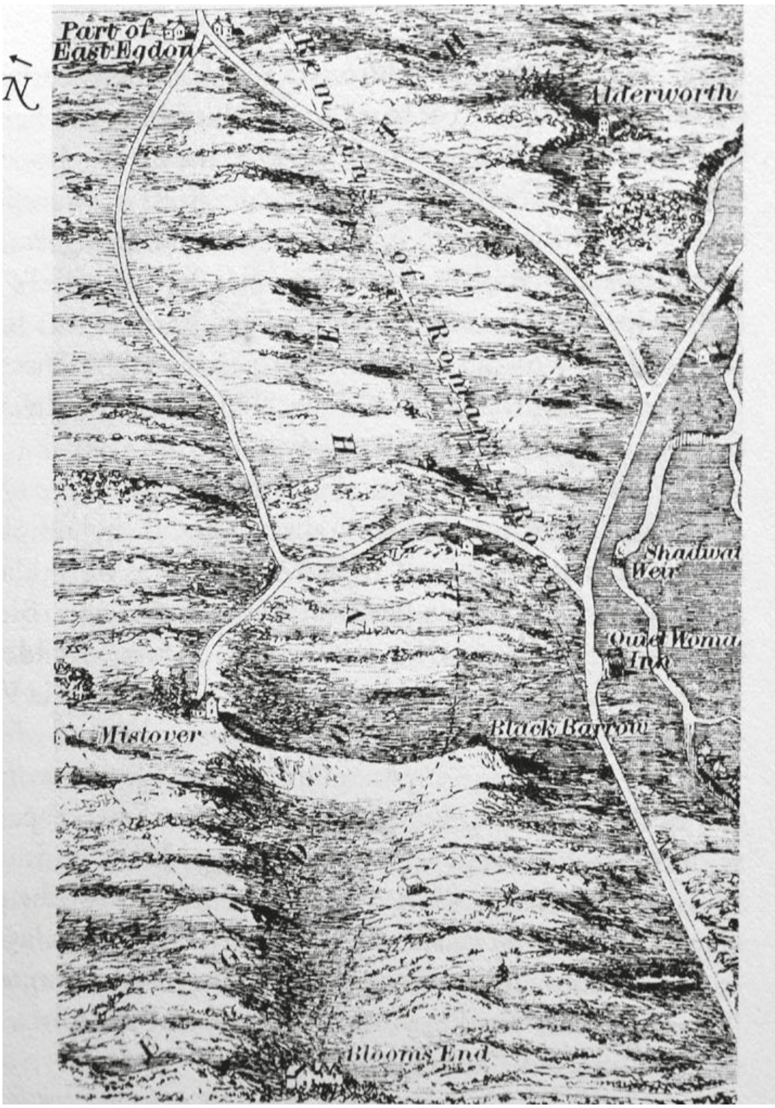

Figure 12.1 Hardy's sketch map of Egdon Heath published in the first edition (1878) of *The Return of the Native*

The barrow is a place of death and fire rituals. It is also a place where commemorative fires are still kindled out of furze faggots in the present, a place for dancing, trysting and love-making. The barrow and the heath beyond embrace and preserve the past in the present. A lack of tending or cultivation of the heath, which Hardy notes have preserved the barrow in the face of agrarian intensification that has taken place elsewhere, provides a sense of solace in relation to a culture of unsettling and permanent change: 'To know that everything around and underneath had been from prehistoric times as unaltered as the stars overhead, gave ballast to the mind adrift on change, and harassed by the irrepressible New. The great inviolate place had an ancient permanence' (14).

This timeless landscape is equally indifferent to human life (329) and the elements. Storms which 'tore the trees merely waved the furze and heather in a light caress. Egdon was made for such times as these' (217). The heath has an enduring and invincible character: 'in some of the attempts at reclamation from the waste, tillage, after holding on for a year or two, had receded again in despair, the ferns and furze-tufts stubbornly reasserting themselves .... The sea changed, the fields changed, the rivers, the villages, and the people changed, yet Egdon remained' (14).

Nearly all commentators have understood that the central character in the novel is the heath itself. The heath, 'appealing to the sentiment rather than the eye' (Hardy, letter to George Putnam, cited in Cullen Brown 1990: 296), is personified as a dark, brooding creature. The characters within the novel are the personification of this personification. Neither male nor female, the heath is an androgynous body. It gathers darkness to itself and exhales it out: 'The face of the heath by its mere complexion added half an hour to evening; it could in like manner retard the dawn, sadden noon, anticipate the frowning of storms .... The sombre stretch of rounds and hollows seemed to rise and meet the evening gloom in pure sympathy, the heath exhaling darkness as rapidly as the heavens precipitated it' (11–12). 'Only in summer days of highest feather did its mood touch the level of gaiety ... Intensity was more usually reached by way of the solemn than by way of the brilliant ... for the storm was its lover and the wind its friend' (13).

In places the heath is likened to a nameless being, part-animal, part-human, a consciousness without intentionality. Eustacia follows the path over the autumnal entrails of the heath: 'Skirting the pool she followed the path towards Rainbarrow, occasionally stumbling over twisted furze roots, tufts of rushes, or oozing lumps of fleshy fungi, which at this season lay scattered about the heath like the rotten liver and lungs of some colossal animal' (359).

Elsewhere the heath possesses characteristics likened to social being or humanity in a generic sense:

> It was at present a place perfectly accordant with man's nature – neither ghastly, hateful nor ugly: neither commonplace, unmeaning, nor tame; but, like man, slighted and enduring and withal singularly colossal and mysterious in its swarthy monotony. As with some persons who have long lived apart, solitude seemed to look out of its countenance. It had a lonely face, suggesting tragical possibilities.
>
> (Hardy [1878] 1965: 13)

The solitude here appears to be that of the 'slighted' Hardy himself and the tragical actualities of his own life (see Gittings 1980a, 1980b for a detailed account). The heath, like all nature for Hardy, an unconscious thing utterly indifferent to human life, plays out its own inherent 'tragical possibilities' through the medium of the characters' tragic lives and their relationships to each other that take place and are directly influenced by this landscape. Hardy's character as narrator is personified in the heath itself. His own phenomenal experiences of that landscape are distributed through the medium of the characters and their interaction with it.

The connections Hardy made between the world of nature and the world of his own phenomenal human bodily experience are primarily of an anthropomorphic and metamorphic or analogic character. The heath is a human body, it has a 'grim old face' and a 'shrivelled voice', its own odours; its vegetation is like hair: 'the path was an infinitely small parting in the shaggy locks of the heath' (159). The heathland landscape even possesses its own audible particularity that varies from place to place:

> It was possible to view by ear the features of the neighbourhood. Acoustic pictures were returned by the darkened scenery; they could hear where the tracts of heather began and ended; where the furze was growing stalky and tall; where it had recently been cut; in what direction the fir-clump lay.
>
> (Hardy [1878] 1965: 93)

Seasonality and the natural cycle become for Hardy a meditation on human life and death:

> The July sun shone over Egdon and fired its crimson heather to scarlet. It was the one season of the year, and the one weather of the season, in which the heath was gorgeous. This flowering period represented the second or noontide division in the cycle of those superficial changes which alone were possible here; it followed the green or young-fern period representing the morn, and preceded the brown period, when the heath-bells and ferns would wear the russet tinges of evening; to be in turn displaced by the dark hue of the winter period representing night'
>
> (Hardy [1878] 1965: 245)

The elemental forms of the sun and the moon are fundamental to a novel that takes place in a wide and open landscape and one in which the central characters move across the landscape by day and by night and in accordance with sunrise and sunset. The fires on Rainbarrow emulate the sun, the reddleman is the colour of the sun, the furze cutters faces are browned by it, Mrs Yeobright is killed by its heat, characters retire to bed or move toward sunrise and sunset. Solar images powerfully define Eustacia's changing relationship to her lovers, Wildeve and Clym, and to Diggory, the reddleman.

Relevant to humanity, the heath in its timelessness remains indifferent to either the sun or the moon: 'in the course of many days and weeks sunrise had advanced its quarters from northeast to southeast, sunset had receded from northwest to southwest; but Egdon had hardly heeded the change' (113). The heath itself remains dark even in moonlight 'powerless to silver such sable features' (138).

Conclusions

Hardy's fiction in its historical and social realism, and through the knowledge gained by his own embodied personal experience, is undoubtedly the most powerful and evocative description of a heathland landscape ever written. Replace topographical and geological details and Hardy's Egdon Heath could be the East Devon Pebblebed heathlands.

In spite, or perhaps precisely because of the melancholic character of Hardy's depiction of heathland and the tragic potentialities for its human inhabitants that are acted out in the course of the novel, heathland has become of contemporary relevance. It has now gained value and appeal, become something thought worth conserving.

However, there is a fundamental difference between Hardy's historicized, humanized and peopled landscape and the kind of heathland that is currently being preserved under a contemporary environmental conservation agenda (see Chapter 14). This is a recreational heathland, for the most part irrelevant to the daily lives of most people, who no longer work in it. Its primary significance is now not held to reside in its history or its prehistoric monuments, but is instead being couched in terms of a 'timeless' web of ecological relations that need to be engineered or managed. It is these rather than its human meanings that take precedence in contemporary discourses, and so, in this sense, such a heathland vision conspicuously lacks a human face.

13
A vernacular pebbled landscape

Jill Cobley and Christopher Tilley

Pebbles have always, until comparatively recently, provided the principal building stone in the East Devon heathland landscape. They are still common in the vernacular architecture but have never previously been documented. As part of the Pebblebeds research project all structures in the 17 villages and in hamlets and farmland surrounding the heathlands in the East Devon area were recorded and photographed to create the first photographic archive, which is now lodged in the Devon Records Office, Exeter.

The traditional cob and thatch cottages throughout most of the area were invariably provided with foundation courses for the walls of large pebbles, as were barns and other farm buildings. Building structures with pebbles reached its peak from about the mid-1800s to the early 1900s. Ottery St Mary, Budleigh Salterton, Woodbury, Newton Poppleford and other villages were once paved with pebbles. 'Popple' is the local term for pebble and the village name Newton Poppleford refers to the ford over the pebbles that form the bed of the river Otter here. Sadly, today they have mostly disappeared beneath concrete and tarmac. The majority of the pebbles for walls, paths, gutters and edging came from the fields or small quarries around the area, and it is still possible today to buy pebbles for landscaping gardens and building from the Rockbeare quarries.

The earliest 6-inch maps of the Ordnance Survey of this area, dating back to 1890 and 1891, record numerous larger and smaller 'gravel' (actually pebble and sand) pits. In all there were about 67 smaller and larger workings. They are concentrated along the western scarp of the heathlands, with smaller numbers along the eastern edges of the pebblebed exposures and a few in the middle of the heathlands. Most are close to or on roads (Figure 13.1). Some of these pits to the south of Black

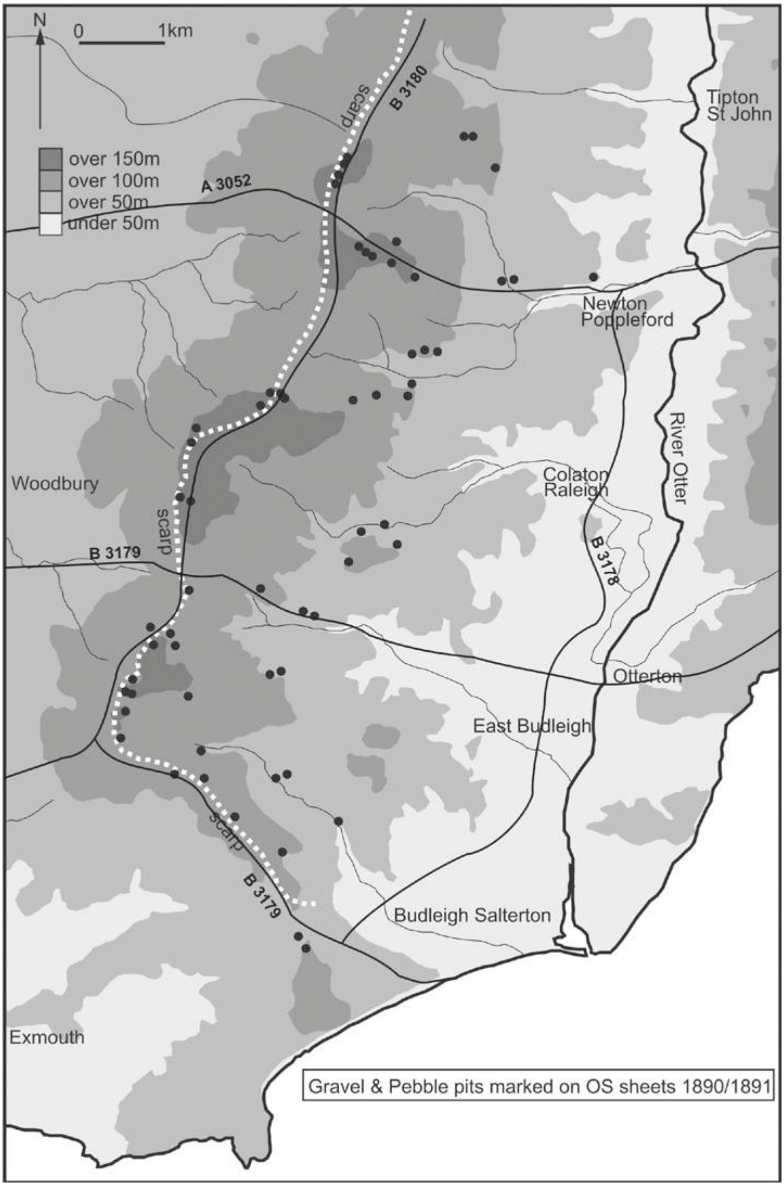

Figure 13.1 The distribution of pebble quarries and pits on the heathlands from the earliest Ordnance Survey maps (Source: author)

Hill, around the Warren and on Aylesbeare Common, covered quite an extensive area of shallow workings. Smaller pits were often little more than irregular scoops of material used locally.

