DORSET NATURAL HISTORY
AND ARCHAEOLOGICAL SOCIETY

PROCEEDINGS OF THE DORSET NATURAL HISTORY AND ARCHAEOLOGICAL SOCIETY

edited by Dr Clare Randall

Volume 142. 2021

ISSN 0070-7112

Design and layout by Frabjous Books ~ www.frabjousbooks.com

Printed by Short Run Press, Exeter, UK

For information on previous volumes of the *Proceedings*, the DNHAS monograph series, instructions for submissions and full Notes for Contributors please visit

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The Society acknowledges the generous assistance received in making this publication possible. All papers are peer reviewed, and the editorial team thanks all our volunteer reviewers and copyeditors.

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The Dorset Natural History and Archaeological Society came into existence in 1928 with the coming together of the Dorset County Museum (founded in 1845) and the Dorset Natural History and Antiquarian Field Club (founded 1875). The County Museum was Dorset's first conservation body, which was formed in opposition to a plan of Isambard Kingdom Brunel to drive the line of his railway through Poundbury hillfort west of Dorchester and Maumbury Rings to the south.

The museum collection had several homes in Dorchester and Sherborne until the early 1880s when a public subscription headed by the Prince of Wales raised the money to buy the site of the George Inn and employ GR Crickmay to design the first part of the present building in High West Street. The museum was opened by the "father" of British Archaeology, General Augustus Henry Lane Fox Pitt-Rivers on 7 January 1884. In 1938-9, Handel (now Williams) House was added through the generosity of Sir Robert Williams. Re-building during the 1960s and 70s was a precursor to the current redevelopment of the building as part of the Tomorrow's Museum for Dorset project. This will secure the home of the Dorset Natural History and Archaeological Society into the future.

The Society exists to collect, conserve, record and publish geology, palaeontology, natural history, archaeology, architecture and local history, fine and applied arts, textiles and literature as they pertain to the County of Dorset. The Society's collections are of international importance. The Society also promotes research into many Dorset-related fields. It publishes this annual *Proceedings* which contains papers and shorter contributions on the wide range of subjects which the Society has an interest in. The occasional Monograph Series supplements the *Proceedings*, which allows for the publication of substantial archaeological reports.

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'THE HERMITS OF THE BAY OF SWANAGE': THE LIVES AND ART OF NORMAN NOTLEY AND DAVID BRYNLEY

RICHARD COOMBS

The singers Norman Notley (1890–1980) and David Brynley (1902–1981) lived together between the wars and at the end of their lives in and around the village of Corfe Castle in Dorset: they are now largely forgotten men, barely footnotes to others' illustrious lives, in spite of their distinguished performing careers in Britain and the United States. This first appraisal of their lives and achievements, from scattered, previously unused primary sources, traces their separate and joint careers, briefly placing them in multiple contexts: of same sex cohabitation; as inter-war and wartime concert and broadcasting musicians; and in pre- and post-war London, Dorset and New York societies.

In 1950, following a visit to the Redfern art gallery in central London in 1946, a journalist for a Spanish newspaper produced an article, 'The Hermits of the Bay of Swanage'. Intrigued by the art, Simon Wolf decided to track down the artist, Norman Notley, and his 'partner' David Brynley: 'It is hard to say which of these two, music or painting, predominated in the atmosphere of that simple cottage in Corfe Castle', noted Wolf; 'we observed the fatherly attitude of Norman, the elder of the two, toward David; we breathed in that modest home an atmosphere of friendship and of art' (Wolf 1950; Norman Notley-David Brynley Papers, Britten-Pears Foundation (BPF); Dorset Natural History & Archaeological Society archive (DNHAS)).

Notley and Brynley had settled in Dorset in 1923, living in a thatched cottage set in a quiet hamlet amongst rolling downs a mile or so east from the village of Corfe, a few miles from the coastal town of Swanage. The cottage was originally a weekend retreat from their London-based lives as professional singers, but for more than twenty years it acted as their home and social focus. Their busy concert giving in London and across the country, in BBC radio broadcasts and recitals for the war effort and the Arts Council had reduced significantly. Their professional performing lives were intertwined with their emotional lives. Together they painted and wrote, composed, performed and made gramophone records, and their concerts from the interwar years to the 1950s in Britain and in the United States were popular and acclaimed. Wolf's perception was certainly astute. They were a gay couple, with a twelve-year age difference, devoted to each other, and socially known as a couple, maintaining over time a supportive and diverse range of social contacts.

The ideas of twentieth-century British male same sex domestic cohabitation – and relationships – has intermittently attracted attention from historians. Writings have focused on individuals, largely men, and the homosexual as an individual, but little until recently on the domestic dynamic of same sex couples (Faulks 1996; Bailey 2001; Potvin

2014). Existing documentation has been sparse, particularly as autobiographies and collections of letters and diaries have usually been at least opaque on the matter. Couples led quiet lives together, out of the public gaze, undocumented for later generations. More prominent people in society contemporary to Notley and Brynley – Cecil Beaton, as one example – publicly skirted the issue of their homosexuality / bisexuality for understandable reasons of illegality and social prejudice. The most outstanding and pioneering proclaimer was Quentin Crisp in 1968, less than a year after decriminalization of homosexual acts in English law (Crisp 1968). Recently, prominent cohabiting male couples in the creative arts during the twentieth century have featured in biography, and have included Charles Ricketts and Charles Shannon (focusing on their collecting and domesticity), Cedric Morris and Arthur Lett Haines (in horticulture and art), Richard Chopping and Denis Wirth-Miller (in art), Benjamin Britten and Peter Pears (in music composition and performance), Angus Wilson (in writing) and Tony Garrett, and from an older generation Noel Coward and Cole Lesley (Delaney 1990; St. Clair 2019; Turner 2016; Kildea 2013; Drabble 1995; Hoare 1995).

Yet Notley and Brynley have been largely forgotten. Even in a recent appraisal of their close friend, the distinctive artist Frances Hodgkins, the men are glanced over (Hammond and Kisler 2019). Their last thirty years were lived quietly and mostly out of Britain, and after 1946 they did not link in to London society. Through the examination of four principal archives, two housing many of the papers they collected, their lives can be pieced together (DNHAS; BPF; Toni Strassman Papers; Webster Aitken Collection). This first appreciation of their achievements is structured into four periods: their separate early years; their professional and personal lives together in Dorset from 1923 to 1947; their time in New York City to 1969; and their final years back in Dorset from 1970.

Norman Grenville Notley was born on 20 October 1890 at the family home at 4 White Rock, Hastings – a house facing the sea, within a stone's throw from the pier – eldest son to Frederick James Notley, joiner master and undertaker, and Alice Ada Notley (formerly Rovery) (Norman Henry Notley birth certificate; Obituary Mrs. A. A. Notley, 1951, 2). They were founders and proprietors of the Yelton Private Hotel (established in 1892) at White Rock, Frederick being a member of Hastings' Congregational Church for sixty-two years, deacon for forty-eight, and head of the Sunday school for twelve (Kent and Sussex Courier 1935, 10; Hastings and St Leonards Observer 1935, 13; Brynley 1978b). Alice, 'a remarkable woman of considerable intellectual attainments, and of gracious and charming character', busied herself with the business, the local women's institute, and raising the family of Norman, a younger son Cecil and a musical sister Mabel (Hastings and St Leonards Observer, 1951, 2). Home life was strict, with no wireless, and Notley regularly having to sign pledges not to drink alcohol or smoke, as church was integral in family life and thought, Frederick not wishing 'to see any of his children on the stage' (Brynley 1978b). Notley later rejected religion, in spite of it being a component of boarding school life in Kent: there he learnt 'character building', and he was 'still under the influence of [the] school' eighty years later as much as he was of his parents (Ibid). He began learning the piano at five, and started singing at seventeen (Notley n.d.; Brynley 1978a).

Notley's time as a student for three years resulted in him failing his B.Sc. in analytical chemistry at the London Technical Institute (the University of London); but proximity to the Royal College of Music continued to stimulate his pursuit of music, and in spite of working as a bank clerk, he was able to nurture his baritone voice (Kent and Sussex Courier 1907, 10; Brynley 1978a, 1978b). This was facilitated by a distinguished line of pre-war teachers – Harold Savery, then Bessie Cox at the Guildhall School of Music, where he had won a scholarship, continuing with Edwards Iles, then with the composers Samuel Taylor-Coleridge and Hamish McCunn, with additional study in Paris (Shoreditch Observer and Finsbury Gazette 1913, 7; Montreal Star 1914; unidentified newspaper article 1914; Montreal Star 1914). In common with distinguished contemporary singers, such as Gervase Elwes and Laurencz Melanchor, Notley had a series of other notable teachers, involving various degrees of tuition for different periods of time, that included the baritone Sir George Henschel, Victor Beigel, the American operatic baritone David Bispham[1] and

Louis Bachner in Berlin (Brynley 1978a; 1978b; BPF; Notley n.d.). Distilled into his musical personality, therefore, were the fruits of a rich English and European vocal tradition.

It was through Iles and Landon Ronald, Principal of the Guildhall, that Dr. Harry Perrin, director of the McGill University Conservatorium of Music in Montreal, came to Britain to recruit a singing teacher[2] and appointed Notley as a professor of singing (1914–1917) (Brynley 1978a, 1978b; Montreal Daily Mail 1914). Leaving a banking career, with its respectable salary of £50 a year for that of an itinerant musician, was a risk (Brynley 1978a). Notley remembered his first Canadian recital produced criticism of his 'small, smooth voice' (Ibid); but his voice matured – as the press noted – to exhibit a 'beautiful richness, purity and strength' (The Citizen 1915). His technique was thought to be 'a lyric voice of individual charm and warmth of tone enunciating the text always with the utmost clearness and imbuing all his songs with real feeling' (Montreal Star 1916). Performances established him 'in the hearts of Ottawa music-lovers': and in Montreal concerts, 'Mr. Notley pleased everybody' (The Citizen 1915; Montreal Star 1916). The post was short-lived as he enlisted in May 1917 with the Third Draft McGill Overseas Battalion of the Canadian Army, and was based in France for two years, not as a soldier but as a postman (Montreal Star 1917; Brynley 1978a).

While on leave Notley met Maud Valerie White, a Victorian composer of sentimental songs, who introduced him to Leslie Boosey of the music publishers Boosey and Hawkes, and manager of the annual Promenade concerts at the Queen's Hall (Ibid.). Through this connection, Notley took lessons from Henry Wood and made his first significant London debut at the Proms in September 1919, singing a Mozart aria, and Graham Peel's 'In Summertime on Bredon' – a work regularly featured in his early recitals.[3]

Singing with his sister as pianist in and around Hastings and Eastbourne before and after the War, Notley drew critical applause and large audiences, 'infusing spirit and humour into his songs', with one commentator noting that 'the folk-song style suits him' (Notley n.d.; Hastings and St Leonards Observer 1919a, 7; Bexhill-on-Sea Observer 1919, 8). In post War concerts at the Aeolian Hall in Bond Street and the Wigmore Hall, he championed newly written or arranged English song – with compositions by Roger Quilter (who accompanied him in a number of concerts), John Ireland, Arthur Bliss, Cecil Sharp, Frank Bridge, Ralph Vaughan Williams, Peter Warlock, Cyril Scott, George Butterworth, Hubert Parry, and Arthur Somervell – together with works by names forgotten today, such as Armstrong Gibbs, Alec Rowley and Gordon Brian, all composing songs in the folk-song idiom (The Era, 1923a, 6; The Stage 1923a; The Era 1923b, 7; The Stage 1923a, 8; Morning Post 1923). With 'impeccable enunciation, and perhaps above all, profound sympathy of interpretation', Notley sang with a 'special understanding' 'as an interpreter of modern English song', with 'beauty and spontaneity', 'a singer of intelligence above the ordinary' (Hastings and St Leonards Observer 1919b, 3; Morning Post 1923; Eltham and District Times 1923, 4; Sunday Times 1919, 8). He had a 'gift for getting at the heart of everything he sings with the least possible effort' (The Era 1923c, 7). He gave the second performance of the recently deceased George Butterworth's song-cycle *Love blows as the wind blows*, and was among the first in Britain to sing negro spirituals, partly from his friendship with the American singer Roland Hayes[4] (Musical Times 1922; Daily Telegraph 1923a, 6; Brynley 1978b; Coleridge-Taylor 1979, 112–3). Together they sang in two performances of Taylor-Coleridge's *Hiawatha's Wedding Feast* in April 1923 in Plymouth, in which one critic thought Notley used his 'considerable artistry' in bringing the work to life (Western Independent 1923, 3; Western Morning News 1923, 4; Coleridge-Taylor, op. cit., 113). He was also regularly singing in BBC radio broadcasts, consequently acknowledged as 'Male Associate' of the Society of Women Musicians, 1919–1920, and appointed professor and examiner at the Royal College of Music for five years in 1921 (Radio Times 1924, 45; Seddon 2013, 190; Notley n.d.; Radio Times 1932, 98).

Throughout these years was Notley's interest in recent scholarship on Elizabethan music, and he was being increasingly noted as an 'intelligent singer' in Dowland, Morley and Purcell with the Guild of Singers and Players in 1921 (Observer 1921, 8). With Vaughan Williams's recommendation he joined

YOUNG WELSH TENOR.

STORY OF A CHANCE MEETING.

MR David Brynley, the young tenor who is winning distinction in London, was started on the road to musical fame by a chance meeting at his native place, Laugharne, with a London musician, who was staying at this quaint little Carmarthenshire town.

MR DAVID BRYNLEY.

Mr Brynley went to Mardy, in the Rhondda, at an early age, and for several years he worked in the mine.

In 1919, while visiting Laugharne, his voice attracted the attention of Mr Raymond Jeremy, the violinist, with whose encouragement and help the young miner went to study in London in 1921, and became a well-known figure at London and provincial concerts. He contributed to the "Cymric genius" programme recently broadcast from Cardiff, and the same week sang also at Birmingham, Glasgow, Aberdeen, Newcastle and Manchester. He is 24 years of age.

Figure 1 News report on David Brynley *South Wales Echo*. 22 May 1926. (Newspaper cutting, incl. photograph).

Cuthbert Kelly's The English Singers in October 1924, replacing the distinguished Clive Carey, and whilst 'not exactly the singer [Kelly] was looking for' Notley remained with the group for thirteen years (Brynley 1978a). This marked a decisive long-term orientation in his professional life: it set the tone for his whole career, in terms of his performing style and repertoire. In his emotional and social life there were equally significant changes during the early 1920s: he had met Brinley Davies, and together they had moved to Dorset.

David Brynley was christened Brinley Davies, changing his name in the early nineteen twenties with the onset of his stage career. Davies was also raised in a strict religious home, falling in with the rhythm of the church, born on 14 June 1902 at Laugharne, south Wales: a town on the Towy overlooking an estuary with stretches of Carmarthan Bay, with, as he noted, a 'sharp social and cultural distinction between people who owned or worked the land and those – particularly the cockle-pickers – who wrestled their precarious livelihood from the sea' (Brynley birth certificate; Brynley 1978a). Although he was illegitimate he was brought up within a supportive community: his father was a miner from a farming family, who emigrated to America to join his two brothers, and died of the Yellow Fever virus ('Yellow Jack') and was buried in Seattle, Washington. His mother died the same year, when Davies was seven:[5] he was therefore raised by his mother's mother, Rebecca, 'the two years with my grandmother [being] the happiest of my childhood' (Brynley 1978a, n.d.; 1911 Census). She kept him away from his father's family, made his clothes, heard him read from and memorise the Bible; but in spite of attending chapel, his vocal talents being locally noted, she prevented him from singing. Detail on this period of his life were not precisely recorded by Brynley in later life, but his teenage years were presented in his semi-autobiographical novel *Seth* (1954): having to fend for himself after the death of his grandmother when he was nine, and subsequent great hardship, with a 'lack of food', including a spell as a collier in Mardy, south east Wales (Brynley 1980a; Western Mail 1926, 11; DNHAS; BPF; Brynley n.d.; South Wales Echo 1926).

It was during a visit back to Laugharne six or so years later that Davies met by chance the violist Raymond Jeremy, who noted his singing talent (see Fig. 1). The Jeremys were an established family, the father, William Jeremy being Recorder of births at Laugharne; after his death his widow and three

middle-aged, unmarried children, Raymond, Gladys and Everard, took the 17 year old Davies to live with them in Finchley Road, Hampstead. There were a series of remarkable twists of fortune for Davies, with Gladys (an English and classics teacher) providing his general education, and Raymond tutoring him for music, where Davies's outlook was broadened by encountering a range of professional musicians visiting the home (Brynley n.d.). He retained a deep gratitude for both brother and sister, particularly for Gladys (Brynley 1954c).

Others provided guidance and support. Having perfect pitch was an asset, but a poor audition performance in front of Landon Ronald was vividly remembered fifty years later (Brynley n.d.). Tuition followed with Victor Beigel, two summer schools in Britain and in Austria near Salzburg, lessons with Louis Bachner in London and Berlin, and through contacts with the Dorset-based artist Francis Newbery he stayed with the distinguished architect Hermann Muthesius and his family while studying in Berlin for eighteen months in 1928 (Ibid.; Brynley 1954c, 1980w). But in spite of extensive training, an operatic career was ruled out as middle-ear problems caused black outs (Brynley 1954c).

Brynley's first professional appearance was at the Everyman Theatre, Hampstead, London playing the lead in Arne's *Love in a Village*, arranged and conducted by (the future musicologist and BBC producer) Julian Herbage, for sixteen performances in December 1923–January 1924 (Wearing 2014, 261; programme, BPF). Critics praised Brynley's performances as 'Young Meadows', as he could 'both act and sing', all 'portrayed in most affected style' (The Era 1923d, 6; BPF; The Sphere 1924, 42; The Stage, 1923b, 10). And, in Ben Jonson's *Epicoene, or The Silent Woman* – two performances in November 1924, with later Hollywood-based actors Cedric Hardwicke and Raymond Massey – Brynley 'warbled his page's song prettily', 'charmingly' accompanying himself on a virginal (Wearing 2014, 329; Brynley, n.d.; programme, BPF; Manchester Guardian, 1924, 14; The Times, 1924, 12). Encouraged by these successes, and through the recently established Gervase Elwes Fund, he received a grant of £52: this helped to prepare him for what he perceived as his first important concert and success, given by the promoters of the Fund, held at the Steinway Hall in London in November 1923[6] (Daily Telegraph, 1923b, 4; Daily Telegraph 1923b, 4; programmes BPF; Radio Times 1932, 38; Brynley 1954c). There he 'brilliantly interpreted all the works which he essayed', 'the most promising' of Beigel's students at that time, with a voice of 'really charming quality' – a 'high tenor' with a 'clear lyrical quality which is so effective' (BPF; Times 1923, 10; Bronxville Press 1930, 7). Brynley's development and interests were clearly influenced at this time by Notley: his recital repertoire had largely been set, in BBC broadcast recitals (from December 1925) and in concerts with Notley and other soloists: recent songs by Vaughan Williams, Quilter and German, Welsh airs, spirituals and Elizabethan songs were all frequently featured (Radio Times 1925, 16; The Era 1925, 10). Therefore, by October 1924, Jeremy, playing a viola at the same concert in which Brynley was performing, must have noted the transformation of the younger man, singing 'very effectively' a group of old English songs and 'Negro Spirituals', all 'rendered with sincerity and deep feeling', showing 'admirable style' (Musical Standard; Chelmsford Chronicle 1925, 7).

These overlapping layers of musical and social life in London drew Notley and Brynley together. As a 'dark-haired, gangling, [and] highly-strung' teenager, Brynley was 'within a year or two of my coming to London' 'the attention of so many middle-aged unmarried pedagogues' (Brynley n.d., 1980b). Potentially emotionally vulnerable, he was perhaps steered by Raymond Jeremy, acting again as the conduit for change. Jeremy had been Notley's accompanist in BBC radio recitals (Brynley 1978b); he also introduced the two men to each other. Notley and Brynley set up house together in 1922 in Acacia Road, St. John's Wood, this location in turn being important in helping the men to establish their wide-ranging social connections, creating friendships that would last for decades.

Two elements particularly helped the men to develop their careers. From the late nineteenth century, and especially during the later teens and early nineteen twenties, Sunday evening music clubs were held in the large houses of the monied, influential and the aristocratic, who acted as music patrons, holding soirees and 'At Home' gatherings

(Maw 2010, 232–298, 248). For Notley and Brynley these employments often mixed together performers with composers, the likes of Arnold Bax, Cyril Scott, and Percy Grainger. The Duchesses of Norfolk and Devonshire, as an example, held London soirees at which Notley and Brynley sang their novel folk-song and Elizabethan discoveries culled from library and museum searches – and at which Lady Diana Manners (before she became Lady Diana Cooper) served Brynley his first glass of champagne (Dundee Courier and Advertiser, 16 February 1935, 12; Brynley 1979h).

One important friendship was with Helen and H.S. (Jim) Ede, then Assistant at the National Gallery of British Art (thereafter the Tate Gallery). Brynley remembered that 'Jim had a genius for pushing young artists, whether of the creative or interpretive variety. For the chosen among the latter – both he and Helen created a lovely setting – or kind of shop window – for them at [One] Elm Row [Hampstead]. Norman and I were among the privileged who appreciated it, as well as the 'select' company assembled to hear us' – that included on different occasions Edith Evans and John Gielgud, Philip and Ottoline Morrell, Julian and Juliette Huxley, and Princess Patricia, granddaughter to Queen Victoria (Brynley 1980c). Ede recalled one evening that included an eclectic mix of the novelist Arnold Bennett, members of the Russian ballet, and a recital from Notley and Brynley, 'two of the best 'English Singers', accompanied by one of them' (Ede 1984, 57). Brynley noted they 'made friends with all who heard us': and a photograph of Ottoline from 1936 in Notley and Brynley's Dorset garden testifies to this (Brynley 1980c; National Portrait Gallery, London [NPG]).

As important as the Edes, in socially integrating Notley and Brynley and expanding their professional world to include other singers and actors, was Hilda Spencer-Watson, wife of the Edwardian society painter George Spencer-Watson (Brynley 1978b). Hilda's theatre, 'The Studio' at 170 Warwick Road, Kensington, housed her performances of highly-stylized mime to music, at which Notley sang for eight years (The Lady 1920; Brynley 1978b). In 1923 the Spencer-Watsons moved into an Elizabethan manor house, Dunshay Manor, between Corfe and Swanage (Cooper 2015; Gibbon 1981, 77–8, 93–5, 99–103). 'I went there to sing for her', recalled Notley, 'and immediately fell in love with Dorset' (Brynley 1978a). Hilda helped Notley find a property in a small hamlet off the beaten track a mile or so from the village of Corfe – Little Woolgarston, a five hundred year old thatched roof cottage with attached paddock, divided in to two, one half lived in by an elderly man and his wife (Notley, *c.* 1930s; Brynley 1978b). Initially Notley and Brynley were tenants from 1923 (Peers n.d.); by the later 1920s, a vaulted barn in the grounds had been clad in elm planks, to form a music room with piano. A corner portion of the plot was later sold for a house to be built; but there still remained enough land to develop a two-acre garden, with lawns, a tennis court and flower beds (Brynley 1952).

Dorset was their home, and their Dorset friends stimulated and cemented the men's own creativities, becoming as integral to their lives as had their London-based friends. For some time, a range of artists had settled in or had an association with the Purbeck region and the northern part of Cranborne Chase (Light 2011). This was particularly marked during the period 1880–1914, with over 300 painters in the area producing works for a London audience, that included the landscape Impressionism of Henry Tonks and Philip Wilson Steer, the family portraiture of Augustus John, and coastal scenes from the Bloomsbury painters Roger Fry and Vanessa Bell (Yarker 2016, 6, 105). Corfe in particular had long attracted artists from J.M.W. Turner in the early 19th century onwards, and a new wave of people had settled there during the inter-war years.

One of the most distinctive personalities whom Notley and Brynley befriended was the New Zealand-born painter Frances Hodgkins (1869–1947), who spent her last ten years in and around Corfe. Brief stays in Dorset from December 1934 persuaded Hodgkins to settle from May 1937 in Worth Matravers – a 'little lost village on the coast near Swanage opp: the Isle of Wight', and from 1939 in Corfe, leasing a large, inadequately heated eighteenth century Methodist chapel, with 'every sort of discomfort', which acted as her studio and home (Gill 1993, 482–3, 482, 553). Hodgkins's perceptions of the place provides a guide for the area's appeal for many, including for Notley and Brynley: 'Corfe cannot in any way be called stimulating', Hodgkins thought, but it enabled

Figure 2 Muspratt, H. (*c.* 1932). Hilda & Mary Spencer Watson in performance. (From Photograph). [reproduced by permission from Jessica Sutcliffe]

'quite good work under the spell of the place & general atmosphere of calm & simplicity' (Ibid., 463). 'This bit of coast line in Dorset the loveliest in the world': 'the mornings are very lovely & I want to paint even before I have finished breakfast ... [with] sunsets splashed yellow & black' (Ibid., 550, 473–4, 474). And for the artist Paul Nash (1889–1946) Dorset also held an appeal of being 'the window into a past life'. He was based in Swanage – 'my kingdom' – from February 1934 to January 1936, recording the Isle of Purbeck, in photograph and water-colour, and writing the Shell Guide to *Dorset* (1936), commissioned from John Betjeman (Causey 2013, 114–133, 114; Nash 1936; Wilkes 2014).

An older generation of artists had gathered in the region after the War. The painter Francis (Fra) Newbery, and wife Jessie Wylie, encouraged, guided and developed Notley and Brynley's interests, as they did other talented locals (Fig. 3). The Newberys had returned to this region of his childhood, living in East Street, Corfe Castle, after Fra had retired in 1918 as Director of the Glasgow School of Art[7] (Dunman 1977, 8–9). In the Mowlem Institute in Swanage and later in a converted barn at Dunshay Manor, Hilda Spencer-Watson's theatre continued her London masques, featuring Hilda and daughter Mary in exotic dress, with Hilda's 'freakish, quixotic

Figure 3 Newbery, F. 1927. 'David Brynley.' (Painting). [Dorset Natural History and Archaeological Society]

masculinity' emphasized; they danced and mimed to poetry and music, and drew from London a range of patrons,[8] often inviting a handful of bewildered locals (Gibbon 1981, 78, 102) (Fig. 2).

Hodgkins's friends had settled in Dorset, friendships established during the summer of 1923 in Burford,

Figure 4 Muspratt, H. (*c.* 1933). David Brynley, solarised portrait (From Photograph). [reproduced by permission from Jessica Sutcliffe]

Oxfordshire. The potter and painter Amy Krauss (1876–1961) lived outside Corfe – friends with Notley and Brynley from 1935 – together with the Canadian sculptor, painter and writer Elizabeth Muntz (1894–1977) (Sewter 1948, 112–114; Peers 1995, The Times 1977, 16). Art encouraged wider social connections: Krauss's pottery, given by T.E. Lawrence to Thomas Hardy's widow Florence, was later given by Florence to Notley and Brynley (Peers 1995). The painter and teacher Elsie Barling (1883–1976) moved to Studland at the beginning of the second world war, her friendship with Hodgkins she thought giving herself 'a much more open mind altogether'[9] (P.H. 1977; Peers 1995). She transferred this to her teaching at Bryanston School at Blandford Forum (September 1940 to April 1943[10]), the school magazine describing 'art discussions with her [as] always vigorous, analytical and amusing' (The Western Gazette 1941, 7; Bryanston School Archive 1943; The Bryanston Saga 1943, 5). Notley and Brynley were particularly emotionally close to Barling. The sculptor and potter Don Potter (1902–2004), also a pioneering teacher at Bryanston (1940–1984), and friend of the men, took his place among a small but distinctive group of sculptors whose carved works reflected the proximity of the quarries at Portland and the Isle of Purbeck. This ongoing tradition was established by Mary Spencer-Watson (1913–2006), an accomplished sculptor, and Muntz, and was later exemplified by Sven Berlin (1911–1999) (Davies 2004).

Living in nearby Swanage from 1933 was Helen Muspratt, firstly with her parents, later with her family, who encouraged by Newbery, started her

distinguished career by photographing the locals (Sutcliffe 2016, 44). Muspratt's striking solarized photographic portrait of Brynley from around 1933 emphasizes his dark features (Fig. 4); and Muspratt and Brynley feature in Newbery's paintings in Swanage's Catholic Church (Cooper 2016, 182).

However, far more important in Notley and Brynley's professional lives, were Cuthbert Kelly (1877–1948) and his wife Nelly, living locally at Fitzworth Farm, and with their friendship circle (Sutcliffe 2016, 73; Peers n.d.). Kelly was founder member of The English Singers, a group instrumental in Notley's and Brynley's careers for a decade; Notley joined the Singers from 1924 to 1936, Brynley, refining his craft and somewhat slower to establish himself, joined from 1934 to 1936. In the inter-war period, the men's singing careers were therefore in three dimensions: as individual soloists, from recital work together, and with The English Singers – important influences on whom they modelled their performance practice.

Almost a century on from the events, it is now difficult to appreciate the impact The English Singers had on singing life and concert-going in Britain between the wars. Their formation was in-part stimulated by recently discovered and edited editions of Elizabethan songs, many from the royal archives, by Edmund Fellows (and Sylvia Townsend Warner, another local Dorset resident). There were other professional groups of singers between the wars, often performing on BBC radio, specializing in similar repertoire: but the Singers were the most pioneering, practised and prominent. Loosely formed during the War as a quartet, they became a sextet of three women and three men at their first concert as The English Singers in February 1920, with Kelly musical leader and bass (Wilson 1965, 375–381; Fellowes 1946, 125– 127). The Singers had a wide appeal, appearing in nine Promenade Concerts between 1925 to 1930, frequently broadcasting, and performing around the country to acclaim: an audience of around 1,300 people attended their concert in Norwich in February 1926, as one example, the singers being 'recalled many times' (Thetford... People's Journal 1926, 7). Their European tours – Prague, Vienna, and Berlin in 1922, Paris, Prague, Berlin, Vienna, and in Holland in spring 1929, and a world tour during 1930–1931, that included Hong Kong, Japan, China, Singapore, and India – drew wide attention and praise, as did their concert at the Queen's Hall in London in June 1930 (programme notes 1945; Wilson 1965, 378; undated newspaper review; Times 1930, 14; Daily Telegraph 1930, 8; Morning Post 1930, 12, Observer 1930, 14). However, their greatest successes lay in their tours in the United States from 1923 during the autumns and winters for the following decade, with 96 US concerts during the 1926–7 season alone.

Their unusual performance practice drew comment at the time, being seated around a table, with their music books open, but not usually reading the music: this was not drawn from Elizabethan performance practice, but from practicality in not having to transport music stands. Audiences were usually given lyric books, to follow the words. Their programmes – Elizabethan and folk songs, and modern works from the likes of Vaughan Williams, Holst, Warlock and Quilter – displayed the group's precise pitch, rhythm, tempo, and intonation, from an overlapping of voices, to give clarity and precision. Their performances were thought to be as much educative as entertaining (Banbury Guardian 1927, 5). Modern, more informed performance practice might now hear in their recordings 'flaccid rhythms and [an] unfocused tone' – but their 78 rpm records widened their audience. Commentators thought their 'combined voice ... of individual voices ... blended so perfectly ... [appearing] as part of a unified whole' (Haskell 1988, 116; Flint 1926, 74–75, 74) – their 'Englishy detached and unemotional manner of performance', often 'lengthened by several repeats and additions' and encores (The Era 1930, 5). The group re-formed as The New English Singers in spring 1932, with Brynley joining from 1934, replacing the original founder and manager Steuart Wilson.

The English Singers remained an important influence on both Notley and Brynley: when they left the group in 1936 (Brynley was replaced by Peter Pears) to pursue a career together, the format, content and execution of their own recitals had largely been set and modelled on the Singers, and professional transatlantic contacts established. Their American audiences were as stimulated by their performance practice – in 1935 and 1936 at the New York Town Hall

Figure 5 David Brynley and Norman Notley. New York Times, 22 November 1936 (From Photograph). [reproduced by permission from DNHAS]

and in 1938 in Montreal – as they had earlier by The English Singers during their US and Canadians tours (New York Journal 1935; New York Herald Tribune 1935; New York Times 1935; New York Times 1936; Montreal Star 1938). A concert at Augustana College in Sioux Falls, South Dakota was representative of their performance practice: with their 'buttery accents', the recital was 'more of a music lecture than ... a formal concert, for these two Britishers ... supplied generous verbal program notes as they went along, and at the end we all felt rather expansive and thoroughly in tune with those forgotten matters of the long ago. ... The program was really a *tour de force* in musical scholarship, but there was an entire absence of academic dustiness. It was, too, a triumph of the selective art, for many songs of those ribald times were distinguished for a sportiness and bounce which make them better subjects for the night club than the tender ear of a college student' (Daily Argus-Leader n.d.; programme).

The critic of the New York Town Hall recital in November 1935 particularly noted Notley and Brynley's 'excellent musicianship ... an equal emphasis on diction, articulation and accuracy of pitch'; they 'made their individual contribution ... principally in the exploration of a repertory practically unknown in the concert hall' (Sun 1935; programme). The audience 'called for and got many encores' (New York World-Telegram 1935). They returned to the same venue one year later, the recitals 'establishing an intimate atmosphere, their music-making [having] the grace and spontaneity of two artists singing for friends at home ... in music of delicacy and refinement' (New York Times 1936). Their art had 'all the well-bred politeness of the typical English singer ... matters of rhythm, balance and blend are expertly handled' (Montreal Gazette 1938). They travelled widely, performing in Missouri State University and in Virginia in February 1938 (programme BPF). The overwhelming impression from commentators was of the singers' creation of a unique atmosphere in concerts, particularly with their informality of manner, intimacy of setting, and connection with their audiences (Fig. 5).