The finer paths and walls built of smaller pebbles of similar size were collected from Budleigh Salterton beach, but this is now illegal. This was the practice in the 1800s, when pebbles of similar size and colour were brought from the beach by pony and trap. This is known to have happened at Lympstone, where a John Long brought pebbles from the beach and built a path with a central line of black pebbles and the date '1861' depicted in black pebbles (Figure 13.2a).

All the villages have distinctive pebble structures that make them unique to this area of East Devon. However, it has to be said that the use of pebbles is not exclusive to this area, as beach pebbles or small stones are used for paths, roads and building foundations in coastal areas in the surrounding counties of Cornwall, Dorset and Somerset. This chapter highlights examples from the 829 recorded structures from the East Devon towns and villages. Table 13.1 details the types of extant structures recorded between 2008 and 2010. These are most frequent in the villages of Newton Poppleford and Colaton Raleigh on the eastern side of the Pebblebed heathlands and in the seaside town of Budleigh Salterton to the south. On the western side of the heathlands they are most frequent in Woodbury and Topsham on the Exe estuary.

The use of pebbles as a building material would have been an everyday occurrence, because they were readily available, but people of status

Figure 13.2a The pebble path John Long built at Lympstone (Source: author)

Table 13.1 Pebble structures documented in the East Devon area.

Place	*Wall*					*Surface*					*Building*		*Others*	*Total*
	Boundary	*Retaining*	*Boundary/ retaining*	*Pebble foundation*	*Capping*	*Path: p*	*Path: d*	*Yard*	*Edge*	*Gutter*	*Barn*	*Other*		
Aylesbeare	6	0	4	2	0	3	1	1	4	0	2	1	0	24
Budleigh Salterton	15	9	20	14	2	2	3	1	2	12	0	2	1	83
Colaton Raleigh	51	18	15	7	0	8	1	3	5	3	25	3	3	142
Dalditch	8	1	0	1	0	0	0	0	0	0	3	0	0	13
East Budleigh	5	1	1	0	2	18	0	3	1	10	0	0	0	41
Exmouth	2	5	0	0	1	2	1	1	6	0	0	0	1	19
Exeter	0	0	0	0	0	7	2	3	28	0	0	0	2	42
Fluxton	5	3	0	1	0	1	0	0	1	0	2	0	0	13
Honiton	0	0	0	0	0	2	2	0	13	0	0	0	0	17
Kersbrook	2	0	0	1	0	0	0	1	1	0	0	0	1	5
Knowle	12	1	0	3	4	3	0	1	1	1	0	0	0	27

Lympstone	1	0	2	0	0	12	3		8	0	0	0	3	26
Metcombe	4	9	2	7	0	1	0	1	6	0	2	2	0	37
Newton Poppleford	33	18	17	9	0	7	1	6	7	1	4	7	0	110
Otterton	4	0	0	1	0	0	1	1	5	0	1	0	1	13
Ottery St Mary	2	3	0	1	0	0	0	0	7	0	0	0	0	27
Southerton	2	1	4	0	0	13	0	3	0	0	1	0	0	11
Topsham	1	1	0	2	0	28	6	7	28	0	0	0	0	73
Venn Ottery	0	1	3	0	0	0	0	1	0	0	1	0	0	6
West Hill	0	2	9	1	0	2	0	0	1	0	1	0	0	16
Whimple	0	0	0	0	1	2	0	1	0	1	0	0	1	6
Woodbury	51	8	1	1	1	0	0	0	0	0	0	0	0	62
Woodbury Salterton	5	1	2	1	1	0	0	0	0	0	0	0	0	10
Yettington	3	1	0	0	0	0	0	0	2	0	0	0	0	6
Total	212	83	80	52	12	111	21	34	126	28	42	15	13	829

Note: Surfaces: path, p: pebble path; path, d: decorative pebble path; edge: pebble edge to path.

evidently used flint or brick in this area because it made a distinctive material statement, reinforcing their social distinction from ordinary people building with local pebbles. The absence of pebble structures among the principal structures among the grounds of Bicton House, at Knowle House and at Tidwell Manor and elsewhere is symptomatic of this.

The Rolle family at Bicton assiduously avoided using the local vernacular building material, pebbles, in any of their Gothic constructions such as the shell house and the hermitage even though they might have provided a suitably rustic effect. Interestingly the reverse was the case at Killerton House near Cullompton, where Lydia Dyke Acland had a 'Bear Hut' built, with part of the flooring consisting of pebbles laid in a pattern and pebbles used in the surrounding area outside (Figure 13.2b). But in this case pebbles were not local material and had to be transported a long distance from the East Devon Pebblebeds. At Bicton the only places that pebbles were used were around the glass houses and in the formal Italian gardens as pathways. Fish comments that they were 'set firmly and regularly on end, each being about the size of Lapstone Kidney Potatoes … in all the pathways in the grounds having any considerable declivity, the sides of the walk, for about the width of a foot, are pitched with smaller pebbles' (Fish 1858: 66). The Rolles could walk around their pleasure grounds on pebble pathways that provided both 'in the heaviest rain, as well as during the bright sunshine, a pleasant firm pathway … in which you could leave no footmarks' (Fish 1858: 66). These are today all tarmacked over.

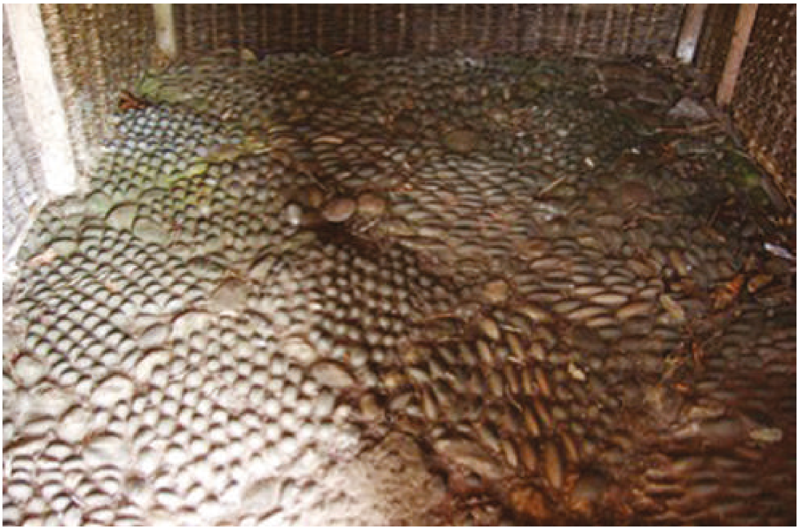

Figure 13.2b The pebble floor in the 'Bear Hut' in the grounds of Killerton House, Cullompton (Source: author)

Types of pebble structures

The Aylesbeare Village Hall entrance lobby has a pebble floor, with the design picked out in black pebbles to represent a door mat, with a diamond pattern in-filling the central section (Figure 13.2c). These were collected from Budleigh Salterton beach, because when the hall was built in 1923 pebbles were regarded as the most suitable decorative building material. This diamond pattern is repeated on paths in Newton Poppleford and Otterton.

At Budleigh Salterton the pebble wall running down Saltings Hill is an iconic example of uniform rows of pebbles forming a wall (Figure 13.2d). An almost unique feature of the town is the roadside pebble guttering formed from neat rows of pebbles 5 cm (2 inches) to 10 cm in size lining the drainage gutters. Fine examples can also be found on the sea front, running for almost 100 m, and along Cliff Terrace, Ryll Lane and Landsdown Road (Figure 13.3a).

The majority of walls are constructed from rows of pebbles with a concrete capping. Barns built of pebbles with brick quoins are a feature

Figure 13.2c Aylesbeare village hall: entrance lobby with a pebble 'mat' in a diamond design (Source: author)

Figure 13.2d Pebble wall, Saltings, Budleigh Salterton (Source: author)

Figure 13.3a Budleigh Salterton seafront: drainage guttering (Source: author)

of some villages, with the pebbles being collected from pits and the surrounding fields and not brought from the beach (Figure 13.3b).

At East Budleigh there is a recent example of a new pebble wall that has been capped with tiles, showing that some people today hold pebbles in high regard as decorative building material (Figure 13.3c). Along the High Street there are pebble paths, with the pathways into the house defined with the pebbles running in the opposite direction.

At Fluxton there is what has to be one of the most amazing pebble structures, built 40 years ago with pebbles that were collected from the river Otter and sorted in the local farmyard. This decorative wall capped with tiles has arches and windows and dominates the garden, and is unique. It was built by a local stonemason, Gordon Ash (Figure 13.3d).

One of the largest pebbled areas can be found at Lympstone, where the whole of Quay Lane has a pebble path running between the cottages down to the estuary (Figure 13.4a). At Newton Poppleford 110 structures have been recorded, the majority being walls, running along the length of the High Street. Fine examples of decorative paths can be found in the village along Station Road (Figure 13.4b). Several walls have been painted black, as at the Southern Cross tea rooms, and the only other

Figure 13.3b Pebble barn with brick quoins: The Warren, on the western side of the Pebblebed heathlands (Source: author)

Figure 13.3c New pebble decorative wall in East Budleigh (Source: author)

Figure 13.3d Pebble wall with arches and doorways, Gnome Cottage, Fluxton (Source: author)

Figure 13.4a Pebble path, Quay area, Lympstone (Source: author)

example of this is at Woodbury. The only church in the 17 villages to have pebbles used in the construction of the walls is St Gregory's, where they feature in the side chapel wall (Figure 13.4c). Pebble farmyards were once a common feature in the area but most are now concreted over. Examples can be still found at Southerton, Newton Poppleford and Dotton (Figure 13.4d).

Topsham has examples of pebbles from the area and black angular pebbles that must have come from elsewhere or are from the river Exe, but nobody so far has been able to identify their source. Their use as edgings and paths can be found throughout Topsham, but some Bunter pebble structures have been identified making decorative surface features in front gardens (Figure 13.5a, b).

Woodbury Parish Council has insisted that all new building in the village should have pebble walls, which is a welcome development, and this can be seen at Gilbrook estate (Figure 13.5c). Along Greenway there is a perfect pebble wall topped with limestone blocks (Figure 13.5b) and a path of fan-shaped design (Figure 13.5d). The path would have been built with the pebbles packed tightly together so that the stones

Figure 13.4b Decorative path, Station Road, Newton Poppleford (Source: author)

supported each other; they were embedded into the earth with only the tips of the small pebbles showing. This was built by a local builder, Charles Summerfield, in the 1900s (Brighouse 1981: 239). The church wall is of a similar design to Colaton Raleigh church, with a decorative capping of tiles and bricks and brick quoins.

Pebble colour and size

Having briefly reviewed the different types of structures that exist it just remains to highlight the differences in size and colours of the pebbles that can be seen across the area. The pebbles used in some of the walls in Woodbury are of a larger size than elsewhere. Some are up to 45 cm (18 inches) long, although the average is 20 cm (8 inches). They are not always a uniform size in many structures, and a large number of black pebbles are included in the walls. At Budleigh Salterton the pebbles found in the walls are on average 10 cm (4 inches) long and of a uniform

Figure 13.4c St Gregory's church wall, Newton Poppleford (Source: author)

size. At Colaton Raleigh and Newton Poppleford the most striking feature about the pebbles is their variety of colours. They range from red to yellow, grey to brown, olive to black, whilst at other villages the pebbles chosen to build structures are less colourful. This may well indicate the differential selection of very bright and particularly colourful pebbles in these two villages.

Two examples of the use of alien pebbles can be found in the area. One is at the Halfway House pub almost in the middle of the Pebblebed heathlands, where flint pebbles have been used for a retaining edging, the nearest probable source being Sidmouth. The other is hard landscaping in a garden using Charmouth beach pebbles because the owner considered the pebbles were of a better colour, that is, more uniform, and a smaller size than the local pebbles.

During recent sea defence work along the esplanade at Sidmouth the flint and greensand pebbles on the beach were buried by 150,000 tons of new pebbles transported from Black Hill quarry on the Pebblebed

Figure 13.4d Pebble farmyard, Dotton (Source: author)

heathlands, making this stretch of the beach pebbles unusually brightly coloured and very similar to that at Budleigh Salterton, except that the pebbles are less smooth and well rounded. Pebbles from the same source were used to make ornamental features under the M5 motorway bridges outside Exeter during the 1970s.

The vernacular pebble architecture of the area manifests both a care and concern for pebbles in what might be regarded as simply 'functional' structures such as walls, paths, gutters, farmyards and buildings mostly of eighteenth-, nineteenth- and twentieth-century date. The earliest of these is the medieval church of St Gregory in Newton Poppleford. But all these structures are function made beautiful. The pebbles have been carefully selected, their arrangements patterned in terms of colour and form, shape and size, sometimes with quite an extraordinary attention to detail. The care taken and the attention to detail shown remind us once again of the bodily engagement involved and the fascination with what it is possible to do with these particular kinds of stones.

Figure 13.5a Typical Topsham pebble path (Source: author)

Figure 13.5b Decorative pebble path in front garden at Topsham (Source: author)

Figure 13.5c Gilbrook estate, Woodbury: new pebble boundary wall (Source: author)

Figure 13.5d Woodbury: pebble wall with limestone topping (Source: author)

14
The heathlands in the twentieth and twenty-first centuries

In this chapter I consider the changing character of the heathland landscape from the beginning of the twentieth century to the present day. The following issues will be addressed: how has the character of the heathland changed? To what extent can we trace any continuity from the prehistoric and historic landscape? What is the effect of those who work in and use the landscape today on the heath itself? The contemporary management, meaning and use of the heathlands is discussed in great detail elsewhere in an anthropological study (Tilley and Cameron-Daum 2017). Consequently only some major issues will be briefly addressed here. The interested reader is referred to that much wider study.

Change and continuity in the landscape

During the twentieth century the character of the heathland landscape changed substantially. The heathlands reached their maximum extent in the medieval to early post-medieval periods, as in other areas of southern England. The agricultural improvements discussed by Vancouver (see Chapter 10) taking place in the early nineteenth century resulted in substantial areas being lost, mainly to rough pasture. These were mainly on the heathland fringe or along valleys cutting into it. This can be seen from a comparison of tithe maps from around 1840 and the first edition of the Ordnance Survey maps dating back to the 1890s. Losses since 1906 have been estimated at 640 ha, with 380 ha lost since 1947. Of this 166 ha was lost to conifer plantations, 79ha to grassland, 15 ha to arable and 120 ha to quarrying (Underhill-Day 2009: 10).

During the earlier part of the twentieth century, substantial parts of the heathlands were commonly referred to as being grasslands, such was the absence of iconic vegetation characteristic of heathlands: gorse and heather. These grasslands were created by vigorous swaling, whose aim was to create suitable browse for animals. Unlike Hardy's Egdon (Dorset) Heath (see Chapter 12), the area was still valuable to local Commoners with grazing rights in this respect, and so not entirely economically obsolete. After the Second World War the heathlands changed again, from being predominantly grasslands over large areas to being covered in a dense mantle of gorse and heather, the kind of heathland seen today. Thus the visual and sensory experience of the heath substantially altered.

Carter's excavation photographs from the 1930s show a remarkable absence of heathland vegetation: hardly a gorse bush or heather clump in sight (see Figure 2.6; Figure 2.15). Despite agricultural improvements and substantial intakes of land, most of the heathland was never subject to any form of cultivation. The land was more or less useless to those who owned it, the Clinton family, and it remains part of their estate. Substantial areas were planted with conifers between the 1920s and the 1960s to permit at least some kind of long-term economic return. These breaks of dense conifers quite literally broke up and divided what had previously been an entirely open landscape. It was now divided and visually fragmented.

The story of the heathlands from the mid-twentieth century onwards is the extinguishment of Commoners' rights and the presence of grazing animals on the heathlands. Today there is only one registered Commoner left, who does not exercise grazing rights. Animal grazing of the heaths effectively stopped during the Second World War. There was a general agricultural abandonment of the heathlands. Following this the grassland landscape was rapidly transformed, with the encroachment of scrub and bracken in some areas and the development of a fairly uniform and dense cover of mature gorse and heather.

During the 1950s and up until the end of the 1980s, little management of the heathland vegetation took place except in the newly established Royal Society for the Protection of Birds (RSPB) Aylesbeare and Harpford nature reserve in the northern part of the heathlands, rented from the Clinton estate. What had once been a working part of a wider rural landscape, integrated into a pastoral economy, was gradually turned to other uses. It became a landscape used for quarrying pebbles, intensive military training, for leisure activities by the general public and one in which an environmental conservation agenda arose. The heath was worth preserving because it had become a threatened landscape.

Management of the heaths accordingly shifted from viewing them primarily as an economic resource to looking after them for leisure and wildlife conservation. In the absence of animal grazing, other means of scrub clearance, such as machine cutting, were introduced to keep the heaths open and to prevent them regenerating to woodland, a constant and uphill struggle, while swaling was still undertaken but on a far more limited scale.

The heathlands remain 'taskscapes' for those few who still work in them: people at the quarries, foresters, the Royal Marines who train there, environmental conservation managers and volunteers and archaeologists. But for the vast majority of people this is now a leisurescape used for walking, horse-riding, fishing, flying model aircraft on a designated field, mountain biking and other activities.

Quarrying pebbles

During the eighteenth and nineteenth centuries there were numerous small-scale and shallow quarries across the heathlands providing building materials for local villages and farms (Chapter 13). The pebbles quarried in the eighteenth and nineteenth century and taken away by pony and cart were for local use and local communities. They were used as found, as pebbles.

It was not until the early twentieth century that much larger operations began at Rockbeare Hill, Venn Ottery and Black Hill, where the exploitable pebble deposits reach their maximum depth of up to 30 m. Black Hill quarry was first operated in the early 1930s by the hand-digging of pebbles and their breaking to create road macadam. These operations were rapidly mechanized with the installation of a crushing plant, and the quarry had its heyday from the 1950s until the 1990s, during which it developed into a huge industrial operation (Figure 14.1; Figure 14.2). A massive extension of 57 ha was granted to the original quarrying concession in the early 1970s. The quarry produced 320,000 tonnes per annum in 2008. Quarrying operations eventually ceased at Black Hill in 2011 in tandem with the reopening and extension of the disused quarry at Venn Ottery, last worked in the 1970s, and the pebbles from there are still transported to Black Hill in huge lorries for crushing.

The quarries now produce sand and aggregates for making ready-mixed concrete and building materials and high-quality chippings for the surface dressing of roads, supplied throughout Devon and as far away as Sussex. Quarrying operations involve the machine-digging of the pebble

Figure 14.1 Black Hill quarry in the 1960s. Photograph courtesy of Aggregate Industries

Figure 14.2 Black Hill quarry in July 2010 (Source: author)

deposits down to 5 m above the water table, up to about 25 m, the separation of sand and silt waste from the pebbles using water and the crushing of the pebbles to various sizes and grades, which are then stockpiled in huge dumps for future use. Besides the crushing plant at Black Hill there are huge silt collecting ponds, pipelines and pumps feeding 60,000 gallons of clean water to the plant per hour and removing the silty waste (Figure 14.2). The grit produced from the crushed quartzite pebbles is extremely hard-wearing and ideal as a surface road dressing.

The people working in the aggregates industry have a practical and rational interest in the pebbles as hard-wearing and useful construction materials. The work inevitably entails both the destruction of the heathland itself and its pebbles. We have seen that this crushing and destruction of pebbles first took place at Jacob's Well 3,600 years earlier, with the end result of those activities looking remarkably similar to the larger-grade sizes of the pebbles crushed today in the Black Hill quarry. It is also interesting to note that these pebbles are being processed only a few hundred metres away from Jacob's Well. The motivations for pebble crushing are, of course, markedly different, reflecting a change in how pebbles are valued, from being a symbolic to becoming a utilitarian resource. But the later 'rational' use of pebbles also has its origins in prehistory. Pebbles were just a ready-to-hand building material, and were used for the construction of the ramparts of Woodbury Castle in the Iron Age about 2,500 years ago.

Their functional use for building walls and paths, house foundations, paving farmyards and roads continued from then into the twentieth century, until pebbles became functionally redundant as useful building materials, to be replaced by mass-produced brick and concrete. Their most recent twentieth- and twenty-first-century use for building has been as purely decorative and aesthetically pleasing materials. This contemporary appreciation of pebbles has its prehistoric parallels in the construction of the Early Bronze Age pebble cairns 4,000 years ago.

The Royal Marines and the heathland

As we have seen in Chapter 11, the heathlands have had a long recent use for over 200 years as a military training area. This has provided some historical legitimacy for its continued use in this manner, despite the heathlands now being regarded as an important area for nature conservation, in which a military presence disturbing wildlife might seem undesirable.

But there is a huge difference between the small-scale and intermittent historical use of the heathlands by the military and the manner in which it is used today, which, by comparison, has had a massive impact on the landscape. Its historical occupation and use was both sporadic and temporary, lasting only a matter of days, weeks or months. The most intensive period was during the Napoleonic wars, 1799–1815. Today it is intensively used on a daily basis throughout the year as the initial part of a rigorous training regime for recruits. A new troop of between 55 and 60 recruits start their training at the Commando Training Centre at Lympstone and go through the same course about every two weeks throughout the year. Allowing for holiday periods and so on, this means that the Royal Marines train about 20–24 troops of recruits a year, or about 1,200 to 1,400 soldiers, on the heath.

During the Second World War, a huge camp, Dalditch, was established on East Budleigh Common in the far south of the heathlands in 1941. It initially consisted of tents, subsequently replaced by Nissen huts. This camp covered a large area about 1.7 km long and 0.8 km wide in maximum extent, housed around 5,000 men in 378 12-man huts and contained a further 107 huts for offices, stores, workshops, etc. (Perrett 1986: 24). The camp had a cinema, dining halls and galleys of 250-man capacity, recreation huts, a parade ground and a rifle range. Today most has been bulldozed and has returned to heath and scrub. Only four of the original buildings remain, including three decontamination blocks, converted into bat houses, and part of the rifle range walls. Brick and concrete foundations of many of the other structures still survive. According to some contemporary accounts, Dalditch was a hell-hole, with whole companies of men going down regularly with dysentery for a week at a time, an affliction known as 'the Dalditch dog' in the insanitary conditions that prevailed.

Another area of the heathland that was extensively used during the Second World War was the summit area of Aylesbeare Common. A concealed concrete and brick bunker was built a few hundred metres to the northwest of and down-slope from the summit cairn (now used as a bat house by the RSPB). The summit area itself served as a decoy site with lights for Exeter airport. The large circular structures discussed in Chapter 11 post-dating the remains of Simcoe's late eighteenth- or early nineteenth-century military camp are probably part of the decoy. For example, it was common to create roughly circular ditched and/or banked enclosures, either as a fire break for controlled fire apparatus, or to fire the ditch to create the impression of a burning oil tank (information from an anonymous reviewer).

The area sloping down to Hawkerland south of the A3052 had extensive military use by Allied troops and large amounts of redundant military equipment is reputed to be buried somewhere here. Traces of this recent military activity and subsequent use of the area for training by the Royal Marines litter the summit area and that to the south, including numerous bullet casings, grenade shells, perishing bits of rubber and various dumps of modern material. RAF wartime aerial photographs show a fairly devastated heathland. It seems likely that the pebble platforms near to the summit that Carter had excavated (see Chapter 7) only two years before the outbreak of the war in 1939, and probably left uncovered and unprotected, were destroyed at that time.

Elsewhere – and almost anywhere if one removes the heathland mantle of vegetation – traces of military use are abundant. During the course of our archaeological survey and excavations it became apparent to us that even the slightest of the prehistoric cairns had proved to be useful to the Royal Marines for military training, as places to hide behind and for practice firing, not just the larger and more monumental cairns. The Royal Marines would not have recognized them as being anything other than irregularities in the land surface that could be made use of.

On the surface of Little Tor Cairn after vegetation cover was removed and prior to excavation we found over 70 brass bullet casings, some dating back to the 1960s. The presence of so much hidden metal has one unintended archaeological benefit. It makes the heathlands fruitless territory for contemporary metal detecting enthusiasts. About 100 m to the south of Tor Cairn there are military trenches, easy to fall into today when concealed by dense gorse and heather. Only a few metres to the southwest of Twin Cairn A there is another military trench. Yet another in an area now replete with hundreds of part infilled or now sunken trenches runs up right to the edge of the south side of Carter's Woodbury ε cairn. It was not there in 1930 when he undertook his excavations. At that time the heathland had not been mutilated by pits, mounds and trenches.

The Royal Marines, following the establishment of another camp at Lympstone during the Second World War, have continued to train on the heathlands since then, a period of 70 years. The heathland for them constitutes an ideal training area for recruits because of its proximity to their training centre and its varied topography of high points, steep-sided valleys, bogs and wooded areas. The presence of the thick spiky gorse through which they crawl at night, together with pebbles, makes it a suitably arduous and rigorous place to train. The Royal Marines have indelibly marked the landscape of the heathlands in a way that has no equivalent with any other contemporary user group. They have created their own network of tiny 'sheep tracks' across areas of the heathland where there are no other tracks (see Figure 1.11d). Permanent white flag-poles mark the perimeter of their grenade range with its concrete bunkers: the only permanent structures that have been permitted to be built on the heathlands since the Second World War.

The Royal Marines endurance course in the southern part of the heathlands is marked by a series of wet and dry tunnels and sunken ways through the pebbles on valley sides with fans of material at their ends, the product of pounding feet. Running on the unstable surfaces of the mobile and slippery pebbles according to a fixed time schedule between these tunnels and elsewhere on the heathlands adds considerably to the rigorous nature of their training. Again the pebbles have practical utility. When you try to run on material acting like ball bearings under your feet, life gets tough.

The larger Bronze Age cairns and the hillfort of Woodbury Castle are used today as reference and orientation points in the Royal Marines' manoeuvres. In the recent past trench digging in the pebble bedrock formed an essential element of the Royal Marines training regime. This practice was discontinued in 2002 because of objections by Natural England in relation to the vegetational disturbance of the heath. There was no consideration of potential damage to the archaeology in making this decision.

Large areas of the heathland, mainly to the south and west of the grenade range, are literally riddled with trenches and pits and rough oval or circular patches of disturbed heathland vegetation (see Figure 1.4 and Figure 14.3). Digging out such positions was described to me by one recruit trainer, who had himself done this when he was a recruit, in the following way, and is another interesting example of the utility of pebbles to the Royal Marines:

> I thought it was good value for recruits, good team building, for four guys to dig a 4 m trench over two days. A real team builder. It means that you have to work hard. It's one of the things that toughens you up I think. It's horrendous. You can literally wear out a pick on just one trench. You had to de-turf such a large area and it is not easy stuff to de-turf and then lay your trench out and start hacking away and it would be heart-breaking to start early evening, work through the night, and first thing in the morning you see what you have done, and you have only gone down a foot or two.

Figure 14.3 Landscape scars made by trench digging by the Royal Marines (Source: author)

The intensive military occupation and use of the heath during the Second World War, and subsequently, has resulted in the presence of numerous modern mounds across the heathland landscape in addition to the trenches (see Figure 14.4). They are generally up to 1 m in height, oval, rectangular or circular in shape and between 1 m and 2 m in diameter. Some others are the result of local farmers and members of the public using the heath as a convenient dumping ground in the recent historical past. This makes archaeological survey a nightmare, since under thick gorse and heather cover modern mounds are very easy to mistake for prehistoric cairns. One needs to wade through waist-, sometimes neck-, high gorse and feel with the feet in areas that have not been recently cut or swaled.