In Britain, Notley and Brynley were employed individually and together in BBC radio song recitals from the 1920s. Brynley became a BBC recitalist broadcasting from Cardiff, Daventry, Birmingham, Manchester, Liverpool, Glasgow, Edinburgh and Aberdeen (Brynley 1954a). For two years from November 1926 he was 'Uncle David' in the BBC Bournemouth afternoon radio programme 'Children's Hour', 'heard several times a week', increasingly confirming that he was becoming known as a singer of folk songs, pastorals, and a pre-romantic type of ballad (Bournemouth and Southampton Graphic 1927, 14; Guardian [Bournemouth] n.d.; Brynley 1954a; Radio Times 1932, 38). These carefully constructed programmes and radio singing helped to attract large audiences

when he performed at Sir Dan Godfrey's Winter Gardens concerts in Bournemouth in March 1927, singing negro spirituals: 'the many admirers of his invisible singing will find that in the flesh his vivid personality has an even greater appeal' (Bournemouth and Southampton Graphic 1927, 14; David Brynley 1954c; Bournemouth concert programmes). Conveying a personality was an integral part of his performing style. At a concert in March 1930 at the Bronxville Women's Club, Eastchester, New York State, singing Elizabethan, Welsh and American songs, he '[ended] with a triumphant boyish grin which would have won a round of applause even had his clear voice been less delightful' (Bronxville Review 1930, 20). In other concerts, Brynley's singing had 'quick changes of narrative, to which his facial expression [added] a lively commentary' (Yorkshire Post and Leeds Intelligencer, 1934, 5).

In their inquisitiveness and industry, they researched and collated, transcribed, wrote and commissioned songs (Dundee Courier and Advertiser 1935, 12). Notley had already had written and published two songs in 1916 (British Library) and these were followed over the years by works, sung as encores at the end of recitals, such as 'Girls of the Old Brigade', 'The Prima Donna', and 'What Would I Do Without You?' (In performing their own humorous works, Notley and Brynley somewhat resembled the singing partnership from a later generation of Michael Flanders and Donald Swan, who from the early 1950s recorded and performed their far more sophisticated, satirical and witty songs to large British audiences.) Brynley's compositions of words and music were published in New York in 1930, and included 'The Briar-thorn' (complete with photograph of Little Woolgarston), 'The Plough Boy', and 'Through Summer Fields', dedicated to Gladys Jeremy. They were also alive to the need to preserve vanishing traditions; Brynley transcribed the words and music to 'The Mole Catcher', sung by Mr. and Mrs. White of Woolgarston (music MSS, DNHAS). They were dedicatees of songs from a range of composers, including those from Alec Rowley, Gwen Coleridge-Taylor, Rebecca Clarke, Lennox Berkeley, and the BBC Chorus Master Leslie Woodgate (St. John 1923, 614; Coleridge Taylor 1923, p.6; Musical News and Herald 1924; Berkeley n.d.; Daily Telegraph 1924). Even in the 1950s, they were publishing songs and copyrighting others (Notley 1953; Library of Congress, 291, 327, 340–341, 441).

Their greatest industry as performers together, however, was in Britain throughout the 1939–1945 war: as he himself noted, 'it is true to say that David Brynley sang his way through the war' (Brynley 1954a). They were heard in BBC radio recitals transmitted to Europe, Commonwealth countries and North and South America (Ibid.). Under the Council for the Encouragement of Music and the Arts (C.E.M.A.) they 'often averaged three to four recitals a day' in 'underground shelters during air-raids, rest centres where the bombed-out, homeless, dispirited people of London were cared for, churches and schools as well as factories throughout the county', in camps, aerodromes and hospitals. For three weeks during the flying bomb siege, they also sang at the gun sites in the Dover area and later along the east coast 'where people were still being plagued by the menace of the flying bomb'. They gave recitals in 'countless American camps, aerodromes and hospitals'. 'They even gave recitals in ships at sea and [once] ended with the distinction of being entertained at luncheon aboard the flagship by the Commander of the Fleet'. Through these means they raised 'a great deal of money through their gratuitous recitals for different charitable causes' (Brynley 1954a).

But by the end of the war Brynley believed he was a 'nervous wreck'; he was 'always, before going on to a concert platform, to start a recital ... in a dither of nerves' (Brynley 1954b, 1980d). An existing ear injury 'aggravated by the infernal noise of war', enforced a break from concert giving, together with the effects of a progressive deafness in one ear, and 'an undermining of my nervous condition, one of its symptoms being a dread of facing an audience' (Brynley 1954b). Brynley emerges from his own writings as periodically highly-strung, a worrier, anxious, and unsettled: Notley was the opposite in all these aspects, a calm, reassuring partner on and off stage. Even in December 1955, Brynley was writing to his New York literary agent of his 'stage of nervous exhaustion', life being fraught from care for elderly friends – and from his busy social life (Brynley 1955a).

Figure 6 Hodgkins, F. 1946. 'Spring at Little Woolgarston.' (Painting). By kind permission of The Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand.

Apart from performing, the war years cemented Notley's art: as with music, the men's interest in art drew them in to different stimulating and encouraging social circles: aside from Frances Hodgkins and her friends, they formed friendships with Christopher Wood's mother, with Cedric Morris and Arthur Lett Haines, John Craxton (who spent much of his youth on Cranborne Chase), Jim Ede, and Joan Brocklebank (Peers 1995). These powerful influences rubbed off. Brynley described himself as a 'Sunday painter', who nonetheless sold one of his works, displayed in the Redfern Gallery in Cork Street, London, to the Maharajah of Indore (Brynley 1954a). His three oil paintings of Dorset scenes, bequeathed to the Dorset County Museum, clearly reveal the influence of Wood and Hodgkins. Notley produced a greater number of works, with an exhibition of forty water-colours also at the Redfern in January 1946 depicting landscapes and flowers from their locality, such as 'Corfe Castle' and 'The Old Barn'[11] (programme DNHAS). Hodgkins wrote to Brynley: 'Well I am glad that the dear Norman has at last got his heart's desire [to stage a London exhibition]. It was inevitable – and it has come without tears. Not to be wondered that he is more than a little bit thrilled. Who wouldn't be?' (Hodgkins 1945) The art critic Maurice Collis in *The Observer* 'congratulated ... the versatility, a sense of design and a liveliness [of Notley's] landscapes and other studies of fish and flowers'; less complimentary was the influential Eric Newton in the *Sunday Times*, who found that although there were 'pleasing fragments of colour and design', there was 'no meaning' in each of the works (Observer 1946, 2; Sunday Times 1946, 2).

Conversely, from her close connection with Notley and Brynley, Hodgkins produced two outstanding works of meaning at the end of her creative life, reflecting her distinctive mature style. These are emotional representations of her connection with the men, and they with her. 'Spring at Little Woolgarston' (1946) (Fig. 6) presents Notley and Brynley's home as a magical place, a gouache painted in fresh greens, whites and mustard yellows, with a tunnel-like entrance as a central motif (Buchanan 1995, 80).

Hodgkins wrote to Brynley: 'As for your portrait ['Portrait of David', 1945], I enjoyed doing it – and when it was finished, it seemed to be to be DAVID all right – so I left it' (Hodgkins 1945a). Brynley's louche demeanor is emphasized by the use of pinks and yellows, the swirling brushstrokes and hand gesture perhaps communicating his animated liveliness, with his black hair an integral feature of another tunnel-like motif in the background (Fig. 7). At this time, Hodgkins mentioned plans to finish a portrait

Figure 7 Hodgkins, F. 1945. 'Portrait of David.' (Painting). Private collection, New Zealand. By kind permission of the owner.

started on Notley (Hodgkins 1945b). With other gay men, Notley and Brynley cared for Hodgkins in her later years, recognizing her quirky brilliance and loneliness, providing material comforts, displaying her paintings for sale at afternoon teas with friends at Little Woolgarston, and helping to organise medical care when her unpredictable and frightening dementia set in; and Brynley's vivid, poignant memories testify to his emotions in her last years and death (Gill 1993, 482; Allen n.d.; Brynley n.d.).

Their decision to start a different life in New York City was a bold move: Notley was aged 57 and Brynley was 45. But it was not a permanent exclusion from their roots, as for the next twenty or so years they often returned to Britain. They sailed in October 1947, after Hodgkins's death – returning a year or so later, the journalist of 'The Hermits of the Bay of Swanage' understanding that they were initially unsettled (Wolf 1950; BPF). They had returned to New York City by 1950, renting apartments, originally settling at 330 East 54th Street – a place that later held 'many precious memories' for Brynley – then at the Madison Square Hotel, 37 Madison Avenue, New York (Brynley 1980a; Notley n.d.; Brynley n.d.). In March 1955 both men were debating whether to permanently return to Britain – the cost of housing their furniture was prohibitive, but Notley favoured remaining in New York (Brynley 1955b). An extended stay back in Swanage from September 1959 to mid 1961 was after Notley's prostate operation, their lack of funds not stretching to afford US health costs (Strassman 1961; Brynley 1959). They attempted to sell Little Woolgarston in the summer of 1952, tenanted since leaving Britain, but succeeded around 1960, Brynley noting they owned the house for 37 years (Brynley 1952, 1980e). Their sojourns in Britain were always at the Yelton Hotel in Hastings, now owned by Notley's sister and nephew.

It was an understandable move to New York City, reconnecting with friends and work. The early years in the US stimulated and created new opportunities to expand their creativity in art, singing, teaching, recording and writing. For Brynley, work was a therapy; he admitted that immediately after the intensity of their war performances, he became 'lost and directionless' (Brynley 1954b). A new location, and renewed friendships were clearly seen to help re-invigorate his life; and working for a music impresario initially proved stimulating (Ibid.).[12] Notley quickly oriented himself to work: there was an exhibition of thirty water-colours at the American British Art Center in New York City in January 1948, with flower pieces and landscapes featuring the Dorset countryside (Pamphlet 1948; New York Times 1948). He picked up music tutoring, becoming visiting professor at The Julius Hartt Music Foundation, Hartford, Connecticut, and at the Turtle Bay Music School in New York – and a substitute professor at the Yale Music School, New Haven, Connecticut (Notley n.d.). He taught a range of students, who would later have careers in touring opera companies and on Broadway, and with whom he retained friendships to the end of his life. In 1947 and 1948 they gave joint recitals at the New York Town Hall, of early music they had collected (Ibid.). This post-war work mirrored their pre-war concerts, as the New York critic Bernard Hagen had observed in 1936: their 'love of music had caused them to hunt out unusual things which they wished others to hear. That ... is what a concert should be' (Daily Eagle 1936). And the tours for the Association of American

Colleges, with many concerts given to university audiences, were for Brynley 'overwhelming and rewarding' (Notley n.d.; Brynley 1954c).

Wider and new audiences also stimulated the possibilities of making recordings. In the 1920s as part of The English Singers Notley had made a series of records for H.M.V. in London and for Roycraft in New York,[13] and Brynley had recorded two songs with an orchestra, 'Let me love you tonight' and 'Josephine'[14] (Wilson 1965, 375–381, 380–381; Brynley 1934). They made their first commercial recordings together in New York in 1948, of six 'Songs of the British Isles'[15] (Music Quarterly 1949; Brynley and Notley 1949). This was followed in 1954 with a long-playing record of twenty 'Elizabethan Songs' (by Dowland, Campion, Morley, Lawes and others), recorded in New York City by Esoteric Records, with Paul Wolfe as harpsichord accompanist.

Their social connections with New York society were also far-reaching, and stretched back to the twenties, when The English Singers had been brought by Elizabeth Sprague Coolidge to open the Washington Hall, that she had gifted to the Library of Congress (New York Times 1925; Brynley 1980f; Locke and Barr 1997, 185–212, 192; Banfield 1986, 59–88, 73). In the 1950s, their social circle widened. The philanthropist and social activist Dorothy Elmhirst introduced the men to the celebrated novelist Pearl Buck and to Eleanor Roosevelt; they also knew the opera singer Leontyne Price, the actor Montgomery Clift's mother, the young composer Ned Rorem, and the actress Louise Rainer (Brynley 1980g). Other connections were more problematical. Guy Burgess and Brynley, introduced to each other through a mutual friend, 'were quite close friends'. At a party given by Notley and Brynley, Brynley had recorded what amounted to be an unrevealing talk by Burgess, although naming 'a lot of prominent political people' (WAC). Later pursued by the British press, and interviewed by the FBI, Brynley thought it all 'most tiresome' and 'really upsetting' (Daily Mirror 1952, 3; Lownie 2015, 223; Purvis and Hulbert 2016).

The immediate post-war years for Brynley were also emotional times: in particular, mourning the loss of 'so many wonderful friends who had contributed to my growth as an artist, and to my happiness' (Brynley 1954b). His early years formed an incredible story, and he chose to record these as fiction, not autobiography. Fiction gave a more dramatic framework without the need for authenticity of detail; it suited more Brynley's expressive writing style. *Seth*, in its manuscript stage called *Seth of Lyden* (Strassman 1952), was first published by Scribner's (New York) in August 1954, and with Chatto and Windus in London in June 1955. Brynley's New York literary agent Toni Strassman wrote to Nora Smallwood at Chatto that Brynley was 'adamant ... the manuscript must not be sold as an autobiography, or any hints given that it is the story of his own life. There will be many who will recognize some of the incidents in the book as being autobiographical but he prefers that for the general public it to be sold purely as a work of fiction' (Strassman 1954). It was autobiographical writing, particularly the early years charted (Allen n.d.), of an illegitimate Welsh boy, suggesting a Welsh Oliver Twist (New York Times 1954), who fights his way to social and professional recognition through singing. 'If there is any plea in my book', Brynley said, 'it is for the greater tolerance of all children particularly those born out of wedlock' (Brynley 1954b). *The New York Times* thought it 'a memorable novel', 'with moments of real drama' sketching a 'fine gallery of rogues, harridans and obsessed ne'er-do-wells'; and although others thought it 'streaming with melodrama' it contained 'a good deal of humour' (New York Times 1954; Atlantic Monthly 1954; Retail Bookseller n.d.). The prose in particular had 'a lilt and musical quality' (Montreal Gazette). Scribner's marketed it as 'a novel in the tradition of *How Green was my Valley*', from an earlier British writer, clearly hoping it to be a similar success, and although the *City Oklahoman* thought 'this could turn out to be a best-seller', it was not (Llewellyn 1939; Saturday Review 1954). In the US *Seth* sold over 3,500 copies, a 'respectable sale for a first novel', thought Strassman (Strassman 1955a).

Seth was widely reviewed in the UK (Times Literary Supplement; Daily Telegraph; Irish Times). Cecil Day Lewis thought the work 'melodramatic at times. Full of lurid scenes and violent episodes'; and Stevie Smith noted 'an old-fashioned primness which is rather comical and charming', with the Welsh

idiom 'persistent, sometimes laboured' (Lewis n.d.; The Observer 1955, 11). Many commentators again picked up on the unrelieved gloom and grimness of the writing and setting, Nora Smallwood making 'certain cuts ... with deference to the Purity League at present rampant in this country' (Smallwood 1954). Strassman attempted selling the film rights to major Hollywood studios, but they were declined by Fox, M.G.M., Columbia, Paramount, Universal and Warner Brothers; and rights were also declined by both Ealing Studios and Associated British Pictures in London, partly on account of the 'sordid violence' making it unsuitable for the British film censor (Strassman 1955b, 1955c).

Undeterred, Brynley completed a play 'with a Welsh musical background', and Notley was industrious writing children's stories and a 'musical revue' (Brynley 1954a). Songs were composed for *Seth*, and two were recorded with Brynley singing, but not published (Brynley 1954). Brynley worked on a sequel novel to *Seth* – writing taking him 'out of the grim world of reality' – and 'like *Seth*, it is extremely personal', he noted, 'set in Dorset with dramatic action in London. It's something that has to be written' (Brynley 1980h, 1956). 'It is such an exciting one', wrote Strassman, consistently encouraging his 'imagination and flair for writing' (Strassman 1956, 1955d). But the novel not published, and was probably destroyed together with another completed novel, and other papers, by Brynley in November 1980 (Brynley 1980h).

Notley and Brynley returned to live permanently in Britain in 1969 after a stroke had somewhat physically restricted Notley (Peers 1995). They left New York harbor on the *Queen Elizabeth 2* in June, and initially settled in Hastings, then returned to Corfe in December 1970, to 125a West Street, a flat that had a large Georgian window overlooking the square. From March 1978 they rented a two-bedroom cottage at 16 West Street, where they both died[16] (Allen 1977).

Their return emphasized that their circumstances had changed. They were constrained by a lack of income, with no British state retirement pension, and small streams of investment income from the States, reduced in value by a strong Sterling exchange rate. They were essentially living off a quarter of the standard old age pension (Brynley 1979a). Their most precious asset, monetary and emotionally, was their art collection: many pieces representing a friendship – an Alfred Wallis from Jim Ede, Christopher Wood oils and gouache from Wood's mother, Hodgkins' personal impressions of 'Spring at Little Woolgarston' and 'Portrait of David' – were sold, together with other pieces from twentieth century artists[17] (Modern British and Irish Paintings 1978; Christie's et. *al.* 1978, 45–46).

Dorset had also changed. Brynley noted the number of council houses, an influx of 'retired, genteel, establishment people', and Poole 'completely ruined', with blocks of flats, caravan sites and cars 'so numerous' (Brynley 1970). But many of their acquaintances remained locally. Known in Corfe as 'The Boys', Notley's appearance by this time was of 'an amiable walrus (not dissimilar to Arthur Ransome and Arthur Bliss)' (Peers 1995). Brynley remained 'physically, mentally and conversationally like quick-silver – his Welshness ... was immediately apparent and his diction precise' (Ibid.). Their presence in the village was clearly apparent, therefore. The village organised a party in 1973 on their 50th anniversary of moving to Dorset[18] (Ibid.) – a public statement of their acceptance as a couple and status within the community. Brynley saw himself as a local celebrity, performing an opening ceremony of the village carnival in 1976/1977, still recognized from his radio days 'as the South West's original 'Uncle David'' (Brynley 1981a). But Brynley retained an ambivalent attitude to life in Corfe – 'as being a kind of legend in this village has its disadvantages'; he enjoyed his early morning walks on the Downs after Notley's death, but felt 'truly scrutinized by hundreds of eyes behind window curtains' (Brynley 1981b). Even in the inter-war period at Little Woolgarston, they were 'surrounded by well-educated, "musically-minded", single women', but they were essentially 'round pegs in square holes' (Brynley 1980e). Now they 'kept ourselves to ourselves', neighbours being 'near geriatric widows and old maids', with Brynley feeling keenly that there was 'no one in whom to confide', and 'no one who shared a past with Norman and me' (Brynley 1980e, 1980i, 1980j, 1980k). A lack of male company emphasized for Brynley that he was 'surrounded by people with whom I have NOTHING in common' (Brynley 1980l, 1980a).

A greater source of comfort for Brynley came from writing to the pianist and teacher Webster Aitken. The two had met in 1930, were re-acquainted from 1950, and shared a past in renting at different times the same apartment in New York City, 330 East 54 Street – 'your (and our) old studio' (Brynley 1979b, 1980x, 1980a). To Brynley, Aitken was a 'twin', a conduit for Brynley's emotions, and his only 'regular contact' during the last six years of their lives (Brynley 1980e). Aitken's regular dollar checks and letters frequently reduced Brynley to tears (Brynley 1980m).

There were other reminders of their past lives: mountains of birthday and Christmas cards (over one hundred Christmas cards in 1978 and 1980) connected them to their friends and their memories, clearly boosting morale (Brynley 1978, 1981b). So too did song: recreating the past, in reminiscences to friends, listening to tapes of Norman recounting his life, or of their singing together, over a sherry or whiskey, was also 'pretty good therapy' (Brynley 1979c, 1979d). Brynley was conscious of the need to set down their lives, in part through recording Notley's reminiscences; and although Notley's early life was well documented in Brynley's recorded and transcribed interviews, Brynley's later increasing lack of sight, mood, inability to concentrate on writing, and the mass of memories and material to sift and sort, meant his own life was not written in such detail; he believed, with a typically dismissive emotional flourish, that 'posterity will miss nothing' (Brynley 1980n, 1981c).

These feelings of social isolation were strengthened by Brynley nursing Notley at home for eighteen months. Although he had 'suffered no pain, and his mind was clear to the last', Notley increasingly suffered from weight loss and lack of voice, and died in May 1980 from pneumonia and cancer of the bowel[19] (Brynley 1980o; Times; Daily Telegraph; Dorset Evening Echo 1981; Brynley g, 1979e). Keeping the cancer diagnosis from Notley, as ordered by the GP, with Brynley maintaining a 'strict curb on [my] emotions' caused an emotional strain on Brynley (Brynley 1979f).

There were 'upwards of 200 letters of condolence', noted Brynley, but inevitably there was 'life's present emptiness': 'I always got from Norman's physical presence ... a sense of belonging and of reassurance' (Brynley 1980p, 1981d). Brynley's daily walks on the Downs around Corfe, where he had scattered Notley, helped him to reconnect with Notley (Brynley 1980q). But without Notley's 'calm, equable temperament', he felt 'not only lost, but terribly insecure' with 'the pain of separation'; and there was 'village concern' in part as he became reclusive (Brynley 1980r, 1980s, 1980d, 1981b). Brynley received invitations to visit relatives in California, Virginia and San Jose, and to Tacoma and Seattle where his half-sister and half-brother had settled; but he was unwilling to travel (Brynley 1980t, 1980u). He did return to Laugharne with a cousin in August 1980, and his impressions are poignant. 'Alas', he wrote to Aitken, 'in no time, word spread that I was there – and the halt and the lame – all contemporaries who were in school with me – came from all direction to see their Mr. Deeds who had come to town ... one woman who came to greet me had in her hand *Seth*, which she had just got from the library'. A visit to Cliff Chapel graveyard, where his mother and grandmother were buried, particularly brought back 'the bitter-sweet days of childhood' (Brynley 1980v).

Brynley died of stomach cancer on 28 February 1981, accelerated from not seeking medical attention and poor local medical practice; in his last few weeks he remained 'completely nonchalant about death' (Brynley 1981e). Like Notley, and their friend Frances Hodgkins thirty-three years earlier, he was cremated at Weymouth.

Brynley would have been surprised at Webster Aitken's death in May 1981, in Santa Fe, New Mexico. In none of the surviving correspondence between the two men – Aitken's letters to Brynley have not been found – does Brynley echo any serious, sustained concern for Aitken's health. Brynley's bond to Aitken was clearly strongly emotional: apart from bequests including art to the Dorset Natural History & Archaeological Society[20] (Peers 1995; Brynley 1981), the estate was willed to Aitken, who in turn waived his share to the Britten-Pears School to support music students. Brynley's wish was for a scholarship to be established, or to 'fund an annual prize or prizes for singers ... to be known as 'The Notley Brynley Prize'' (Brynley 1980, 1981).

£9108.01 was later bequeathed, and Brynley's friend and executor Armide Oppé delivered music and press cuttings books to the Britten-Pears archive in July 1981 (solicitors' letters, DNHAS; Strode 1981). But no scholarship was established, and Oppé's industry in encouraging Peter Pears, Imogen Holst and the singer Keith Falkner to assemble between them a joint obituary of Notley and Brynley in *The Musical Times* amounted to nought (Faulkner 1981).

Two impressions from their friends make vivid again the art and lives of Norman Notley and David Brynley. The composer Christopher le Fleming knew that 'countless friends will treasure the memory of visiting them ... a warm welcome would frequently be followed by a song or two. So rare a blend of voices, allied to a truly lyric quality has left an enriching and precious memory to all those who were fortunate enough to have heard them' (le Fleming 1981). And the Irish writer and poet Monk Gibbon wrote to David Brynley at Christmas 1980: 'In how many hearts do you both live vividly without the need of any Christmas card to remind your friends of you. You were a kind of golden-voiced essence – paradisal, yet so human and full of laughter' (Brynley 1981f).

ACKNOWLEDGEMENTS

My grateful thanks to the following for their help and advice in writing this article: the archivists and librarians of the Dorset Natural History & Archaeological Society, Dorchester, Dorset; the Britten-Pears Foundation, Aldeburgh, Suffolk; the Rare Book and Manuscript Library, Columbia University, New York, United States; the Harry Ransom Center, University of Texas at Austin, Texas, United States; the Frick Art Reference Library, New York City, United States; the Alexander Turnbull Library, National Library of New Zealand, Wellington, New Zealand; the Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand; the British Library, London; Maurice Allen; Steven Hark; Sir Brian Harrison; David James; Elizabeth Lind; Martyn Oliver; Roger Peers; Anne Roberts; Jessica Sutcliffe; Gwen Yarker.

NOTES

1 'several lessons' with David Bispham in October 1916; 'Of course I can teach him nothing', wrote Bispham.

2 Harry Crane Perrin (1865–1953), British cathedral organist, professor and first dean of music, McGill University, 1908–1930.

3 Graham Peel (1878–1937), educated at Oxford, moved to Bournemouth in 1914 where he remained to his death: civil servant, amateur musician, President of the Bournemouth British Music Society, and chairman of the Bournemouth Municipal Choir.

4 Roland Hayes (1887–1977).

5 it has not yet been possible to establish the dates of his parents' deaths.

6 also at Chester Town Hall in June 1924.

7 Francis Henry Newbery (1855–1946) and wife Jessie Wylie [nee Rowat] (1865–1948).

8 George (1869–1934), Hilda (1880–1953) and Mary Spencer Watson (1913–2006).

9 Barling bequeathed her art to Notley and Brynley, that was then passed via Armide Oppé to the Dorset Natural History & Archaeological Society.

10 *The Western Gazette* notes Barling's involvement in a school production of *Hamlet*.

11 Redfern Gallery, 20 Cork Street, Burlington Gardens, London W1, 3–26 January 1946.

12 the impresario remains unidentified.

13 HMV: nine 10" and 12" double-sided 78 rpm records; Roycroft: twelve 10" double-sided 78 rpm records.

14 originally on Columbia.

15 three 10" 78 rpm records featuring six songs.

16 'Drurys', The Square, Corfe in August 1977.

17 six works at Christie's in June 1978: a John Tunnard watercolour (1948, bought from The Redfern Gallery), three works by Christopher Wood ('Luna Park Ballet', 'Bathers', and 'Two Nude Bathers'), an oil by Cecil Collins, and two works by Alfred Wallis, 'Ships off the Coast' and 'Ships near a Lighthouse'.

18 no letter exists from Brynley to Aitken mentioning a party, although flowers from local friends were noted.

19 the GP encouraged Brynley to keep the diagnosis from Notley.

20 Fra Newbery's portrait of David Brynley (1927), three oils by Christopher Wood ('Battersea Park', 'Pont Neuf Paris', and 'Flower'), one drawing by Wood of a gypsy, five Alfred Wallis pictures, a sculptured head by Elizabeth Muntz, a sculpture by Dora Clark, and paintings by Notley and Brynley were given by Oppé to the Museum.

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WILLIAM BARNES'S 'SOLACE OF THE FIELDS' AND THE QUESTION OF LINE-DIVISION IN HIS POEMS

T. L. BURTON

A manuscript of a previously unpublished poem by William Barnes entitled 'Solace of the Fields' has recently come to light. It turns out to be a Standard English version of a dialect poem, 'Vields by Watervalls', first published in 1864. A striking difference between the two versions, in addition to that between their titles, is the difference between the line-division in each: the penultimate line of each stanza in the dialect version, with its intralinear rhyme, is split into a rhyming couplet in the Standard English translation, producing nine-line stanzas in place of the dialect version's eight-line stanzas. This article compares the line-division in a number of other poems by Barnes which survive in both dialect and Standard English versions, drawing attention to instances where the line-division in both versions is the same and other instances where intralinear rhymes in one version are re-arranged in couplets or triplets in the other. It suggests a number of avenues for research into possible reasons for such variations in line-divison between different versions of a poem.

Lot 832 in a sale by Duke's Auctioneers on 13 April 2017 was an item of much interest to poetry-lovers and to collectors of literary manuscripts: 'WILLIAM BARNES (1801–1886) "Solace of the Fields" a previously unpublished poem in four verses, handwritten and inscribed at the end "Mrs Hodding with kind compliments, WB"' (see Fig. 1 for a reproduction of the third stanza of the poem). The lot was bought by Julian Nangle of Nangle Rare Books in Dorchester and subsequently acquired by the Cushing Memorial Library and Archives, Texas A & M University, as reported in the William Barnes Society's *Newsletter* (75 (Autumn 2017), 10, 20). Two details not noted in the auction catalogue were that the poem is in Standard English (hereafter StE) – or, as Barnes variously called it, 'book English' (with or without a hyphen: Barnes 1844, 3; 1863a, 11; 1878, v; 1879, 459), 'national English' (Barnes 1846), or 'common English' (Barnes 1868) – and that it is a translation of one of his dialect poems, 'Vields by Watervalls'. The latter had been first published in the *Dorset County Chronicle* on 21 April 1859 and later reprinted in the third collection of Barnes's *Poems of Rural Life in the Dorset Dialect* (1863b, 71–2). The dialect and StE versions are reproduced side by side in the table below to facilitate comparison between them.

Some major similarities and differences between the two versions are readily apparent; here we are concerned only with two of the most obvious differences. One conspicuous difference between the poems, which declares itself at the very outset, is the wording of their titles, which have nothing in common apart from the mention of fields. Both titles, as would be expected, give some idea of the content of the poem, but each draws attention to a

VIELDS BY WATERVALLS

WHEN our downcast looks be smileless,
  Under others' wrongs an' slightèns,
When our daily deeds be guileless,
  An' do meet unkind requitèns,
You can meäke us zome amends
Vor wrongs o' foes, an' slights o' friends;—
O flow'ry-gleäded, timber-sheäded
Vields by flowèn watervalls!

Here be softest aïrs a-blowèn
  Drough the boughs, wi' zingèn drushes,
Up above the streams, a-flowèn
  Under willows, on by rushes.
Here below the bright-zunn'd sky
The dew-bespangled flow'rs do dry,
In woody-zided, stream-divided
Vields by flowèn watervalls.

Waters, wi' their giddy rollèns;
  Breezes wi' their plaÿsome wooèns;
Here do heal, in soft consolèns,
  Hearts a-wrung wi' man's wrong doèns.
Day do come to us as gaÿ
As to a king ov widest swaÿ,
In deäisy-whitèn'd, gil'cup-brightèn'd
Vields by flowèn watervalls.

Zome feäir buds mid outlive blightèns,
  Zome sweet hopes mid outlive sorrow,
After days of wrongs an' slightèns
  There mid break a happy morrow.
We mid have noo e'thly love;
But God's love-tokens vrom above
Here mid meet us, here mid greet us.
In the vields by watervalls.

(Text from *WBCP* ii, 204–5, poem ***294***.)

SOLACE OF THE FIELDS

When we rue, with bitter feelings,
Worldly wrongs, and worldly slightings,
When we find our guileless dealings,
Answer'd by unkind requitings;
  You can make us sweet amends
  For wrongs of foes and slights of friends;
    O flow'ry-gladed
    Timber shaded
  Fields, by flowing waterfalls.

Here are breezes softly blowing
Through the boughs, where lively thrushes
Sing by bubbling waters, flowing
Under willows, through the rushes;
  There, beneath the bright-sunn'd sky,
  The dew-bespangled blossoms dry,
    In woody-sided
    Stream-divided
  Fields, by flowing waterfalls.

Waters, with their playful rollings,
Breezes, with their wanton wooings,
Soothe our mind with soft consolings,
While we rue the world's wrong-doings.
  Day-light shines on us as gay
  As on a king of widest sway,
    In daisy-whiten'd
    Flower-brighten'd
  Fields, by flowing waterfalls.

All buds die not under blightings,
Joy may rise o'er saddest feeling:
Though we grieve with wrongs and slightings,
Here our grief shall find a healing.
  Though we share no worldly love,
  Yet God's love-tokens from above
    Here shall meet us,
    Here shall greet us,
  O ye fields by waterfalls.

(Text transcribed from the manuscript.)

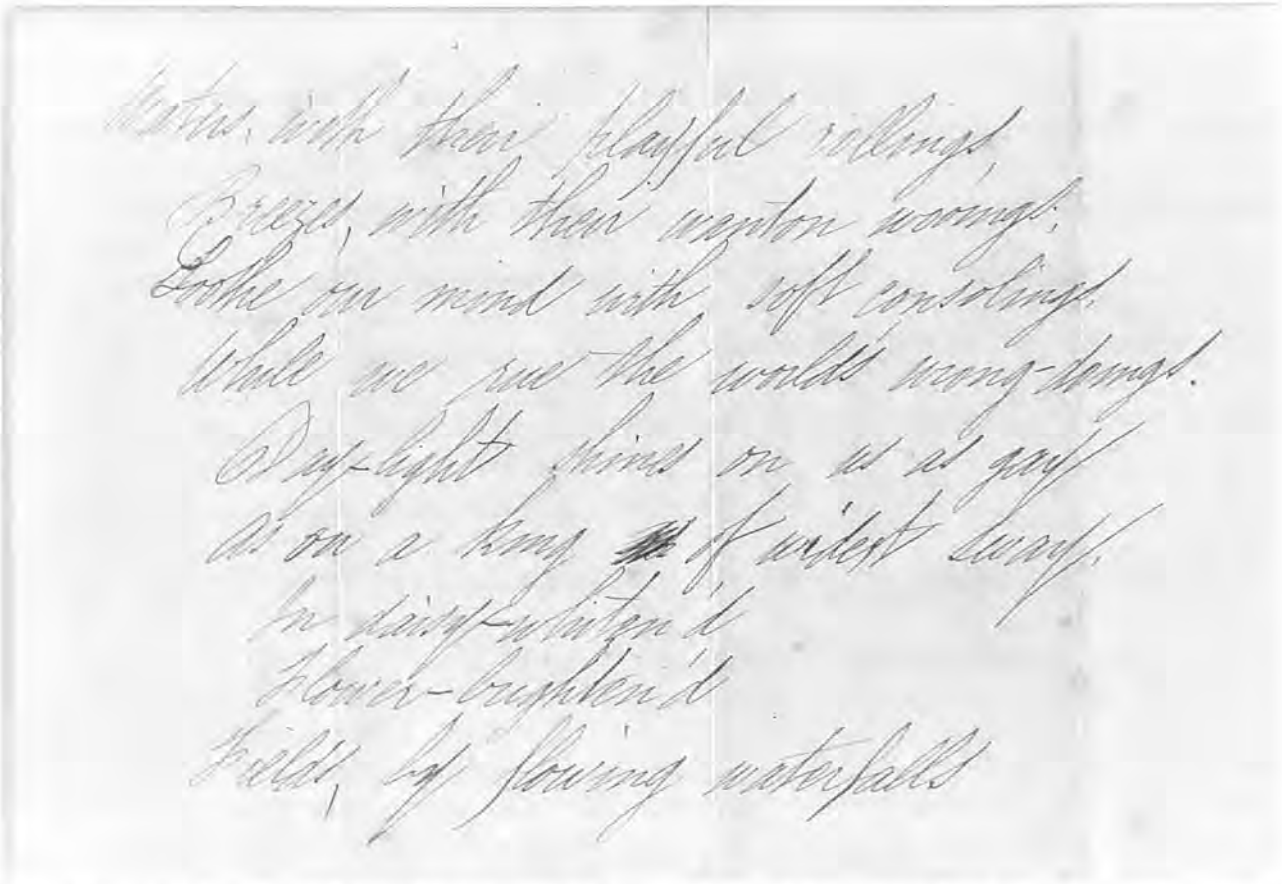

Figure 1 Stanza 3 of 'Solace of the Fields' from the MS in the Cushing Memorial Library and Archives, Texas A & M University, PR4064. S64 1866.

different element. Whereas the dialect title focuses on the waterfalls beside the fields in question without indicating what it is about them that attracts the speaker's notice, the StE version highlights the comfort that comes to him in the fields but makes no mention of its chief source, the sound of flowing water – a phenomenon that is the subject of another of Barnes's dialect poems, 'Sound o' Water' (*WBCP* ii, 75–6, ***190***; NB numbers in bold italic, here and throughout, are the editorial numbers given to the poems in this edition). But titles are necessarily selective, and in the absence of any comment from the poet it is impossible to know what governed his choice of wording in either case.

A second immediately noticeable difference is the greater length of the StE version (thirty-six lines in four nine-line stanzas as against the dialect version's thirty-two lines in four eight-line stanzas). This difference, however, turns out to be illusory, or to be a matter of line-division only: it derives from the splitting into two separate lines in the StE version of the penultimate line in each stanza of the dialect version, producing a rhyming couplet where there had earlier been a single line with an intralinear rhyme. This is, of course, a purely visual matter: the aural structure remains unchanged, and a person listening to the poem read aloud without seeing a written text would hear the rhyme (consciously or subconsciously) irrespective of the way the poem was set out on the page. But the page layout was clearly a matter of some importance for Barnes, as can be seen from several other of his StE renderings in which the line-division gives more visual prominence to the rhyme schemes than they had had in the dialect versions from which they were translated. Such is the case in four successive instances in Barnes (1868): 'Mother of Mothers' (128–30), 'Falling Things: In Their Seasons' (131–3), 'The Morning Moon' (134–7), and 'Joy Passing By' (138–40), translated from (respectively) 'Mother o' Mothers' (***527***), 'Things A-Vallén in Their Times o' Year' (***528***), 'The Mornén

Moon' (***529***), and 'Jaÿ A-Pass'd' (***470***). The ten-line stanzas of 'Mother of Mothers' are formed by the splitting of the last line of each nine-line stanza of the dialect version into two lines, such that the *abba* rhyme of the closing lines of each stanza is plainly revealed; thus (in stanza 1),

'An' wold vo'k, oonce gaÿ,
An' litty o' limb,
Wi' eyes a-wore dim do now stoop on their waÿ'

becomes in the StE version,

'And old folks once gay
And sprightly of limb,
With eyes wearing dim,
May now stoop on their way;'

and the ten-line stanzas of 'Things A-Vallèn in Their Times O' Year' become fourteen-line stanzas in the StE version by the re-arrangement of the last four lines of each stanza into eight lines in which the *abbaccca* rhyme structure is brought fully into the open; thus (again from stanza 1),

'When blooth o' maÿ, in sceäles o' white,
Do whirl their flight where lambs do plaÿ,
Then we awhile, a-freed vrom tweil,
Do stroll a mile where Stour do straÿ',

becomes in StE,

'When bloom of may,
In scales of white,
May whirl their flight
By lambs at play,
Then we awhile,
By path and stile
May stroll a mile
Where Stour may play.'

Similarly the nine-line stanzas of 'Jaÿ A-Pass'd' and the ten-line stanzas of 'The Mornén Moon' become respectively ten- and eleven-line stanzas in the transformation of these poems into StE. From these poems one might perhaps deduce that whereas Barnes's dialect poems may have been intended for listeners rather than readers, the opposite holds for their StE renderings; or that he believed the chances of his StE poems reaching a wider audience than there had been for his dialect poems might be improved by bringing their rhyme schemes into plain view; or that he had misgivings about the ability of his StE readers to notice internal and intralinear rhymes. But that such deductions would be unsafe is shown by the fact that in most instances where dialect poems with intralinear and/or internal rhymes are translated into StE the line-division in both versions is the same. This is the case, to give half a dozen examples only, with 'Vew Evenèns Alike' (***540***) / 'No Two Days Alike' (85–6), 'The Wold Clock' (***542***) / 'The Old Clock' (80–1), 'Bench by the Geärden Wall' (***544***) / 'The Bench by the Garden Wall' (71–2), 'The Parrick' (***551***) / 'The Parrock' (60–1), 'Well To Do' (***552*** / 49–51), and 'By the Mill in Spring' (***554*** / 41–2: where only one title is given, the wording and spelling are the same in both dialect and StE versions; page numbers for StE versions are from Barnes 1868).

And to put the matter beyond doubt, there are even poems where the StE version *reduces* the number of lines per stanza by compressing what had been rhyming couplets in the dialect version into single lines with intralinear rhymes. One such poem is 'When We Were Young Together' (***491*** / 54–7), where the StE version has twelve-line stanzas in place of the thirteen-line stanzas of the dialect version; but the most striking example is 'At the Door' (***471*** / 156–8), first published in *Macmillan's Magazine*, (**10** (1864), 416–17), with nine-line stanzas, of which the first stanza (see Figure 2) reads,

'The stream do roll,
A-bubblèn by the shoal,
Or leäp the rock, a-foamèn in a bow;
The win' do vlee,
A-playèn roun' the tree,
Along the grove o' woaks, in double row,
Where love do seek the maïdens evenèn vloor,
Wi' stip-step light, an' tip-tap slight,
Ageän the door.'

The stream do roll,
A-bubblèn by the shoal,
Or leäp the rock, a-foamèn in a bow;
The win' do vlee,
A-playèn roun' the tree,
Along the grove o' woaks, in double row,
Where love do seek the maïdens evenèn vloor,
Wi' stip-step light, an' tip-tap slight,
Ageän the door.

Figure 2 Stanza 1 of 'Vields by Watervalls' from *Macmillan's Magazine* (**10** (1864), 416).

When the poem appeared in StE four years later (Barnes 1868, 156–8), its nine-line stanzas had been reduced to seven lines by the compression of the two rhyming couplets of the *a* and *c* lines in each stanza into single lines with intralinear rhymes, like the penultimate line of each stanza. Thus the first stanza of the StE version (see Figure 3) reads,

THE waters roll, quick-bubbling by the shoal,
Or leap the rock, outfoaming in a bow.
The wind blows free in gushes round the tree,
Along the grove of oaks in double row,
Where lovers seek the maidens' evening floor,
With stip-step light, and tip-tap slight,
Against the door.

Figure 3 Stanza 1 of 'Vields by Watervalls' from *Poems of Rural Life in Common English* (1868, 156).

'THE waters roll, quick-bubbling by the shoal,
Or leap the rock, outfoaming in a bow.
The wind blows free in gushes round the tree,
Along the grove of oaks in double row,
Where lovers seek the maidens' evening floor,
With stip-step light, and tip-tap slight,
Against the door.'

I have described the stanzas of the dialect version as having nine lines, but the lines are not numbered, in either the printed text or the manuscript (on pp. 21–3 in a booklet catalogued as B. 190 in the William Barnes archive at the Dorset Museum: in this the majority of the *a* and *c* lines are split into two, the only *a* lines not so split in the manuscript being in stanzas 1 and 4, the only *c* line in stanza 4). It could be argued that the split lines in the manuscript should be considered not as rhyming couplets containing two complete iambic pentameters but as single lines each divided into two hemistichs: in that case the line-numbering would record seven lines in each stanza, as in the StE version, not nine. In support of this argument one might note that in every instance

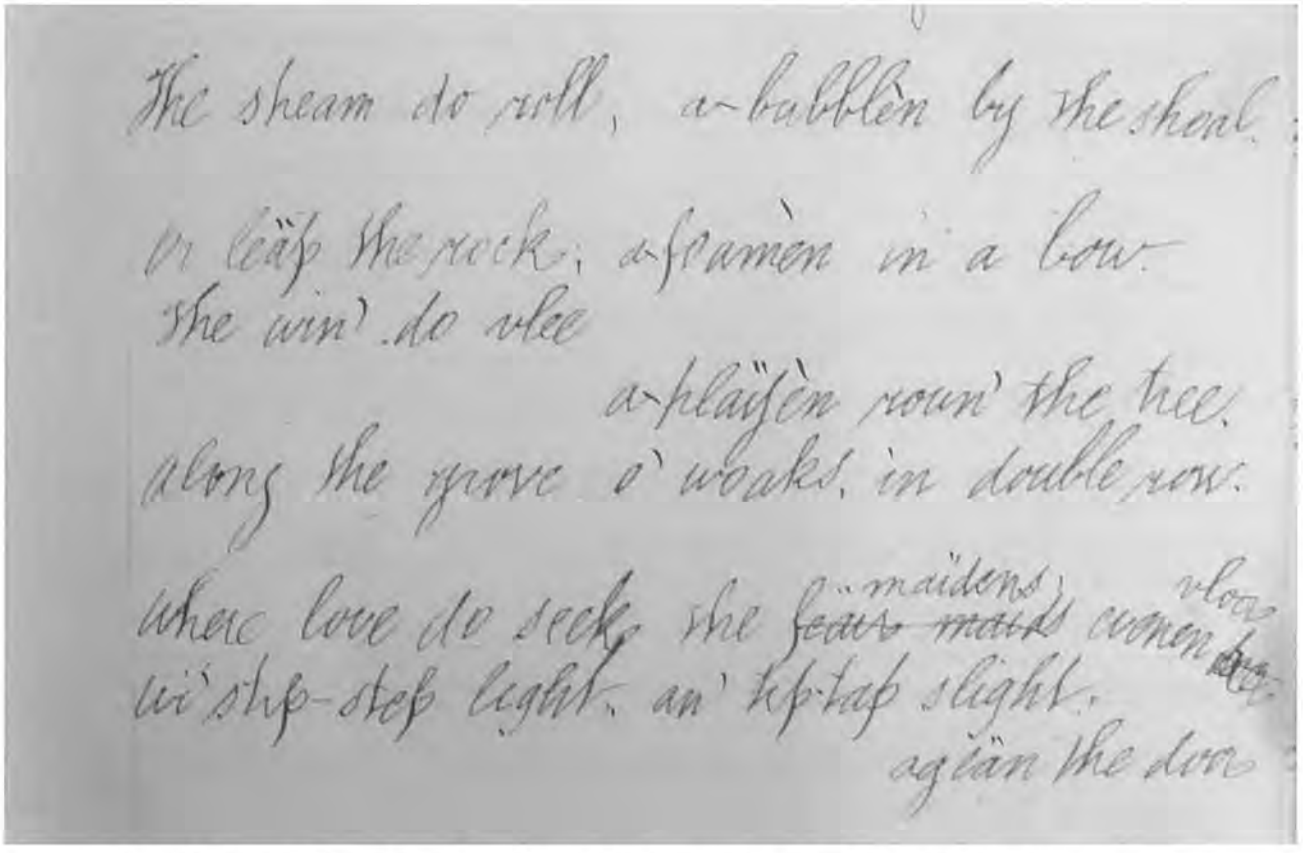

Figure 4 Stanza 1 of 'Vields by Watervalls' from MS B. 190 in the William Barnes archive at the Dorset Museum.

where the line is split, the split occurs at the end of the second foot (i.e. after the first rhyme word); the third foot begins neither (as in the printed version) with an upper-case character at or slightly indented from the left margin (which would indicate a new line), nor with a lower-case character close to the right margin (which would indicate the carrying over of the last words of the line for lack of space), but with a lower-case character at the point immediately beneath that at which the second foot ends, thus –

'The win' do vlee
a-plaÿèn roun' the tree'

– and the whole of the second part of the line could have been fitted without difficulty into the space left blank above it (see Figure 4). It is clear, in short, that the splitting of lines with intralinear or internal rhymes is governed (in this instance at least) by the rhyme, not by the space available; and irrespective of the way in which the lines are numbered or of whether they are numbered at all, the effect of locating rhyming sounds only at the ends of strips of text arranged in separate rows on the page is to make the rhyme words stand out visually more than they would if one of them were located somewhere within a single row of text.

Could it be that the line-division in printed texts was decided by the publisher or printer rather than by the poet himself? And might Barnes have refrained from insisting on the restoration of his own lineation because of the 'tender regard to his printers' that his daughter Lucy tells us led to his making 'very few corrections' to his proofs (Baxter 1887, 220)? Such an explanation may sound plausible, but it is not supported by the evidence from the manuscripts, where these survive, since their lineation, though not always consistent from stanza to stanza, is for the most part the same as that of the printed versions. (Manuscripts of most of the StE versions of dialect poems are in a booklet catalogued as B. 203 in the William Barnes archive; no known manuscript of 'Vields by Watervalls' survives.)

Assuming, then, that the changes in line-division noted above were made by Barnes himself, that they resulted not from chance or whim but from considered decisions on his part, and that they were linked to the poems' rhyme schemes, they raise a number of questions that suggest possible avenues for further research. Why is it that these changes occur only in the translation of poems from dialect to StE or vice versa, not in those translated from the 'broad' to the 'modified' form of the dialect (for these terms see Burton 2007 and WBCP ii, Appendix 3) or in those revised without changing the form of language in which they were written? Did any of his contemporaries, or earlier poets whose work may have influenced him, alter the lineation of their poems in like ways from one draft, or from one published version, to another? To what extent was the line-division of Barnes's poems determined by the target audience or by the intended form of delivery or reception? To what extent (if at all) was their layout governed by economic or other non-artistic considerations such as a need to save paper, or, conversely, by a wish to make a short collection appear longer by splitting long lines into two or three shorter ones? Answers to such questions, and to others that may occur to readers, are beyond the scope of the present short piece; it is clear, though, that they warrant further investigation.

ACKNOWLEDGEMENTS

I am grateful to the Dorset Museum for access to the manuscripts of William Barnes's poems and to the Cushing Memorial Library and Archives, Texas A&M University, for permission to print a transcription of the manuscript of 'Solace of the Fields' and to reproduce a photograph from one of its pages.

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WIDE-OH AND THE TOADMAN: DORSET CUNNING FOLK IN HARDY AND IN LIFE

JEREMY HARTE

Victorian Dorset was full of village seers, magicians and healers. They cured obstinate complaints, traced stolen property, brought lovers together, and foiled the malign powers of witches, though many were suspected of having a malicious streak themselves. These cunning folk also appear in the Wessex novels, where they forward the plot and provide authentic rural colouring, since Hardy made a point of including local knowledge in his works. The pseudonymous wizards of the novels can be identified with real people and checked against the historical record, as a testcase for Hardy's accuracy in other fields of folklore. Fiction overlaps with truth in many areas; the mysterious foreknowledge of Wide-oh Fall, the magical techniques of Conjuror Trendle and the psychological acuteness of Elizabeth Endorfield can all be matched in contemporary reportage and later reminiscence. But Hardy picked what he needed as a novelist, emphasising the remoteness of people who were in fact accessible, and the modesty of a trade which thrived on self-advertisement. Literature is more than ethnography, but Hardy's literary response to the magical tradition reminds us that its own practitioners were also creative artists, though it was not books that they fashioned, but their own self-representation as dark healers.

'Thomas Hardy's novels and poems reflect the social history of Dorset during his time and are loved and admired across the globe': so Carola Campbell, chair of the Dorset Archives Trust, told the media on the acquisition of a letter by the novelist in 2019. A novelist may be attracted to customs and beliefs for the colour they provide, but the historian is interested when they have repercussions which feature in the archives. The visit to the cunning-man in *The Mayor of Casterbridge* takes its place among the events by which Henchard's headstrong character leads to his tragic downfall: but it also represents an encounter which, in real life, would have broken the law and precipitated a scandal, both of which might have led to an appearance in the newspapers, or worse. Rural folklore was one of the attractions of the Wessex novels when they were first published, and within three years of Hardy's death the material had been gathered and treated as more or less direct reportage (Firor 1931). This was a naïve beginning, and serious attempts to evaluate how much Hardy knew, and how far he was prepared to distort that knowledge for literary effect, had to wait until the end of the twentieth century (Jackson-Houlston 1999, 140–72; Robson 2004; Dillion 2016). Because village witchcraft has such a high profile in the surviving sources, his representations of it provide a test case for his general accuracy.

The cunning trade was open to both men and women, though it appears, from a survey of some forty practitioners in the Dorset literature, that men narrowly predominated, by a ratio of about 3:2. They made a living by providing magical services, primarily the detection and thwarting of witches, but also the detection of thieves, the return of lost property, and charming for love. They might foretell future events or heal illness, though these skills were shared by others who were not cunning folk. No brass plaques marked their doors and their advertising was word of mouth only, but in the proletarian world they were as ubiquitous as lawyers and doctors among the better sort (Davies 2003).

Names varied, as was to be expected in an oral culture. George Roberts, writing in Hardy's early years, speaks of 'a cunning man, conjuror, or white witch' (Roberts 1856, 530); Hermann Lea reports the same terms sixty years later (Lea 1913, 150). Barnes in his *Glossary* defines 'cunnèn man' as 'a man to whom is imputed supernatural knowledge, and of whom folk inquire after lost goods'; the term was still familiar enough to need no explanation in 1961 (Barnes 1863, 51; Knott 1961, 26–7). 'Wise man' was also common. Female practitioners were more often 'wise woman' than 'cunning woman', while 'conjuror', with its implications of book-knowledge and occult lore, seems to have been reserved for men.

HARDY'S CONJURORS

There are three fictional accounts of visits to cunning folk in which Hardy provides a level of detail which can be checked against the contemporary and folkloric record (Robson 2010). In each of these, he moves from one term to another as the narrative develops. Fall in *The Mayor of Casterbridge* is first introduced neutrally as 'a forecaster or weather-prophet'. Only after Henchard has staked everything on his prediction, changed his mind to ignore it, and then finally changed his mind again and lost, does he call him 'that curst conjuror' (Hardy 1886a, 2.48). Elizabeth Endorfield in *Under the Greenwood Tree* is called 'in plain terms, a witch' by strangers, but 'when her more intimate acquaintances spoke of her this term was softened, and she became simply a Deep Body' (Hardy 1872, 2.121). The cunning man in 'The Withered Arm' is introduced tentatively by Gertrude Lodge as 'some clever man over in Egdon Heath'. 'Not Conjuror Trendle?', replies Rhoda Brook. 'They say - they used to say he was a - he had powers other folks had not'. And it is a mark of Gertrude's complicity across the class barrier between the two women that in their next conversation he is immediately 'Conjuror Trendle' (Hardy 1912, 84–5).

But Hardy was influenced in his language, not just by fictional situations, but by precedents in real life. In his notebook for 1872, he jotted down details of three magical practitioners: the Planet-ruler - 'his method of telling your fortune was to do it religiously'; Diana Chester - 'she used to work her spells by the Devil'; and 'another man... called a conjuror; he lived in Blackmoor Vale. He would cause your enemy to rise in a glass of water. He did not himself know your enemy's name, but the bewitched person did, of course, recognising the form as the one he had expected' (Hardy 1979, 12). Like much of Hardy's folklore, this will have come to him from his mother Jemima Hardy née Hand. When we are told that the Planet-ruler 'used to come his rounds like a pedlar, passing through M—y about every month', we recognise Jemima's home village of Melbury Osmond. The 'A. Sh—' whom he told that 'she would have a large family, travel &c.' is Aunt Sharpe, Jemima's sister Martha, who married John Brereton Sharpe in 1841. She had five children and emigrated to Ontario, so in her case the Planet-ruler's prophecy was worth its sixpence. 'Diana Chester' is not a common name, and can probably be identified with the woman of that name who died aged 83 in 1830, when she was lodging in the slum of Goar Knap at Yeovil, the nearest town to Melbury (note 1). Since Jemima was born in 1813, these recollections would date back to her teenage years.

Hardy relied on his mother to keep him in touch with the world of his boyhood; after he set off for London in 1862, he seems to have left behind any active participation in Dorset folk culture. The world of *Under the Greenwood Tree* is that of the Mellstock Quire, which lost its place in church in 1843, thirty years before the date of publication. Hardy's introduction to *The Mayor of Casterbridge* locates its anxious harvest-watching just before the repeal of the Corn Laws in 1846, some forty years before the book was written. But the third of Hardy's fictional

encounters with cunning folk, the visit to Trendle in 'The Withered Arm', is not so easy to date, and here the ambiguities of the evidence may tell us something about Hardy's relationship to tradition.

JAMES BAKER, 'TRENDLE'

On a literal level, the story *is* dated: when Trendle sends Gertrude Lodge to Dorchester/Casterbridge, where her only chance of throwing off the withered arm is to touch the neck of a hanged man, he says, in the final *Wessex Tales* text, 'I used to send dozens for skin complaints. The last I sent was in '13 – near twelve years ago' (Hardy 1912, 94). But the original serial version, published in *Blackwood's Magazine* in January 1888, fixed the date at 1833, not 1825. That was because the sub-plot, involving Rhoda's teenage son being hanged for being present at a rick-fire, reflects the conviction of fifteen-year-old Silvester Wilkins who really was hanged for arson at Dorchester in 1833 (Ebbatson 1993, 133). The facts of the case had already been distorted by family memory, for Hardy recalled that his father told him about a teenage boy who was one of four bystanders executed for being present when a rick was fired – whereas Wilkins, alone, had set fire deliberately to a combing shop, which then burnt eight other houses (Lindgren 1985). Consciously or not, Hardy later fudged the date to keep it detached from reality.

He also fudged the identity of 'Trendle'. Writing to Hermann Lea in 1907, he says 'I do not remember what his real name was, or rather, he is a composite figure of two or three who used to be heard of. I have a vague idea that Baker was the name of one, but cannot be sure' (Hardy 1978–88, 3.264). But the tireless Lea had retraced the steps taken by Gertrude and Rhoda in the story and found that Trendle 'is still well remembered (under his real name, of course) by some of the old people who dwelt near, and the house in which he lived, in the central portion of "Egdon Heath", may still be traced in a heap of decayed walls and rotten timbers' (Lea 1907, 294). A few years earlier, he was less reticent and wrote of someone going 'to Conjuror Baker, a cunnin'-man what did live out on Afpul Heath' (Lea 1903, 1024). The cover-name was not chosen at random: one of the dialect meanings of *trendle* is a baker's trough.

James Baker (1777–1866) worked as a cunning man in east Dorset from at least the 1820s; by 1841 his profession had brought in enough money to buy 'a house and a few acres of land' in Morden, the parish of his birth (note 2). The census enumerators list this property after Morden Mill and in 1861 it is the second of two occupied houses on Black Heath; it must therefore be Blackheath Cottage at SY 895 932, where the OS map confirms Lea by showing that the original building was roofless by 1902. In 1858 Baker arrived in Kinson for a consultation but was handed over to a policeman instead: 'on searching the prisoner he found upon him an old-fashioned spoon, which the prisoner uses in his mystical performances' (*Somerset County Herald* 15 May 1858). A mystical spoon is an unexpected accessory: it is hard to see what it could do except to drop egg-white into water and create divinatory images, as in 'The Withered Arm': 'the milkwoman could see the opaline hue of the eggfluid changing form as it sank in the water, but she was not near enough to define the shape that it assumed' (Hardy 1912, 89).

It's likely, therefore, that Hardy had heard about Baker's preferred technique for letting his clients see the likeness of the witch who troubled them. Certainly he knew where Baker lived: when Rhoda and Gertrude in the story meet at a plantation that they can see on the skyline, and continue over the heath to a valley, they are following the footpath from Triangle Plantation to Blackheath Cottage, which as stated is five miles overall from East Stoke/Holmstoke. The details may owe something to Hardy's paternal grandmother, Mary Hardy née Head, remembered in the poem 'One We Knew' for vivid memories of her life in Puddletown. In any case Hardy's knowledge need not have been handed down. Although in 1825, according to the supposed chronology, Trendle is 'old and weak', that is simply evasion: Baker was only 48 then. But he was old in the 1850s, when the teenage Hardy was fiddle-playing for parties in Puddletown and the heathland villages, and the two men would have at least have had mutual acquaintances.

JOHN CURTIS, 'MYNTERNE'

In his response to Lea's paper on witchcraft, Hardy goes on to say that 'Conjuror Minterne, or Mynterne, who lived out Blackmoor way... was one of the

most celebrated' (Hardy 1978–88, 3.264). Mynterne is therefore the Blackmore conjuror of Jemima's reminiscences, the one who would make your enemy visible in water. In a note that he made in December 1884, and which survives because it was transcribed in his *Life*, Hardy confirms this practice:

> 'Conjuror Mynterne, when consulted by Patt P— (a strapping handsome woman), told her that her husband would die on a certain day, and showed her the funeral in a glass of water. She said she could see the bearers moving along. She made her mourning. She used to impress all this on her inoffensive husband, and assure him that he would go to hell if he made the conjuror a liar. He didn't, but died on the day foretold. Oddly enough she never married again' (Hardy and Hardy 1928, 220–1).

So there are real people behind the roll-call of cunning folk elicited from the dairy workers in *Tess of the D'Urbervilles* when the butter will not come.

> 'Tis years since I went to Conjuror Trendle's son in Egdon – years!' said the dairyman bitterly. 'And he was nothing to what his father had been'...
>
> 'Conjuror Fall, t'other side of Casterbridge, that they used to call "Wide-O", was a very good man when I was a boy', said Jonathan Kail. 'But he's rotten as touchwood by now'.
>
> 'My grandfather used to go to Conjuror Mynterne, out at Owlscombe, and a clever man 'a were, so I've heard grandf'er say', continued Mr. Crick. 'But there's no such genuine folk about nowadays!' (Hardy 1891, 2.2).

Published in 1891, *Tess* has a contemporary setting. Reports of cunning folk have been updated accordingly, so that Fall is now imagined some forty years after his dialogue with Henchard, while Baker/Trendle has given way to his son – and George Baker 'painter and glazier' is indeed listed as head of household on the 1861 census, although there is no evidence that he took over the occult side of the business. As for Conjuror Mynterne, he is situated two generations back from the time of action, which would place him c.1830 along with the other practitioners remembered by Jemima Hardy.

We have an independent witness for this. In 1897, when Henry Colley March was collecting folklore in Cerne Abbas, a man named Fox told him that:

> '"Conjuror Mintern" used to live at Batcombe. On one occasion he went from home and 'forgot that his books were left open'. Suddenly remembering them, he hastened back, and his horse's hoof just touched one of the pinnacles on the tower of Batcombe Church, and made it lean over, and left the print of his horse's shoe on the tower, where it remains to this day. This was in my *grandfather's* time. In my time 'Conjuror Curtis' lived there. Curtis, the blacksmith of Batcombe, a son or grandson of the 'conjuror', was himself imprisoned for 'conjuring' within Fox's memory. The original Curtis was 'a wise man and a good man'. What he told folk was always for their good. He told them how to stop the power of witches' (March 1899, 481).

Fox had evidently grafted his knowledge of Curtis onto the legendary figure of Minterne, a learned sorcerer about whom a cycle of tales was told and who was identified with a member of that gentry family who died in 1592 (Udal 1922, 143–4; Brown 1979, 52). But his own recollections were sharp enough: John Curtis the cunning man of Batcombe was indeed imprisoned for conjuring, in 1848. He had 'a book with pictures and stars in it', as if modelling himself on his predecessor (Davies 1999b, 223–5).

In a letter of 1912, Hardy writes 'You may possibly be aware that there once lived a Conjuror Minterne (or Myntern, as his name was pronounced) at Batcombe. I have talked to old people who knew him' (Hardy 1978–88, 4.206). 'Old people' may be another of his evasive references to Jemima, for Batcombe was much closer to her childhood home at Melbury Osmond than to his at Higher Bockhampton: but in any case she or they had spoken of him as Minterne. So this is not a Hardyan cover-name, like Owlscombe for Batcombe: Curtis seems to have adopted the surname of his semi-mythical predecessor for trade purposes.

The cunning folk were great self-dramatists and a man like Curtis/Minterne would mix truth and fiction if he felt it advertised. Practitioners were all in competition with each other, as the list in *Tess* implies, so it was not wise for one of them to disclaim any sort of expertise. Fall does not disappoint Henchard in any of the skills expected of a wise man:

> 'Can ye charm away warts?'
> 'Without trouble'
> 'Cure the evil?'

> 'That I've done – with consideration – if they will wear the toad-bag by night as well as by day'
> 'Forecast the weather?'
> 'With labour and time' (Hardy 1886a, 2.42).

JOHN BUCKLAND, THE TOAD DOCTOR

Many wart-charmers had nothing to do with cunning-folk, but charming was a service that the magical practitioners would provide if asked (Knott and Legg 1974, 39). The toad-bag is more unusual, but it finds a place in a note made by Hardy in 1876 about 'Toad Fair'. Like the story of Patt P—, this survived through being incorporated in the *Life* (Hardy and Hardy 1928, 148). Earlier it had appeared, with slight variations, in Hardy's obituary for William Barnes, where he says that at Bagber, west of Sturminster Newton,

> 'There used to come to a little bridge, close to his father's door, till quite recently, a conjuror or 'white wizard', who cured afflicted persons by means of the toad-bag – a small piece of linen having a limb from a living toad sewn up inside, to be worn round the sufferer's neck and next his skin, the twitching movements of which limb gave, so it was said, 'a turn' to the blood of the wearer, and effected a radical change in his constitution' (Hardy 1886b).

In 1876 Hardy was newly married and had just moved to Sturminster, taking a house at Riverside Villas, so he would have been able to pick up information about Toad Fair from local knowledge; he and Emma had local girls as servants. 'Wizard' is a literary word, though, not a Dorset one, and Hardy only uses it once again, to identify 'Bartholomew Gann, the white wizard' in 'Our Exploits at West Poley'. Since this was a boys' story written for a popular magazine, he may have felt it necessary to use standard English (Hardy 1992, 182).

Hardy's note could also owe something to William Barnes, who certainly knew about toad-bags. In 1854, many years after he had left Blackmore Vale for Dorchester, he returned with his daughters to reminisce about the world in which he had grown up. As they passed through Lydlinch, he told them that 'a quack once lived here who professed to, and I believe did, cure the king's evil or scrofula by a charm. It was only beneficial in the month of May at a particular phase of the moon. The principal part of it consisted in giving the afflicted person a small bag containing a toad' (Baxter 1887, 155). Barnes was right about the details, but mistaken in assuming that this was a thing of the past, since Toad Fair was still a going concern throughout the 1850s. In 1914 Ernest Alfred Rawlence spoke to a man who had been taken fifty years before to be cured of running sores by one Dr. Buckland at King's Stag (Rawlence 1914, 85). We find Buckland at this address on the 1841 census, identified as 'Surgeon', meaning an unlicensed medical practitioner. Twenty years later, after John Buckland had moved to Bagber and transferred his annual Toad Fair to the fields by the bridge, he was still set down in the census as 'Surgeon' but the unkind hand of the Census Registrar has added 'unqualified'. A loss of income seems to have matched this decline in status, for his wife Catherine is now working as a glover and his eldest son is an agricultural labourer. In the 1871 census he was a 'Herbal doctor' and he died in 1876, only five months before the Hardys arrived at Riverside Cottage (note 3).

It may not be a coincidence that in the original draft of *The Return of the Native*, which Hardy began writing that year, the character who would later become Wildeve is a herbalist or white witch called Conjuror Toogood. His reworking into a former engineer was one of several alterations to the manuscript, all of them tending to upgrade the social status of the main protagonists (Gatrell 1988, 41). Hardy's own star was on the rise, and he carried his characters with him. John Buckland, by contrast, had lost his earlier status when the learned professions began to tighten their requirements for inclusion. As his income declined with the years, he sank from being a medical practitioner into a white wizard.

FOREKNOWLEDGE AND REPUTATION

Though Buckland had never claimed to be anything of the sort, he was posthumously classed among the cunning folk; he had in fact only dealt in toad-bags once a year, at the rising of the new moon in May, but now that was all that was remembered about him. Over time, the many versatile strategies used by practitioners of folk magic and medicine were whittled down by tradition to one or two recurrent tale-types.

I had an experience of this myself at a conference on witchcraft in 2000, when Owen Davies introduced me to a friend from Wincanton who had a tale to tell. It turned out that his aunt and grandmother had been to see Mother Hern, the last of the Dorset cunning folk, in her cottage just on the Somerset border at Milborne Down. This would be in about 1900, and you must imagine them wearing the heavy costume of the period. It was a long walk up the hill, and aunt got hot and bothered, saying crossly 'I don't suppose the old bugger will be in, anyhow'; but grandmother talked her round, and they got there in the end; only to have the door flung open, and the old lady there with eyes blazing, hissing 'Yes, the old bugger *is* in'.

Now this was a fine story, even though I had heard it before (Osmond 1981). That reminiscence, like the one I heard, was told second-hand, for the lifespan of Anna Hern née Ware, c.1844–1924, is just at the edge of memory (note 4). In a few years even that level of connection will be lost and a woman whose life and magical practice is recorded in numerous contemporary sources will have become a tale-type, reduced to 'Yes, the old bugger *is* in'.

In the same way, Wide-oh Fall is defined by his ability to predict the arrival of clients; his nickname itself is period slang for 'alert, aware, no fool'. 'I've long heard that you can – do things of a sort', says Henchard (like Rhoda Brook, he uses evasive language to refer to magical powers):

> 'Maybe so, Mr. Henchard', said the weather-caster.
>
> 'Ah – why do you call me that?' asked the visitor with a start.
>
> 'Because it's your name. Feeling you'd come, I've waited for ye; and thinking you might be leery from your walk, I laid two supper plates – look ye here' (Hardy 1886a, 2.42).

If cunning folk could show such impressive fore-knowledge, it would give them the advantage in any ensuing conversation. When George Way of Piddlehinton consulted 'Farmer Barrett' of Ilchester in 1863, 'I hadn't no cause to ax un nothing, 'cause he knowed what 'twere all about so soon as ever he sot eyes on I' (March 1899, 487). The Piddlehinton story is an extremely detailed account by Harriette Astell, who lived in the village (note 5). It was set down not long after the events, though she did not publish until 1899, when Hardy helped correct the dialect (Hardy 1978–88, 2.202). But the same trope appears in the more cursory narratives of prosecution reports. Charles Curtis of Marnhull, approached for help by Emily Bastable in 1859, immediately announced 'I know all about it, and what you come for' before pulling down a mysterious book from a shelf (Davies 1999b, 46). Since Emily's determination to marry Charles Austin, in spite of the opposition of his parents, seems to have been the talk of the village, Curtis would have not needed much in the way of magical powers to help his insight. Like a real-life Elizabeth Endorfield confronted with Fancy Day and her matrimonial problems, he could equally well have begun 'You be down... about your young man... Little birds tell me things' (Hardy 1872, 2.122).