Conflicts in conservation management

The heathlands today are a contested landscape (Meinig 1979; Bender 1998; Bender and Winer 2001; Tilley 2006; Tilley and Cameron-Daum 2017) because there are inevitably considerable differences between

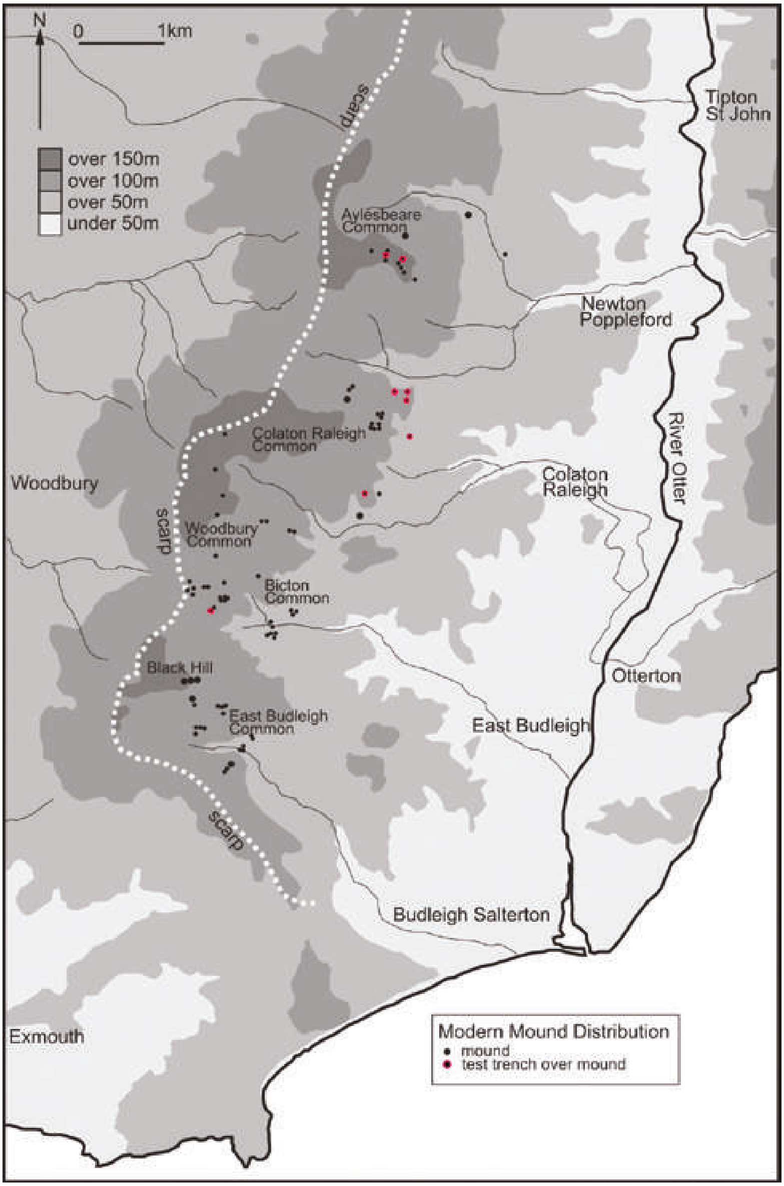

Figure 14.4 The distribution of mounds of modern origin on the heathlands mapped in field walking surveys. Test trenches across eight of these mounds shown in red confirmed their modern origin (Source: author)

different individuals and user groups with respect to their current management and how and why they value them or otherwise. There are very obvious conflicts between an agenda stressing the need to conserve rare and endangered heathland species and the disturbance that inevitably arises when the heath is used for military training by day and by night, and the issues are complex (see Tilley and Cameron-Daum 2017).

In this section another major issue will be briefly discussed: conflicts that arise from managing the heathland from the point of view of environmental conservation and from the point of view of its historic preservation. When the project started in 2008 this issue was already contentious because the Historic Environment section of Devon County Council had already imposed a moratorium on a new environmental conservation practice of topsoil scraping, discussed below. Thus the archaeological landscape survey and excavation work of the Pebblebed project from the very beginning became unwittingly embroiled in a pre-existing conflict and min tension in connection with how the heathland itself was to be *valued* and what its future should be.

When the heathlands were no longer used extensively for grazing post-1945, their character altered and in the absence of grazing they would naturally revert back to scrub and woodland, this being a cultural landscape first created in the Early Bronze Age (see Chapter 8). The new post-war conservation agenda recognized the heathland for the first time as a precious and endangered area, one of the most significant expanses of lowland heath remaining in England. A human creation now effectively became regarded as a natural landscape by the English conservation agency Natural England, who are well aware of the irony of both their role and their name.

Parts of the Pebblebed heathlands were first designated as a Site of Special Scientific Interest (SSSI) between 1952 and 1986, as a nationally important example of Atlantic-climate lowland heathland. The East Devon Pebblebed Heaths were designated as a Special Area of Conservation (SAC) in 1996 under the Habitats Directive of the European Union. The designation covered 1119.94 ha. The primary reason for selection was that the area was considered one of the best heathland areas in the UK because of its combination of north Atlantic wet heaths, European dry heaths and populations of southern damselfly (*Coenagrion mercuriale*). At the same time the area was also designated a Special Protection Area (SPA) under the Birds Directive because of its rare breeding populations of nightjar (*Caprimulgus europaeus*) and Dartford warbler (*Sylvia undata*).

The heathlands are also important archaeologically because substantial areas of them have never been disturbed by ploughing, unlike the rest of lowland Britain, where deep ploughing, again a largely post-war development, has effectively destroyed most of the archaeological resource. On the heathland it is still all potentially there, from Mesolithic flint scatters to Bronze Age cairns and pebble platforms.

The aim of the late twentieth-century and twenty-first-century conservation agenda became not only to preserve the heathlands but to *improve* them from a conservation point of view by increasing biodiversity and creating a patchwork or mosaic of different habitats. This involved adopting various strategies including vegetation cutting, reintroducing cattle, making small ponds, maintaining ideally prescribed amounts of gorse and heather cover at various stages of the life-cycle of these plants from young to mature and by regular scrub and tree clearance. Figure 1.12, Figure 6.18 and Figure 8.2 show the result of these practices, resulting in significant differences in the vegetation cover and type from one area of the heathland to another. Thus the modern improved heathland bears no resemblance to the heathland that was initially created in the Bronze Age and maintained into the modern era. It has now become a heathland of our own times and of our own making.

Small herds of rare breed cattle were first reintroduced to the heathlands during the summer months from the 1990s. Since then a conservation grazing agenda has been vigorously promoted to preserve the heathlands. This developed from fencing-in the cattle temporarily during the summer months in lowland heath mire areas to a desire to allow them to graze more extensively with permanent fencing. The end result has been the enclosure of substantial areas of the heath. What has always been an open and unenclosed landscape where one could walk freely has been bounded off since 2013. The openness of the heath as a landscape, one of its principal defining cultural and historical characteristics, has now gone for good, another consequence of a modern environmental conservation agenda. This is the single most substantial change to the character of the heathland landscape in its 4,000-year-old history.

In the prehistoric past and until very recently the heathland was an area to be economically exploited as ruthlessly as possible. This was what made it of value, and habitat conservation was hardly on the agenda. Whether any of the rare heathland species whose habitat is to be preserved and enhanced today actually existed in the prehistoric or historical past until the 1990s, when the first systematic observations began to be made and recorded, nobody knows.

Figure 14.5 A heathland wildfire in 2010 deep-burned a huge swathe of the landscape. This fully revealed Carter's Woodbury ε cairn (see Fig. 1.10: 17 and discussion in Chapter 3), with the part he excavated missing (Source: author)

Because of the importance given to maintaining populations of rare nesting birds under the new conservation directives, the swaling or fire burning of the heathlands to maintain their open character had to be curtailed. It would traditionally take place during the warm and dry summer months, when a deep burn was possible, removing all surface vegetation and going right down into the peat. This maintained the correct acidity levels required for the maintenance of the heath and removed scrub and trees. These fires frequently went out of control if there was a high wind from the wrong direction, developing into a raging inferno galloping across the landscape. Gilbert White [1788–9] 1977: 25) vividly describes this taking place on the Hampshire heaths. In such areas devastated by fire the vegetation would not properly recover for years (Figure 14.5). When the fires were managed and controlled the end result was perfect animal browse. Grass would regenerate, followed by gorse and heather, locally bracken and then scrub would once more begin to appear, especially birch. Stocking densities of grazing animals were of sufficient numbers to prevent the regeneration of much scrub.

Maintenance by fire and the creation of a landscape by fire represents a direct continuity between the prehistoric past and the present.

This has always been a landscape created through fire. However, today swaling can take place only during the winter months. The ground is usually sodden and burning has thus lost much of its old effectiveness as a technique of heathland management. Furthermore only small patches circumscribed by cut areas to prevent the fire from spreading are now burnt, rather than huge swathes of the heathland landscape as in the past.

Topsoil scraping was a new technique for heathland management which was first introduced around 1991 on the Aylesbeare and Harpford RSPB reserve in the northern part of the heathlands. Current Natural England conservation guidelines ideally require that between 1 per cent and 10per cent of the heathlands should have bare ground today. This figure may or may not match how much land was bare in the prehistoric or historic past. We can perhaps consider it instead as a contemporary fantasy of what a historic heathland was like. Scraping away the soil was primarily driven by the need to achieve the target level of bare ground. The technique involves machine removal of the topsoil and accumulated nutrients in this soil. Thus a nutrient-poor habitat appropriate for heathland is maintained in the scraped areas. Acidity levels, reduced by the long-term effects of global warming, are also restored. In the past this could effectively be achieved by deep-burn summer swaling. Another benefit of scraping is the creation of temporary areas of bare ground habitat thought appropriate as part of the creation of a mosaic of habitat types across the heathlands, encouraging annual plants, lichens, rare species of butterflies such as the Silver Studded Blue, invertebrates and some species of ground-nesting birds. It diversifies the age structure of the heathland plant communities across the heathlands as a whole. Regeneration of the heathland habitat of heather and gorse in the dry heath areas where scraping has taken place is very slow, taking 10 to 15 years or longer.

This scraping was supposed to remove the mat of surface vegetation and the uppermost layer of the peaty topsoil. In practice virtually all the topsoil scraping that has taken place on the heaths has removed everything down to the pebble bed rock, leaving extensive exposed areas of pebbles without any soil whatsoever. It has amounted to complete turf stripping or removal. This is because the topsoil is so thin, in many areas only 10 cm or less.

As for the archaeology, this work has the unintended consequence of destroying it since flint scatters, settlement debris and shallow subsurface features will be entirely removed. Their presence is often impossible to detect even if the area is cut or mowed or swaled prior to the scraping operations. The damage to the irreplaceable historical resource is even worse than the continuing effects of deep ploughing of the fields surrounding the heathlands.

The material removed from the scraped areas has usually been dumped in long linear or sometimes irregular mounds adjacent to them. The linear banks and rounded mounds of scraped material, up to 2 m or more high and 5 m wide, create new landscape features that are inappropriate and intrusive in this open heathland landscape and detract from the landscape settings of visible archaeological monuments. They encourage the prolific growth of the tall European gorse. Given subsequent erosion and the current nature of the heathland vegetation, they are likely to be a source of considerable confusion to archaeological surveys and landscape interpretation in the future.

The scraped areas include in the RSPB reserve unfortunately the most sensitive area of the heath from an archaeological point of view: the summit area and northern slopes of Aylesbeare Common where a series of Bronze Age cairns, sites of Napoleonic date and pebble platforms and other structures are known to exist (see Chapters 6 and 11). What is ostensibly good for environmental conservation has proved to be very deleterious as regards the historic resource.

A rolling programme of scraping, clearing new areas every year and leaving previously scraped areas to gradually regenerate, would in the long term result in the wholesale destruction of virtually the entire archaeological resource of the heathlands. None of the scraping operations undertaken were archaeologically monitored by a watching brief, nor was any information provided to the relevant local authorities concerned with the historic environment as to where and when they were to take place. This was because the heathlands are in private ownership and all but a few archaeological sites remain unscheduled and therefore have no legal protection.

Part of the reason for this, which still exists, is a very different conceptualization of the value of landscape and the legal framework for its protection in relation to environmental and historic conservation objectives. In terms of environmental objectives the heathlands as a whole are protected. The only archaeological areas that are protected are a handful of scheduled monuments: little dots on a heathland map.

There has been a failure to recognize that the entire heathland landscape, rather than tiny bits of it, needs to be protected in terms of the underlying historic resource. The soil-scraping activities that have taken place to date might have destroyed many archaeological sites (see Chapter 11) or they might not. We do know that such areas have been destroyed for good from an archaeological point of view.

There is no doubt that heathland conservation managers and people who volunteer to work on the heath today to conserve it have a passionate interest in its preservation. The landscape has perhaps been well managed for the current environmental significance that has been given to it, but this has resulted in unintended and deleterious consequences from the point of view of its cultural and historic significance that have only recently begun to be addressed (see Tilley and Cameron-Daum 2017).

Conclusions

The most dramatic and irrevocable changes to the heathland landscape have occurred in modernity, from the nineteenth century to the present. These have substantially altered its character. To put it at its harshest and in the bluntest way: the heathland landscape has been vandalized.

The worst period of destruction has been post-1940. Industrial-scale quarrying has eaten away at its heart. Even with the most sympathetic restoration the original contours and character of part of the landscape are gone for good. The massive area of the Second World War Dalditch camp will never recover to its former heathland state. Plantations and intake areas of agricultural land have visually broken up and fragmented the landscape. Military trenching has mutilated further areas. Mounds and dumps of material of various origins have introduced landscape features that should not be there. Topsoil scraping has now also destroyed archaeological evidence in yet more areas. Fencing has altered the original open character of parts of it. Other areas have been flattened and exposed for visitor car parks. This is a sad litany of the corrosive *values* of our own times.