BELIEF AND UNBELIEF

The clients of cunning folk were not inclined to be sceptical, since they had already invested financially or personally in the consultation. Fancy's view of Elizabeth's witchcraft captures this perfectly: 'I can't say that I did exactly believe it, for 'tis very horrible and wicked; but O, how I do wish it was possible for you to be one' (Hardy 1872, 2.123). It is significant that Hardy makes his cunning folk speak modestly about their own powers. They do not boast or brag; instead, Trendle 'affected not to believe largely in his own powers' and after the disappearance of the warts that he has charmed, says 'Perhaps it's all chance'. Fall accepts the combined gift of money and protestations of unbelief from Henchard 'without a sound of scorn'.

These negotiations, in which unbelief is expressed on both sides but money still changes hands, may represent the reality of the situation much better than the hostile reporting of court cases, in which cunning folk always feature as designing frauds while their clients are credulous fools (Waters 2019, 63–7). In about 1865 Eliza Williams of Stalbridge was sentenced at Petty Sessions for receiving money on false pretences. But 'her dupes believed in her still', even though she had been brought to say that her claims were fraudulent (Wickham 1912, 291). It helped to have previously professed some self-doubt, since that made it easier to recover face after this set-back.

In 1880 she was still in business, snapping her fingers at the rationalism of the nineteenth century (*The Standard* 22 Sept 1880). This is unexpected: Hardy's own testimony would lead us to expect a decline in belief over the century, from its beginning when Trendle is in his prime, to the end when Wide-oh is 'rotten as touchwood' and 'there's no such genuine folk around nowadays!' (Robson 2010, 56). But this reflects Hardy's increasing disengagement with popular culture, not any diminution in service magic itself. Between the composition of *Under the Greenwood Tree* in 1872 and that of *Tess* in 1891, there is no let-up in the record of cunning folk. Hardy the rural writer had an almost exact contemporary in Anna Hern the rural witch: she was born four years after and died two years before him. The tradition of the cunning folk did not die until then, if indeed it is dead at all.

Of course Hardy had his own interests as a writer. He needed to introduce doubt as a way of mediating between characters who might be supposed to believe in magic, and a readership who certainly did not. In the extra-narrational world implied by a realistic novel, charms do not work and it is impossible to predict the future. But within the narrative, characters can express an uncertainty about supernatural outcomes which sets up the possibility that they will come about. And then Hardy as creator sets up the sequence of events so that they happen as if the prophecy had been true. Fall predicts bad weather, and in time, though too late for Henchard, the bad weather comes. Mrs. Crick wonders whether it is the presence of a girl who has lost her virginity that has stopped the butter coming in the churn, and after the long ensuing story Tess leaves the room: 'the milk in the revolving churn at that moment changed its squashing for a decided flick-flack'.

This is a literary device, but it reflects something about the supernatural which was also found in real-life situations: people did not profess straightforward belief or scepticism, but an uneasy compound of the two, kept well out of the public eye. Mother Williams 'was consulted secretly at night, by many coming from a distance' (Wickham 1912, 291). Farmers came under cover to see Mother Hern when they thought their cattle had been overlooked; 'the men who went there tried to keep it quiet, they didn't want it broadcast' (Knott 1961, 6; Knott and Legg 1974, 39). This is very close to the way that Wide-oh Fall

> 'existed on unseen supplies: for it was an anomalous thing that while there was hardly a soul in the neighbourhood but affected to laugh at this man's assertions, uttering the formula 'There's nothing in 'em', with full assurance on the surface of their faces, very few of them were unbelievers in their secret hearts' (Hardy 1886a, 2.40).

Henchard, we are told, is the sixth in a series of men who have come to consult the weather-prophet, all shrouding themselves from the view of their neighbours on a night of pouring rain. Fancy Day is similarly driven into Elizabeth Endorfield's cottage when the weather turns bad. And this trope does not seem to be pure invention on Hardy's part, for it is found in a story about an ill-used wife who visits Jinny Gould of Ulwell. 'The girl entered her dwelling saying that she had taken shelter from the rain. "But", said the far-seeing woman, "You bain't come in out o' noo rain. You be come d'hear about thick young squire. I'll put a whip in thee hand t' bring 'n t' heel' (Knott 1956, 14).

The dialect is convincing but as so often with Olive Knott's stories, the chain of transmission is tenuous. 'Granny', the story-teller, was born in the 1870s. Jinny Gould's cottage had long been a ruin by 1896, and tradition seems to put her death c.1850 (Knott and Legg 1974, 55; Luckham 1906, 3). After a century of oral transmission, any historical facts about Jinny will have been subsumed into the general template of the witch legend, and the story of the wife in the rain can only be taken as an example of the kind of meeting a wise woman might expect, not as actual testimony. It is uncertain how much of Knott's work has this character. She wrote as a journalist, not as an ethnographer; on the other hand, she had a journalist's respect for sources, and if she worked up her dialogue from notes, so did every folklorist in the days before the tape recorder.

ISOLATION AND REPUTATION

Hardy emphasises the loneliness of Fall's cottage, but here his desire for literary effect seems to have overridden the realities of the trade (Robson

2010, 54). A cunning man could not afford to be too isolated. Baker/Trendle's smallholding may have been in the heart of Egdon Heath but it was also easily accessible from the present A35 to Poole. Curtis/Minterne's home at Batcombe could be reached off the A37 from Dorchester to Yeovil. These men seemed remote, not because their homes were hard to get to, but because people were prepared to travel long distances to consult them: from Kingston Russell to Batcombe in the case of Curtis, and from Piddlehinton to Ilchester in that of 'Farmer Barrett' (Davies 1999b, 223; March 1899, 486). Other recorded journeys are from Portesham to Dorchester, from Litton Cheney to Bridport, and from Puddletown to Rampisham (March 1900, 108, 112; Davies 1999a, 32). Mother Hern's cottage, acquired with her second husband in 1895, was set deep in the hedges, but it was also on the main road from Sherborne to Wincanton: 'I have seen gigs and pony carts by the dozen lined up outside' (Knott 1952, 68). A century earlier, when Richard Baker was practising at Westleigh near Wellington, 'persons came from three counties to consult this white witch. They paid for consultation, charms, medicine, and directions how to find the stealers of property' (Roberts 1856, 530).

The harder a conjuror was to get to, the more plausible they became: people who had gone so far to get advice were more likely to believe it on arrival. But they were also prepared to pay cash down. Hardy's observations on the money taken by cunning folk, though brief, come from the lower end of the pay scale. Fall accepts 5*s* from Henchard, clearly a great deal less than what he knows the Mayor can pay. Trendle provides his service on both occasions for nothing at all: 'he would not take a farthing', Gertrude says to Rhoda. This is not the mercenary cunning man familiar to us from court prosecutions, but it is borne out by personal testimony about real people. George Way described 'Farmer Barrett' in exactly the same words: 'He 'ouldn't take a farden nother, from nobody, for what he did for un, and he did stop a lot of mischief' (March 1899, 486).

Free offers were unusual, however. Baker of Morden charged 5*s* on one occasion – the same rate as Fall – and 17*s* on another (*Somerset County Herald* 15 May 1858). 'The old woman' at Dorchester, who cut cards to find out who had been ill-wishing a querent in 1870, was more modest. 'On going away I asked her what she would expect. She said I was a poor woman and if I would give her sixpence she would be quite satisfied, but it must be a silver sixpence' (March 1900, 108). There was a cunning man at Piper's Corner, south of Sturminster Newton at ST 777 128: he also insisted on having his hand crossed with silver but this was less of a bargain since his speciality was in finding lost property, and property often went astray suspiciously near Piper's Corner (Knott 1961, 27). Charles Curtis of Marnhull took 10*s* 6*d* to restore Emily Bastable's lost love, but his lack of success cost him two months' hard labour when she turned against him (Davies 1999a, 47). The other Curtis, at Batcombe, was consulted about the theft of a guinea. He charged a finding fee of 2*s*, then 1*s* 6*d* more; when the querent was ready to offer a further 1*s*, he said straightforwardly 'it was like throwing good money after bad' (Davies 1999b, 224). 3*s* 6*d* in the guinea was a rate of 17%, which would been a reasonable commission for debt recovery, if there had been any realistic prospect of it working – as at least one of the two men thought there was.

There is a mismatch between the money reported in the newspapers and the smaller sums suggested by Hardy's own representations, but it does not follow that the Wessex novels have got it wrong (Robson 2010, 54). Prosecution usually targeted conjurors who were too greedy or exploitative, while colleagues with more modest expectations slipped under the net. When offered five pounds by a grateful client, Mother Hern would only take one (Rawlence 1914, 87). She was happy to accept chicken, cheeses, home-baked bread and cream in return for her services; 'there wasn't any charge, but you were expected to give something' (Knott 1952, 68; Knott and Legg 1974, 38–9).

SUSPICION AND MALICE

Fox's contemporary view of the nineteenth-century conjuror as 'a wise man and a good man' would not be endorsed by many historians: service magic paid best when it fixed blame, typically on someone emotionally or physically close to the sufferer. Just as Trendle's divination drives a wedge into the relationship between Rhoda and Gertrude, so we

find the pseudonymous 'Nance Bridle' exploiting suspicions in the Puddletown area (Lea 1903, 1014–5). She set neighbours against each other at Woodsford dairy and Burleston (note 6). The old woman of Colliton Street worked up suspicion between Mrs. Pitman and Mrs. Riggs of Hilton, who had evidently been close as their children used to play together (March 1900, 108). When the dairyman at Longbredy had a horse die on him in 1890, the wise woman Mrs. Bartlett assured him that it had been overlooked, 'and that the person who had done this would shortly try to borrow something of him'. This was a common divinatory technique, probably because it was failsafe: while an obtuse querent might fail to see anything in the egg-white or the bucket of water, there was no doubt that somebody, eventually, would arrive at their door. In this case it was a fellow dairy worker, Hansford, 'and permanent ill-will was established between the two men' (March 1900, 111).

But, as Hermann Lea said, 'there are, or rather were, conjurers *and* conjurers' (Lea 1907, 296). Some cunning folk tried to avoid conflict, especially if approached by someone from a distant village where they knew little about the social dynamics. Rawlence heard a story about Frederick Culliford of Crewkerne ('Gulliver' in his transcript) who used to hold a kind of surgery at a Yeovil inn on market day in the 1870s (Davies 1999a, 76). The client was another dairyman, from Bishop's Down near Folke; his cheese and pigs were not doing well. 'When Gulliver had duly pondered the tale of woe, all he said was – "Now I can tell 'ee who has bewitched yer, what shall we do we 'en?"'. The dairyman's thirst for vengeance is toned down a little when Culliford says '"Now I'll tell 'ee who he be", and pointing his finger at H— said "You be the man. You be zo anxious about yer stock that yer overlooks what yer ought for to do and does what yer ought not to do"'. A little settling breakfast before starting the day's work solved everything (Rawlence 1916, 57).

This was a fine story, and we hear it again from Hardy himself in a diary entry of February 1888:

> 'Heard the story of a farmer who was 'over-looked' (malignly affected) by *himself*. He used to go and examine his stock every morning before breakfast with anxious scrutiny. The animals pined away. He went to a conjuror or white witch, who told him he had no enemy; that the evil was of his own causing, the eye of a fasting man being very blasting: that he should eat a 'dew-bit' before going to survey any possession about which he had hopes' (Hardy and Hardy 1928, 268–9).

Eight years later Hardy told a similar story to Edward Clodd, although this time it is not livestock but newly planted trees which are blasted by being looked at on an empty stomach. 'You will be able to classify this no doubt, & say exactly where it belongs in the evolutionary Chain of Folk Lore', Hardy writes: the remark of a man who no longer participated in popular culture himself. If there was any irony in this, it was lost on Clodd, who published the letter in *Folk-Lore* shortly afterwards (Hardy 1978–88, 2.136). The story, slightly garbled, found its way into subsequent editions of Frazer's *Golden Bough* (Dillion 2016, 41).

Like 'the old bugger is in', this is a travelling tale, but that does not mean it was not sometimes acted out by cunning folk who preferred a bit of shrewd psychology to stirring up discord. Anna Hern, the best-recorded as well as the last of her trade, seems genuinely to have been kind-hearted; but in any case, a wise woman did well to cultivate a reputation for benevolence. Farmer Jones, who offered her the £5, said 'These wise 'oomen be all very well zo long as they does good; but if they has an evil eye on yer I'd burn 'em, that I would'. And even Mother Hern has taken on a darker shade in posthumous tradition. They say that the local farmer who caught her son catching his rabbits was preparing to prosecute the boy when he suffered a stroke on the morning of the trial (Waters 2019, 313). As Hern did not have any children, the story has evidently grown in the telling, but it shows how anyone with the power to heal might also be credited with the strength to blast.

Mother Williams of Stalbridge wasted no time on benevolence: her reputation was founded on the fact that a farmer had insulted her on his way home to Sherborne, and neighbours heard her mutter that the man would never reach his own door. He was fatally thrown from his horse on the homeward journey. Despite this, or because of it, she carried on an extensive correspondence with people who requested magical services. In 1870 the local vicar,

in an unusual rejection of the rationalist language of his class, said that 'she appeared to be possessed by Satan' (Wickham 1912, 291).

It all sounds very like Diana Chester, who used to work her spells by the Devil, or Elizabeth Endorfield, Mellstock's Witch of Endor, who never went to church, had a pointed chin, and kept on her bonnet indoors. As if that wasn't witchy enough, Hardy added in his 1896 revision of *Under the Greenwood Tree* that she wore a red cloak, having found out that this was a distinguishing mark of the sisterhood. As a minor character in the novel, Elizabeth's role is to seem a witch and yet act as a Deep Body. But this was a high-risk strategy in real life. Mrs. Bartlett of the Bride Valley, who had revealed the identity of the witch at Longbredy, was herself suspected not long after of overlooking, and mobbed by people who drew her blood in order to break her power (March 1900, 111).

MAGIC AND LEARNING

The wise woman was at risk of being treated as a witch, whereas the cunning man was afraid of being exposed as a fraud. It was for this reason that many conjurors supplemented their own personal charisma with an appeal to learned magic. Wide-oh Fall may have been typical in opening his weather prophecy 'by the sun, moon, and stars' and concluding 'Shall I sketch it out for ye in a scheme?'. This suggests a knowledge of astrology, but in practical hands that might not amount to much: John Curtis, whose book had pictures and stars in it, ended up saying 'the planet looked as if the money had been stolen' (Davies 1999b, 225). For him, 'planet' was more or less synonymous with 'magical foresight' or even 'familiar spirit'. It is possible that the Planet-ruler of Beaminster was imagined to rule over the planets, like so many wizards' imps, rather than merely lining them up on a horoscope. He seems to have been a genuine practitioner, however; there were astrological diagrams in his room, and his business model – collecting day and time of birth, and returning a month later with the finished prediction – would have been pointless if he was merely fortune-telling rather than consulting an ephemeris (Hardy 1979, 12).

Jemmy Jenkins, a wise man at Sturminster Newton in the 1810s, had a library of 'Astronomy, Astrology, Magic and the Black Arts' (note7). There were two hundred books, according to tradition, though that figure seems implausibly large from what we know of book ownership amongst cunning folk (Hutton 1999, 90–3; Davies 20003, 133–43). We know nothing else of him except that he had an apprentice, a boy from another cottage in nearby Bagber, who was forbidden by his father to meddle with this lore but still picked up enough of it to be known in town as 'the little astrologer' (Dugdale 1953, 15–16). Jenkins foretold that the boy would make his way in the world 'by books and learning', a prophecy which reflects credit on his library, since the little astrologer grew up to be William Barnes. Many years later in 1854 Barnes agreed to write a piece on 'Controversial Writers in Astrology', and down from London came copies of *The Figure-Caster* and Heydon's *Defence of Judiciall Astrologie*. While the poet sat up in his study writing for the *Retrospective Review*, his daughters entertained themselves by ruling the planets (Hearl 1986, 16).

What had begun as a thirst for knowledge ended up as a parlour game, now that education had opened up wider horizons for Barnes. Born forty years later than his mentor, Hardy never took the power of cunning folk seriously, though he retained a shrewd understanding of their working practices. But if either man had lived before the nineteenth century, they might well have ended up as rural conjurors, one of the few roads of advancement that were open then to a working-class intellectual. The powers of invention and understanding of human nature with which the Wessex novels depict characters, including cunning folk, are a sublimation of the tale-spinning and fantasising skills used by the wise men themselves.

Whether or not he felt an unspoken kinship to the cunning folk, Hardy understood their ways. Though the Wessex novels are literature, not ethnography, he had family and neighbourhood knowledge behind him when he wrote about conjurors, and he kept close to the facts. Contemporary sources confirm that he was right about the methods used by the cunning folk, as well as the foreknowledge that they paraded and the long and often secret journeys made by those who consulted them. Where court

cases and newspaper reportage contradict Hardy – on the wise man's grasping pursuit of money, or the credulity of his clients – it may well be that the picture painted by Hardy is more accurate and balanced. On one thing he was wrong, and that was the decline in service magic since the days of his boyhood; if he had remained close to village life, he would have had no difficulty in finding successors to Trendle, Mynterne and Fall. In time the cunning folk did disappear, but it was not until decades into the twentieth century that the vivid personalities of the last wise women finally faded into the blurred outline of the legendary witch.

NOTES

1 Diana Chester was buried 23 Jan 1830 (Yeovil St. John register).

2 James Baker was baptised 15 Aug 1777 and buried 20 Jan 1866 (Morden registers). He appears in the 1841, 1851 and 1861 censuses for Morden, in each case at Black Heath. There does not seem to be any relation to Richard and Benjamin Baker, the cunning men (father and son) of Westleigh between Tiverton and Wellington.

3 John Buckland was born c.1804 (census entries), married Catharine Light 16 Dec 1829 and was buried 21 Jan 1876 (Lydlinch register). He appears on the 1841 census for Lydlinch, at Kings Stag, and the 1861 and 1871 censuses for Sturminster Newton, at Bagber.

4 Anna Ware was 22 when she married George Hern 22 Feb 1857 (Sherborne register) and 51 when she married George Wills April 1895 (Wincanton register). She appears on the 1871 census (at Water Lane) for Charlton Horethorne, and the 1881 (in Sherborne Road), 1891 (at Railway Cottages) and 1901 and 1911 (on Milborne Downs) for Milborne Port. She died aged 80 in 1924 (Wincanton registry). All the censuses report a birthdate of 1843/4 which is not compatible with the marriage certificate.

5 Astell used pseudonyms, but her blacksmith 'Bill Mitchell' must be George Way: his smithy was within a few doors of the Police Station, as reported in her narrative, which takes place in March 1863 (the wedding of the Prince of Wales). He died in 1874, so the story must have been taken down before then, probably shortly after 1865 when Richard Lane Hann the policeman was moved to another post; his wife Harriet ('Mrs. Hart') had been the suspected witch.

6 Lea used cover-names for places, which like Hardy's are meant to be semi-transparent: 'Riverton' for Puddletown, ''Oodlands' for Woodsford, 'Buston' for Burleston, 'Afpul' for Affpuddle. The two stories, though written up in literary style, are evidently factual since he later summarised them as evidence for witch beliefs (Lea 1907, 297–8)

7 James Jenkins married Mary Stanley 3 April 1804 (Sturminster Newton register). In 1810–11 he paid land tax for part of Castleman's Farm in Hinton St. Mary.

ACKNOWLEDGEMENTS

The assistance of Hazel Ballan, a genealogist without equal, is gratefully acknowledged for identifying the historical personalities of cunning folk.

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FAILURE TO THRIVE: THE BRIEF LIFE OF FARNHAM GYPSY SCHOOL AND THE PITT RIVERS MUSEUM

JUDITH STINTON

The village of Farnham contains a building which successively housed two educational experiments. The first of these, in 1845, was a Gypsy School, the only one of its kind in England, and an attempt to curb what were regarded as the Gypsies' wandering ways. The school's creator John West was an Evangelical priest who had been a missionary in Canada, and applied similar approaches in Farnham. The school ultimately failed and the building became the original Pitt Rivers Museum, in which General Pitt Rivers, the eminent archaeologist, placed some of his finds and a selection from his other collections. His aim was also educational, and he pioneered many display techniques, some of which are still in use today. The Museum was highly successful, but slowly declined after his death.

INTRODUCTION

Farnham is a small village in North Dorset, reached by a narrow lane off the Blandford-Shaftesbury road. Above the Victorian church and the long line of cottages is an imposing building, which was the setting for two radical and innovatory experiments. The first of these was the establishment of a school for Gypsies, the second the creation of a museum. This paper explores these two different educational initiatives which were both born of the ideas and concerns of the 19th century.

The story of Farnham Gypsy School began with a hanging. During Winchester Lent Assizes in 1827 the sessions judge sentenced a young Gypsy to death for horse-stealing, a sentence from which there was no hope of reprieve. Among those present to hear the verdict was the Revd James Crabb, a Wesleyan preacher who had worked to help seamen, prisoners and prostitutes, but had never before been concerned with Gypsies. After leaving the court, he went outside where he immediately encountered four desolate figures: the condemned man's young wife Patience, his elderly aunt and his two small children. The younger child, the horrified Crabb then discovered, was only fourteen days old (Crabb 1832).

Much disturbed, the Revd Crabb invited the two women to visit him at his home, Spring Hill Court, in Southampton. Rather to his surprise, they both took up the offer and agreed to place the elder child, three-year-old Betsy, in his care, along with her six-year-old cousin, whose father had been transported. The two little girls were duly delivered, clean and scrubbed, and dressed in their very best clothes. Crabb placed them in his parish infant school, and

kept them under close observation. He noticed how much they disliked sleeping inside a house, like two small birds 'that had been decoyed, and then robbed of their liberty'. Like many another caged bird, the six-year-old subsequently died. Despite the child's death, three more young Gypsies were admitted into the school, while their parents settled in a house close by (Crabb 1832).

These events were the prelude to Crabb's mission to the Gypsies around Southampton and the New Forest. According to his biographer John Rudall (1854), he then 'began to devise some plan by which, under the Divine blessing, these outcasts of the human family, for whose souls no man seemed to care, might be effectually and permanently benefited'. Together with other gentlemen of 'high Christian character', he formed the Southampton Society, with the aim of 'taking into consideration the condition of the Gipsy race, and devising some means for their moral and spiritual improvement'.

Travelling people were almost invariably referred to as 'Gypsies' in 19th century sources, when the term was more specific and less derogatory than it was to become in the 20th century. The Gypsies themselves used the word 'Romany' (Borrow 1874). Terms are used here in a way which reflects their use in the sources of the time.

THE GYPSIES' ADVOCATE

James Crabb was clearly a strong-minded and visionary man. His career as an evangelical preacher had come to a halt when he began to suffer seriously from asthma. On recovery, he approached the Methodist Conference in the hope of resuming his previous role. In 1822, after the Conference rejected his request, Crabb began take services in Southampton's old assembly rooms. During 1823–4 he went on to found a Zion Chapel, an uncompromisingly square and solid building, set on the hill which had been the site of the city's medieval castle. Here Crabb established an independent ministry, 'using the Prayer Book of the Church of England, and providing services for the poor who could not obtain sittings in their parish church' (Rudall 1854).

Evangelicalism was not confined to the Methodist church, but also thrived among other Dissenters – such as Quakers – and some members of the Anglican church, which was to become the movement's driving force. The clergy were very active within their own parishes, creating Sunday Schools and introducing extra services. The emphasis of their mission was on conversion through the Scriptures, and on salvation in this life, rather than hell and damnation in the next. By 1838 their work had been extended overseas. They virtually invented modern missionary work, and were also much involved in the anti-slavery movement. There was little to prevent an Evangelical priest from starting a mission, or a society – or even a church, as Crabb had done (Best 1970).

After three years, Crabb turned his attention from the local poor to the Gypsies of the area. One of the Southampton Society's aims was to encourage Gypsies to stop their wandering, to settle down and lead a house-bound life. Unless they did so it was believed they would be impossible to help. But such a change, as Crabb acknowledged, could only be come by gradually (Crabb 1832). And gradually he succeeded: forty-six Gypsies were brought to 'a settled state of domiciliation'. Encouraged by this apparent success, Crabb decided to extend the range of the Society's endeavours (Rudall 1854). In May 1831 he visited Epsom race course, a regular Gypsy meeting-place which he had denounced in his sermons. Charles Stanley, an old soldier who had served in the Wiltshire Militia, was sent to Epsom ahead of Crabb, in order to prepare the way. He was one of Crabb's most successful converts, a man who had become a lay evangelist in Southampton for his fellow Gypsies. Introduced by Charles Stanley, Crabb visited many of the Gypsies in their tents, and was offered hospitality: in one tent 'a little wash-tub was fixed, with the bottom upwards, and covered with one of their shawls, for him to sit on...' (Rudall 1854).

Even by his own admission, Crabb had little practical experience of Gypsies before he encountered them at Winchester Assizes. His book *The Gipsies' Advocate; or Observations on the origin, character, manners, and habits, of the English Gipsies*, published in 1831 – and twice reprinted – reveals how much he must have observed and read in the previous four years. The

book was popular; one of his readers was Princess Victoria (Rudall 1854). Crabb comes across as not unsympathetic to the Gypsies: he is, as he says, acting as their 'advocate'. In his preface he writes that there are 'many unjust and injurious prejudices against them' (Crabb 1832).

Crabb was a very early observer of the Gypsies, but still not the first to make such observations. His work was preceded by H M G Grellmann's *Dissertation on the Gipseys*, 1807, followed in 1816 by the eminent Quaker John Hoyland's *Historical Survey of the Customs, Habits, & Present State of the Gypsies designed to develope the Origin of this Singular People, and to promote the Amelioration of their Condition*. This was the first comprehensive account of Gypsy history in English, and influenced much of the thought on the subject (Hoyland 1816). Crabb's own book is derived from these two sources – he mentions his reading of Hoyland, and uses his predecessor's table of comparisons between Romany and Hindustani, which Hoyland in his turn had taken from Grellmann (1807). This approach was to lead to many more scholarly evaluations of the Gypsies, of their language and folklore.

Crabb's chapters on the Gypsies' contemporary existence obviously derived from his personal close observations of their lives in Southampton. Although he wrote conventionally enough about the Gypsies' 'vicious habits', he also discussed their 'comparative virtues': their conjugal, parental and filial devotion, and their punctiliousness in debt repayment (Crabb 1832). He was aware that travelling people were often used as scapegoats, and mentions other times when they were not prosecuted, but accepted by 'the peasantry, and the small farmers' as a useful part of the community (Crabb 1832). His text was enlivened by descriptions of Gypsy dress. Although smoke-grimed and dirty, they had a great love of finery, of broad lace, golden rings and silver buttons, like people in the old ballads. He observed that the Gypsies were also fond of 'glaring colours' and disapproved of their music – their performances on fiddle and tambourine – as these invariably led to 'licentiousness' (Crabb 1832). However, given that he was writing in the earlier nineteenth century, Crabb could show surprising tolerance. He made only brief mention of the Gypsies' most common crime – horse-stealing – 'as it is the aim of this book to solicit a better feeling towards them, rather than expose them to the continuation of censure...' (Crabb 1832).

At the same time, Crabb was writing primarily as a priest who was trying to change the Gypsies' lives. Kindlier than some, he rejected enforced assimilation as a means of persuasion, citing as a terrible example the drastic measures taken by Princess Maria Theresa in Hungary in Europe (Fraser 1992). As an evangelist, Crabb preferred a more gentle approach:

> 'The author thinks the Committee at Southampton have discovered plans, wholly different from those usually adopted, which may prove much more effectual in accomplishing their reformation...' (Crabb 1832)

Yet Crabb's ideas were still very much of his time. Like Hoyland, he argued that heathens were not only to be found overseas, but also among the people of England, and that these unbelievers too should 'receive our attention, should be encouraged to abandon their unhappy modes of life'. Although by his own evangelical standards heathens, the Gypsies would be easier to convert as they were already living in a Christian country and so were not, 'addicted to any form of idolatry'. It was however far easier to raise funds for missions overseas (Crabb 1832).

Around the Christmas of 1829 Crabb had called the first of what would be eighteen annual meetings at Spring Hill Court. The local gentry were present and waiting when a procession of Gypsies 'from all parts of the country' began to arrive in the gardens with 'caravans, carts, and rude vehicles, driven by broken-down horses, ponies, and donkeys'. About 150 people were already camping in the grounds. After preaching to these travellers and to the attendant 'fine ladies and gentlemen who were present, and who, if they had bestowed one half of what they expended in vanity, in helping the Gypsy cause, might have enabled the Committee to establish a mission throughout the length and breadth of the land', Crabb with his two sons and some of the interested gentry, served roast and boiled beef, vegetables and plum pudding to his visitors. Blankets were handed out (one for each tent), and Bibles, along with one pair of stockings per person and pieces of calico for making children's clothes.

The meeting was an undoubted success, and became a regular event, attracting people from London and even further afield (Rudall 1854). One visitor much impressed by the first anniversary meeting was John West, Rector of Chettle from 1820 and from 1834 Rector of Farnham, Dorset, who went on to become a friend of Crabb and the founder of the Farnham Gypsy School.

ANOTHER EVANGELIST – JOHN WEST

John West (Fig. 1) had been a missionary in North America (Stratton 1977). He, like Crabb, was an evangelical preacher working within the Church of England. He was a life-long supporter of the Church Missionary Society for Africa and the East, and of the British and Foreign Bible Society, but not until he was installed as rector of Chettle was he sufficiently financially secure to put his evangelical missionary beliefs fully into practice. In 1820 he was appointed by the Hudson's Bay Company as the first chaplain to the Red River Settlement, which had been founded some ten years previously, in order to help both the Company's retired employees and emigrant crofters displaced by the Highland Clearances (Stratton 1998). Soon West had two Native American boys in his care, and also took in a third boy, a mixed race orphan. Under his own initiative he extended his role. He began to learn about the boys' ways of life and customs and, despite the opposition of the fur traders, set up a school for these indigenous people. His biographer observed that, 'like some of his contemporaries he saw Christian mission and civilisation moving together with schools as the key feature' (Stratton 1998). Inspired by his vision of a

Figure 1 John West.

chain of schools across North America, he planned to build an Inuit school at Knapp's Bay, two hundred miles north of Fort Churchill, but this plan came to nothing (Stratton 1977).

After two further periods of missionary work in New Brunswick and Nova Scotia, West returned to Chettle in 1828. His further appointment at Farnham in 1834 may have been awarded in recognition of his work overseas. Back in England, West concentrated his missionary zeal on his own parishioners, although a scheme to place a Bible in every village home proved to be a failure. The parish's charity school which was under the patronage of William Chafin of Chettle House, had lapsed with his death in 1818, but was revived on a larger scale in 1822 by West's curate, Charles Baring Coney. A Sunday School was held in the rectory, and books were circulated among the pupils (Stratton 1998).

In 1834, on being presented with the living of Farnham, West turned his attention to this latter village, first by extending the church and then, in 1836, by appealing to the National Society for the Education of the Poor for a grant to establish a village school for thirty-five boys and thirty-five girls. This was to replace the two small dame schools in Farnham and Tollard Farnham. The school (which still exists as a private house) was first opened as a Sunday School in 1837 as the National Society required. It consisted of a simple schoolroom, 30 feet long by 14 feet wide by 11 feet high. When the day school opened in 1838 it was welcomed with enthusiasm by the villagers and was soon filled to over-flowing. In 1840, at West's suggestion, an additional classroom, twelve square feet, was built to the rear and the adjacent school mistress's house was added in 1845.

FOREST AND CHASE

At the start, West seems to have had no intention of establishing a complementary school for Gypsies, although there were plenty to be found in the area. For centuries, Gypsies had been living in the New Forest in bender tents (Berlin 1960). The Romany names for this former royal hunting ground are *Nevi Wesh* or *Nevi Rukkies*: 'new forest' or 'new trees'. The Gypsies were a part of forest life, which they shared with their animals, with hunting dogs and horses. It's said that they were the first to tame the forest's wild ponies; horse dealing has always been central to their lives. The forest provided them with a well-stocked (if illicit) larder of venison and rabbit, pheasant and hare. From the wood they made clothes pegs and baskets, beehives, casks and artificial flowers which the women sold from door to door. Remote as it seemed, the forest was close enough to towns such as Ringwood for trading purposes. Calling on householders also offered an opportunity for the telling of customers' fortunes. Neighbouring Cranborne Chase was another of their haunts, (Hawkins 1980). Here they worked as hurdle and spar makers, gathered nuts, and dug up the roots of valerian, then a fashionable drug, which they sold to local chemists (Cornhill 394 undated).

The land was 'under game' – hares, pheasants and partridges were preserved for hunting with, above all, thousands of fallow deer. Until disenfranchisement in 1830 the hunting rights on the Chase were exclusive; as a result there was much poaching, and vicious battling with gamekeepers. Farnham was inside the inner bounds of the Chase, where most of the conflict occurred. If caught, gentlemen poachers usually got away with a fine, but for others, including the Gypsies, the penalties were much more severe. Prosecution was one danger; another was the man-traps which were set up to catch the poachers (Cornhill 394 undated). An article in the *Cornhill* Magazine (No 394 undated) described the largest of these traps, which was 'made after the pattern of an ordinary rat-gin, but with a double spring, and armed with enormous teeth'. It looked 'capable of holding a Bengal tiger'. Traps like these must have caused horrible injuries and sometimes death. In the eighteenth century the Chase was a ruthless place.

The Gypsy and settled communities did come together: for cock-fighting, a savage sport which was 'dear to all classes', and also for prize-fighting (Crabb 1832). James Crabb had blamed this activity on the many people 'in high-life' who encouraged pugilism among the Gypsies: 'Pugilism has been the disgrace of our land, and our nobility and gentry have not been ashamed to patronize it'. In fact many of the Gypsies would be easily persuaded to take part

in a fight. Within their own communities they often settled disputes with their bare fists (Le Bas 2018).

THE ARRIVAL OF THE GYPSY SCHOOL

The first known Gypsies in Dorset were mentioned in a court case (*Somerset & Dorset Notes & Queries* 394 (anon 1891). Their presence in the county was recorded during the summer of 1559, when 'a very large number' were apprehended by the Lord Lieutenant James Blount, sixth Baron Mountjoy, and committed for trial at Dorchester Assizes. They were charged under the Egyptians Act of 1554 [Statutes 1 & 2 Philip and Mary, c.4] by which 'Egyptians' were forbidden to enter the country and, if they did so, were liable to be hanged if they stayed for more than one month. Blount consulted Queen Elizabeth, who demanded that a 'sharp example' should be made of them, and that no mercy should be shown. However the Gypsies escaped from death on a technicality: it was shown that they had entered England from Scotland, via Carlisle, and had therefore not come from overseas. Thus their harsh treatment in England began.

In later centuries Gypsies were often simply overlooked. Despite the established Gypsy presence in the Cranborne Chase, John West, like James Crabb, seemed to have little previous awareness of them, although in his youth his father had hired Gypsies as pickers in his Surrey hop fields. On the Southampton Committee's model, West built two cottages, one in each of his parishes, for Gypsy families and placed the children in the village school, making no attempt to segregate them. Each cottage was allotted half an acre of land, rent-free. For extra income, West noted, 'The men seek employment occasionally through the surrounding villages, one with a razor and a scissor grinding machine, and the other with a machine for sweeping chimneys' (Stratton 1977).

It was only when some of the other parents predictably objected to the attendance of the Gypsy children that West decided (with Crabb's approval) to set up a separate school for them. His pamphlet 'A Plea for Educating the Children of the Gypsies' (West 1842) is a clear statement of his views on the matter. The opening quotation is from the Old Testament book of Proverbs – 'Train up a child in the way that he should go, and when he is old he will not depart from it' – and sets the tone for his argument. The Gypsies, West observes, are 'a very mysterious people, in a neglected and destitute condition' who no one had attempted to help until recent times. They had been left 'in an unclaimed state, hopeless and idle'. No parish or landlord felt any obligation to assist them; their only response was to drive them away. West held out little hope for the adults: 'cradled in a ditch, they have grown up in ignorance and idleness, the nursery of every crime' (West 1842). However, he found the children easy to teach – they were quicker to learn than the children of the agricultural poor. West probably hoped that they might return home to instruct their parents, as some of the Native American children had done in his Red River school.

West had already been given nearly two acres of freehold land for the site at Crossways, on the Farnham side of the boundary between the two parishes, by a 'benevolent friend', Francis Archibald Stuart of Blandford. His proposal was to maintain and educate twenty-four orphan Gypsy children under the age of six, or boys and girls from the larger, more destitute families, 'and we would wish that the establishment would afford, at the same time, an asylum for the orphan, or destitute Gypsy child, whom any kind and benevolent person might be pleased to adopt, on the payment of a moderate annual sum of at least five pounds, towards its education and support' (West 1842).

The great philanthropist, Anthony Ashley Cooper, 7th Earl of Shaftesbury, another Evangelical much concerned with the improvement of the lives of poor children, consented to be patron of the enterprise (Anon 1851). James Crabb, West himself and his curate Coney were honorary secretaries, and the Treasurer was the banker, George Carr Glyn (Anon 1851). West swiftly raised enough money despite no gentry being resident in either parish. Chettle House remained empty throughout West's incumbency and Farnham did not have a resident squire. On December 13 1844 West told the Revd Reginald Smith, rector of West Stafford, that 'the Gypsy Fund is indeed progressing well – soon will in altogether reach £500... I would seek therefore £1,000 for the one simple object of bringing in from the Highways

and the Hedges, the hitherto outcast Gypsy children for a sound scriptural education' (West 1844).

On July 24th 1845 the *Dorset County Chronicle* printed a detailed report on the laying of the foundation stone for the 'Gypsy Asylum and Industrial School'. The newspaper explained that Crabb and West,

> 'have long felt the necessity of directing their attention more particularly to the gipsey children, with a view to amalgamate them with society, and to prevent their being brought up in the folly and sin of fortune-telling, which is the chief support of many gipsey families, and proves a great hindrance to their colonization...' (Dorset County Chronicle 1845).

Fortune-telling was an ancient aspect of Gypsy culture which some outsiders – particularly clergymen – found particularly deplorable, and which is still regarded by some with suspicion. It was first recorded in fifteenth century Byzantium, and seems to have been everywhere performed exclusively by Gypsies. *Dukkering*, the Romany word for fortune-telling, was practised only by the women, and only the fortunes of non-Gypsies – *gorgios* – were told. In his *Romano Lavo-Lil*, the nineteenth century noted Gypsy-watcher George Borrow, remarks that,

> 'Gypsy fortune-telling is much the same everywhere, much the same in Russia as it is in Spain and in England. Everywhere there are three styles – the lofty, the familiar and the homely; and every Gypsy woman is mistress of all three, and uses each according to the rank of the person whose vast she dukkers, whose hand she reads, and adapts the luck she promises.' (Borrow 1874).

In *The Gipsies' Advocate* Crabb devoted several pages – and said that he could have filled more, 'were he not likely thereby too much to enlarge his work' – to some of the Gypsy women's approaches to fortune-telling, which were often both ingenious and audacious as well as fraudulent. Their customers were various; from persons in 'gay and fashionable circles', to one greedy naval office and to gullible servant girls whose fortunes were told rather prosaically in a frying-pan full of water (Crabb 1832). Crabb observed that,

> 'Many of these idle soothsayers endeavour to persuade the people whom they delude, that the power to foretell events is granted to them from heaven, to enable them to get bread for their families.' (Crabb 1832).

This perhaps was his central objection to the practice. So strongly did he feel about the matter that he returned to it in a later chapter, in which he claimed that those who consult them will be damned alongside the fortune-tellers. Beside the 'damned' many other people were beguiled by the fortune-tellers.

DEDICATION OF THE SCHOOL

The following account is taken from the *Dorset County Chronicle* (1845). As was fitting, John West opened the proceedings for the dedication of the Gypsy School. The committee members and the architect, Louis Gould Butcher of Barnstaple, who had given his services free of charge, were all present to hear him speak. He was reported as saying that they were laying the foundation-stone of,

> '"a building to be created for the one sole, simple object, of gathering in long neglected outcast gipsey children from the highways and hedges, to be clothed, maintained, and brought up in the nurture and admonition of the Lord". (Hear, hear.)'

West's heart-felt prayer bore witness to his intent:

> 'May they be thy sons and daughters, O Lord God Almighty, adopted through grace into thy family, and made heirs with Christ of thy heavenly kingdom, may they live to thy glory, and inherit thy promises.'

The congregation then sang the Old Hundredth, and the stone was laid by Charles Stanley, an elderly Gypsy, who wore a 'blue ribbon, as a mark of distinction'. Stanley spoke at the ceremony, declaring that he came as 'a true Gypsy, to take part in good work'. He was the son of the Romany featured in the Religious Tract Society's maudlin and highly popular tale of 'The Dying Gypsy' published in 1830. Charles Stanley described himself as a reformed character. He said he was not like his father, who 'some time before he went out of this life 'cursed God', and consequently 'never had any rest', repenting only on his death-bed. Stanley acted with great enthusiasm, 'spreading the mortar profusely,

and some coins of the present reign having been duly placed, laid the stone, adjusted it with the plumbing-line, and struck it thrice with the mallet'. Afterwards the Revd Crabb read a prayer which had been written by a 'Christianised' Gypsy woman,

> 'Oh, Thou great Searcher of Hearts, hear the prayer of an unworthy worm. Grant that this plan that Thy dear servants have undertaken in behalf of the dear wonderful tribes may prosper in their hands. Incline the hearts of their parents to give up their dear offspring into the hands of those dear and kind friends that feel this great interest in the salvation of their souls...'

James Crabb used the platform to once again condemn fortune-telling, and to praise the Gypsies for their care of their aged parents. He praised John West too for his previous missionary work,

> 'Mr West met with people in the dreary wilds...whose habits of life very much resembled our gipsies. And therefore he is peculiarly adapted for the work he has undertaken.'

He also notes how some of the Farnham villagers were unhappy about the school, complaining that John West was 'bringing a nuisance to the neighbourhood', and that the local farmers were also uneasy about the scheme. He assured them that 'the Gipsies are not nuisances to any neighbourhood, if they are treated with kindness and Christian forbearance'. The site's donor, Francis Archibald Stuart of Blandford, then took the platform, followed by a 'venerable Gypsy' named Mary Carter, another member of the Stanley family. With flags fluttering and people cheering, the ceremony was triumphantly completed in the singing of the National Anthem (*Dorset County Chronicle* 1845).

By December 1845, the sum of £1,200 had been raised, even more than West had hoped for. On the 18th of that month the *Dorset County Chronicle* printed the scheme's subscription list on its front page. Further subscription, it said, was 'earnestly solicited', and should be sent to the newspaper's office,

> 'It is to be hoped, that while a Christian sympathy is awakened to diffuse the blessings of a new Scriptural Education throughout this and Foreign Heathen Lands, the Liberality of the Christian Public will be further shown towards the truly humane and Christian object of EDUCATING the CHILDREN of the GYPSIES, a wandering Heathen passing near our doors. (*Dorset County Chronicle*, December 1845)'.

The long list of those who had already subscribed (about 250 people) included, as well as Lord Shaftesbury, three other Members of Parliament, and many of the gentry - some of whom, in addition to donating, raised extra money through collection cards. Importantly, the Committee of the Queen's Privy Council for Education had granted £100 towards the school. This represented the first ever governmental contribution to Gypsy welfare (*Dorset County Chronicle* December 1845).

The project was progressing most satisfactorily, when, only thirteen days later, John West died suddenly and unexpectedly from a ruptured aorta. On that day the scheme lost both its major inspiration and its overseer. This was a blow from which it never completely recovered. An indication of the ensuing difficulties can be found in a further appeal published by the *Dorset County Chronicle* on August 20, 1846:

> 'Gypsy Asylum and Industrial School at Farnham
>
> We understand that a Public Meeting is to be held at Weymouth, on the 28th instant at ten o'clock in aid of the above institution, of which the late benevolent Rev. John West may be considered the father and founder: the Trustees being desirous to complete the building, a part of which is already covered in, and to prepare it with as little delay as possible for the reception of the children. We trust that the humane endeavour to gather in these little outcasts may continue to receive more general support.'

The appeal must have met with some success, as on October 7, 1847 the *Dorset County Chronicle* reported on the opening of the Gypsy Institution at Farnham. The newspaper praised the lofty site, surrounded (as it still is) by unspoilt countryside. 'The ground commands an extensive panoramic view over many miles of finely cultivated and beautiful wooded country.' It went on to say that it was 'a most salubrious spot for bringing up the little wanderers'. Like a warning beacon, the building would remind the passerby that 'there is a duty to perform, even to the poor outcast and long neglected wandering Gypsy'. (And like a nineteenth-century workhouse,

Figure 2 Artist's impression of the Gypsy School c.1845

the school was placed midway between Farnham and Chettle, while the National School occupied part of the village centre.) The school was built of red brick and flint, in the 'Elizabethan' style, and crowned with a bell-tower. It was plain but distinctive, as can be seen in Figure 2. The surviving building is now Grade II listed for its historical associations and interest and its intactness.

The *Chronicle* remarked that 'While there is no needless expenditure in ornamental decoration (which we conceive in this case would be quite inconsistent with the object of the institution), yet there is a suitable character given to the elevation to mark it as a public building'. The dining-room occupied the centre-front, with kitchen and office behind, and the master's and mistress's apartments on either side. The boys' and girls' schoolrooms were in the angle of the building, with accommodation for at least twenty boys and four girls. Here, too, was 'enough land' for the children to learn about horticulture and to earn their keep. (*Dorset County Chronicle* October 1847).

The building was also described in *Historic Times* (*Historic Times* 1847) as Elizabethan in style, though other parts of the description seem to differ from the plan of 1845 which was submitted in the application for a government grant. In the original plan, the land provided for gardening and arable work was expansive, but later reports suggest that this was reduced in both size and importance. However, the Post Office Directory for 1848 does describe the Gypsy School as set in 'a spacious field'.

The weather was fine on the opening day, and the Union Jack waved over the bell turret which was 'surmounted with a branch of laurel' for the occasion. Gypsies were camped within sight of the house (although it was reported that disappointingly few attended the ceremony). However the school was soon so full of other visitors that the ceremony had to be held out-of-doors. John West's former curate, C.B. Coney, now incumbent at Kimmeridge, paid tribute to the school's founder, describing his work among the Native American 'savages',

> 'Mr. West, on his return to his native country, looked about to see if he could find any people resembling his Red Indian converts, and he discovered many traces of similar habits and character in the dispersed wandering gipsies, when he resolved that, by God's help, something should be done for them: and he was

permitted to do something for them before his removal to another and better world.' (*Dorset County Chronicle* October 1847).

The Gypsies who witnessed the occasion were then reassured that despite West's death they would not be forgotten, and that the school would be a memorial to its founder. The 'venerable advocate', the friend of the Gypsies, James Crabb, was among the speakers at the opening. He cited the case of a Gypsy child he had personally 'taken from the hedge', who was now a journeyman carpenter in London. He was a married man, earning good wages. While his immediate family had at first proved to be intractable, they had since been converted. He talked, too, of Hezekiah Smith, a 'reformed' Gypsy and fervent speaker, who was about to be trained as 'a hawker of Bibles' – he was presently a seller of pots and pans. It was hoped that the use of his services would encourage the purchase of Bibles by people who would otherwise not have the opportunity or inclination to do so.

Crabb also issued an appeal to the farmers to be kinder to the Gypsies (who in return would no longer break through their hedges and fences) and to give them straw for bedding if they requested it. He concluded with an emotional tribute to John West. Once again the Old Hundredth (All People That On Earth Do Dwell) was sung, and the congregation adjourned for tea. It was, as the *Chronicle* recorded, a most auspicious occasion (*Dorset County Chronicle* October 1847). The *Historic Times* also reported on this official opening, in a tone of high moral uplift. The paper's account was rounded off with verses from the school's prospectus,

> 'Forget not me, the poorest of the poor,
> Cast out and scorned, despised and shunned by all.
> Oh, clothe and feed me! open Mercy's door,
> And let a friendless gipsy hear thy call.
> Teach me His name, of whom I hear thee say,
> That pity brought him from his throne above;
> Oh, bring me to him, teach me how to pray,
> And let me share with thee redeeming love.'

THE LIFE OF THE SCHOOL

Did the school ever have many pupils? The census of 1851 for Farnham (Dorset History Centre PA/FAR) reveals – as well as the Gypsy fondness for unusual names – twelve Gypsy scholars. They were Unity Ayers, Amberline, Britannia, Rhoda, Dangerfill and Henry Barney, Mary Bavers, Lucy Bowers, Samuel and Henry Martin, Henry and Mary Ann Milles. Other members of the Milles family lived in the village, including Matthew Milles. The 'Governess' was Elizabeth Irlond (sic). In the same year, the school – which claimed to be 'The only one in England for the Instruction of Gypsy Children' – issued an anonymous report ('Report of the Gypsy Asylum' 1851) stating that the establishment had twenty-one pupils 'under the careful management of Miss Ireland, the matron, all in excellent health'. The report confidently affirms that the children have 'no desire to stray back to their wandering ways'. In proof of this, a letter is included from two of the boys, Samuel and Henry Martin, aged six and eight.

> *'Gypsy School, December 29, 1851*
>
> My dear Father and Brother – We received your kind letter and shilling, and we spent a very merry Christmas, and we hope you did; and we had above 22lbs of beef. The Trustees were so kind they sent it for our Christmas dinner; and it was very fine beef; and the beef (ox) which was killed cost above 30 shillings; and we had two great plum-puddings, and taffy, and gingerbread cakes for our Christmas dinner; and we have a very kind teacher, and we both like School very well, and we went to church twice on Christmas Day. I hope my brother and you went to church on Christmas Day. We heard two very good sermons about the birth of Jesus Christ, our blessed Lord and Saviour; and we had nice treats on Christmas Day. We are glad that our brother is better.
>
> We are your affectionate sons,'

This cheerful letter shows (as was no doubt intended) that the children were well-cared for and happy at the school, and that, by the letter's very existence, the young Gypsies were being taught to write. Schemes for educating the poor encouraged the teaching of reading, mainly of the Bible. The teaching of writing was considered to be more risky, as the pupils might develop ideas above their station. However, four of the girls, Unity, Britannia, Mary Anne and Lucy, were not so lucky as the boys, as they were now all over the age of eleven and were therefore regarded as ready for employment as maids.

In the report regretful mention was made of the death of James Crabb in 1851. The report says that his funeral was well-attended by Gypsies, who also responded generously towards the cost of a memorial. While 'the children at the Asylum, when they heard of his death, would not go out the whole day, saying they had lost their best friend'. Thus James Crabb had a last, gentle testimonial and touchingly, his name appears on the report's list of subscribers to the school in 1851, as does that of his Southampton Association.

A further source provided an intimate portrait of the school. In L. H. Dudley Buxton's general handbook to the Pitt-Rivers Museum (Buxton 1929) the author states that the building was still known locally during the 1920s as the Gypsy School. Only two documents from that period of its existence had survived,

> 'a card with a picture of the school on one side and an appeal for funds on the other, and secondly one of the most attractive documents which has ever come into our hands, the visiting book...this little volume, with its faded ink and yellowed pages, is all that remains in the way of documents for the historian to write a biography of the inmates of the gypsy school.' (Buxton 1929).

The school was visited every few days by one of three trustees, who were Revd Carr J. Glyn of Witchampton, Captain Littlehaler and Revd Robert Moore of Cranborne (Buxton 1929). Unfortunately, the 'Remark Book' in which the visiting committee entered their comments has not been seen since 1961, when it was on display at Farnham Pageant in a scene about the school. No one seems to know what has happened to it. The late Michael Pitt-Rivers confirmed (Pitt-Rivers 1993) that the book had disappeared – and with it, any further information about the school. None of the neighbouring museums or record offices has knowledge of its whereabouts. This is particularly regrettable as, when writing about a people whose traditions are oral it is difficult to represent fairly their point of view. West's biographer, Ian Stratton, who had seen the book, wrote,

> 'It showed that the syllabus owed much to the ideals West had developed at Red River twenty-five years before, and combined the elements of formal education and singing with attempts to train the children to cultivate gardens. To the end of his life West worked to realise his vision which combined evangelism and practical methods of advancing civilisation.' (Stratton 1977).

Happily for more recent researchers, extracts from the remark book had appeared in the *Countryman* (Russell 1931). In an article called 'A Gypsy School Tragi-Comedy' Mariel Russell – who, as Secretary to the Pitt Rivers Museum, had access to the document, and was the author of the chapter on the School in the Museum's handbook – reproduces some extracts from the reports of the visiting committee from July 1852 to May 1853 (Russell 1931). This very human, practical notebook of 1852–1855 charted the growth of the school's piglet, the servant girl who was subject to fits, the scholastic progress of Henry Martin, most promising of the pupils, and the sudden decline and death of the mistress, Miss Dove, in 1852. The visitors were most concerned about the teacher's welfare, arranging for assistance and medical care. Shortly before her death, Captain Littlehaler noted that he had 'Sent to Thick Thorn Inn for some Sherry Wine ordered by the Doctor' (Russell 1931).

Russell points out that some of the trustees 'believed in the certainty of an ever-burning Hell, and a sharp distinction of social classes, not to speak of the deserving and undeserving poor'. For them, religious instruction was the most important part of the children's education. According to E.O Winstedt, writing in the *Gypsy Lore Society Journal* they were 'taken to church, where they were taught Christian brotherhood by being set apart on separate seats that they might not mix with the other children. There need have been no particular fear of that: they would not have mixed with the *Gorgios*' (Winstedt 1908). Nevertheless, the committee did not lack humanity; there was kindness in their care.

The aptly-named Miss Dove was succeeded by the less popular Miss Sarah Ware (or Wear), who was still in charge in 1855, according to the Post Office Directory for that year. She must have been the teacher who is reported in the separate government inspection (which became compulsory on the acceptance of their grant) as being 'quite unequal to the work'. The inspector considered that a man and wife together would be preferable to a solitary woman (Russell 1931).

The following year's report was no better. Children, it seems, were taken away by their parents, or simply disappeared. The school failed to gain 'any additional hold on the hearts of the gypsies'. Detailed reports of inspections were then discontinued, so it is impossible to discover exactly when the school closed – its death was unrecorded and apparently unnoticed, in contrast with the fanfare of its opening. The closure was briefly referred to in the governmental report of 1870, where it was noted that the £100 grant had been repaid . The Trustees turned their attention to other activities, proceeding to take over the work of the Southampton Committee and to supervise 'a travelling gipsy evangelist', who visited the London camps in Norwood and Barnes, Putney, Bow and Wandsworth (Rudall 158).

The school never had its full quota of pupils, receiving 46 children in six years, and was said to have failed because most of the children had returned to their much criticised wandering ways. What never seemed to have occurred to John West, James Crabb or any of the other people who attempted such well-intentioned experiments, was the fact that the children might actually prefer their old lives and thrive better in them, as might the subjects of the evangelical missions overseas. The lives of Gypsies could be hard, as they faced the wind and the rain, the mud and the cold, often without enough to eat. Yet they had still their freedom to wander, and to live out-of-doors. People such as the two clergymen, who came from other levels of society, undervalued their ways of life and made assumptions about what would be best for them.

Also – and this is true of many of the attempts to help the children of the poor – not enough consideration was given to their feelings on being removed from their family groups; from their mothers in particular. In his *Gypsies' Advocate*, Crabb had observed that 'The attachment of Gipsy children to their parents is... vivid and admirable; it grows with their years, and strengthens even as their connexions increase. And, indeed, the affection that sisters and brothers have for each other is very great' (Crabb 1832). Even the more severe John Hoyland noted that the Gypsies were 'not always willing to part with their children' (Hoyland 20). Thus, although West and Crabb took a good deal of trouble to study Gypsy behaviour and customs, they still did not take the feelings of the children or their families into consideration when putting their own theories into practice.

Some Gypsies did stay on in the parish of Farnham (Farnham Parish Records 1845 PA/FAR). In 1845 John West had conducted the christening in Farnham church of Elizabeth, daughter of Matthew and Vashti Milles, whose father was described as a 'gypsy and basket-maker'. Christenings of other members of the Milles and Stanley families continued over the years (the christening of Gypsy children was a widespread practice). The record of Gypsy marriages is more infrequent, but in 1870 Elizabeth Milles married George Andrews in the same church, and in 1872 her brother Thomas married Sophie Hands. Perhaps John West had not been so unsuccessful, as he would have seen it, in his endeavours after all.

THE FOUNDING OF THE PITT-RIVERS MUSEUM

For a while, the old school buildings were used as a farm. Then in the 1880s they were taken over by the land owner General Pitt Rivers who had grand plans for their development. The size and simplicity of the rooms were ideal for his purpose: for him, the buildings had great potential. Born in 1827, Augustus Henry Lane Fox had a distinguished military career, from which he finally retired in 1882 with the rank of Lieutenant-General (Bowden 1991). He was equally successful and well-regarded as a collector. He began in 1851 with a collection of fire-arms and weapons, to which he was to add ethnographical objects (Pitt-Rivers 2011). His many archaeological accomplishments are well documented elsewhere, notably in the biographies by Mark Bowden (1991) and Michael Welman Thompson (1977).

When the collections overflowed his house, he loaned them to the newly-constructed Science Museum in the working-class area of Bethnal Green, where his exhibits filled the basement. This provided both a blank canvas for his collection and a promising educational opportunity. When the museum moved to South Kensington he added so many more objects that in 1881 the institution refused to accept any further loans (Pitt Rivers 2011). In 1883, Oxford University accepted his collection, once again as a loan. However,

Figure 3 Postcard of the Pitt-Rivers Museum, 1940s

finding he had little say in how it was displayed, in the same year he took over the old Gypsy School to use as a museum employing his own systems of display (Pitt Rivers 2011). The earlier collections remained in Oxford Museum where in 1884 they were first known as the 'Pitt Rivers Department'.

The General's aim was to educate the public; he believed that lack of knowledge made people vulnerable to 'the designs of demagogues and agitators', who threatened the status quo (Bowden 1991). He rightly believed in the importance of displays, and had little respect for those he had seen in existing museums, which he thought did not serve an educational purpose. He was greatly influenced by Charles Darwin's *Origin of Species* (1859) and considered that material culture evolved in a similar way to that of Darwin's species. The exhibits were arranged according to type. To display them, the General made effective use of plaster casts, reproductions and, most impressively, models made from seasoned mahogany, built to scale, painted in a dark green and clearly labelled with white lettering. Some of the pottery exhibits were even labelled on their surfaces: examples can be seen in Salisbury Museum.

Pitt Rivers' collection was such that he gradually enlarged the school's buildings, adding a Tuscan porch, a cross wing to the left of the entrance and galleries to the rear. By the 1890s there were nine rooms filled with his collections, plus a Norse windmill in the garden and a statue of Julius Caesar, which is now in the grounds of Salisbury Museum. The first room was an illustration of rural life in Europe; the second displayed Breton carvings and other old French artefacts; the third contained household objects and the fourth ceramics, along with a comprehensive collection of locks and keys. His Cranborne Chase discoveries, along with other exhibits from the General's excavations, filled Rooms 5 and 6 of the museum. Models of Celtic crosses and other carvings were found in the seventh room with 'a series of the drawings of savages, and one for comparison showing the best performances of village children and adults from the neighbourhood'. The agricultural collection – the General had originally intended it to be a peasant museum – was in the eighth room, and included such grim items as man-traps and a chastity belt. This room remained a particularly significant one, as it was intended to encourage the visitors to make connexions between familiar agricultural implements and other, less familiar ones from other countries (Bowden 1991).

The ninth room, which was the last to be added only three years before Pitt Rivers' death, displayed some impressive and valuable Benin bronzes from what is now Nigeria. These pieces were looted by British forces in 1897 during a punitive expedition to the area, and Pitt Rivers bought 240 of them from Webster of Bicester, a dealer in ethnographical objects. Over the years Pitt Rivers produced nine volumes of catalogues of the Museum's 10,000 objects. These books, now in Cambridge University Library, are beautifully illustrated works of art in their own right (Thompson and Renfrew 1999).

The museum (Fig. 3) formed only one part of the entertainments – which in 1899 attracted 44,417

people in charabanc parties, despite the remoteness of the site. Two miles away lay the pleasure gardens, containing the Larmer Tree (an oak, planted in the midst of an ancient and decayed wych elm), a classical temple of Vesta, a bandstand, a race course and an open air theatre, all set among the wild expanses of Cranborne Chase. Nearby St John's House was opened as an art gallery in 1891, with paintings displayed in chronological order. Unusually for the period, the entertainments were open on Sundays, much to the distress of the local clergy.

The General was a fellow of the Zoological Society, and beasts from his collection, a bizarre and rather luckless menagerie, were free to roam the grounds. These included a yak, which had been crossed with cattle, llamas, emus, rheas and kangaroos, and an Australian Bowerbird which had 'built its bower in the bird-sheds, but is now dead'. Refreshments were provided by the caretaker, who lived in a half-timbered house in the grounds, while 'luncheon, dinner and other refreshments' could be taken at the Museum Hotel in Farnham, which had been enlarged by the General 'expressly for the use of visitors to the Museum'. More modest refreshments could be enjoyed in the art gallery where 'any amount of bread and butter, tea and buns can be obtained at slight cost'. Given all these attractions, it was surprising that as many as a third of all the visitors also made their way to the museum, as the General had hoped they would. According to the original guidebook, 'during the first nineteen years that the Larmer Tree Grounds and Museum were open to the public there had never been a single instance of drunkenness, disorder, or trouble of any kind'.

Despite the General's death in 1900 the museum remained open with the General's son, Alexander Pitt Rivers in charge. By 1925, his grandson, Captain George Pitt Rivers addressed the evident wear and tear shown by the collection. He repaired, re-arranged and relabelled, and even added to the collections over several years, and the museum continued in operation for several more decades (Fig. 3). The collection had however been expensive to run since the 1930s and by the mid-1960s the museum was closing, with the collection being broken up (Thompson and Renfrew 1999; Haddon and Terry 1973; Saunders 1976). Two of the Benin bronzes went to Geneva, and a Gainsborough portrait of the first Lord Rivers ended up in Cleveland, Ohio. By 1975 the Company had disposed of most of the ethnographical objects, and that same year Salisbury and South Wiltshire Museum agreed to accept the museum's archaeological collections in lieu of estate duties. The material also included, along with some antiquities, the fifty-seven scale models of the General's excavations, some of which can still be seen there.

CONCLUSION

The buildings of the Gypsy School housed two different but related experiments in education. In the first instance, the Gypsy School was created out of an earnest belief in the possibility of betterment of Gypsy children by providing them with the same educational opportunities as the other village children. The experiment perhaps failed because, although well-meaning and sympathetic, it did not take into account the feelings and desires of those it sought to educate, presupposing that settling in one place was superior to the Gypsies' traditional ways of life. A set of values was imposed which was particular to the more elevated element of society which had the means to fund this sort of initiative, with attitudes which were also found in their missionary work. Pitt Rivers similarly sought to provide an educational experience for the masses, which reflected his personal interests and perspective, succeeding for a time with the help of the entertainments he ingeniously provided. The museum failed in the mid-20th century as a range of other pastimes became available, and the didactic approach fell out of fashion.

Although Pitt-Rivers had intended the Museum to remain permanently open and free of charge – providing an endowment for this purpose – this high-minded and popular venue came to an end as sad and fragmentary as that of the former Gypsy School whose buildings it incorporated. However, the Pitt Rivers Museum in Oxford remains a popular and much-visited institution. The originator of the Gypsy School, John West, has a modest memorial. A sarcophagus-shaped tablet on the north wall of the chancel in Chettle church, commemorates the clergyman and his wife Harriett, and an east window

crucifixion scene, was dedicated to the couple by their children. James Crabb who pioneered the scheme, is buried in Southampton Cemetery. Both men have been largely forgotten. The buildings themselves – which are now the Gypsy School's only monument – are diminished but still extant. They have been subdivided into three domestic dwellings.

ACKNOWLEDGEMENTS

The author would like to acknowledge the help of the Brotherton Library, Leeds; Dorset History Centre, Dorchester; the John Williams Library, London; and the late Richard Burleigh.

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DORSET FAIRY-LORE

JERRY BIRD

This paper examines the written evidence of fairy-lore in the county of Dorset, bringing together the numerous and disparate references to fairies which have been published in various sources, both in the genres of folklore studies and literature. It seeks to explore the characteristics of fairies in Dorset and how such lore differs from that of other counties, and whether or not Dorset can claim any unique forms of these mythical beings. The author also attempts to examine how beliefs in fairies have changed over time, and why certain places have strong associations with fairy-lore.

INTRODUCTION

There is relatively little folklore concerning fairies in Dorset compared with Cornwall and Devon. Most tales concerning fairies, pixies or elves, if, as is likely, they did exist in local folklore, have not survived. However, a good deal of superstition and belief surrounding them has been documented, and place-name etymology provides us with evidence that belief in fairies was once widespread throughout the county.

To the Anglo-Saxons, fairies were elves. The Old English word *elf*, was gradually replaced by the Old French word *faerie* after the Norman invasion. Thus elves and faeries are both fairies. Goblin is also derived from Norman French but was never popular in English folklore. There are regional names for them too. In Devon and Cornwall they are Piskies (pixies) or sometimes Knockers, Brownies or Spriggans. In Dorset we find tribes of fairies with probably the strangest names of all — the Colopexies and Gabbergamies.

PLACE-NAMES

The word 'puck', derived from the old Welsh word *puca*, or *pwca* was also used, particularly in the Middle Ages, when many field-names came into being, and Dorset has several examples which can be found on old Tithe maps, such as *Pukefurland* in Radipole, *pokelchurche* in Wyke Regis and *Puckysway* at Winfrith Newburgh (Harte 2018, 66). There is also the Puckstone, a rocky outcrop on Godlingston Heath near Studland on Purbeck. The word 'pixie' is probably also derived from *puca*, or 'puck'; according to Keightley, in *The Fairy Mythology* (1892), 'Pixy is evidently Pucksy, the endearing diminutive *sy* being added to Puck'. (Keightley 1981, 315). At Durweston in the eighteenth century there was a 'Pexy's Hole' near the rectory; not far away, to the west of Shillingstone House, is a 'Puxey Lane'; there is a hamlet named Puxey near Sturminster Newton; there is a Pucksey Brook at Broadwey, between Weymouth and Dorchester.

According to A.D. Mills, in his exhaustive study of Dorset's place-names, Poxwell, between Owermoigne

Figure 1 The Poxwell conduit (photo by the author).

and Osmington is either derived from a person named Poc who owned the "'swelling" used topographically in the sense "steeply rising ground"' or from 'Poc's spring', or possibly refers to smallpox (Mills 1977, 144). Anton Fägersten also gives the derivation as Poc's well, noting that poce was Old English for smallpox (Fägersten 1978, 144). James Rattue notes that the villagers' explanation was firmly in favour of Puck's Well: 'The name was *Pocaswylle* as long ago as 987, and has a long 'o' sound, so it probably does come from the Anglo-Saxon or Welsh word pwca referring to a goblin or sprite of some sort; a spring that, for whatever reason, was felt to be significant and possibly the abode of some otherworldly being.' Rattue claims to have found a well with a stone cistern close to the path uphill from the Manor in 1988, though it is now hidden by undergrowth, and there is also the elaborate village conduit erected by John Trenchard in 1843, which is now dry (Fig. 1); either of these could have been Puck's Well (Rattue 2020, 17). According to William Barnes's 'Glossary', 'puxy' is a Dorset dialect word for a 'boggy or miry place' (Barnes 1844, 337). William Holloway gives it as 'Puxie', a Somerset word for 'A place on which you cannot tread without danger of sinking into it; applied most commonly in roads or fields, where springs break out' (Holloway 1840, 134). This may suggest an association of water sources with fairies. According to Janet and Colin Bord, pins, buttons and suchlike were thrown into a well as a gift to the fairies' and 'Not only holy wells were frequented by or associated with the Little People. They were sometimes seen at lakes, pools and rivers' (Bord 1985, 112, 114). Chapman's Pool on the Purbeck coast was *Schort Mannes Pol* in 948 – literally 'Short Man's Pool' (Fägersten 1978, 119); Peter Knight suggests this 'may have derived from dwarf or goblin folklore' (Knight 1998, 28).

An alternative, Anglo-Saxon, source for the word 'puck' is given by William John Thoms:

> *'Though "Puck" is now only applied to designate the "merry wanderer of the night," it was originally a name applied to the whole race of fairies, and not to any individual sprite. Nay, more, it is the name by which they are still designated by the peasantry of Friesland and Jutland; and when we remember how a large proportion of what are called our Anglo-Saxon progenitors migrated from those countries it seems scarcely*

too much to say, with M. Kohl, that "the Jutes and Anglo-Saxons could not even get rid of the Pucks when they sailed from England"' (Thoms 2015, 50).