15

Woven flame and pebble grid: an artist's interaction with archaeology and the heathlands

Priscilla Trenchard

This chapter discusses the manner in which the heath and its pebbles have provided inspiration for a contemporary individual artistic and aesthetic response. In 2009, newly returned from living abroad, and anxious to reconnect with the landscape of my childhood, I wrote to the archaeologist Professor Christopher Tilley after hearing there was a dig on the East Devon Heathlands Area of Outstanding Natural Beauty. A few days later, I met Chris at his home and he talked about the project, and other digs, and his interest in trying to express archaeological investigation through visual interpretation. He is a tall, thin man, who looks as if he has spent much of his life battling with the elements. After trying to trace the roundabout connections that led me to contact him, he talked about his interest in working with people from different academic fields in order to connect with other viewpoints and ways of working. His experience with artists was a little tentative: 'They tend to look and then go off and do their own thing', and are typically not prepared to immerse themselves in the 'hands-on' world of archaeology.'

In my letter to him I had explained about living abroad for 15 years, how I had felt displaced and that now I had returned to the landscape of my childhood and ancestors. I said that I walk most days in the landscape and collect materials, take photographs and record thoughts. I was brought up in the seaside town of Seaton, a few miles east of Colaton Raleigh Common, one of the dig sites. My childhood was spent within earshot of the sound of the sea on pebbles, the soothing waves rolling on the stones and then that reluctant sound of the pebbles being dragged back out by the tide. Pebbles filled my childhood with games and 'friends' to keep in my pocket or on a shelf. That habit continues to this day: pebbles, their endless variety of shapes and colours, have always been of significance to me, symbols of place, collected wherever I go. I had considered embarking on a project that would involve making a cairn on Budleigh Salterton beach and monitoring the connections people make with it, their responses to the colourful pebbles, the journeys they undertake in order to get to the beach. I had been thinking about cairns as 'markers of experience', so it was with great interest I heard about Chris's three or four-year Pebblebeds project with its focus on cairns and pebbles.

Chris admitted that he is obsessed with pebbles. The ones on Budleigh Salterton beach and in the pebblebeds of East Devon come in an array of colours and markings, which he believes was an attraction for the people of the Bronze Age. The various colours would have seemed jewel-like and may have been precious to them. The markings can be interpreted as symbols, perhaps even human forms, or representing internal organs. I was shown the pebblebed stream at the bottom of his garden and the cairn he had built himself on the patio. He was quick to point out how difficult it is to construct with pebbles, as they are not so obliging as to stay in place.

There are two excavation sites associated with the project, on Colaton Raleigh Common and Aylesbeare Common. We visited the Colaton Raleigh site, a couple of miles from where he lives. We parked the car and walked up a long, rugged pebble-covered track. The pebbled surface makes walking difficult, and it is sometimes quite slippery. Once at the top, the distant views all round are far-reaching, and one can see that it would have been an important high spot. The common is used by many interest groups: bird-watchers, nature lovers, dog-walkers, cross-country runners and the army. There are small tracks through the heather and brush where people have walked regularly. We trekked through, in single file, to a large cairn which is a protected site and must not be excavated. We walked on and Chris pointed out other smaller cairns until we arrived at the site of the first year's dig. A quarter of the cairn had been investigated and all the stones had been replaced on top of black plastic. This year the area was to be dug deeper and another area started.

Chris invited me to join his team six days a week for five weeks in the summer of 2009, working initially on the cairns on Colaton Raleigh Common. This would give me grounding in the ways archaeologists work and a good understanding of how a cairn is built. There are questions to be asked regarding the Colaton Raleigh Common cairns, for example, why that exact location, how were they built: over a long period as a form of pilgrimage, or all at once? The landscape seems to indicate significant sites that could be related to sun worship during the winter solstice.

I had thought that archaeologists might resent artists being on site, and so it was with a little apprehension that I set out to join the dig in August 2009. I was one of the advance party of five women, four locals and a PhD student. We were to uncover the work started a year earlier and prepare another nearby small cairn for excavation. The ‘real’ archaeologists would arrive at the end of the week. The dig site is at a high point on the Common where a large cairn looks down on a smaller one and then onto the two cairns we would be working on. Our cairns were in a wonderful location, offering spectacular views in every direction, with High Peak, a triangular-shaped hill, to the south, a long ridge running southeast and looking west towards Dartmoor. This place is special: it feels as though it is suspended between the earth and sky, a safe, secret place. At times in the coming weeks, I would feel that I was enclosed in a sandwich of earth and cloud (Figure 15.1). At those moments, sounds would stay close and I would feel the intensity of the immediate location. The lush vegetation of the farmland surrounding the heath was invisible and we were enclosed in our little world and community. I felt tucked in and cosy.

The physical process was not unlike digging up potatoes, and the pebbles actually did look like potatoes when covered in the red-brown soil. Each stone was weighed, measured, washed, categorized, its

Figure 15.1 Weather from the west (Source: author)

location recorded, and all this information documented. Reams of it! At a later date, the information was to be fed into a computer and analysed to see what emerged. When wet, the pebbles disclose an array of colours and patterns, which probably had as much attraction in the Bronze Age as they still do for some of us now. We look especially for any 'blue' stones, which appear black and have irregular, angular shapes, not smooth like pebbles. They are rare to find in this site, and that may have some significance. Chris refers to them as Carter Blues, after George Carter who excavated on Colaton Raleigh Common in the 1920s and 30s. Even rarer are stones called ventifacts, wind-polished pebbles that lay on the surface of a desert 240 million years ago, which we were also looking out for. Their shape is an elongated oval with a smooth ridge and rough underside, very beautiful to hold. Colours have to be sorted too: reds/browns, white, yellow, blacks and then the 'specials'.

As artist on the dig I have been thinking about what to do. I know Chris would like some 'land art'. My work is generally small, mixed-media, abstract work that I produce in the comfort of an untidy studio. So what to do has been on my mind. I am interested in the sacred, memorial aspect of the cairns, and the process of making them, which would have required a pilgrimage-like ritual of bringing the stones up from stream beds or elsewhere across the heathlands. How would they have been carried – baskets or leather bags? The brief outline of my professional background that follows gives some context to how my ideas and work developed.

I left school at 16 with art as my only O-level pass. At the time dyslexia was unheard of and I struggled with exams and the written word. Thankfully, I was accepted on a foundation course at Newton Abbot School of Art, based on my portfolio, with the intention of studying fine art and becoming a painter. Fine art was considered an academic course, and that year the art school was taken over by South Devon Technical College and I was transferred to the diploma course in graphic design. At the time I was very disappointed not to be painting, but in retrospect I realize what a great foundation in art the graphics course provided. For many years I worked in hospitals and universities as a scientific illustrator, which was both interesting and technically stimulating. Later, as a mature student, I went to Dartington College to study art and design in a social context. This was a type of outward-bound course in art, challenging perceptions, ideas and ways of working, both as an artist and in the community. In the final year, for the BA, I went on to Middlesex Polytechnic and completed the degree in cultural studies. My family life involved working and living in London, moving to Vienna and then, for ten years, America. On returning to England I took an MA in multidisciplinary print at the University of the West of England in which I explored interactions between memory, place and identity.

During the dig, I kept a sketchbook with ideas and notes, took photographs, and collected heathland materials and found objects most days, which I catalogued with dates and place references and stored in small plastic bags. This became a type of 'museum of curiosity' (Figure15.2).

Figure 15.2 'Museum of curiosity' diary collection (Source: author)

All these processes helped keep the memory of events and feelings of place alive in my mind. They were useful references when I was back in the studio and helped inspire further work.

My way of working as an artist is to allow the work to emerge through the experience of being in a place, the ideas that come out of it and the materials to hand. Substantial areas of burnt soil were found in the cairn, possible ritual pyre sites. Fire has been an important part of human culture, and the idea of fire rituals interested me. Every Christmas Eve at the Harbour Inn, Axmouth, East Devon, the ancient ritual of burning a massive 'ashen faggot' is enacted, a bundle of ash sticks, about 6 feet long and 3 feet wide, which fills the pub's open fire. To take a piece of charcoal from the cooled fire, bring it back the following year and place it in the hearth again is meant to bring good luck. At this event you get a feeling of being a part of a primal ritual. There is something about gathering around a fire with ale and song that unifies people.

I was able to harvest some burnt soil from Tor Cairn, and other coloured soils from both sites. Back in the studio, I ground down the soils as pigments, which were used in one of the final artworks. The pigments were stored in labelled vintage glass jars, specimens of time and place, past and present. These collections I saw as part of the artwork itself (Figure 15.3).

Figure 15.3 Soil samples (Source: author)

As well as the physical act of collecting the burnt soil, I was also interested in the transformation of objects consumed by fire and particularly the transitory nature of smoke. Once again this is a ritual element, used when burning incense, in smoking-pipe ceremonies and on pyres. How to capture the impalpable smoke particles which appear to evaporate into the universe? I started using smoke as a drawing tool, trapping the elusive particles on paper, and sometimes immersing the paper in water, releasing the particles onto the surface of the water. Another piece of paper was then gently rolled over the water, lifting off the smoke particles. This gave a 'crackling' effect. The processes were unpredictable, but with interesting results in most cases. I also tried printing with smoke on copper plates that I had etched. The prints were very subtle. The idea of coded messages was another interest that I pursued by burning patterns into paper, then dipping the work into wax to stabilize the fragile paper and seeing the completed work as an untranslated manuscript.

As a group we were always discussing and creating stories of how the cairns may have come about and for what reason, and hoping to find clues in the patterns and placements of certain pebbles in the various levels of the cairn. Early on, Jill, one of my digging companions, brought with her some wax from her bees so that I might polish some stones. All the pebbles look dull when dry, and the colours diminished. I hoped that rubbing wax into warm stones might intensify some of the amazing colours, but it was not very successful. I decided to do something involving pebbles given their importance in the archaeological scheme of things and my fascination with them. I came up with the idea of a series of experiments, placing pebbles on different materials and leaving them in the landscape for a few weeks or longer. I saw it as a means of creating types of 'environmental print'. My four printing experiments were: (i) canvas as the print medium, placed on the pebbles on top of Tor Cairn, one of the excavation sites, and weighing this down with more pebbles placed on top; (ii) watercolour paper placed on the ground near the cairn with pebbles on top (Figure 15.4); (iii) a sandwich of paper, sticks and paper with pebbles on top; (iv) a sandwich of paper, grasses and sticks with paper on top and then pebbles.

I was disappointed to discover that, over the four weeks, very little had happened to my printing experiments. The heathland terrain drains quickly after rainfall and the dew dries rapidly in the ever-present wind. On my return some weeks later, after the dig had finished, I found that paper experiments (ii), (iii) and (iv) had mainly been nibbled away, leaving small scraps, but the cloth pieces had interesting 'prints' where the rain and dirt had settled around the edges of the pebbles and left stains on the

Figure 15.4 Paper and pebbles (Source: author)

fabric (Figure 15.5). The stains included very subtle shades of greens and pinks. I later used these small fabric prints in studio-constructed works. As the fabric had produced interesting results, I asked permission to leave a large piece of fabric over the whole cairn for a few months. The fabric was then covered completely with pebbles, making a sort of 'sandwich'. This was to become the Tor Cairn Shroud. I also collected samples of soil from the various cairn locations, including some burnt soil from a possible pyre area. The soil was then ground down with a pestle and mortar and used in some of the later artworks. In this manner I hoped to make deep material connections between the past and the present.

Weaving became my other theme. Tracks run all over the heathland, many created by the Royal Marines, who train there by day and night. These make a type of weaving, which I find fascinating. Walkers, horse-riders, bird-watchers and the army frequent the area, which reinforces the tracks as permanent routes through the common. In parallel with looking at the present-day layout of the heathland, I am trying to understand why, when and how it was important in the past.

Before leaving home on the first day back at the dig after the August bank holiday, I looked on the Internet, trying to discover any records of Bronze Age basketry. Bringing stones to the cairn site would have been

Figure 15.5 A pebble print on fabric (Source: author)

laborious work, and I was keen to know what may have been used for such a job. To withstand constant wear and tear, the container would have been robust. Maybe leather was used, which would have withstood hard usage, and was probably easier to carry than a wicker basket.

At the dig site, I went in search of willow in order to make a basket. The common is sparsely covered with small pine trees, but an abundance of tree growth lines the bottom of the hill, where a small stream and a boggy area exist. That is where I hoped to find willow. The undergrowth became dense and the gorse shoulder-high, the bracken a couple of feet above my head. I tumbled into a ravine and felt a little panicky about being completely enveloped by the undergrowth, but I was at the point of no return. Eventually I reached a well-worn path, with the common on one side and farmland on the other. I collected a huge bundle of willow and began to wonder if I would be able to make a pleasing structure. I am not a basket-maker, and thought I may have overestimated my skills.

The next day, Jill showed me how to start a basket, which she wove with whatever she could find in the car park, and loaned me a book about weaving. I struggled to weave the foundation of a basket with the materials I had gathered the day before. It was very frustrating: the branches were too thick and did not bend enough. The willow should be soaked. I read that it should be cut during mid-October and March. No wonder I was finding this difficult. I felt this was getting in the way of what I really should have been doing. I must not be confined by a *process*, but bring ideas alive through the *materials* available on the common.

The following day Jill had another sample weaving for me, made with grasses and small twigs. Not a basket shape, but fence-like, with straight twigs and leaves on the end. The shades of the grasses created a lovely graded colour range. Again, the process of weaving overwhelmed me. More frustration. Rethink ideas.

A week later. By now, weaving had dominated my thoughts so much it had become a metaphor for life on the heathland. The weaving of narrow paths across the landscape mirrors the structure of the plant life. The gorse and heather grow together, creating dense undergrowth. The pebbles may have some weave-like order in their placement within the cairn. We weave stories around each pebble layer of the cairn, as it is unearthed. So I am going to stay with the idea of weaving something. I collected heather and gorse and spent hours stripping the needles off the gorse. There is a repetition of walking, collecting, sorting and stripping back, a meditation of sorts. The making of the cairns would have required many journeys back and forth with the pebbles. Creating paths, creating stories and remembering.