An Anglo-Saxon, rather than Celtic, designation for fairies in Dorset is also corroborated by Llewellyn Powys who noted that shepherds and ploughmen 'gave the name of "elf-shot" to all worked flints' (Powys 1957, 186).

DARK FAIRIES VS ROMANTIC FAIRIES

When exploring traditional fairy-lore it is interesting to note how much darker these mythical creatures are compared with the modern, romantic, children's-storybook image of fairies. The latter seems to be very much influenced by the popularity of the 'Cottingly Fairies' which fascinated (and ultimately fooled, and made a fool of) Arthur Conan Doyle.

The modern trope of fairies being joyous, mischievous, beautiful, immortal creatures may also be traced back to the influence of Shakespeare. As Cumberland Clark points out:

'There was a wide gulf [...] between the Shakespearean fairies and the fairies of rustic belief. The very diminutive beings of Midsummer Night's Dream with their acorn cups, their fans of butterfly wings, and torches of the thighs of humble bees, were wholly the creation of Shakespeare. The folk-fairies differed widely from them, particularly in size and disposition. The fairies of popular superstition were equal in stature to the smaller size of men, and so far from being helpful, friendly and happy, were wicked and dreaded spirits, who were associated with witches, abducted mortals, dealt in changelings, smote humans with disease, blasted crops, stole cattle, and punished with pinchings and nippings, unchastity, uncleanliness, and any invasion of their fairy privacy. It is eloquent of the supreme genius of Shakespeare that his original creation of the subjects of Oberon and Titania proved so beautiful, poetic and fascinating, that the un-lovely folk-fairies disappeared entirely from literature, and the Shakespearean conception usurped and retained their place in the popular mind.' (Clark 1931, 33).

The blame here must surely be shared by Edmund Spencer, whose epic allegorical poem 'The Faerie Queene' was published in 1590. The Fairy Queen Gloriana, whom Spenser invented, represents Queen Elizabeth, and the world of Fairy is Elizabethan England (Daimler 2020, 129).

Young and Houlbrook point out the effect of more modern influences:

'twentieth-century media has influenced popular perceptions of fairies, not least by moving fairies away into the realms of child-lore. Ever since Tinker Bell followed Peter Pan to Hollywood, modern sightings show that Disney's fairy visions have left their mark and that fairies are often seen today as small winged sylphs.' (Young and Houlbrook 2018, 11).

The history and development of such imagery would make a fascinating study in itself, but the fairies in oral folk tales mostly predate the later visual tropes and are largely malevolent and frightening enough to threaten, rather than delight, children well into the Edwardian era. The almost universal tales of people being led astray (or pixy-led) by fairies now seem to have been largely forgotten in this country; however, according to Jeremy Harte, such traditions are still very much current in Newfoundland, and he notes that the settlers there came mainly from Ireland and the West of England, and the carrying of a piece of bread was a common protection charm against pixy-leading on both sides of the Atlantic (Harte 2004, 23).

Thomas Hardy uses the common trope of being 'pixy-led' in *The Return of the Native* (1958, 26) when Christian Cantle warns Mrs Yeobright about getting lost on the heath:

'"'Tis very lonesome for 'ee in the heth tonight, mis'ess," said Christian, coming from the seclusion he had hitherto maintained. "Mind you don't get lost. Egdon Heth is a bad place to get lost in, and the winds do huffle queerer tonight than ever I heard 'em afore. Them that know Egdon best have been pixy-led here at times."'

Sometimes Dorset folk find themselves in a similar predicament due to supernatural animals. In Thomas Hardy's *Far from the Madding Crowd* (1874), the following tale is told concerning the character Joseph Poorgrass:

'"Once he had been working late at Yalbury Bottom, and had had a drap of drink, and lost his way as he was coming home-along through Yalbury Wood, didn't ye, Master Poorgrass? [...] —And so 'a lost himself quite, [...] And as he was coming along in the middle of the night, much afeared, and not able to find his way out of the trees nohow, 'a cried out, 'Man-a-lost! man-a-lost!' A owl in a tree happened to be crying 'Whoo-whoo-whoo!' as owls do, you know, shepherd

[...] and Joseph, all in a tremble, said, 'Joseph Poorgrass, of Weatherbury, sir!'" (Hardy 1924, 66).

Wilkinson Sherren suggests that the source for this story originates in the village of Winterbourne Houghton, near Blandford Forum, where the inhabitants were once known as 'Houghton Owls' after an almost identical jocular tale told about a resident named John Joyce (Sherren 1908 12–13; Palmer 1973, 40).

On the Isle of Portland the village of Southwell was apparently haunted by 'the little people or elementals, called "Nanny Diamonds" and "Necromancers". They are said to dwell in the holes in the remnants of the walls that lead from the former Blacksmith's shop to the village'. According to Biltcliffe the Necromancers are the good, helpful fairies, while the 'Nanny Diamonds' are 'mischievous sprites' with the power to put the 'evil eye' on anyone who crossed their path (Biltcliffe 2009, 149).

Fairies were most likely to be encountered at liminal spaces – borders between the human and the supernatural, such as pools, wastelands, hills and barrows, and therefore it was natural that 'early modern Britons who countenanced fairy belief on some level accorded the spirits respectful fear' (Buccola 2006, 43).

FAIRY RINGS

The belief that rings of toadstools are the dance-floors of the fey is generic across Britain. The Dorset poet William Barnes wrote:

'The belief in fairies, one of the most poetical and beautiful of superstitions, still lingers in the West. "Toadstools" or "swams" (our forefathers' word for the Latin fungi)—or "pixy-stools." (fairy stools) as they are called in Devon—as they enrich the soil and bring the fairy-ring by rotting down after they have seeded outward from the centre, so that the ring of actual fungi is outside of the fairy ring, it was natural for those who believed the ring to be brought by the dancing of fairies to guess that the fungi were stools upon which they sat when tired.' (William Barnes, *Glossary* 1863, quoted in Udal 1989, 260–61).

A much earlier reference is given by John Milton, who refers to fairy rings as 'mazes' in his 'Hymn' of 1629, in which the fairies, along with other revenant pagan spirits are banished with the advent of Christ at the nativity:

> Each fettered ghost slips to his several grave,
> And the yellow-skirted fays
> Fly after the night steeds, leaving their moon-loved maze.
> (Raffel 2009, 230)

This line is used by Rodney Legg to justify his assertion that 'Witches and fairies too, are remembered in conjunction with mazes (Legg and Knott 1974, 26), though this assertion is based on a misreading of Glanvill's *Saducismus Triumphatus* by William Barnes, in which he confused Leigh Common, at Stoke Trister, in Somerset, with Leigh Common at Leigh, near Sherborne, which had a notable maze, known locally as the Mizmaze (Barnes 1882, 154–6; Bird 2019, 32).

Udal notes that the rings 'are called in Dorsetshire "veary-rings"'. He also quotes the Revd W.K. Kendal, who wrote that fairy rings are supposed to be made by 'dancing tracks of little fairies'. Apparently, it was believed that if you could run around such a ring nine times without drawing breath 'a fairy will bring you something good'. He also mentions a traditional song called 'The Fairy Ring', but unfortunately only gives us the refrain:

> Oh ! prythee come and dance with me
> Around the ring where fay
> And elvish sprites in revelry
> Their mighty gambols play
> (Udal 1989, 330)

FAIRIES AND WITCHCRAFT

Perhaps the earliest printed account of Dorset fairies was written about John Walsh (Fig. 2), a 'cunning man' from Netherbury in the 1560s, who practised herbal cures and magic and was accused of witchcraft. It was claimed that he sought advice from fairies when practising witchcraft:

'ther be iii kindes of feries, white, greene, & black. Which when he is disposed to use, hee speaketh with them upon hyls, where as there is great heapes of earthe, as namely in Dorset shiere. And betwene the hours of xii and one at noone, or at

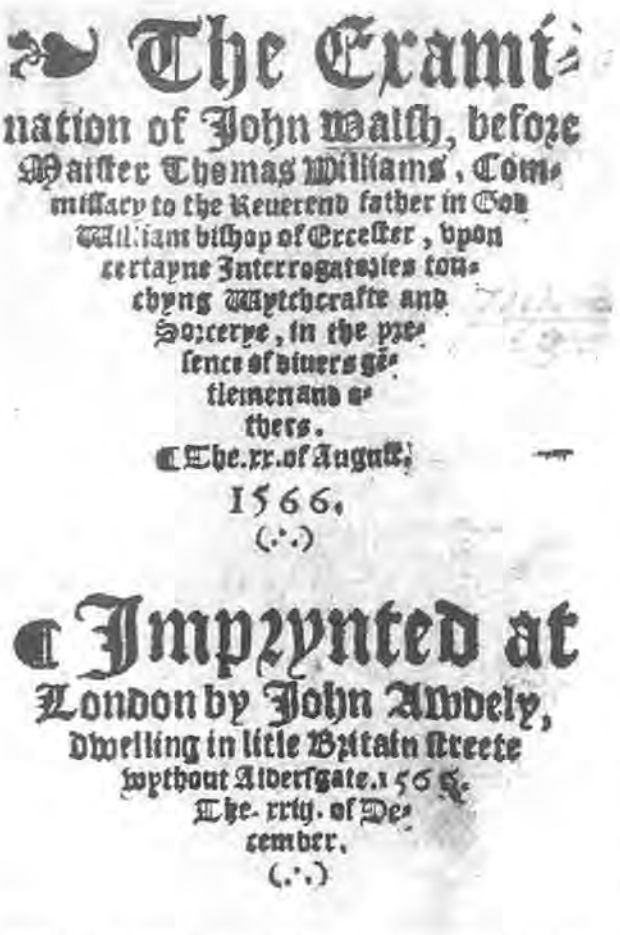
The Exami-
nation of John Walsh, before
Maister Thomas Williams, Com-
missary to the Reuerend father in God
William bishop of Excester, vpon
certayne Interrogatories tou-
chyng Wytchcrafte and
Sorcerye, in the pre-
sence of diuers gē-
tlemen and o-
thers.
¶ The.xx. of August.
1566.
Imprynted at
London by John Awdely,
dwelling in litle Britain Streete
without Aldersgate. 1566.
The. xvij. of De-
cember.

Figure 2 The Examination of John Walsh (courtesy of the Dorset History Centre).

> *midnight he useth them. Whereof (he sayth) the blacke feries be the worst. Also he saith that he had a booke of hys said maister ['syr Robert of Dreiton'], which had great circles in it, wherein he would set two waxe candels a crosse of virgin waxe, to raise the familiar spirite. Of whom he woulde then aske for any thing stolen, who dyd it, and where the thing stolen was left, and thereby did know, and also by the feries he knoweth who be bewitched.'* (Anon. 1985, 62–3).

The 'great heapes of earthe', we will return to shortly. Seers consulting with fairies is a common theme in what became known as Robert Kirk's *The Secret Commonwealth of Elves, Fauns and Fairies* (written around 1700 but not published until 1815), though he distances the practice from witchcraft, interest in which which he blames on 'A too great curiosity indeed to acquire any unnecessary art' (Kirk 2008, 70). Clearly, Walsh regarded the fairies he allegedly consulted with a mixture of trepidation and respect, the assertion 'the blacke feries be the worst' seemingly indicating that none of them were actually benign. The categorisation of fairies as green, white or black does not appear elsewhere, and could either be a local tradition or the product of Walsh's imagination. The 'trope of blackness', however, 'the figuration of a proto-racial polarity via the language of dark and light' is ubiquitous. In his *Discoverie of Witchcraft* (1584), Reginald Scot wrote of 'white spirits and blacke spirits, gray spirits and red' (Purkiss 2000, 237).

The first curator of the Dorset County Museum, Henry Moule, wrote: 'It is believed that fairies come down the chimney and do a deal of harm if you don't stop them. The way to keep them out is to hang a bullock's heart in the chimney.' (*Folklore Journal* **vi**, 1886, quoted in Udal 1989. 276–7; Harte 2018, 74); in the 1880s one such was found in a chimney near Bridport, studded with nails, pins and thorns from a hawthorn bush. This is an example of 'apotropaic magic' (a charm to protect a household) which was also used against witches. Many other examples have been found in Dorset, including one in the chimney at Frampton Police Station, found during the fitting of a new fire grate in the 1900s. Harte writes that while originally designed as a counter-charm against witchcraft, by the early nineteenth century the pin-studded bullock's heart 'was being used as an all-purpose talisman against malicious things coming down the chimney-breast' (Harte 2018, 74).

A similar charm is the 'hag stone'. Hag stones are a very old, and very long-lived tradition. In the mid seventeenth century, William Butler wrote in his satirical poem 'Hudibras':

> Chase evil spirits away by dint
> Of sickle, horse's shoe, Hollow Flint

Just as the studded bullock's heart could ward off witchcraft or fairies, according to F.T. Elworthy, they were effective against 'in some districts witches, in others pixies'. He notes that 'in all the root idea is the same—that the mischief is worked by the malevolent glance'. Elworthy quotes H.J. Moule's observation (in *Notes & Queries*, July 20, 1895 p.52): 'These "holy stones," sea-rolled flints with a natural bore [used to be] tied as charms inside the bows of the Weymouth boats. I have watched a boatman in the act of fastening one in his craft.' (Elworthy 1902, 1, 7)

When horses were found sweating and exhausted in the morning, it was thought that witches or fairies had ridden them all night, and tangled their manes; this was called 'hag-riding', and could be prevented by hanging a holed stone over their stalls, round their necks, or at the stable door. General Pitt-Rivers acquired an example for his collection in 1880. The catalogue entry reads: 'found fixed on a nail to the cottage-door of Kimber, a carter in Gen'l Pitt Rivers' employment, to keep away witches.' [acquisition no. 540/12191]. Hooks and shears were effective too, as the Devon clergyman Robert Herrick reveals in 'Another Charm for stables' (891 in *Hesperides*).

> Hang up hooks and shears to scare
> Hence the hag that rides the mare,
> Till they be all over wet
> With the mire and the sweat:
> This observ'd, the manes shall be
> Of your horses all knot-free.
> (Herrick, 1898, 104)

Jeremy Harte quotes C.V. Goddard, 'folklorist of Chideock', who refers to fairies being seen in Peticate Lane on their way up to Langdon Hill. 'Elsewhere he gives a story which might explain this experience: when a horse was found in the morning standing restless, sweaty and tired in the stable, it was put about that he was ridden overnight by the fairies, but in fact he had been borrowed by smugglers who were in a hurry to get their cargo inland' (Harte 2018, 75). Smuggling was endemic throughout Dorset in the seventeenth and eighteenth centuries, and the practice lingered well into the nineteenth. Goddard notes that 'the belief that horses were nightly ridden by fairies was a 'euphemism rather than a real deception since farmers were coerced into helping smugglers in the way by threats of rick burning and worse' (Dillion 2016, 57).

An incident of hag-riding was reported at Potterne farm, Verwood in the 1890s. The carter apparently shrugged his shoulders and said sanguinely 'Oh, the fairies have been out again' (Begg 1947). It would be interesting to know if the carter in question had nailed a hag-stone to his stable door. Perhaps, far from being charms to prevent such occurrences, they indicated that a horse would be available to the smuggling gangs overnight if it was returned safely by morning, and the animal's keeper, having turned a blind eye, would then enjoy a share of the contraband.

FAIRY MOUNDS AND MUSIC BARROWS

As Leslie Grinsell notes: 'Traces of Neolithic living and working sites are not normally conspicuous enough to attract folklore. On the other hand the burial sites of the period were built to endure and are often notable features of the landscape [...] From the beaker cultures dates the early development of the Bronze-Age round barrow or cairn, the commonest archaeological feature of the upland landscape' (Grinsell 1976, 79–80). The Dorset downs are literally littered with such sepulchral monuments: Grinsell's *Dorset Barrows* (1959) lists over 1800 round barrows, while his *Dorset Barrow Supplement* (1982) added a further 360 known sites to the inventory (Grinsell 1959, 9; 1982, 1).

The 'heapes of earthe' mentioned in the transcript of Walsh's examination are the barrows which dot the hills north of Beaminster. In Ireland such monuments are commonly called fairy mounds, or *raths*, in Scotland, *sitheans*. There is a 'Fairy Barrow' on the ridge of hills above Abbotsbury, and near Bere Regis there is a mound (possibly natural) known as Bugbarrow or Buckbarrow, which is said to be haunted by a goblin. Langdon Hill, near Bridport was said to be the abode of fairies, and one man stumbled upon a fairy market there from which he stole some gold; when he arrived home, the gold had turned to pebbles. Lewesdon Hill, the highest point in Dorset, where there is evidence of an Iron Age settlement, is also said to be the abode of fairies (Hodgson 2016, 85). The fairies who lived on Castle Hill, East Chelborough, which has a 'Peculiar barrow-like mound' on its summit, were most put out when the church was built (Hutchins 1863, 655).

At barrows on Bincombe Down and at Culliford Tree (Fig. 3), south-east of Dorchester, it was said, relatively recently, that fairy music could be heard if you put your ear to the ground at mid-day:

> *'about nine or ten years ago ['my informant'] had gone to see the Culliford Tree barrow group. Looking north from the point where a minor road turns of the main one, you can see Culliford Tree, with the tree clump on it to your left,*

Figure 3 The 'Singing Barrow' at Culliford Tree (photo by the author).

> *and to your right a smaller barrow, the first of a cemetery extending off in that direction. From this smaller barrow, he and a friend with him, heard a sound which they identified as the traditional singing. It was a humming, whining noise: when pressed for a description, he said it was like the sound of a jet engine, but soft and far off. It did not come from any point in the barrow, but seemed to be pervasive in the area around the site. He had never heard the sound at that place, before or since.'* (Harte 1986, 47)

An earlier reference may be found in an essay by Llewelyn Powys, 'Shakespeare's Fairies', first published in the *Dublin Review* in 1934 (Foss 1991, 348):

> *'In Dorset, labourers coming home with their wheaten baskets over their shoulders, tell of hearing the fairy women sing as they sit weaving within the "humming barrow" that overlooks the sunny village of Bincome. For it is within such grassy hillocks that fairies are usually reputed to have their dwelling-places. It is from such green hills that they emerge, are suddenly present in their favourite haunts near water, "by paved fountain, or by rushy brook".'* (Powys 1935, 16)

In the 1970s, a woman who was thinking of buying a plot of land adjacent to Culliford tree barrow was, on two separate occasions, warned off the idea by a disembodied voice. She stated that 'since her visit was not known in advance to anyone but herself, nobody could be hiding behind the Culliford Trees' (Dewar 1977).

Leslie Grinsell, quoting Warne's *Celtic Tumuli of Dorset* (1866) notes that the barrow, which he calls the 'Music Barrow' was the meeting place of the Culliford Tree Hundred, and that when it was opened in 1858 it yielded four secondary inhumations with amber beads with gold casings. (Grinsell 1976, 109; 1959, 143). The RCHM(E) states that 'The amber beads with the gold plating indicate a period of time far later than that of the tumuli of the district, which are in general of the most remote age', and 'And that 'An Anglo-Saxon date is a distinct possibility, which is of interest given the fact that the barrow mound, presumably at some point in the Early Medieval period, came to mark the meeting place of the local Hundred to which it also gave its name' (RCHME 1970, 458–9). There are several other examples of barrows in Dorset used in this way besides Culliford Tree, including Chettle Long Barrow, The Hundred Barrow at Bere Regis and the Hasler Barrow at Steeple in Purbeck. (Grinsell 1982, 12; Knight 1998, 208). Like many ancient earthworks in Dorset, notably at Bulbarrow, and Eggardon, Culliford Tree barrow was also a traditional 'gypsy camp ground' (Hodgson 2016, 16), which may have added to its reputation as a 'music' barrow.

It is interesting, if ultimately fruitless, to speculate when such traditions became attached to prominent landscape features – certainly supernatural phenom-

Figure 4 Colmer's Hill, Symondsbury (photo by the author).

ena have been associated with such sites in Dorset for a long period of time: as early as December 1678 a spectral army was seen at Flowers Barrow, East Lulworth, marching over Grange Hill and 'a great noise and clashing of arms was supposed to have been heard' (Hutchins 1861, 606). The army is said to have been seen again in 1939 and in 1970 (Westwood and Simpson 2008, 110–11); similarly a phantom warrior was seen at Bottlebush round barrow (see below) in 1927 (Grinsell 1976, 107).

Colmer's Hill, at Symondsbury, west of Bridport, is another place where fairy music has been heard (Fig. 4). According to the online Paranormal Database 'While last heard in 1939 by a group of schoolchildren, one hundred years previous it was said a young girl danced herself to death to the tunes'. This girl is named as Ann Ward in Newland (2010, 33–35). Unfortunately no source is cited in either instance and I have been unable to unearth further corroboration. According to Peter Knight 'the hill is known by tradition as Witches Hill, indicative of former pagan ceremonies' (Knight 1998, 189). Once again no source is given for this assertion.

According to Revd Parke (*Folklore* **74**, 1963, 116), in 'The Folklore of Sixpenny Handley, Dorset' fairies were seen at a barrow near Winterbourne St Giles:

> *'I was told one evening a man lay down to rest on top of one of the barrows on Bottlebush Down, and was astonished to see a crowd of little people in leather jerkins, who came and danced round him. Since hearing this tale, I have been told that the man was the late curate of Handley, the Rev A.R.T. Bruce, but unfortunately he died before I could confirm this.'* (quoted in Harte 1986, 80).

There was a popular theory current in the nineteenth century that the 'The Fairy belief may be a tradition of an ancient race dwelling in subterranean homes'. A Dr Cririe, in his *Scottish Scenery* (1803) suggested that the 'germ of the Fairy myth is the existence of dispossessed aboriginals dwelling in subterranean houses, in some cases called Picts' houses, covered with artificial mounds. The lights seen near the mounds are lights actually carried by the mound-dwellers' (Kirk 2008, 91 note *f*). This theory was later explored by MacCullogh (1932) and Spence (1946). Leslie Grinsell shows a map of the distribution of ancient sites associated with fairy-lore. The distribution is wide throughout Britain, except for Wales, where they are absent (Grinsell 1976, 30).

Whilst there seems to be a strong association between fairies and many ancient sites in Dorset, they do not seem to be guardians or protectors of such sites, as they often are in Cornwall, where Spriggans seem to have taken on that role, probably

Figure 5 Lewcombe church, East Chelborough (photo by the author).

due to the taboo against damaging certain ancient monuments, especially barrows and standing stones. 'This type of superstition, which is strongest in remote and rural areas, has for a long time helped to preserve many of the surviving monuments. It affects the accidental disturbance of an antiquity as well as the search for treasure believed to be concealed in a site.' (Grinsell 1976, 64). 'Brownies and other hobgoblins are the best-known guardian fairies' (Ash, Briggs *et al.* 1973). Spriggans are explained as 'pagan ancestors and stolen humans who are too good for Hell and too bad for Heaven, thus trapped on Mortal earth' (William Bottrell, *Traditions and Hearthside Stories of West Cornwall* 1873, quoted in Daimler 2020, 329). According to Robert Hunt (1930, 81), 'The Spriggans are found only about the cairns, coits, or cromlechs, or detatched stones, with which it is unlucky for mortals to meddle'. He relates the tale of 'The Spriggans of Trencrom Hill' who chased a treasure-hunter away: 'small at first, they rapidly increased in size, until eventually they assumed an almost giant form, looking all the while, as he afterwards said "as ugly as if they would eat him."' (Bottrell 1980, 90). While there was a strong taboo against destroying megalithic monuments on the Isle of Portland, to the extent that megaliths in the way of quarrying were often moved rather than being broken up for building material, it seems to have been a curse, rather than hobgoblins which would have pursued the perpetrators (Biltcliffe 2009, 17). Rodney Legg attributes this to a literal reading of the line in the sixteenth-century Prayer Book: 'Cursed is he that removeth away the mark of his neighbour's land.' (Legg 1998, 118).

FAIRIES AND THE CHURCH

Fairies, it would appear, do not like the outward signs of Christianity. In the 1860s it was reported that they apparently fled from the Nether Field when the church bells were installed at St George's church, Portland (Harte 2018, 70–71). They had had free rein for a while, as the church was not opened until 1766, replacing the old St Andrew's church which had been damaged by landslips and had long been disused (Morris 1985, 39–41).

In a rare reference to fairies in his *History and Antiquities of Dorset*, the Revd John Hutchins wrote:

> *'The church stands at Lucombe [Lewcombe] in the extreme north end of the parish, distant about a mile and a half from the hamlet of East Chelborough, but that the fairies every night removed what had been built in the daytime down to its present site.'* (Hutchins 1863, 653).

Louise Hodgson mentions the interesting belief that 'earth fairies [are] unable to cross running water' and that the proposed siting of the church (Fig. 5) 'would have blocked a fairy path' (Hodgson 2011, 42).

A similar legend is told about the church at Godshill on the Isle of White, in which the original site chosen was the fairies' 'favourite place for dancing' (Westwood and Simpson 2005, 304). Such legends about the siting and moving of materials for church-building are by no means uncommon, but usually the culprits are not named, and the phenomenon is put down to 'some supernatural power', one such example being Christchurch Priory church (Warner 1793, 201). Kingsley Palmer, in his *Oral Folk-Tales of Wessex* (1973) cites the case of the rival parishes of West Dowlish and Dowlish Wake in south Somerset when the destruction of the church by fire in the late sixteenth century was blamed on the inhabitants of the latter. By the nineteenth century the story had developed so that the church was not destroyed, but moved by night, the culprits being variously 'ghosts, fairies, pixies, druids or "people that moved by night"' (Palmer 1973, 46).

In contrast to the Portland legend, an interesting story is told regarding the church at Stourpaine (Fig. 6), near Blandford Forum, where the fairies, far from being antipathetic to the church bells, actually indulged in bell-ringing themselves:

> *'There is a superstition that surrounds the small door and tiny staircase in the church. It is believed that the fairies or elves make the bells ring in the church. The entrance to the bell tower was supposed to have been made so as to allow the fairies or elves to go up to the bells and make them ring. They are supposed to do this early in the morning by using the fresh dew off the grass. It is said that if the fairies see the footprints of a mortal in the grass on entering the stairs to the bell tower, then that person has extremely bad luck, and further the bells will not ring. Generally no one will enter this small passage, but if they do so they only do it when the dew is off the grass. There is also a superstition that if one is very quick, as soon as the dew is off the grass, and enters the small door, one might see tiny drops of dew that the fairies or elves dropped as they hurried up the stairs.'* (Palmer 1973, 120).

Figure 6 The 'fairy door', Stourpaine church (photo by the author).

This is a highly unusual tradition and may well be unique, as while the 'primary purpose of the church and monastery bells was, and is, to remind hearers of a duty of prayer [they] were widely believed to frighten away demons of the air' (Simpson and Roud 2000, 21). Apart from the ubiquitous 'lost bells' legends the only other example of supernatural bell-ringing I have found is the 'church grim' – a spirit in the form of a black dog, in the Scottish borders, which 'restricts itself to churchyards' and which sometimes 'tolls the bell at midnight before the death [of a parishioner] and can be seen looking from the tower of a church'. While it is described as a 'fairy beast', this appears to be a very different tradition, derived from the practice of burying a dog's corpse in a new churchyard to protect the souls of subsequent human inhumations from the devil (Nozedar 2011, 167).

Another connection between fairies and church bells may be indicated by the small incised image of a small, horned face carved into the stonework inside the church of St Mary the Virgin, Charminster, near Dorchester. The carving (Fig. 7) is nearly 3 m above the floor on the north wall of the bell tower. While the church guidebook describes the face as a 'devil', it has large, pointed ears, very similar to seventeenth-

Figure 7 The Charminster 'Puck' (photo by the author).

century depictions of Puck and Robin Goodfellow, which also have horns. On close examination, however, it would appear that the horns may be a later addition, as they are more crudely drawn than the other features. As Morgan Daimler points out, Puck was a popular folkloric figure that had long blended fairy lore and demonology, influenced by Christian cosmology, though pointed ears did not become a common feature of fairy imagery until the Victorian period (Daimler 2020, 271). Several church towers in Dorset exhibit horned and/or winged figures with some attributes of Puck, but it is likely that these are simply grotesques or demons, rather than fairies.

Pope Gregory's edict to Saint Augustine, who was sent to convert the pagan British in the sixth century, not to destroy but to purify temples with holy water 'so the people will have no need to change their place of concourse', resulted in some churches being sited at places of former pagan worship, though such examples are 'in fact relatively scattered and sparse' (Walsham 2010, 30). Knowlton church near Wimborne, in the centre of a Neolithic henge, is surely one of the most spectacular examples. Also 'Many pagan altars and carvings of pagan deities have been incorporated into the walls of churches and have been used as fonts (Ash, Briggs *et al.* 1973, 66); the font in St Andrew's and St Peter's church at Toller Porcorum consists of a medieval stone basin supported by a Roman altar (Long 1923, 66; Mee 1967, 190). It could be that the antipathy which fairies often have to the Church in folklore may be derived from a perceived association of fairies with paganism in the early-medieval mind, an association which must have become more firmly entrenched with each attempt to stamp out revenant paganism; 'local shrines and deities continued to be venerated in England for centuries; as late as 995 it was deemed necessary for a law to be passed prohibiting "well worship, necromancy, divination and rituals at trees and stones"' (Bird 2011, 71). Many hagiographical tales became attached to places of former pagan sanctity in the Middle Ages and during the Reformation, for the puritan zealots it was only 'by smashing the physical objects and structures that sustained them' that the 'written and unwritten traditions linked with wells, trees, caves, and stones' could be 'consigned to permanent oblivion' (Walsham 2011, 125). Such desecration of ancient sites, which were often associated with fairies, could only have reinforced the idea that the fay, whose abode was often in the barrows erected by our pagan ancestors, would naturally oppose Christianity.

The Agglestone on Godlington Heath 'attracted much attention from antiquaries in the eighteenth and nineteenth centuries, who regarded it as a 'Druidical' altar, or other monument, of great importance' (Bird 2012, 22). According to Llewelyn Powys 'The fairies of Egdon Heath are rumoured to use an especial resin with which to dye their short coats, made from the leaves of the wild madder, mixed with the lichen they scrape from the Agglestone rock and other charmed stones' (Powys 1935, 18).

GABBERGAMMIES

From the following description in Edward William Watson's history of Ashmore (1859) the Gabbergamies or Gappergennies) were part fairy, part ghostly spirit. 'Strange noises' were heard here until around 1840 when a prehistoric mound was removed and a road built across the site.

'There are, as in all the down parishes, several barrows in Ashmore. There is one at Gore, one at Mudoak copse, and two large ones on what was Broadridge Common. When the common was broken up, the plough was taken over these, and a number of brass buttons, or what passed for such, were found under the surface of one of them. Concerning another barrow, which has now disappeared, there appears this entry in the parish register: —"Part of a human skeleton — whether that of a man or of a woman is uncertain — shaving been found on Broadridge Common in this parish, was buried according to the rites of the Church of England, 14th Nov., 1864. William Darby, Curate." There was another barrow, over which the road to Fontmel now runs, by Folly Hanging Gate, near Washer's Pit. In this lonely place, till within living memory, strange sounds were made by creatures in the air called Gappergennies, or however else the name may be spelt. [Otherwise called Gabbygammies. The late Mr Stephen Hall, of the Manor Farm, who had often heard the sounds, thought they were made by badgers].

Of the nature of these sounds I have not been able to learn anything, except that they could be successfully imitated by human lips. When, perhaps fifty years ago, a metalled road was made to Fontmel instead of the old cart-track, this barrow, which lay close to the old road and on the line of the new one, was dug up, and the bones it contained buried in the churchyard. As there is no entry of the fact in the register, this was no doubt done without the burial service. On the down, by the roadside, a cross had always been kept cut, opposite the barrow. This has been neglected since the reinterment; and since then, also, the strange sounds have not been heard. The low mound and the cross on the turf are well remembered. On the common below Sandpits Field is a line of small barrows, which seem to have been opened at some remote date.' (Watson 1859, 2)

These Ashmore fairies are probably most notable for their names, for which there does not appear to be a parallel elsewhere. The closest that can be found in Barnes's Glossary is 'Galley-bagger', which he defines as 'a scare beggar; bugbear', while a Galley-crow is a scarecrow (Barnes 1970, 64), interestingly, a Galley-beggar, in Somerset, is a 'headless ghost' (Briggs 2002, 274). The Galley element certainly means 'scare', perhaps 'gapper' and 'gammy' are a corruption of this. Jenny, or Ginny, Greenteeth is a water-spirit who drowns children, associated with many northern rivers, especially in Yorkshire (Nozedar 2011, 127).

It is disappointing that Watson cannot give us a more detailed description of the 'strange sounds'. It would be interesting to know if it was similar to the 'humming, whining sound' heard at Culliford Tree. Grinsell mentions fairy music at several barrows from Cornwall to Shetland, but it is usually described in terms of dance tunes, often played on the fiddle (Grinsell 1976, 31), though he also mentions unspecified noises which have occurred when a barrow has been dug into, whose purpose seems to be to scare away treasure seekers.

Watson also mentions that the daughter of the local squire

'went forth to find a lady in white hanging by her hair from an ash tree over the well, now closed, at Washer's Pit [...] Connected with the same ground as this legend and that about the barrow at Folly Hanging Gate, is another of a woman in white, who has been seen and felt brushing by them, within the last fifty years, by travellers between Spinney's Pond and Washer's Pit.' (Watson 1859, 20)

Tales of 'white lady' ghosts do seem to have an affinity with fairy lore (see below).

COLOPEXIES

According to the antiquary John Brand,

'In Hampshire they give the name of Colt-pixy to a supposed spirit or fairy, which, in the shape of a horse, wickers, i.e. neighs and misleads horses into bogs, &c.'

Furthermore,

'There are, in the secluded parts of Dorsetshire, many a surviving trace of the ancient fairy mythology. In addition to the "colopexy," mentioned by Mr. Barnes, the common fossil belemnites are termed "colepexies fingers," or "fairy fingers" and fossil echini, "colopexies' heads." The goblin colt, which is held out to children to ensure obedience, even today, in the rural parts of our county, is still called the pexy, and he is supposed especially to haunt coppices and woods.' (Brand 1849, 513).

Fossil echini, a form of sea urchin (Fig. 8), have been found as grave goods in Neolithic burials, and in Sussex, where they were known as 'shepherds' crowns' they were put on window-sills to protect a house against 'lightning, witchcraft and the evil eye' (Valiente 1984, 149); in Dorset, as William Barnes tells us, the fairies 'come by lightnèn' (see below). Ammonites, which have the appearance of a coiled snake, were also considered to be protective charms, the snake being 'a symbol of spiritual power' (Valiente 1975, 81); a large ammonite is

Figure 8 Fossil echini and belemnites (author's collection).

set into the dry-stone wall at the entrance to the Neolithic chambered tomb at Stoney Littleton in Somerset.

There is a reference in Brand to the Warwickshire poet Michael Drayton's epic topographical poem *Poly-Olbion*, which was first published in 1622. The relevant lines quoted are:

> 'This puck seems but a dreaming dolt,
> Still walking like a ragged colt,
> And oft out of a bush doth bolt,
> Of purpose to deceive us;
> And leading us makes us to stray,
> Long winter nights out of the way,
> And when we stick in mire and clay,
> He doth with laughter leaves us' (ibid.).

Leslie Grinsell notes the name of a round barrow at Boldre, in the New Forest, as 'Coldpexy's Cave' (Grinsell 1976, 111). The word 'colopexy' is also found as a verb. In the dialect glossary which accompanies *William Barnes's Poems of Rural Life, in the Dorset Dialect* (1859) we find the following: 'Colepexy. To glean the few apples left on the tree after intaking.'; to steal as it were, the fairies' horde. Katharine Briggs describes a 'Colt Pixy' as 'an orchard spirit who guarded apple trees' (Briggs 2002, 56).

A tale is told that in Wareham a man set out at night to rob his neighbour's orchard of fine cider apples. One apple fell and smacked him in the eye and he leapt about howling in pain. Instantly the colepexy set upon him in the form of a colt. It tossed the thief high into the air and as he came down again it kicked him in the back of his neck, snapping it in two and killing him instantly (Newland 2006, 65–6).

WATER NYMPHS

According to Newland (2006), there is a Dorset tradition of beautiful water nymphs living in deep pools, who emerge to lure strangers to their deaths in the depths of the water. One such is Rushy Pond (Fig. 9), a well-known beauty spot near the cottage in which Thomas Hardy was born, at Higher Bockhampton. More benevolent are the nymphs at Studland and Ringstead, who simply emerge from the water to dance, but unfortunately Newland quotes no sources for these legends. However, there does seem to be a traditional association with fairies with this remote yet well-known place, which stands close to an intersection of an old Roman Road and several ancient trackways. Michael Millgate (1982, 30) wrote in his *Biography* of Hardy:

Figure 9 Rushy Pond (photo by the author).

'the Hardy children heard at an early age that Rushy Pond on the heath had been dug by fairy shovels.' Hardy himself uses the pond as the site from which a mysterious stranger takes the Mellstock Quire, blindfolded, to lead the dances at the 'strange hall' (see below). A similar tale used to be told about Blue Pool, near Wareham, which was inhabited by fairies who would lure people into the water with promises of eternal youth; the gullible were never seen again (Harte 2018, 76).

More elaborate is the legend of a boy in the employ of the monks of Bindon Abbey, either as a 'swineherd' or 'bird-scarer' who was seduced by a 'river-nymph' who emerged from the nearby river Frome (Fig. 10). When the priest, a Father De Brian, persuades the boy to confess, he tells 'Luberlu' that the nymph is intent on 'drawing life from him and that there could be 'no happiness'. The nymph is never seen again and the lonely boy dies of a broken heart (Lloyd 1988, 79–80). This tale (an 'ancient Ringstead legend', according to Llewelyn Powys) was the subject of a poem, 'Lubberlu' published in 1922 by John Cowper Powys and was elaborated by his brother Llewelyn into 'A Christmas Tale', first published in 1933 in the *Dorset Daily Echo* (Powys 1922, 22–4; Powys 1935, 115–21). In the Powyses' version the girl's face was seen through a window in Ringstead Chapel on Christmas day; the boy rushed to greet her, whereupon he fell dead. Peter Foss, the leading bibliographer of Llewellyn Powys assumes this to have been 'a local folkloric tale which the Powyses had picked up' (Foss, pers. comm. 8 July 2020).

Figure 10 The Frome near Bindon Abbey (postcard *c.* 1905 – author's collection).

OKEFORD HILL AND BRANKSOME PARK FAIRIES

Far more benevolent, and much more like the modern conception of fairy folk, are two encounters mentioned by that well-known enthusiast for fairies, Arthur Conan Doyle, in his book *The Coming of the Fairies* (1922):

> *'Mr. J. Foot Young, the well-known water diviner, writes: 'Some years ago I was one of a party invited to spend the afternoon on the lovely slopes of Oxeford [Okeford] Hill, in the county of Dorset. The absence of both trees and hedges in this locality enables one to see without obstruction for long distances. I was walking with my companion, who lives in the locality, some little distance from the main party, when to my astonishment I saw a number of what I thought to be very small children, about a score in number, and all dressed in little gaily-coloured short skirts, their legs being bare. Their hands were joined, and all held up, as they merrily danced round in a perfect circle. We stood watching them, when in an instant they all vanished from our sight. My companion told me they were fairies, and that they often came to that particular part to hold their revels. It may be our presence disturbed them.'*(Doyle 1922, 167)

Doyle also quotes a Mr Lonsdale of Bournemouth, who claimed to have seen fairies in the garden of a Mr Turvey, a 'gifted clairvoyant':

> *'I was sitting," says Mr. Lonsdale, "in his company in his garden at Branksome Park. We sat in a hut which had an open front looking on to the lawn. We had been perfectly quiet for some time, neither talking nor moving, as was often our habit. Suddenly I was conscious of a movement on the edge of the lawn, which on that side went up to a grove of pine trees. Looking closely, I saw several little figures dressed in brown peering through the bushes. They remained quiet for a few minutes and then disappeared. In a few seconds a dozen or more small people, about two feet in height, in bright clothes and with radiant faces, ran on to the lawn, dancing hither and thither. I glanced at Turvey to see if he saw anything, and whispered, 'Do you see them?' He nodded. These fairies played about, gradually approaching the hut. One little fellow, bolder than the others, came to a croquet hoop close to the hut and, using the hoop as a horizontal bar, turned round and round it, much to our amusement. Some of the others watched him, while others danced about, not in any set dance, but seemingly moving in sheer joy. This continued for four or five minutes, when suddenly, evidently in response to some signal or warning from those dressed in brown, who had remained at the edge of the lawn, they all ran into the wood. Just then a maid appeared coming from the house with tea. Never was tea so unwelcome, as evidently its appearance was the cause of the disappearance of our little visitors." Mr. Lonsdale adds, "I have seen fairies several times in the New Forest, but never so clearly as this." Here also the scene is laid in the heat of a summer day, and the division of the fairies into two different sorts is remarkably borne out by the general descriptions.'* (Doyle 1922, 134–6).

The book was a product of the author's 'almost messianic' response to the Cottingley fairy photographs (Sugg, 2018, 59). For Doyle, who was President of the Council of the College of Psychic Science (Benham 1992, 224), and Edward Gardner, a prominent member of the Theosophical Society, the photographs were 'bound up with Theosophy, Spiritualism, and anything else which offered alternatives to an increasingly stark and materialistic world-view'. Doyle believed that 'the recognition of [the fairies'] existence will jolt the material twentieth-century mind out of its heavy ruts in the mud, and will make it admit that there is a glamour and a mystery to life' (Sugg, 2018, 59). This way of thinking may be regarded as

an early manifestation of the first flowering of the 'New Age' counter-cultural movement which really got underway in the 1920s when the Theosophical Society's protégé, the Indian guru Jiddu Krishnamurti, came to Britain (Akhtar and Humphries 1988), and it is in this context that these quotes by middle-class gentlemen, one a 'water diviner' and the other a 'gifted clairvoyant', must be seen.

DORSET FAIRIES IN LITERATURE

William Barnes wrote several Dorset dialect poems about fairies, or 'veairies' as he calls them; His Eclogue 'The Vearies' illustrates some interesting beliefs about fairies, which either 'come by lightnèn when do thunder', or 'by moonlight, when noo other veet do tread the dewey grass'. Barnes' fairies appear to dance to the sound of pan pipes:

> 'Why, they do zay, that at the veäiries' ball,
> There's nar a fiddle that's a-heard at all;
> But they do play upon a little pipe
> A-meäde o' kexes or o' straws, dead ripe.
> A-stuck in row (zome short an' longer zome)
> Wi' slime o' snails, or bits o' plum-tree gum,
> An' meäke sich music that to hear it sound,
> You'd stick so still's a pollard to the ground.'

The poem carries on to describe how fairies can sometimes be spotted at midnight; they live underground; they sometimes sneak into farmhouses at night, either by coming down the chimney, or squeezing through a keyhole; that they have a fondness for mead, which is sometimes their undoing (Barnes 1905, 72–75).

The writings of Thomas Hardy, usually a mine of information on local tradition and folklore, is usually considered to be a reliable source of Dorset folk traditions (Robson 2004). However his novels are rather scant on fairies, which he seems reluctant to mention. This could be because fairy-lore was already practically extinct during his lifetime: writing in 1902 in a letter to H. Rider Haggard, he bemoans the fact that due to the rural workforce becoming

> *'more and more migratory [...] village tradition—a vast mass of unwritten folk-lore, local chronicle, local topography, and nomenclature—is absolutely sinking, has nearly sunk into eternal oblivion. [...] For example, if you ask one of the workfolk [...] the names of surrounding hills, streams; the character and circumstances of people buried in particular graves, at what spots parish personages lie interred; questions on local fairies, ghosts, herbs etc., they can give no answer.'* (Hardy 1930, 94).

This view is corroborated by William Wilde, writing in 1852, that 'traditional lore about the "good people" was rapidly disappearing in the face of mass education, urbanization and industrialization' (Walsham 2011, 513).

However, one of Hardy's poems tells a story very similar to some ancient tales of a magical fairy otherworld. In 'The Paphian Ball' he has the musicians of the Mellstock Quire meet a stranger near Rushy Pond who asks them to play at a Christmas ball for 'grand pay'. He leads them, blindfolded, to a strange mansion:

> 'In brief, a mansion large and rare,
> With rows of dancers waiting there.
> They tuned and played; the couples danced;
> Half-naked women tripped, advanced,
> With handsome partners footing fast,
> Who swore strange oaths, and whirled them past.
> And thus and thus the slow hours wore them:
> While shone their guineas heaped before them.'
> (Hardy 1962, 774)

They play all night until, becoming drowsy, one of them accidentally starts to play a Christmas carol ('While Shepherd's Watched their Flocks by Night') the mansion, dancers and guineas all disappear, and they find themselves on a dark hillside near Rainbarrow with no pay. Ruth Firor describes the poem as being based 'in a Medieval legend' (Firor 1931, 156). More specifically, Hardy's poetic tale appears to be similar to a Flemish story, probably late sixteenth- or early seventeenth-century in date, about a fiddler named Kartof, included in a paper by William Johm Thoms, published in the *Athenaeum* in 1847, and in 1865 as one of the essays in *Three Notes on Shakespeare* (Thoms 2015, 46–7).

In *The Woodlanders*, when Hardy uses the familiar trope of hag-riding, a stable-hand explains why a horse is exhausted in the morning by coming up with 'a whole series of tales about equestrian witches and demons, the narration of which occupied a considerable time' (Hardy, 1920, 256).

But even here fairies are not mentioned. In his story, of course, the horse had actually been illicitly ridden overnight by Doctor Fitzpiers to one of his secret assignations.

Another instance in his poetry indicates that there was still belief in fairies at the time he was writing in the Blackmore vale, a place where, according to Powys (1935, 17) 'the Fairy Court holds state'. Hardy's poem 'The Bullfinches' contains the following lines:

> 'When I flew to Blackmoor Vale,
> Whence the green-gowned faeries hail,
> Roosting near them I could hear them
> Speak of queenly Nature's ways,
> Means, and moods, —well known to fays.'
> (Hardy 1962, 111)

WHITE LADIES

One story from Thomas Hardy's notebooks which he seems not to have used in his published works concerns a 'haunted barn' at Melbury Osmund:

> *'A man coming home drunk entered the barn and fell asleep in a cow's crib that stood within. He awoke at twelve and saw a lady riding round and round on a buck, holding the horns as reins. She was in a white riding habit and the wind of her speed blew so strong upon him that he sneezed, when she vanished.'* (Hardy 1955, 42)

This sounds very much like a vision of Artemis, the Olympian goddess of the hunt, who is often depicted riding, or in the company of, a deer (Fig. 11). She is Diana in the Roman pantheon and is associated strongly with witchcraft, which, as we have seen, had many affinities with fairy beliefs in Dorset. Evans-Wentz associates Diana with Aine the Irish goddess whose 'abode is within the *sidh*' (Evans-Wentz, 1911, 80). Hardy may well have heard the story of the barn from his mother, who had lived in Melbury Osmund; 'Hardy was indebted to his mother for many tales of her childhood' (Hardy 1955, 43)

Kingsley Palmer, commenting on fairy-lore and ghost-lore, notes that:

Figure 11 Roman statue of Artemis 1st/2nd century CE (photo: Wikimedia Commons).

> *'The former shows signs of dying out, or at least of being drastically reduced. The latter however seems to be as strong as ever. As with many other traditions survival depends on a degree of acceptability: while fairies are now discredited as feasible beings, fewer people are prepared to dismiss ghosts with such lack of ceremony.'* (Palmer 1973, 104)

There is often a transference of folk tales between genres over time, and it could well be that Hardy's 'haunted barn' story is an example of this process. Palmer mentions a 'Green Lady' ghost story from Somerset as an example of an 'Other World fairy creature that has passed into oral tradition as a ghost'; he also mentions 'The White Ghost seen in the grounds of Bryanston House, Dorset' in this context. Reinforcing the connection between fairies and water sources, as previously noted by Janet and Colin Bord, James Rattue states that 'White ladies haunted wells at Loders, Charmouth and Washers Pit' (Rattue 2020, 9).

CONCLUDING NOTES AND OBSERVATIONS

The paucity of folk tales concerning fairy-lore in Dorset, compared with other counties in the South West — particularly Cornwall, Devon and Somerset — is puzzling, as there is no such shortage of tales and superstitions concerning ghosts, witchcraft and other supernatural phenomena in the county. The place-name evidence suggests that fairies were believed in and were connected with many specific sites in the Dorset landscape in the Middle Ages. However, as both William Barnes and Thomas Hardy suggest, by the nineteenth century such beliefs only lingered precariously, and it may be that fairy-lore was the first among local folk traditions to dwindle almost to extinction. However, we may make a few observations, if not firm conclusions, about Dorset fairies.

There is a strong association between sightings of fairies and ancient earthworks in Dorset, as there is throughout much of England and Scotland; such monuments, along with other prominent landmarks where fairies were said to dwell are often places where 'fairy music' may be heard. There is a faint possibility that, at Culliford Tree Barrow at least, such folklore may have originated in vague memories of activities connected to the Anglo-Saxon Hundred Courts, and/or gypsy encampments, passed down through generations. The fairy 'music', heard at Dorset barrows, however, differs from examples elsewhere by not being particularly musical, instead manifesting in what has been described simply as 'strange noises', or a vague humming or whining sound. Unlike the Spriggans and Brownies of Cornwall and Devon, the Dorset fairies do not appear to act as guardians of the ancient sites with which they are associated.

As elsewhere, there was a perceived antipathy between fairies and the Church, particularly where the siting of church buildings is concerned. The exception to this is the Stourpaine legend which appears to be unique in British folklore, Given that Dorset is a county which was terrorised by smuggling gangs in the eighteenth century, such tales may well have been concocted to keep visitors away from the church tower early in the morning when it was being used to store contraband overnight. Such occurrences are not unknown and Thomas Hardy used precisely this trope in his short story 'The Distracted Preacher', published in 1888.

There was a strong connection between fairies and witches in the county, the latter calling on the aid of the former, particularly for divination. Apotropaic charms seem to have been commonly used in Dorset to prevent fairies entering the home, where elsewhere they more usually protect against witchcraft. Hag-riding, as the reason for horses being disturbed overnight, also seems to have been explained by fairies as much, if not more, than by witchcraft, and once again we see a possible connection with the activities of the smuggling gangs. If this connection is true, it may be assumed that belief in fairies in the county was still strong in remote areas in the eighteenth century, and possibly that they were more feared in Dorset than in other counties due to a local association with witchcraft, which it appears may have been stronger than elsewhere.

As is the case throughout Britain, in the older, more traditional tales of encounters with fairies they are largely malevolent. Later references illustrate more modern conceptions of fairies as rather twee, winged sylphs, though this observation is somewhat biased through referencing Arthur Conan Doyle's examples — his book *The Coming of the Fairies* being largely a polemical treatise designed to justify his well-known defence of the 'Cottingley Fairy' fakery of 1917, for which he was heavily criticised and derided.

The kind of fairies that are most uniquely associated with the county, the gabbergamies and colopexies, were both of the malevolent kind. Brand gives a Hampshire origin for the latter which may well be explained by the gypsies who traded New Forest ponies (known locally as 'heath-croppers') at the livestock fairs at Woodbury Hill and Sturminster Newton. It may be that belief in colopexies was once widespread, but survived in Dorset and Hampshire longer than elsewhere. Gabbergamies do appear to be unique to Washer's pit, near Ashmore in north Dorset.

While the few references to fairy-lore in Hardy's fiction reflect a lingering belief in fairies in the early nineteenth century (the period in which most of his major Wessex novels were set), references in his poetry, with the exception of 'The Paphian Ball' (which was possibly inspired by a fifteenth- or sixteenth-century Flemish story) are largely elegiac and romantic. Barnes, being primarily

a poet, must of course be allowed some poetic licence in his writings, however, the fact that he was invited to contribute the introduction to Udal's *Folk-lore of Dorsetshire* is a mark of the respect which he engendered among other folklorists, and his mention of fairies entering houses via the chimney is certainly corroborated by Moule's mention of bullock-heart chimney charms, so there is no reason to assume that many of the tropes used in his poetry do not represent the local traditions and superstitions of the time. However, apart from in his poetry, Barnes only mentions fairies in his *Glossary*, and the relevant entries are all in the past tense; they are completely absent from his lengthy introduction to Udal's seminal study. Thus it would appear that by the mid nineteenth century fairy-lore had gone into a steep decline, a development which Hardy blamed on the increasingly migratory nature of the Dorset workforce. As Llewellyn Powys put it:

> *'Where the fairies go none can tell. Perhaps they hide themselves in Lenty Pond or in good Stour mud, as is reported of swallows; or, maybe, they do actually wrap themselves in the snake's enamelled skins, puny painted mummies awaiting the renewed glory of the sun.'* (Powys 1938, 169).

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REVEREND JOHN GLEED (1785–1870), INDEPENDENT MINISTER AND FOSSIL COLLECTOR OF LYME REGIS

MICHAEL A. TAYLOR

John Gleed (1785–1870) was Independent (or Congregational) minister at Lyme Regis from 1818. His tenure was unsuccessful, partly because he spent time on business ventures to support his large family. He was eventually imprisoned for debt, and left Lyme Regis in 1828. Assessing Gleed as a fossil collector exemplifies the historiographical problems of such peripheral figures, and the social factors involved, including his congregation's resentment of the time he spent fossil-hunting. Gleed seemingly did not take part in the formal geological community, perhaps due to poverty. A fine ichthyosaur head he found in 1827 was soon acquired, and probably bought, by the collector Thomas Hawkins (1810–1889), and an earlier find of a shark might also have been sold on. It is however unclear whether Gleed actively traded fossils, or was forced by poverty to sell his finds. Gleed owned three seafront houses in Bridge Street beside the Buddle Bridge. They were damaged in the Great Storm of 1824. One was occupied by Joseph Anning (c. 1796–1849), brother of fossil-collector Mary Anning (1799–1847). Gleed also occupied a cottage on the bridge. Those conspicuous buildings, popular with artists and photographers, were demolished in 1913 to widen Bridge Street.

INTRODUCTION

The Independent Church was a Reformed Protestant sect organised as autonomous congregations, stemming from the 16th and 17th century Puritans of England. During the 19th century, it came to be called the Congregational Church as its congregations became more closely associated. Its Lyme Regis congregation worshipped in the 18th century Independent Chapel in Coombe Street, also known as the Congregational Chapel (Fig. 1). Today, the Chapel houses Dinosaurland Fossil Museum: perhaps appropriately, for here worshipped the family of Mary Anning the younger (1799–1847), the famous fossil collector. Another fossil collector linked to the Chapel is Reverend John Gleed (1785–1870), its minister from 1818 to 1828. This paper outlines Gleed's life and tenure at Lyme Regis, and assesses his geological activities at a time when Lyme Regis was a key site for the new science of palaeontology (Torrens 1995; Sharpe 2020). It is based on standard genealogical resources, and on archival sources, especially photographs and surveys, held especially by Lyme Regis Museum, and Dorset History Centre and Dorset Museum, both in Dorchester.

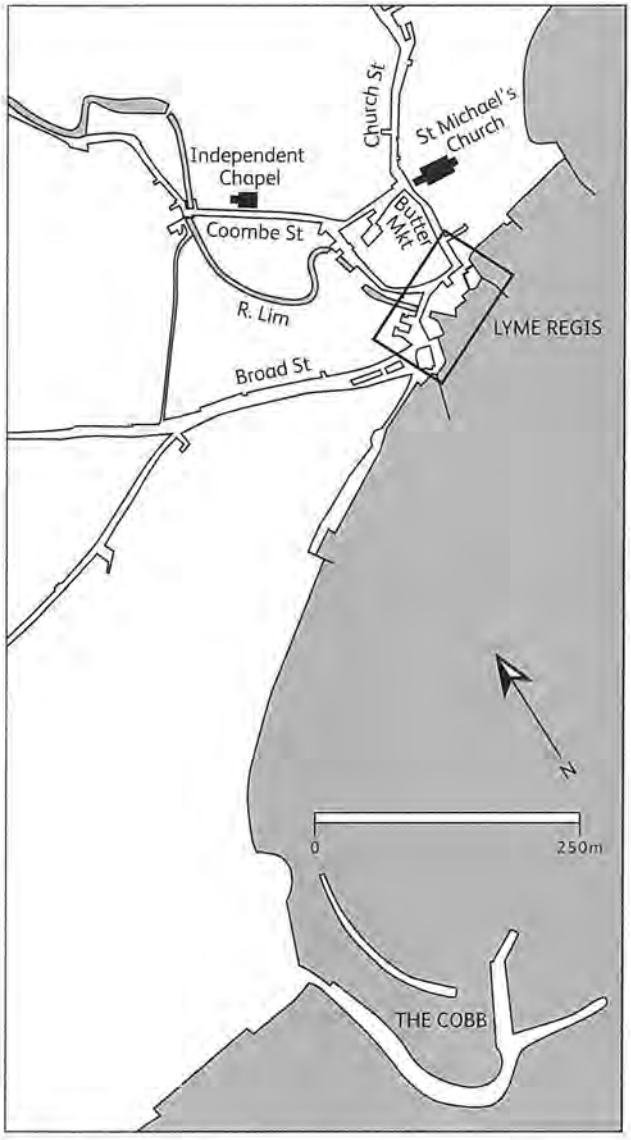

Figure 1 Location map, Lyme Regis, *c.* 1824. Box indicates area in Fig. 2.

GLEED'S LIFE AND MINISTRY

One formal obituary is known for John Gleed, seemingly informed by his family in America (A.W.W. 1871). He was born in Swindon, Wiltshire, in 1785, and in 1805 entered Hoxton Independent Academy to train for the ministry. In 1810 he was ordained minister at the Independent Church at Teignmouth, Devon. He there married, in 1812, Joanna Bulley (d. 1817) (Anon. 1812; 1817). He next married, in 1818, Elizabeth Prettijohn (or Prettyjohn, Pretyjohn etc.) (*c.* 1791–1855). He had at least two children by his first wife, one dying at Teignmouth, and twelve by his second wife; at least seven children were born at Lyme Regis, and two died there (buried at Charmouth Independent Chapel).

In 1818, Gleed was appointed Independent minister at Lyme Regis. His obituary makes no comment on his tenure there, and the main source for this period is the *Church Book* (held at Dinosaurland). Published histories of the congregation are based on this manuscript, begun by one of Gleed's successors in 1839 (Knell 1856; Densham and Ogle 1899, 152; Paull 1962). However, much documentation went missing during Gleed's tenure, which had to be dealt with retrospectively and at second hand with what information could be gleaned from parishioners (Paull 1962). There is, in particular, no record of Gleed's teachings at this period.

Gleed had a difficult start at Lyme Regis. Some of the congregation, dissatisfied with his selection, defected to the Baptists, and the rump had to be reorganised in 1821 (*Church Book*, 20; Knell 1856, 15). Gleed was in the often invidious position of succeeding a long-serving and much-loved predecessor, and he doubtless suffered from the inevitable comparison (Tom Goodhue, pers. comm. 2020). But he brought additional problems, at least later on:

> 'Mr Gleed, after some time, allowed several things to distract his attention from the ministry. He engaged in the Coal-business; and also became passionately fond of Fossiling on the Coast.
>
> He had a large family and a limited income which will form his best apology but certainly not a satisfactory one. Mr Gleed's Coal stores were entirely swept away by the terrific storm of November, 1824, which washed down Lyme Cobb (see Roberts' Hist: of Lyme.) At length he failed in circumstances [*words seemingly omitted here*], and was obliged from that and other causes, after an unsuccessful ministry of 10 years, to leave Lyme altogether. [...] He appears to have been an amiable, good-natured man – of moderate capacity. His commercial and fossiling pursuits soon lessened his ministerial usefulness and weight of character.
>
> And for the latter years of his stay at Lyme, his career was one of continued difficulty and peril, [*illegible word deleted*] inflicting the most serious injury on the church and congregation under his care' (*Church Book*, 20–21).

Knell (1856, 15) added that Gleed was 'too liberal to succeed in business'. Gleed seems not to have established himself in any trade for long, for surviving directories for this period do not list him as a trader (Graham Davies, pers. comm. 2019). His finances eventually failed in 1828, and he was imprisoned for debt, being described as a Dissenting minister, formerly also schoolmaster but now coal merchant and 'some time a Grocer, Culm and Slate-Merchant, and Dealer in Fish' (Anon. 1828a; 1828b). Culm was impure coal from Saundersfoot in Pembrokeshire, and was commonly used at Lyme Regis (Bull 2010).

On discharge in 1828, Gleed moved to Seaton in Devon, and became the Independent minister there (Anon. 1831; 1832d; A.W.W. 1871). In 1832, Gleed and his family emigrated to North America, like many of their Puritan predecessors. Presumably to cover his costs, he sold tickets for emigration, and sailed from Seaton for Québec in April 1832 with one or perhaps two shiploads of emigrants, some reportedly from his congregation (Anon. 1832a; 1832b; 1832c; A.W.W. 1871). Family tradition (but not the formal obituary) had it that Gleed was forced to leave England by 'persecution', apparently on account of his Congregationalist beliefs (Anon. 1893). Yet this cannot have been official religious persecution. Did the family misremember his imprisonment for debt, perhaps even over payment of tithes? Moreover, another family tradition was that Gleed came to America to take part in the movement against slavery (Connelley 1918, 2314). But it is not known that Gleed campaigned on this issue at Lyme Regis, let alone that this caused trouble (as it might do in a seaport).

Gleed worked as a missionary in Canada, and, from 1837, as a lecturer, preacher and pastor in Vermont, United States (A.W.W. 1871). He died at Morrisville on 27 September 1870 and was buried in Riverside or Riverbank Cemetery, Morristown, Lamoille County (Findagrave, 2020). But Lyme Regis had long before lost sight of him. A successor prematurely summed Gleed up in 1856 as 'dead some years. His talents were good, and by pursuing a prudent course, he might have succeeded well as a preacher and a pastor' (Knell 1856, 15).

GLEED'S HOUSES

At Lyme Regis, Gleed first leased or rented a house in the Butter Market (Anon. 1828a; land tax lists). But soon, about 1821–1822, Gleed bought three houses. The deeds to those houses were apparently in the Lyme Regis Borough Council records but went astray before transfer to Dorset History Centre. The land tax lists do not state where each 'house' was, or whether it included a shop. However, they can be combined with other evidence to locate Gleed's houses (Figs. 2, 3 and 4).

An 1829 advertisement for sale shows that the three houses were next to each other in Bridge Street near the bridge; each included a shop and Gleed had lived in the house at one end (Anon. 1829b). Land tax records for 1826–1829 show two houses assessed at 8s annually, in one of which Gleed lived, and a 'cottage', which simply meant a small house, at 4s. Later photographs show that each house had a retail shop, and that the easternmost house was apparently the smallest (though no complete image of it can be found, Bridge Street evidently being too narrow for easy photography) (Figs. 5 and 6). The seaward façade appears to show two houses, but one is simply the middle and eastern houses combined (Figs. 4, 5 and 6). The 1822–1824 land tax records lump 'Moore & Anning' together in 'house & cottage', which must be the middle and eastern houses. In the 1826 list the smallest house is occupied by 'Jos. Anning', clearly the cabinetmaker, upholsterer and furniture dealer Joseph Anning (*c.* 1796–1849), Mary Anning's brother. His address was indeed given as Bridge Street in a directory of 1823, and he was flooded out by the sea in a storm in 1824, moving away about 1826 (Taylor 2020, and see below). Moreover, houses in Lyme tended to be leased for the lifetime of specified persons, rather than a fixed date. The 1829 advertisement therefore gives the age of the unnamed leaseholder of a 'small part' of one house, at the opposite end from Gleed's residence, as 'about 33'. This is right for Anning, who had moved to other premises by then but evidently still held the lease for part of the house, perhaps the shop or just a storeroom or cellar (Anon. 1829b; 1828 land tax). Possibly Anning, being unmarried and perhaps living with his mother in Cockmoil Square, only ever took part of the house and Moore occupied the rest. By

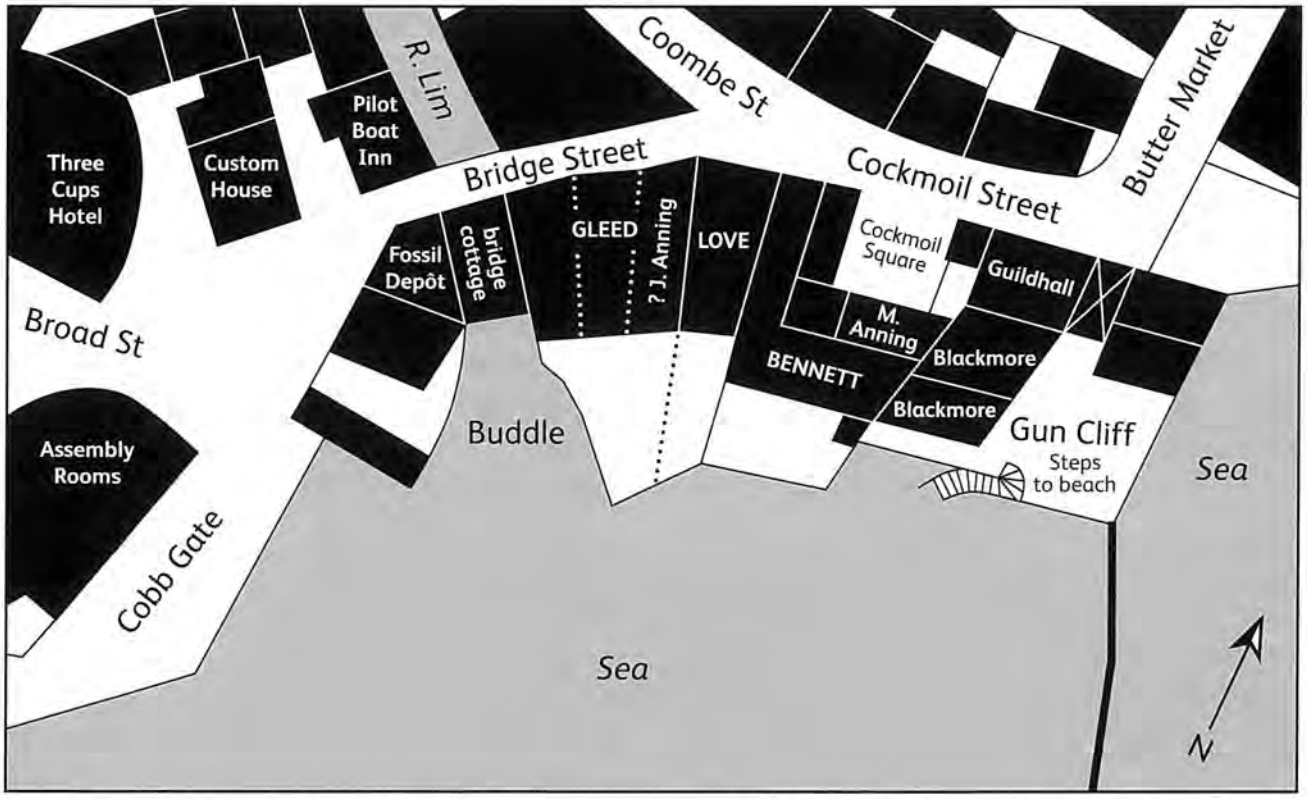

Figure 2 Diagrammatic sketch map (not to scale), Bridge Street, Lyme Regis, *c.* 1824 except that the 'Fossil Depot' is not Anning's but the business of that name started in the 1850s. Dotted boundaries between the Gleed houses, and between the Gleed and Love backyards, are provisional. The bridge cottage was sometimes divided in two. Based on a survey *c.* 1824, apparently by John Drayton (Lyme Regis Museum 2016/12); Drayton's 1827 sea walls survey (Lyme Regis Museum plan 1993/144); the 1841 Tithe Map; and the 1854 Cox and Davis chart (Lyme Regis Museum 1986/267–1).