The next day I gathered more roots, this time from the spoil heap. This was a great collection point, as most of the material had been there for a year and the gorse needles fell off easily. I began working on a free weaving, hoping in time that it might become a large sphere, strong enough to hold pebbles – a sculpture to sit atop Tor Cairn. None of the roots were straight, so the shape had a life of its own, with not too much strength to the structure.

In the following days I continued to weave, and tried to control the shape of the structure. It definitely had a life of its own, looking more like a nest! As the structure grew it felt as though its weight was pushing its sides down. The inflexible and random nature of the roots and branches inevitably dictated the form. Not surprisingly it related to its surroundings. At this point, I thought I may have been getting too involved with structure, rather than working through ideas. The container could be more imaginatively conceived. The cairn is about containing and also covering something of importance. How could I create something that would communicate that?

Taking a break from the slow progress on weaving the basket, I attempted a splatter drawing over some pebbles on a big sheet using muddy water – a Jackson Pollock-style work. Some areas came out well, leaving a vague silhouette of the stones. Trying to get depth of tone, by splattering for a second and a third time, was unsuccessful. I was not really sure what I was trying to achieve, but some of the areas had an interesting texture. The breeze dried the fabric quickly. A wind sculpture might be a possibility. I could not remember a day when the wind wasn't blowing.

Back to the weaving. I collected more gorse and heather and continued to try to control the structure. Feeling despondent about the wayward nature of the weaving I bound it with string, so that further weaving might bring the whole thing together. The wind took the structure, rolling it around like tumble weed, and parts broke off. Clarissa came up with the idea of putting the basket on top of Great Tor Cairn, to see how it looked in its intended resting place. What a relief. It looked as if it belonged there, and it stayed steady in the wind even though it was on higher ground. Much to my surprise it looked finished. A woven flame (Figure 15.6). Its character changed depending on where it was viewed. I was suddenly pleased with the outcome. Gradually people took a break from digging to look at it and take photographs. The sky was bright blue with a few wisps of cloud. The photographs came out well. 'Woven Flame' will stay there throughout the year and I will photographically document its life through the seasons.

Sometime later, an excavation of an Early Bronze Age cremation burial at Whitehorse Hill on Dartmoor turned up a woven basket made from the fibrous inner bark of a lime tree. The basket contained beads, wooden ear studs and a flint flake. It was made from two woven circular discs forming a flat base and a lid, each 12 cm in diameter, joined together with a tube of coiled basketry. There was stitching made using cow hair around the edges. From Tor Cairn, on a clear day, one could

Figure 15.6 ‘Woven Flame’ (Source: author)

look out to Dartmoor. It would be nice to think that in prehistoric times, there were craft traditions that connected artisans working across these landscapes.

In mid-September we moved to the Aylesbeare site. I wondered what artwork I could produce in a place that I did not feel connected with. It would have to be something that could be made and left in the environment, as was the work on Colaton Raleigh Common. I was tired of working with heather and gorse, so pebbles it would have to be. Classifying the stones had been a big part of the dig's agenda – size, weight, colour and specialness. I would use the uniqueness of the pebbles as the focus for my next project. It felt good to have an idea to start the next day with.

I decided to use one of the metal grids the archaeologists use when making plans of the layout of the pebbles. The metre-square grid, with its 25 squares, is placed over the area to be recorded and the information laboriously drawn onto graph paper. I sited my grid on a lower edge of a sloping gravel area so as not to be disturbed or be in the way of others walking around. I created colour categories – black, black with white lines, white, white quartz, grey, red, red/brown, yellow, orange. It would be hard to find enough colours in some of the categories, as they were scarce. I spent all day engrossed in finding the required pebbles, and had only filled half of the grids. I would have to create new categories in order to fill all 25 squares.

The next day I conjured up more categories to fill the spaces. Pebbles that were broken in half, big stones, ones that look like body parts! The body-part ones reminded me of my days as a medical/scientific illustrator. Some of the stones definitely looked like internal organs. The end result, when wet, magically reveals the range of colours and textures of the pebbles (Figure15.7). After lunch, two of the archaeologists helped me find pebbles. One of them seemed a little unsure if she was finding

Figure 15.7 Pebble grid (Source: author)

the right ones. It was interesting to see others feeling ill at ease in my creative space. What was ordinary and unthreatening to me became another world to others, just as their world was to me.

I would return regularly to both sites over the coming years to see how the passage of time played a part in the weathering of the art works. I also left paper and fabric in the landscape with a covering layer of pebbles for weather and time to produce their own drawings on the surfaces.

After the dig had finished I continued to work in my studio, using ideas that had evolved from my experience of being on the Pebblebeds project. These artworks, although interesting in their own right, have a sense of 'control' and formal presentation, characteristics that were not present in the landscape pieces. The problem is, having produced artwork, what to do with it, who is going to see the work? Putting on an exhibition is a big responsibility, finding a suitable venue, publicity, insurance, curating the work, putting the work up and 'babysitting' the exhibition. I approached the Devon Guild of Craftsmen, as a member, about an exhibition, and in 2012 'Strata: An artist's response to an archaeological project' was exhibited at the Riverside Gallery in Bovey Tracey (Figure 15.8). It was a wonderful venue and great to see the work come together in one place. I managed to retrieve the pebbles from the landscape for the 'pebble grid' piece, even though time and weather had distorted the original pattern. The 'pebble grid' and fabric 'shroud'

Figure 15.8 Bovey Tracey exhibition photograph (Source: author)

became the focal point of the exhibition. I think some people expected to see archaeology in one form or other, something recognizable. They came with their own expectations rather than being open to an artists' response to the whole experience, which for them made the work difficult to identify with.

The Devon Guild of Craftsmen, sponsored by Villages in Action, took the exhibition to two local village halls at Farringdon and Lympstone, each for a three-day event. Attendance at these was good. Some of the people had visited the dig site on the open day which Chris Tilley had organized; these people were particularly interested in seeing and talking about my work.

The challenge of working in the landscape and limiting the use of materials to those at hand for creating work was both intimidating and liberating. Taking oneself out of one's comfort zone opens up unpredictable possibilities. Trying to weave with gorse and heather was impractical because of the inflexibility of the fibres. However, the resulting 'basket', although not practical as a vessel, when placed into the landscape reflected its environment and took on a presence in that space. I was surprised and honoured as members of the team walked up to the cairn where the basket, known as 'Woven Flame' was situated, some leaving a pebble inside as a type of offering. That was very touching. Over time the basket has disintegrated back into its landscape, leaving but a trace, detectable only by those who knew it was once there. The 'pebble grid' also merged comfortably into the landscape, with its colours blending into the surroundings. Over the next two years plants began to grow through it, and its edges 'frayed' and discomposed back into its constituent parts. This was art emerging in the landscape and then slowly being reclaimed by it, almost the reverse of archaeology, which seeks to recover what has been reclaimed.

16

Conclusions: the longue durée and a theory of pebbles in a pebbled landscape

Pebbles in the longue durée

A pebble building competition held on the beach at Budleigh Salterton during the town's Gala Week has taken place for the last 20 years. This is a charity fund-raising event organized by the Lions Club over the spring bank holiday. I observed the event in 2009 and 2010 and participated in it in 2011. Originally the aim of the competition was to build the tallest tower of pebbles in two hours and the event was for children. Since they were helped by adults anyway, it became a family or group event and now people of all ages participate. Since 2005 there has also been a pebble design or art competition that has become increasingly popular. In the 2010 and 2011 competitions only three and four groups respectively, all of whom were local families, built pebble towers. The rest of the entries were pebble designs of various kinds. All the materials have to be collected on the beach: principally pebbles, but some designs are enhanced with driftwood and seaweed. Some groups frame their designs with rows of pebbles forming a border. Many of them are directly inspired by the experience of the seaside and beach holidays: mermaids, ice-cream cones, octopuses, boats, lighthouses, beach huts, fish, crabs. Other designs are quite eclectic, including, over the years, a giraffe, a snake, guitar, a butterfly (Figures 16.1–16.4).

Up to 500 people have taken part, both local families and visitors. The 2011 competition was less well attended as a result of cold and wet weather. That day there were around 100 participants with 4 tower-building groups and 17 constructing designs. Most groups consisted of four to six people spanning all generations. One consisted of teenage

Figure 16.1 A pebble tower (Source: author)

boys who made a guitar. Some families had actually planned their design on paper and in advance and knew exactly what they were going to do. They had a rough idea of how many black, yellow, red, brown, etc. pebbles they would need. Other groups spontaneously thought up what they were going to do on the spot. Most of the time was spent by people wandering up and down the beach collecting pebbles of different colours, in buckets or carrier bags, heads down, grandmothers and mothers helping children. In different groups some members stayed put and constructed

Figure 16.2 Beach huts (Source: author)

the design with the materials brought to them. One group of tower builders had brought garden spades to dig a moat around their tower. The lower parts are built as a cairn. The upper parts, or spires, require an ingenious and delicate balancing act in which very small pebbles collected along the tide line are used to balance and prop up larger pebbles. Building these towers required much vigorous work and skill.

Black and yellow were the predominant colours used in some designs, often with white pebbles being used as an enhancing or framing device. It was usually the ordinary-coloured plain pebbles that people collected in order to create contrast and pattern in their designs. The intricate, multicoloured 'special' beach pebbles were always grouped together when used to create a strong design. The contestants wetted their pebbles just before the judges came to see them in order to enhance the vibrancy of their colours. This production of pebble designs on the beach has also stimulated the work of dedicated pebble artists producing outstanding work (Figure 16.5).

This practice of making patterns and designs out of pebbles has, as we have seen, its roots in the Bronze Age. It is part of a 4,000-year story of pebble use. The contemporary beach pebble crab finds its prehistoric parallel in a Middle Bronze Age pebble sculpture depicting a double axe.

Figure 16.3 Lighthouse (Source: author)

The manner in which people respond to pebbles in the past or the present depends on their relationship with them, their meaning and value.

In the longue durée pebbles have always had a certain practical utility as building stone, beginning with the construction of Bronze Age pebble cairns and continuing today in their ornamental use to build paths, walls, gutters, etc. Today they are also quarried and crushed for utilitarian use as hard-wearing roadstone. The crushing of pebbles destroys their

Figure 16.4 Crab (Source: author)

Figure 16.5 Balloon and bird by beach artist (Source: author)

integrity of form. The processed material bears no relationship to the original form, a complete material transformation. This crushing of pebbles also has its origins in the Bronze Age. The transformation of the pebbles taking place at Jacob's Well that reduced them to grit and drained them of their colours was, however, something that was undertaken because of their symbolic value rather than their functional use value, but had a similar transformational material effect.

To the farmer with fields in the vicinity of the Pebblebed heathlands the pebbles can wreck a plough and are unwanted material. They may be a curse or a blessing to gardeners, making digging difficult but also providing ready-to-hand materials for creative work. For the Royal Marines they silently perform excellent work in hardening and strengthening the body of the recruit: out of pebbles the desired military body can be formed.

For both artists and tourists alike they provide a medium for creative thought: individual pebbles have their aesthetics and personalities. This again is a response that we can trace back to the Bronze Age. For archaeologists pebbles provide a medium through which it becomes possible to rethink the past in the present in new kinds of ways. All these are variant forms of collective memory work: pebbles encapsulate and invoke experiences, relationships, events, persons and places.

Doing things with pebbles, bodily engaging with their forms, creates an intimate involvement with them. The archaeological excavation team spent many months touching and handling and moving pebbles. In a very real sense this was prehistoric work in reverse. The team were dismantling with considerable care cairns that had been constructed 4,000 years ago. They were touching and being touched by precisely the same materials. They were sorting, grading and classifying pebbles. When I talked to people who were building things with pebbles in their gardens it was evident that exactly the same kind of bodily intimacy arose. From this intimate bodily involvement with pebbled materials pebble speech arises. The excavation team were always talking about pebbles, as were people who were building and doing things with pebbles in their gardens. Such speech does not arise in the abstract but from intimate sensory contact, speech generated through and of the body.

People today curate and collect and display pebbles in their homes. The materiality of their forms and colours and patterns is generative of such a response. This again is an embodied relation articulated most powerfully perhaps in the work of artists such as Priscilla Trenchard and her work with pebbles, which she discusses in Chapter 15. A contemporary response such as this is a mirror image of a prehistoric relationship with pebbles. Prehistory is in and of the present. It still exists in our embodied minds. We still think like Bronze Age people because, like them, we engage with the same materials from which the same kinds of pebble thought arises. Of course the modern beach ice-cream cone has an altogether different meaning and significance from that of the prehistoric pebble axe. What things mean or signify is always subject to often rapid historical change. It is a kind of gloss of history and is always radically open to interpretation and reinterpretation. New presents in this manner create new pasts that wear new clothes, but the garments in which the past becomes contemporarily adorned cover the same body. The aesthetic appreciation of a pebble today is a very different matter from the manner in which such a thing would have been thought through in the Bronze Age. This is always a matter of signification and the contextual relationships out of which signification takes place. However, the modern and prehistoric attitudes to pebbles both arise from the same embodied response: the visual touch or power of the thing in itself, in its material Being in the world that entraps us in the same entangled web.

All the various responses to pebbles arise from their material presence and varying modes of engagement and interest in them and in particular the hardness and durability of these stones, their sensuous and tactile rounded forms, their varied colours and intricate patterns. Pebbles are perfect stones in that they are ready-mades. They do not require fabrication. Pebbles are like people: each one is different from the other and yet they are still all the same. The empty eyes that stare out at us from some of the pebbles (Figure 5.6) engage with our own eyes. They look at us and we respond to them. This is, of course, to produce a philosophy and a world out of the thing: an entire human sensibility running through the longue durée is to be found in a pebble, while in this longue durée there exists a variety of different responses and manner of uses for which pebbles are employed. That in my view might be a general aim of a prehistory linking past to present.

Although this account has stressed the multiple uses, meanings and values associated with pebbles, this does not entail they can mean anything. An embodied relationship with pebbles in the past and the present suggests something quite different: we are entrapped and constrained by their pebble materiality. I walk along the beach, pick up a pebble that I find intriguing and pocket it. The response is both repetitive and habitual, it belongs to pre-discursive thought, requires no reasoning or calculation. The pebble feels comforting, its brightness demands attention. This is the enchantment of the pebble and its visceral effect. I want to possess this perfect thing. Gell (1992a) has written of the enchantment of technology and the technology of enchantment: we are bewitched and bedazzled by the thing because we cannot comprehend how it was made. The pebble, we might say, enchants us in precisely the reverse way. Its power resides in the fact that it has not been made, owes nothing to humanity. In this respect the pebble enchants through its naturalness.

Pebbles speak of the past and the present in a material language unmatched by any other kind of stone. Cultural technologies of enchantment are always of their time. They always fall out of utility and become drained of their original meaning and significance through the passage of time. By contrast, a pebble is out of time because it responds to an embodied pre-objective mind that requires no conscious thought. In other words, the pebble is thought through the body rather than the mind. The power of the pebble resides precisely in its unnatural naturalness or its perfection in relation to other kinds of stone. It is self-sufficient, contained within its own pebbly being or essence. It does not need to be made and therefore has an excess of materiality. To paraphrase Rowlands (2005), the pebble has more materiality than any other kind of stone. This natural material excess is what has stimulated a similar human response over 4,000 years. Making anything out of a pebble can only destroy its natural ready-made perfection. It enchants through its very denial of the possibility of technological enhancement. Other kinds of stone can be improved by technology to suit human purposes but the pebble remains aloof from such a technological transformative desire.

What do pebbles really want of us? They invite us to gather and collect them, arrange them in patterns, create new sculptural forms, respond to their material excess in new ways. This is the thread that reminds us that our contemporary embodied thought is pre-modern and something that we directly share with the people of the Bronze Age. Our present is coeval with their past.

Lévi-Strauss (1966) was correct when he maintained that savage thought still persists in our technologically dominated modernity. It is just that he posited this in the wrong kind of way. For him it persisted in the unchanging nature of the structure of a human mind divorced from the body: thought dematerialized. Thinking through thought in a material manner leads us to the opposite conclusion. Our thought is still 'savage' because it is thought through the interiority of the body, distinct from intention and only accessible through reflection on the logic of practice binding together people and things. The materiality of the pebble is its otherness, that it is indifferent to our will. Its natural materiality nevertheless exerts its own particular kind of agency that is very different from the agency of humanly created things because it is not made to do anything, unlike a technical device designed with a purpose. It just exists, has its own being.

This may be contrasted with Latour's discussion of technological things such as a speed bump that is 'not made of matter, ultimately; it is full of engineers and chancellors and lawmakers, commingling their wills and their story lines with those of gravel, concrete, paint and standard calculations … where some, though not all, of the characteristics of policemen become speed bumps' (Latour 1994: 41). In the speed bump example the object and person commingle as parts of interlinked networks that form part of each other, linking humans and non-humans. It is the thought and intentionality that goes into the making of the speed bump that for Latour is the essence of its semi-human agency as a quasi-subject. Again this perspective privileges the *thought in the thing,* and in our technologically dominated modernity we increasingly interact almost solely with technical or cultural rather than natural things. An enormous amount of my time and that of millions of others is today spent engaging with a keyboard and computer screen. This is engagement with a designed object, the end process of human thought. But things that are not artefacts have no thought in them, they are entirely free of this human involvement in their creation and there is no correspondence here between language and things except in terms of their representation.

From an embodied perspective, engaging with a pebble or a host of other natural things – trees, animals, hills, bogs – requires not a consideration of the thinking mind of intentionality that resides within a thing but a pre-objective bodily engagement with the thing that is of an entirely different order, involving bodily agency, a sensuous carnal relation that ends in objects rather than beginning in thoughts.

The pebbled landscape in the longue durée

What pebbles mean at any particular time to people is more than simply a question of material identities. It involves taking the idea of material worlds, as seriously as social worlds, where people create themselves in these material worlds in terms of different temporalities, and transmit identity and culture over time through cultural signification on the one hand and human embodiment on the other. What is important is not only ideas of cultural transmission from one generation to the next and how this involves memory, remembering or forgetting, but also the embodied and habitual relations through which people live out their lives in relation to their material worlds.

This heathland landscape of pebbles exhibits obvious long-term continuity in an economic sense. This is a humanly created landscape born out of woodland clearance and fire and maintained through the continued agency of fire and by grazing animals. It has always been this way. Rituals of fire first associated with the construction of the Early Bronze Age pebble cairns continuing in the pebble-crushing rites at Jacob's Well in the Middle Bronze Age also survived in variant forms well into modernity (Chapters 3, 6 and 12). Human engagement with the heath has only very recently changed, on the very cusp of history, from a taskscape from which one made a meagre living into a pleasured leisurescape.

The heath has always been a marginal landscape. Today it is not easy to imagine oneself living in what is a gnarled, sparse and unprotected heathland. The soil is poor, thin and acidic; the vegetation is acrid. This has always been a poor place to live, a place where the marginalized, the vulnerable, would have been pushed out to. You would only live up here if you couldn't live somewhere else and that is the way it has always been since the Bronze Age. This is in part about temporality in an ecological sense, the enduring qualities of this landscape.

But the history of the heath in the longue durée is more nuanced than that. From the Bronze Age onwards it was an integrated and valued part of a broader regional economy (see Chapters 8, 10 and 12). It was only in modernity that the heathland gradually became increasingly economically redundant if it resisted being transformed into farmland. This redundancy led to its adoption for an entirely different and new use: for military occupation and training, a short-term temporal cycle in the use of the heathland that has continued to the present. An even shorter-term temporal cycle has been the valuing of the heath as a conservation site, a cultural landscape worth preserving for posterity.

The conception of the heathland as redundant had other consequences in relation to how the past became understood and incorporated into the present. The visible presence of prehistoric monuments, lingering relics of the past in a landscape now out of time, became romanticized. Landscaping the heathlands by constructing modern versions of prehistoric mounds, but in the right places rather than the wrong places in the heathland landscape, served to make the presence of a pagan prehistoric past more redolent and powerful. At the same time the heath itself, rather than being considered as being of the present and part of an integrated regional economy, became a fossilized past that could be contrasted with a present landscape of Christian well-tilled fields and a demure landscape garden (Chapter 10).

People created this heathland world and subsequent generations have inherited it and transmitted it to future generations. The heath itself is a combination of shorter- and longer-term temporalities in the details of its use and maintenance that shape the people who use it but within which people shape the future. The Bronze Age pebble cairns and pebble platforms are part and parcel of a human sculpting of the landscape in which memory, commemoration and marking come to the fore. This sculpting of the landscape then assumes a massive and unprecedented scale during the Iron Age and the construction of Woodbury Castle. In the sheer monumental scale of that earthwork the individual pebble entirely loses its significance.

In the Neolithic pebbles are taken from the heathland and deposited at hilltop enclosures in its vicinity from whose vantage points one could look down and across the heathland. The light oak/hazel forest that grew there looked significantly different from the dense forests that surrounded it. The light Pebblebed woodlands provided excellent opportunities for hunting and gathering. Taking pebbles away from this area seems to have ended in the Early Bronze Age with the construction of small pebble cairns. The pebbles were now collected and used on the heathlands themselves. However, this temporal rhythm and practice of curating pebbles and taking them away to settlements elsewhere emerges once more in the Iron Age with the pebble depositions at Hembury hillfort. After that it disappears entirely until modernity, when pebbles once more are used as 'rustic' building material at Killerton House, Bicton Gardens and elsewhere, continuing into the twentieth century in their use to decorate motorway bridges (Chapter 13).

In the Bronze Age there exists a long-term temporal cycle or rhythm in which the appreciation of individual pebbles and their colours and sculpting them plays a key role. From small beginnings in discreet pebble cairns associated with fire rituals, rather than burials, much larger monuments are constructed at high points in the landscape, with complex mortuary rites taking place involving probably the excarnation of bodies on elaborately sculpted pebble platforms. The inalienable pebble wealth of these communities was elaborately put on display, and in the Jacob's Well burnt mound the pebbles met a symbolic death (Chapter 7). Thereafter from the Late Bronze Age *c.* 1300 BC pebbles lost this embodied symbolic significance. During the Earlier Bronze Age the effects of human activities on the heathlands had exposed more and more of the pebbles from under its mantle of light sandy soil. There was an inflationary spiral in the use of more and more pebbles, and a rupture occurred in which they became no longer regarded as intrinsically valuable stones.

Peat development on the heathlands then swallowed them up and once more returned them to the earth (Chapter 8).

The Bronze Age embodied way of doing things with, and thinking through, pebbles emerges once more in twentieth-century modernity, having slumbered for over 2,000 years. It is the same historical mediation of embodied materiality. The essentially spiritual qualities of pebbles have emerged once again in the present and in the aesthetic responses to them by artists and others who use them, build things out of them and respond to their materiality in new and unexpected ways. They have become, as in the Bronze Age past, a powerful medium for contemplation and embodied creative thought. More broadly Trenchard's engagement with the heathland landscape that she discusses in Chapter 15 involves much more than the pebbles and emerges from other aspects of its embodied materiality, its vegetation and soils.

Hardy, discussed in Chapter 12, characterizes heathland in a thoroughly anthropomorphic manner. The heathland is a body, a brooding and dark material presence in which people eke out a miserable living. It simultaneously repels and attracts, it has its moods and different faces. It is above all a landscape out of time, or a timeless landscape, because it has existed for so long. This anthropomorphic conceptualization of heath as body and the bodies of persons being born out of it is another manifestation of embodied prehistoric thought. There is little doubt that the people of the Bronze Age would have thought in a similar way to Hardy: this was an animate landscape peopled with ancestral forces, explained and understood in terms of mythological understandings of how the world came into being (Chapter 6).

The timelessness of this landscape in the sense of a linear temporality of days and dates is itself part of the distinctive longue durée of a heathland landscape materially contrasting with the shifting patterns of fields with their seasonally textured crops around it. Hardy's heath is a consciousness without intentionality and it weighs down, as Marx remarks history does, like a nightmare on the brain of the living. The heath is a kind of nightmare because one cannot escape it and it always makes its presence felt through the body.

Hardy describes the incipient heathland paths felt through the feet. Such paths felt in precisely this way criss-cross the Pebblebed heaths today as they did in the prehistoric past. Similarly, where they are fully exposed on the surface the voices of the pebbles ring out as I and others walk on them. These same pebbles tire the Royal Marines just as they tired Bronze Age bodies. I hear pebble voices as I follow the tracks. All the time, while doing so, I am walking in the past in the present: the Bronze

Age tracks become my tracks and I hear the same pebble voices. When I look out and across this same landscape I see the same hills and valleys and so the distant past becomes my present. I smell the heathland vegetation as it was once smelled, the same plants still persist and therefore my body, situated in modernity, simultaneously embodies both the past and the present, as do the bodies of others. This is part of the longue durée of this landscape, a historical temporal rhythm that transcends the lifespans of individuals and generations, in which the present shares the same time with both the historic and the prehistoric past.

A theory of things or a theory of kinds of thing?

One goal of archaeology and of wider material culture studies has been to attempt to produce a theory of things. I myself have long wished to produce such a general theory of things. My closest specific attempt was the book *Metaphor and Material Culture* (Tilley 1999), which put forward a theory of material culture as a matter of material metaphor. The end result was not all that satisfactory, because it could never be comprehensive. In fact it was a failure in terms of providing a general theory of things. It perhaps emphasized only one aspect of such a theory. I have now come to the conclusion that any attempt to produce a theory of things in general will always end in frustration and misery, at least for the theorist. Ultimately it is a manic totalitarian desire to pin down the entire material world and stabilize it. I want to explain why a general theory of things is impossible by examining two of the very best recent attempts.

Hodder has recently made a valiant attempt to provide a general theory of things revolving round a nexus of 'entanglements' or relationships. These are human–thing relationships, thing–thing relationships, thing–human relationships and human–human relationships (Hodder 2012: 88). Such a scheme has a high degree of analytical abstraction and aims to stress a certain symmetry between person–thing relationships.

However, internal thing–thing relationships are not at all of the same order as relationships between persons and things. A theory of internal relationships between things has little or no anthropological significance. It tells us hardly anything of interest about relationships between people and things that I believe to be at the core of material culture studies. Hodder's discussions of thing–thing relationships appear to be a thinly veiled form of functionalism, for example a self-assembly bookcase requires screws to hold it up, a car depends on its numerous parts in order to work and so on. Furthermore all the examples of things that Hodder gives are artefacts. He has little space within his theory for natural things.

The category human–human relationships is curious in that it excludes things as being of primary significance and parallels some perspectives in social and cultural anthropology in which the significance of material culture always gets downplayed as of secondary or no significance when compared with a study of social and political relationships. Interestingly, Hodder has no separate discussion of human–human relationships at all in the book, apart from the fact that they are apparently entangled with things in various ways, effectively making the category obsolete as part of his generalized analytical scheme.

Hodder illustrates thing–human and human–thing relationships by using 'tanglegrams'. These bear an uncanny relationship to the kinds of diagrams used in functionalist systems theories approaches in archaeology in the 1970s that have long since been discredited. Arrows connect various entities together in various relationships of dependency involving considerations of how people depend on things and things depend on persons for their production, maintenance and care.

The tanglegrams are admittedly far more 'romantic' than 'classical' in form, with various sweeping, curving and looping lines linking entities together rather than the straight lines neatly connecting boxes in systems theory models. There are no hierarchies in such entangled relationships, so, for example, a diagram of clay entanglements at Çatalhöyük involves both landscape and eggs, human heads and dry land, wetland and bone (Hodder 2012: fig. 9.2). He conceptually boxes radically different kinds of things that are of no equivalent status (a landscape surely contains eggs and humans within it?) in order to 'tangle' them back together by drawing a sweeping line between the two. The conceptual boxes always precede the entanglement and seem arbitrary in that there could be so many more or far fewer.

Let us imagine another kind of 'tanglegram' of a prehistoric pebble cairn. All the thousands of pebbles might have lines drawn between them or we might include only 'special' pebbles. Then we might tangle up everything else found in the cairn with other kinds of things and with the pebbles themselves. The resulting density of the mass of entanglements would ultimately produce a dark circle or, depending on the way you look at it, a black hole – hardly an adequate representation of the materiality of the cairn and its contents. What does the blackness of the entangled void ultimately tell us? I do not think it necessary to answer this purely rhetorical question.

Ultimately the complexity of all these links, threads or entangled chains between flows of matter, energy and information, as they are referred to in various places in Hodder's book, creates a morass of tangles. Some links and entities are more important than others, which are ultimately trivial, but in the 'entanglement' everything in principle becomes important. One alternative common view of what makes a good general theory is that it simplifies things to make relationships clearer. It does not attempt to enmesh the world within itself like Borges's impossible map that attempts to be so faithful to the material world in its exactitude that it covers and envelops it (Borges 1999).

Olsen in his book *In Defense of Things* (2010) promises us an 'ontology of objects' on the cover. The title is rather odd as I don't think things really need defending; they are, after all, quite happy being left to themselves. But what Olsen is really defending is one of the primary disciplines studying things, archaeology, against the threat that it should be ignored or marginalized by anthropological and social science perspectives on things that, according to him, don't take them sufficiently seriously. To study things in themselves is of grave consequence, and a discipline of archaeology ought to be superior to all others in this respect. Thus the role of the archaeologist is valorized. In contrast, I have always felt that archaeology should dissolve its disciplinary confinement and that it never has had, or will have, a distinctive take on the world of things.

Olsen's book runs through a whole series of ways in which things have been theorized, primarily structuralist and post-structuralist, actor-network and phenomenological approaches, and more broadly a gamut of anthropological theories and historical perspectives stressing social memory. Interestingly enough none of these perspectives have themselves emerged from within an archaeological discipline of things, but insights from them have instead been adapted by archaeologists such as Olsen for their own purposes. Olsen's book is a rich and sophisticated discussion and undoubtedly the best critical survey available. But where does it and the precious archaeological discipline of things that requires defending take us?

In the conclusion, which has the same title as the book, we learn that all these reviewed attempts to understand things remain unsatisfactory: something more is required. So why and how are things significant? Olsen's first conclusion is to tell us that things are not a homogeneous category but incredibly diverse. They may be big or small, have different colours, be hard or soft, have specialized functions or be multifunctional, have different uses. So 'rather than thinking of them as produced in [human] relations, we may think of them as what makes relations possible' (Olsen 2010: 157). This is in part to do with their material properties. You can perform tasks with obsidian that you can't do with paint or others by using oak wood rather than birch wood. We can use some things to move around in, such as a car, or we can transport a thing around, such as an axe, in our hands. But different kinds of things can also have shared material properties (158). Finally, because of their very materiality, things last longer than words or gestures.

The second point is that things are *in place*. My bed does not run into the garden during the middle of the night but stays where it is. There is a relative stability in a world of things and things are usually within reach if we want them. They give people reassurance, succour and security, and this is, according to Olsen, the most important statement one can make about things: in things we trust.

In terms of history and consciousness of the past in the present, things can have multiple and diverse effects and through the appearance of new and different things we can recognize historical change and continuity; both, rather than being opposed, run in tandem. Things themselves change: antique furniture has a patina of age. Other aspects of things don't really change: the knifely qualities of the knife or its human affordances persist largely irrespective of changes in fashion and design as do the shoely qualities of shoes (165).

Because of the very materiality of things, traces are left even when they are discarded, destroyed or demolished. Concomitantly all history, through deeply considering things rather than being linear or biographical in character, is instead topological and accumulative, where the remnants of the past in the present serve as a kind of 'involuntary memory' (170).

These conclusions to a text running to 173 pages strike me as somewhat disappointing – that the sophisticated discussions in the previous chapters should lead to this result. This would certainly seem to encourage those cynics who think that theorization is pretty much a waste of time, achieving virtually nothing at the end of the day and what really matters in a study of the past is amassing loads of new evidence and material facts. That conclusion would be most unfortunate.

Olsen's failure was built into his project from the very start. Like Hodder, he wants to include within a theory of things everything from eggs to motorway bridges, landscapes to crisp packets, beer cans to pyramids. It simply can't be done. And again, like Hodder, all the examples actually discussed rather than mentioned are cultural objects – boats, fridges, shoes, decaying houses and rusting cars. The general position that Olsen advocates in his conclusions are overwhelmingly Heideggerian in tone and inspiration, with some nods and winks along the way to Walter Benjamin's materialist thoughts about the significance of fragments and ruins from the past (Benjamin 2002, 2003). The basis for justifying a discipline of things – archaeology – becomes a form of Marxist, existentialist and phenomenological thought and I am not in disagreement about that.

However, I have consistently argued over at least the last 20 years (e.g. Miller and Tilley 1996) that the fulcrum of a study of things resides in a study of material culture: materials contextualized within culture, as part of culture. That requires primacy being given to the social relations within which things are embedded and form a part. At the heart of this is theorizing person–thing cultural relations. It is of necessity an anthropological theory and almost all of what we know about prehistoric things actually comes from anthropological observation and theorization of person–thing relations. Archaeologists cannot do this because while they have things to discuss there are no persons to observe or tell them anything, except, of course, in the important sub-field of so-called 'ethnoarchaeology' (e.g. Gould 1978; David 2001).

There is always a relation of *asymmetry* here and not the 'symmetrical' approach that both Hodder and Olsen argue for in various ways, in which things are regarded as having *some kind of* equal status with people, the pretence that things and people and their thoughts and the meanings they give to things are of equal status. This stems ultimately from a ventriloquist's treatment of non-human objects as quasi-human subjects. If we turn again to the notion of embodiment, which Olsen readily acknowledges is of fundamental significance, we can note that while people can have embodied relations with things, those things themselves lack human bodies and cannot have embodied relations with persons.

Archaeologists, in fact, without theorizing it, have long understood the significance of embodied relations. This occurs within another archaeological sub-field, 'experimental archaeology': the attempt to learn about the past in the present by engaging with things in the same kind of embodied way: by making a flint tool, grinding an axe, building a round house, making a pot or casting a bronze tool (e.g. Coles 1973; Millson 2011). The results of most such experiments have unfortunately been discussed only in terms of a rather limited understanding of practical aspects of technology or of the functional use of things. However, there is a much broader philosophical and theoretical understanding of embodied material relations waiting to be drawn out of them.

The category of things themselves does not exist insofar as the entire notion of what a thing is supposed to be is entirely dependent on people, without whom there would be no world of things. Things do not think themselves as things, but people decide what the things are. We know from countless anthropologies that the category of the thing is culturally relative, or in other words different cultures recognize things *as being things* in different ways and this is highly selective. For example, animals may be regarded as things or they may be subjects (Descola 2013b), and 'biographical objects' considered in space-time (Hoskins 1998; Munn 1986) may be treated as if they were persons with their own narrative histories. Cultures give birth to things that they subsequently manipulate and transmit to future generations. The things themselves emerge from a pre-objective consciousness or interaction of persons within a distinctive cultural world. In short, for a thing to become a thing it needs to be categorized and socially recognized as such.

Objectification and subjectification

One of the most influential general perspectives that we have to understand the significance of the materiality of things is the objectification perspective provided by Marx, developed in anthropology by Bourdieu (1977) and elaborated in relation to material culture studies by Miller (Miller 1987, 1994, 2010 and see critical discussion and review in Tilley 2006). Broadly the position is as follows. Through making and using and exchanging and living with things, people make themselves and their identities in the process. They come to know who they are through their contact with and involvement in a world of things that both frame and serve to structure both individual and social experience. The approach explicitly dismisses any traditional dichotomy between subjects and objects, which instead are considered in dialectical relation. Material culture is thus inseparable from culture in general or human society. It is the very medium through which people create themselves and think themselves.

Hodder (2012: 32–4) briefly discusses objectification but produces no critique. In fact it informs his considerations of both 'human–thing' and 'thing–human' relations while not being explicitly discussed. Olsen's primary criticisms of this position are (a) that Miller himself primarily studied modern consumption patterns and the appropriation of things rather than prehistoric things that would presumably be preferable; (b) the general perspective insufficiently considers the way people *live* with things; and (c) the stuff that was studied was not sufficiently dull and ordinary (Olsen 2010: 32–4)!

These we might say are 'practical' rather than intellectual criticisms. What Olsen considers interesting, for example shopping, is a dull and tired routine for many. As for living with things, a major component of such studies has been the consideration of houses and their furnishings, more broadly domestic space (see articles in the *Journal of Material Culture* from 1996 onwards).

Subjectification processes

In general, all studies of objectification processes have put primary emphasis on the relationship between people and artefacts – made things. In modern consumption studies what has been of primary interest is the manner in which people creatively appropriate these things in their lives and thus overcome their intrinsic alienation from a world of ready-made things whose conditions of production are obscured and make them their own. The primary emphasis has been on the way things are cognized or thought through either consciously, or tacitly through the rhythms of daily life.

There has been insufficient attention in material culture studies to natural things (things that have not been made) and embodied sensual relations with these things. As regards these relations, I have been concerned to stress that the material properties of things make people *subject to them*. They are entrapped by the thing in itself that exists for itself. They cannot either think through such a thing in any way they like or do anything they like with it. Moreover, these sensual and material engagements with the thing come to the surface and then vanish in the longue durée, only to reappear again in the same manner according to the way in which people sensually engage with the things through their bodies within time. Furthermore there is no intrinsic alienation in relation to such natural things, precisely because these things are not made, but found, and occupy the same material landscape that people inhabit. People and pebbles and landscapes commingle, they are in and of each other. Finding or using a natural thing is different from an act of making, but both bring forth things into the world that become objects of attention. If I find a thing I am not intrinsically alienated from it, because part of me is in finding it. In finding a pebble I select it from amongst others and I make that pebble part of myself.

Rather than attempting to produce a theory of things in general as if the thing indeed were a self-evident category in itself and for itself (the so-called realist ontological position), we need to escape such a framework entirely. The failure is well exemplified by Hodder's abstractionism and the sheer generality of Olsen's conclusions, in which he reaffirms that things are concrete and real (they do really exist outside thought) and can be soft or hard, small or big, display temporality or resist it, etc. Every anthropologist and archaeologist knows this already.

What is required if we are to move forward is a theory of *particular kinds of things* understood in their material and social and historical contexts. Such a theory will inevitably be an anthropological and historical theory of material culture that already currently exists in a wide variety of forms (e.g. Appadurai 1986; Gell 1998; Miller 2010; Rowlands 2005; Tilley *et al.* 2006).

I have attempted to provide such an anthropological and historical theory in this book, a theory of the humble pebble contextualizing its meaning and significance within a narrative about a landscape composed of pebbles over the longue durée. I have conducted a deliberate interweaving of pebbles past and pebbles present in the account and the manner in which persons in cultures relate to them through the long term. The account began in the present, returned to the past and concludes in the present because past and present are always co-present with each other.

It has been a sustained phenomenological consideration of pebbles in relation to the landscape and the sensual human body. It puts, above all, a stress on the materiality of sensuous relationships between persons and things and that the character of these sensual relationships is in part related to whether the things are found ('natural things') or made (cultural artefacts) or quasi-things (e.g. landscapes and domesticated animals and plants) that are both found and made.

What is crucial to consider here is the manner in which meaningful human relationships with things are related to their perceptual phenomenal qualities: the touch of things, the smell of things, the taste of things, the sound of things and their visual perception. A bodily engagement with pebbles draws them into a wide-ranging series of bodily and, more widely, social relationships in which the inert pebble, which cannot speak or feel for itself, nevertheless has a fundamental role in mediating human relationships both in the past and in the present. Pebbles in a pebbled landscape have entrapped people because of the materiality of both thing and landscape that, in tandem, generate, quite literally, what one can build, or do, or think with such a thing in such a landscape in such a time.

Stone Speech

Crowding this beach
are milkstones, white
teardrops; flints
edged out of flinthood
into smoothness chafe
against grainy ovals
pitted pieces, nosestones,
stoppers and saddles;
veins of orange
inlay black beads:
chalk-swaddled babyshapes,
tiny fists, facestones
and facestone's brother
skullstone, roundheads
pierced by a single eye,
purple finds, all
rubbing shoulders:
a mob of grindings,
groundlings, scatterings
from a million necklaces
mined under sea-hills, the pebbles
are as various as the people

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Pebbles are usually found only on the beach, in the liminal space between land and sea. But what happens when pebbles extend inland and create a ridge brushing against the sky?

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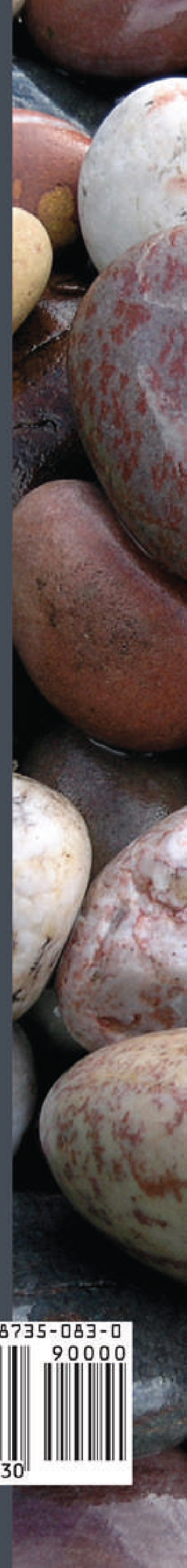
Christopher Tilley is Professor of Anthropology and Archaeology at UCL. He has written and edited numerous books on archaeology, anthropology and material culture studies. His recent books include *The Materiality of Stone* (2004), *Handbook of Material Culture* (ed. 2006), *Body and Image* (2008), *Interpreting Landscapes* (2010) and *An Anthropology of Landscape* (2017).



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