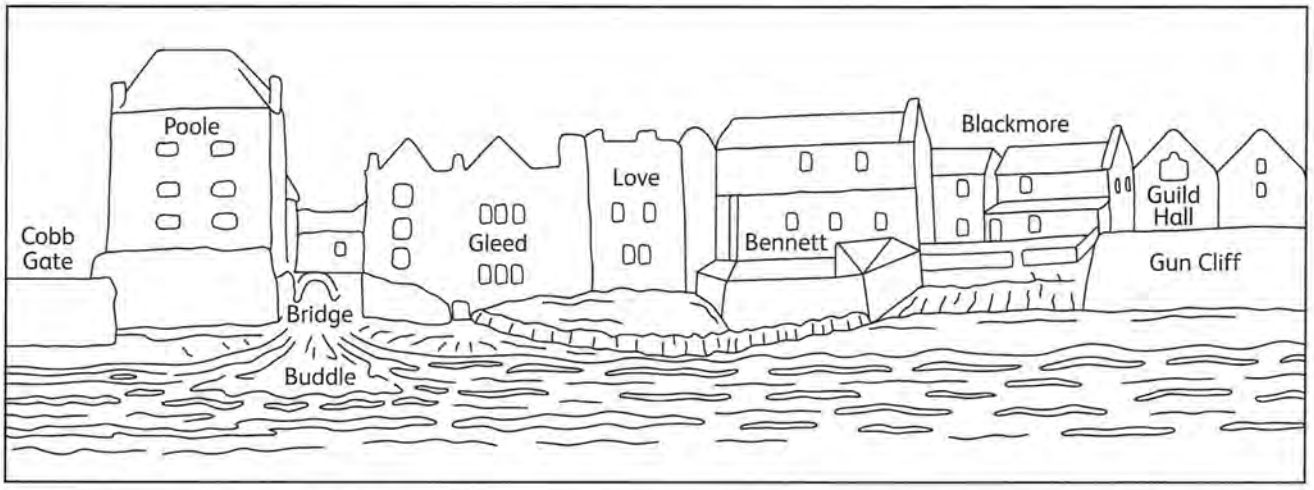

Figure 3 Interpretive diagram, Bridge Street/Cockmoil Square from seaward, redrawn from Drayton's 1827 survey (Lyme Regis Museum plan 1993/144). Behind Gleed's property is a seawall, lower than today, with what looks like a gateway to the beach.

elimination, also, Gleed's residence was the western house, next to the bridge.

Despite the putative sale of 1829, Gleed held the three houses until at least 1832 (Anon. 1832d, 17; last available land tax list, 1832). At some point by 1840, they were acquired by Abraham Pulsford (*bap.* 1785–1846) (voters' lists). When he signed his will on 1 December 1843 (proved 3 February 1847), he was living in Bridge Street opposite the cornmarket

Figure 4 Detail of postcard, Buddle Bridge area, *c.* 1880–1900. In the centre is the bridge with its cottage; to its right, the former Gleed properties, with the weathered ghost of a now demolished seaward wing or shed; the pedimented former Love property; and the site cleared for the Museum. Copyright and courtesy Lyme Regis Museum (1982/81–5).

(which was in an arcade under the Custom House), and presumably in the corner house which became the Fossil Depôt in the 1850s (Figs. 2 and 6; Taylor 2020). He also owned three contiguous houses on the seaward side of Bridge Street, leaving the first to his son George, and the second and third to George's siblings, with rights of access over the back yard of the first to a privy and the beach. Those must be Gleed's three houses. 'G. Pulsford' indeed owned the sea wall here in Henry Osborne's survey of 1856, where Gleed is indicated in John Drayton's survey of 1827 (Lyme Regis Museum 1991/82 and 1993/144). The western-most house had most of the seaward yard behind it, and was most likely the house left to George Pulsford (and it was also nearest to Abraham's, if he was treating them in sequence). This corroborates the identification of Gleed's residence as the house next to the river, especially as there are reasons to believe that he used the seaward yard as a store, and that Gleed's house was close to Pulsford's across the river (see below). Moreover, Abraham Pulsford's will describes the house left to George as a public house operated by Thomas Brown, presumably the confectioner of that name who occupied Gleed's former residence in 1829 (Anon. 1829b; land tax lists). This inn must be the short-lived White Horse seen in trade directories for 1839–1844 (Graham Davies, pers. comm. 2019). Wood's map of 1841, as redrawn by Wanklyn (1927, opp. 262), appears to confirm this location, but this part of the map is unclear and shows obvious discrepancies in comparison with other mapping.

Figure 5 Bridge Street looking westwards, 18 May 1909. On the left, Gleed's former residence bears a projecting double signboard. In front are his two other houses with shops. Copyright and courtesy Lyme Regis Museum (2007/7–163, Box 23).

THE GREAT STORM

The Great Storm of 22/23 November 1824, a southerly hurricane and storm surge, seriously damaged sea walls and houses in seaward Lyme Regis (Roberts 1824a, 1824b, 1834, 174, 236–238). It destroyed coal and culm merchants' stores on low ground at the Cobb (harbour) (Fig. 1; Roberts 1824a; Grant 1827, 132–133). Gleed's 'Coal stores were entirely swept away' (*Church Book*, 21; Knell 1856, 15). Most coal stores were at the Cobb, but it is not recorded where Gleed's were (Bull 2010; Richard Bull, pers. comm. 2018). However, Roberts (1824a) noted that the 'back parts of two houses at the mouth of the Lim were thrown down, when a large quantity of coals was lost from an extensive cellar'. This fits Gleed's house. Cellars under the house and perhaps yard might seem impractical for storing coal for resale (unless there was access on the level to Coombe Street, as discussed below). But, in Westcountry usage, 'cellar' often meant an above-ground store, such as a hut or unroofed enclosure, as for fishing gear. Most likely Gleed stored his coal in the yard in the open or in a

Figure 6 Bridge Street, looking eastwards, 1897. The shop on the corner, with a whale's shoulderblade outside, is the Fossil Depôt. On the left side of the street is the stone parapet of the bridge over the Lim. Opposite it are visible the two pale gable ends of the bridge cottage (or cottages). Beyond is Gleed's former residence, with a flat pediment. Gleed's other two houses are mostly hidden behind, thanks to the dog-leg street line. Copyright and courtesy Lyme Regis Museum (1983/121–1, Box 23).

building lost in the storm, using the beach entrance for access.

A charitable fund of some £536 was collected to support those who had suffered loss in the Great Storm (printed account, *Storm subscription. The Treasurer in account with the Subscribers*, Dorset History Centre; Roberts 1834, 174). This paid £8 to Joseph Anning, who was flooded out (Grant 1827, 132–3; Taylor 2020), and £30 to Joseph Moore, probably the 'Moore' in Gleed's middle house. Any significant damage to their two houses was presumably repaired, for there is no drop in total land tax valuation from 1824 to 1826 (the list for 1825 is missing). In contrast, the valuation for Gleed's residence fell from 16*s.* annually in 1824 to 8*s.* in 1826. Later photographs show the apparent ghost of a former seaward wing or store on Gleed's houses, picked out by differential weathering (Fig. 4). Perhaps this construction was lost in the storm. Unfortunately, map evidence is too patchy to say little more than that the building was not present in 1827 (Fig. 3).

No doubt reflecting his position, Gleed received nothing from the charitable fund. He did however suffer a major financial loss about this time, presumably from the storm, as is clear from his letter to Roberts a few weeks after the storm, on 13 January 1825 (Lyme Regis Museum MPM 1979/19, Roberts Large MSS, vol. 1, 61(c)). Gleed had recouped almost a third of his loss through support from 'friends' (an expression which then often included relatives). He thanked Roberts for a donation of £1, but expected to bear the remaining loss himself. It remains unclear whether, in the end, Gleed was the 'individual [who] had a large sum raised for him alone' (rather than through the charitable fund), or was one of those who 'sustained great loss, who were not remunerated' (Roberts 1834, 174).

GLEED'S HOUSES IN THE TOWNSCAPE, AND THE BUDDLE BRIDGE

Bridge Street is a medieval embankment or causeway raised high above natural ground level between stone retaining walls. It crosses the River Lim on the arched Buddle Bridge. There is a second and, today, hidden arch between the cellarages of the present-day 2 Bridge Street and, presumably, Gleed's property opposite (Wingrave 1923, 41; Wallis 1974, 21–24; Passmore 2014). Different functions have been suggested for this second arch: an earlier bridge (Passmore 2014); a marine store (Wallis 1974); and as a flood arch or support for the river bridge, also reducing the amount of infill needed for the causeway (Richard Bull, pers. comm. 2018).

In early medieval times Lyme Regis seemingly extended further out to sea than today, on low ground either side of the river mouth, the natural topography somewhat resembling present-day Charmouth (Fowles 1984; Draper 2005; Bull 2015; Richard Bull, pers. comm. 2018). Broad Street and Church Street/Butter Market might have continued outwards to meet at a haven on the Lim. On this interpretation, the right of way beyond Butter Market is preserved by the passage under the Guildhall along the side of Gun Cliff to the steps to

the beach, despite the successive heightenings of the sea wall (Fig. 2). The original land access to the town, by packhorse down the Lim valley, formed a third route, along the present-day Mill Lane and Coombe Street. Today, Coombe Street jinks eastward up to Bridge Street. But its general alignment suggests that it originally carried on beside the river to meet the other two routes in the now vanished seaward part of Lyme Regis. This raises the possibility that the now hidden archway under Bridge Street was inserted over the packhorse route when the causeway was constructed. The arch's width, of some eight feet, would suffice for horse traffic or one-way cart traffic (Wallis, 1974; Harrison 2004, 173–175). This underpass would, of course, later become redundant when the lower town was lost to erosion, permitting the building of Gleed's houses (or their precursors). The seaward gate of Gleed's residence, and perhaps the rights of access from his other two houses, were possibly vestiges of this route (Fig. 3).

Gleed's houses survived into the twentieth century, with minor changes, such as various outhouses, and modifications to the sea walls (Figs. 3, 4 and 5; Bull 2015; Taylor 2020, Fig. 6; Lyme Regis Museum files). But much of Bridge Street was soon demolished in the name of easing traffic flow. When the Philpot Museum (today Lyme Regis Museum) was built in 1901 on the sites of the Bennetts' and Annings' houses (and others) in Cockmoil Square, it was already set back along the new street line (Figs. 1 and 7). In 1913, despite protests, the rest of the south side of Bridge Street (apart from the Guildhall) was cleared, apparently down to street level (Anon. 1912a; 1912b; 1912c; Fowles 1990, image 55; Passmore 2014; photographs in Lyme Regis Museum files). All that was recorded, and briefly at that, was a medieval bridge chapel or toll-keeper's booth on the bridge's western abutment (Wingrave 1923; Fowles 1984, 2; Passmore 2014). It is unclear to what extent Gleed's houses survive below street level today, though some structure of the western-most seemingly remains along the river.

Remarkably, until the 1913 demolitions, the seaward parapet of the Buddle Bridge bore a house or pair of small houses. The Cox and Davis survey of 1854, uniquely for Lyme Regis mapping, records the triple internal division of Gleed's property. It also shows

Figure 7 East end of Bridge Street, c. 1901–1913, with the Guildhall front left. The brick building with freestone bands is the new Philpot Museum (1901), set back from the street in anticipation of road widening. Behind it is the pedimented former Love property, obscuring Gleed's houses. Copyright and courtesy Lyme Regis Museum (Box 23).

the bridge house in two parts, the western one partly over the bridge abutment and possibly incorporating the medieval chapel or tollbooth (Figs. 2, 4 and 6; Wingrave 1923; Passmore 2014). The fishmonger A. Gush seemingly occupied sometimes one, sometimes both, in the 1890s–1900s, judging by the movement of his square signboard (Figs. 5 and 6; Draper 2011, 129). Land tax records show that about 1822–1832 Gleed leased or rented from the Rev. Andrew Tucker of Wootton Fitzpaine a 'part of a cottage' adjoining a house occupied by Abraham Pulsford, who apparently occupied the other part of the 'cottage'. This sounds very like the bridge cottage(s) between Gleed's and Pulsford's houses. Indeed, Tucker's grandfather, John Tucker of Marshwood, owned a 'dining room' 'on the bridge' at Lyme Regis, which he leased out in 1747, seemingly for entertaining voters in a Parliamentary election (Foster 1888, IV, 1444; North Devon Record Office 1142B/T62/2 and 1142B/T62/3).

KNOWN FOSSIL FINDS

Fishes

Around 1821 at Lyme Regis, Gleed reportedly discovered 'the greater part of a petrified head, supposed to be that of a shark', as corroborated by the reference to a 'triple row of teeth' (Anon. 1821a; 1821c). It was found 'among some marl', that is, in one of the softer beds of the Lower Lias. What might be the same specimen was soon reported as 'deposited in the British Museum' (Anon. 1821b; probably Anon. 1821d; 1829a). This was reportedly found in 'marble', which could mean one of the limestone beds in the Lias (and implying a different specimen from before), but is more probably an error for 'marl' (so the same specimen after all). Gleed is not known to have donated any such sharks to the British Museum (now Natural History Museum, London; Emma Bernard, pers. comm. 2018). Perhaps the specimen was bought by a third party who donated it to the museum.

Reptiles

In 1827 Gleed found a fine head of a large ichthyosaur at Lyme Regis. Thomas Hawkins acquired and published it in two books glorifying his collection (Fig. 8; Hawkins 1834, 17–18 and plate V, plate republished in Hawkins 1840). He ascribed it to his species *Ichthyosaurus chiroligostinus*, a name never generally accepted, and the specimen is now best identified as *Temnodontosaurus* sp. (Judy Massare, pers. comm. 2019; Owen 1861–1881, 111; Lydekker 1889, 97–98). It is currently (2019) on display in the Natural History Museum, London.

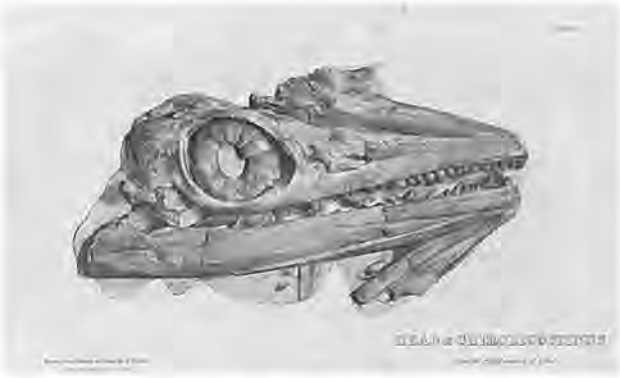

Figure 8 Gleed's find of a fine ichthyosaur head, as illustrated by its owner Thomas Hawkins (1834, 17–18, pl. V, image inverted left–right). Hawkins praised the fine ring of bony 'sclerotic plates' stiffening the eyeball. *Temnodontosaurus* sp., Lower Jurassic, Natural History Museum NHM PV OR 2004 (*).

Unidentified

In December 1823 and January 1824 several newspapers repeated a *Dorset County Chronicle* story that Gleed had collected, at Lyme Regis, 'something similar' to a recent find by Mary Anning which was still obscured by stone but 'conjectured' to be a 'Plesiosaurus' (Anon. 1823a; 1823b; 1823c; 1824). This was not long after Anning's famous discovery of the first complete plesiosaur (Torrens 1995; Sharpe 2020, 64–69, 171). The implication was that Gleed had also found a reasonably substantial plesiosaur skeleton. But such finds are extremely rare, and the lack of further evidence for Gleed's find suggests that the story is spurious, arising from the vagaries of press coverage when plesiosaurian remains were not yet well understood.

GLEED AS GEOLOGIST

An assessment of Gleed's geological work would ideally show what combination of intellectual interest, enthusiasm for the hunt, and/or commercial profit drove him (cf. the collectors discussed by Noè *et al.* 2019). Gleed is not known to have been active in geological societies or to have published anything, geological or otherwise, despite his education and middle-class status (British Library online catalogue, www.bl.uk, consulted 4 December 2020). He was not a member of the Geological Society of London, and cannot be found in a word search of its publications or the indices of its archives, Council Meetings and Ordinary Meetings (Caroline Lam, archivist, pers. comm. 2018). Nor does he, for instance, occur in the catalogue and index of the papers of Henry De la Beche, an active geologist with strong links to Lyme Regis (Sharpe and McCartney 1998). However, a sufficient explanation can probably be found in Gleed's poverty, for formal geological activities were not cheap (Taylor and Torrens 1987).

Amassing a personal collection would certainly be evidence of interest. But there is no record (such as

an auction sale) that Gleed had a collection. Did he sell his finds as he found them? One might well imagine that Gleed's interest was primarily commercial, given his small stipend and large family. He lived near the main routes between town and foreshore, well-placed for sea-quarriers and stoneboatmen to sell him small fossils and intelligence of larger ones *in situ* (but, of course, this was just as true if he were only an amateur collector). He could sell rare items to collectors, and cheaper fossils to the general public as a sideline to his main business ventures, though a coal merchant's seems an unattractive place for a middle-class family to shop for souvenir ammonites. Yet there is little positive evidence for Gleed trading in fossils. The *Church Book* simply says that he became 'passionately fond of Fossiling on the Coast', and refers to his 'commercial and fossiling pursuits' as if they were separate (Densham and Ogle 1899, 152 seem to have misread the *Church Book* when they assert that Gleed traded in fossils). Hawkins's acquisition of the ichthyosaur head certainly implies that Gleed had sold it to him. Also, evidence of Gleed's trading could easily be lost from the record. A museum would carefully record, and perhaps also publish, the names of donors of fossils, but rarely note vendors – or at least minor ones – outside its private financial records (Taylor and Torrens 1987; Torrens 1995; Knell 2000, 123; Sharpe 2020). Gleed's name was also unlikely to survive if the specimen passed through another collector's hands. He is, for instance, omitted from the entry for Hawkins's ichthyosaur in the published museum catalogue (Lydekker 1889, 97–98). But the distinction between amateur and commercial collector is arguably moot here, for Gleed would surely have been forced to sell his finds sooner or later, especially in the 1824 and 1828 crises. 1828 is just after Gleed found the fine ichthyosaur skull which Hawkins published a few years later.

On balance, so far as one can tell, Gleed was not a major collector, and his finds did not have much scientific impact. Perhaps this is not surprising; he was at Lyme Regis for only ten years, he began collecting fossils some time after arriving, and he had to pay attention to his ministry and his (other?) commercial activities. What is today called grey literature such as guidebooks, obituaries and newspaper reports, and surviving correspondence and archives, repeatedly attests Anning's importance to her contemporaries, despite her patchy acknowledgement in formal scientific papers (Taylor and Torrens 1987; Torrens 1995; Sharpe 2020). In contrast, such sources are largely silent on Gleed. Certainly, if Gleed was a commercial fossilist, he was not openly active long enough for this to filter into the grey literature. Moreover, his finds were barely reported in the press, though this is admittedly a provisional conclusion given the currently incomplete searchable online coverage of Westcountry newspapers. It is also possible that mentions of Gleed's trading (if any) in fossils were suppressed at his request, for reasons discussed below, especially if the correspondent was Roberts (who reported on events such as the Great Storm: Roberts 1834, 238).

There is no record of Gleed's teachings at Lyme, including those, if any, on geology and its relationship to the Bible. Many clergymen of almost all denominations took liberal positions on that issue. For instance, the noted Congregationalist minister John Pye Smith encouraged members of his church to accept the conclusions to be drawn from geological evidence (Helmstadter 2004). It is not known whether his geological interests had anything to do with his invitation to Lyme Regis in 1839, to deliver the discourse at the ordination of one of Gleed's successors, though no doubt they encouraged him to accept (Knell 1856, 16; Paull 1962). On the other hand, George Young of Whitby in Yorkshire was a minister in the Presbyterian Church, not far removed doctrinally from Independency. He was an important local geologist and author. Yet he was also a biblical literalist on such matters as the age of the Earth (Knell 2000; O'Connor 2007). So one cannot make assumptions about Gleed's teachings.

In any case, geology might have been too sensitive a topic. A significant part of Gleed's congregation evidently felt that 'fossiling' helped to divert him from his duties, and diminish his 'ministerial usefulness and weight of character' (*Church Book*, quoted above). An Independent minister was a figure of real significance in the community. Yet the professional middle classes found collecting fossils and marine biological specimens socially hazardous. It was inappropriate to engage publicly in a manual activity such as digging up an ichthyosaur, still worse

Figure 9 Arch at the Mouth of the River Lym, Lyme Regis, by Lady Pittar, watercolour, 1891. The bridge cottage's street-side gable-end roofs (Fig. 6) are just visible over its seaward roof. Copyright and courtesy Lyme Regis Museum (1991/102–4).

to wear practical clothes to do so, and a further solecism even to carry one's finds home (Davis 1995, 357–358; Taylor and Levitt 2016). The correct action was to entrust these tasks to a servant or hired man, but that cost money, of which Gleed was short. Moreover, engaging in trade, in coal and perhaps also fossils, itself demeaned Gleed and his Church. Also, those members of the congregation dealing in the same commodities would not appreciate subsidising this competitor through his stipend. Worst of all, Gleed failed financially and was imprisoned for his debts: a crime in itself, and a serious moral black mark. No wonder he left Lyme Regis at once. Yet one might feel that the congregation was ultimately to blame for paying him an inadequate stipend (Tom Goodhue, pers. comm. 2020).

CONCLUSIONS

This overdue assessment of Gleed is justified by his known activity during Lyme Regis's golden age of palaeontology, as shown by the fine ichthyosaur head in Hawkins's famous collection. However, the apparent 'plesiosaur' of 1823 remains unsubstantiated, and Gleed emerges as a minor figure – or at least, so far as one can tell, for he also exemplifies the problems of studying such peripheral figures, especially the issue of negative evidence. It remains notably unclear whether Gleed's primary motive for 'passionate collecting' was commercial. Perhaps, out on the beach, he was simply seeking to escape his troubles, which were in the end too great to stave off by selling his finds, willingly or otherwise. Certainly, there is no hint of geology in Gleed's obituary. Did he abandon fossils when he left Dorset, or did his family prefer to forget the things?

Current interest in Gleed is usually in his role as the Anning family's pastor. However, little further light can be thrown. Gleed's ministerial tenure at Lyme Regis was undoubtedly unsuccessful. Yet the Annings were members of the congregation long before he arrived, and it is unclear how far Mary's and Joseph's later apostasy from Independency to the Church of England can be blamed on Gleed rather than his still more disastrous successor (Paull 1962; Torrens 1995; Goodhue 2001; Sharpe 2020, 125–126).

This study's most unexpected findings concern Gleed's Bridge Street houses and the adjoining bridge cottage. The location of Joseph Anning's 1820s shop here has clarified the history of the Anning family, which is useful for Lyme Regis Museum's interpretive work, given public interest in the Anning story. It has also helped resolve the confused story of the Anning family purportedly being flooded out by the sea (Taylor 2020). More generally, these picturesque dwellings, perhaps of medieval origin or at least built on medieval foundations, are of interest in their own right. They attracted artists and photographers by their extraordinary location beside the Lim (Figs. 4 and 9; Lyme Regis Museum 2008 and Museum files; Taylor 2020). The Lyme Regis townscape was diminished by their demolition.

ACKNOWLEDGEMENTS

I am most grateful to Richard Bull and the Lyme Regis Museum for the extensive provision of information, images and maps and discussion, and Hugh Torrens for allowing me to use his research dossier on Gleed. I also thank Emma Bernard (Natural History Museum), Graham Davies and David Tucker (Lyme Regis Museum), Tom Goodhue, Caroline Lam (Geological Society of London), Dean Lomax (University of Manchester), Judy Massare, and Andrew Passmore (AC Archaeology) for discussion and information, Mark Dawson for the line diagrams, and the referees of this paper. I thank Jon Lenton for his help with the search for Gleed's title deeds. Steve Davies (Dinosaurland) kindly gave permission to quote from the *Church Book*. The Lyme Regis Museum kindly gave permission to reproduce images produced by Mike Applegate in new copy photographs. The North Devon Record Office kindly provided copies of the 1747 lease. I am grateful for the support of the libraries and staff of National Museums Scotland and the University of Leicester.

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TEMPORARY EXPOSURES OF THE FULLER'S EARTH ROCK MEMBER (MIDDLE JURASSIC, MIDDLE BATHONIAN) AT TROLL QUARRY, THORNFORD, DORSET

ROBERT B. CHANDLER, SARAH MILNE AND PETER HILL

A new development by Wessex Water at Troll quarry, Thornford, has enabled examination of a key Middle Bathonian section, the type locality of the Subcontractus Zone of the Middle Jurassic, Bathonian Stage for Western Europe. Ammonites of genus Tulites *are described and intraspecific variability estimated for specimens from the Thornford Beds.*

INTRODUCTION

The Middle Jurassic, Bathonian rocks of England have frequently been referred to as the Great Oolite 'Series' (Judd 1875). In the Sherborne area of Dorset the current terminology (Cox and Sumbler 2002) places the lower boundary of the Bathonian Stage within the Crackment Limestone of the Inferior Oolite Formation and the upper limit at the top of the Lower Cornbrash (Fig. 1). The high-resolution subdivision of Jurassic strata is achieved using ammonites (e.g. Callomon and Chandler 1990). In the Bathonian of Britain ammonites are conspicuously rare or absent from many levels, so all documented occurrences contribute to the sum of knowledge and improved correlation of these rocks. In North Dorset and Somerset a unit of limestone known as the Fuller's Earth Rock Member of the Fuller's Earth Formation divides the Lower and Upper Fuller's Earth members. In these beds ammonites occur relatively frequently, and they are of key importance to the construction of the Middle Bathonian zonal scheme. The Wessex Water, Thornford Bridge Halt, Water Recycling Centre (ST 593 126) (Fig. 2) stands within the area of an old quarry known as Troll or Trill quarry now recorded as a Site of Special Scientific Interest (SSSI) and type locality of the Subcontractus Zone (Fig. 1) of the Middle Jurassic, Bathonian Stage (Torrens 1980) widely cited for Western Europe.

Here a report and description is presented of a newly exposed section of Middle Jurassic rocks at Troll quarry. Previous descriptions of the site are summarized by Cox and Sumbler (2002) in the *Geological Conservation Review* (*GCR*) and in general this study confirms those findings. The impetus to produce an additional account focuses on three objectives: firstly to assess if the ammonite assemblages can be discriminated by horizon, secondly to make estimations of the intraspecific

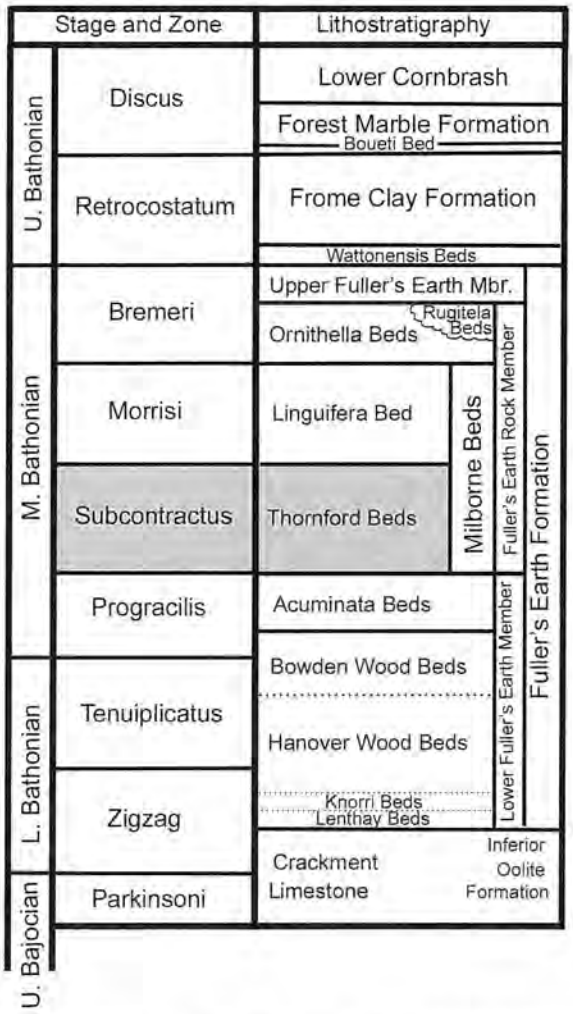

Figure 1 Simplified stratal and zonal scheme of the Bathonian Stage of the Sherborne area. The part of the succession concerning this work is shaded grey. Redrawn from Torrens (1980).

variability of the assemblage at each level and finally to make a comparison of what is found at Troll quarry alongside existing nominal species. From the outset it should be made clear that the numbers of new specimens obtained are very low, but they do provide additional clarity in our understanding of this key location. The lithological succession is described and the fossils contained in these rocks are identified and their significance evaluated. The rock succession at Troll quarry stands as a reference for both current interest in biostratigraphy (the subdivision of rock strata by fossil content) and of historical value as the site was visited and recorded by classical scholars of Jurassic stratigraphy in the past (Woodward 1894; Richardson *et al.* 1911; Buckman 1921, 1927; Torrens 1966, 1969, 1974, 1980) and by W.J. Arkell and L. Richardson in 1931 whose measured section is held in the archives of the University Museum in Oxford. Following the closure of the quarry the site was utilized as a waste infill area making most parts of the quarry unavailable for further study; however, in 1964 the area was utilized as a water treatment site and a new section was exposed making available for study the Fuller's Earth Rock Member (Torrens 1974). The Fuller's Earth Rock Member is reported to have a total thickness in excess of about 8 m in the Sherborne area (Torrens 1980). The member is divisible in to two parts (Fig. 1), a lower portion comprising the greater part of the succession being some 7.5 m in thickness termed the Thornford Beds, placed in the Subcontractus Zone and, above, the Linguifera Bed and Ornithella Beds, together about 1.0 m thick belonging to the Morrisi and Bremeri zones respectively. Following the designation of part of the site as an SSSI, Wessex Water has collaborated in the maintenance of this internationally important protected site in partnership with Natural England including facilitating the maintenance of a permanent exposure on the eastern boundary available for study. Wessex Water implements a Site Environmental Management Plan to conserve and enhance the SSSI. Clearance work to keep the face free of vegetation has been carried out by volunteer groups from RIGS (Regionally Important Geological Site) and Dorset Geologists' Association Group (DGAG).

Between 2018 and 2019 plans were presented by Wessex Water for a site upgrade that necessitated consideration and resolution of other sensitivities apart from the geology of the site. Wessex Water's environmental team has carefully relocated a substantial slow-worm (a legally protected reptile) population before beginning work to install new Moving Bed Biofilm Reactors on top of the former landfill site. The project is designed to avoid any impact to the nearby railway line, a protected bat roost, and to permit relocation of numerous existing services to enable works to proceed safely. At the end of construction, any discharge to the River Wriggle will be purer and cleaner than before and the local community will be provided with resilient waste water treatment.

In collaboration with the authorities concerned the present authors monitored the geological exposure periodically as work progressed. This comprised

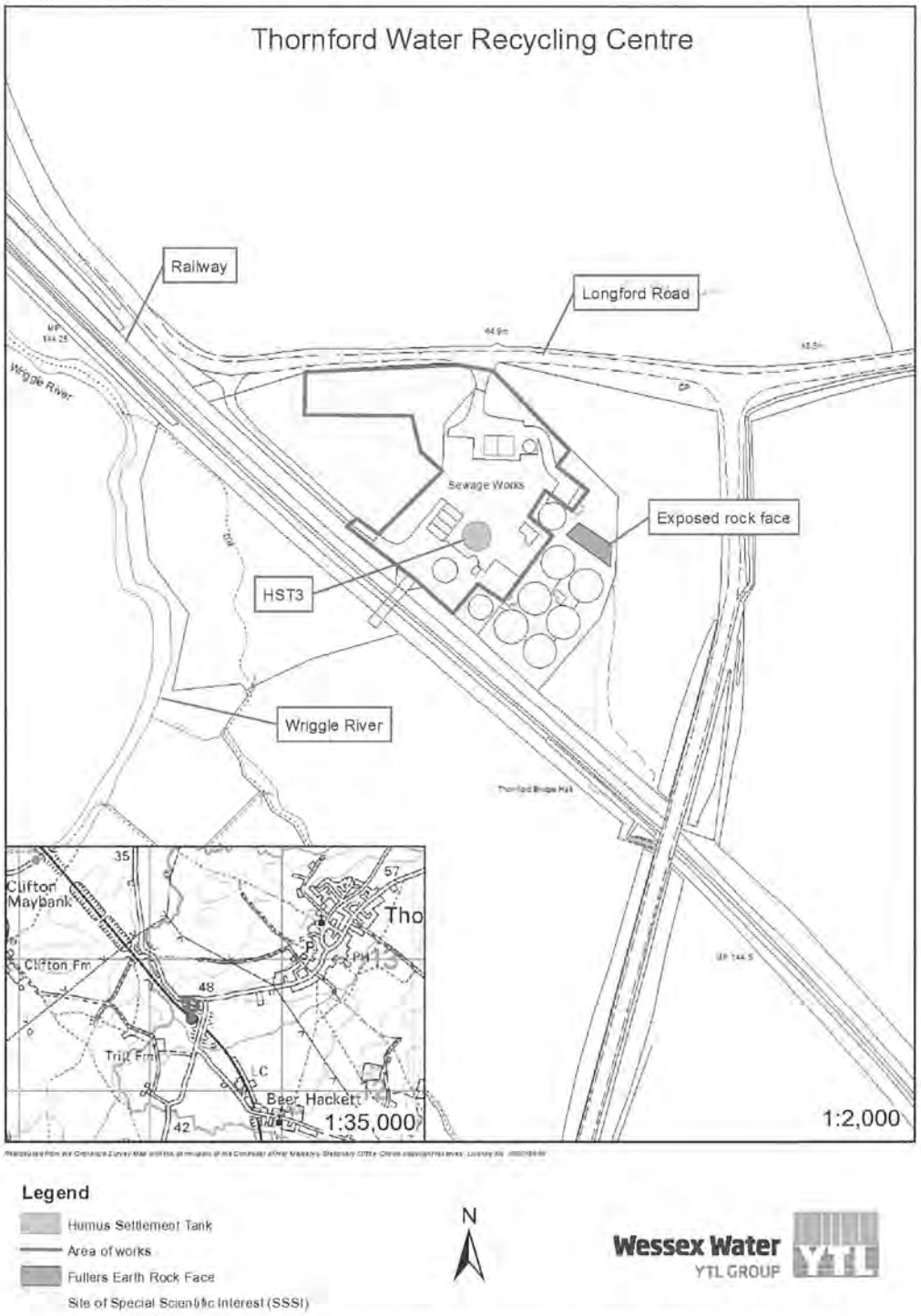

Figure 2 Map of the Thornford Water Treatment Works and insert map of the local area.

attention to the content of a number of trial pits and observations and measurements made at a major excavation at the site.

Specimens collected during this work will be deposited in a museum as part of the Wessex Cephalopod Club Collection.

CODES AND ABBREVIATIONS

GT: Type species; HT: Holotype; OD: Original Designation; *TA: Type Ammonites*; *GCR: Geological Conservation Review*; SSSI: Site of Special Scientific Interest; HST3: Humus Settling Tank 3; NHMUK PI C: Collection of the Natural History Museum, London, collection, cephalopods.

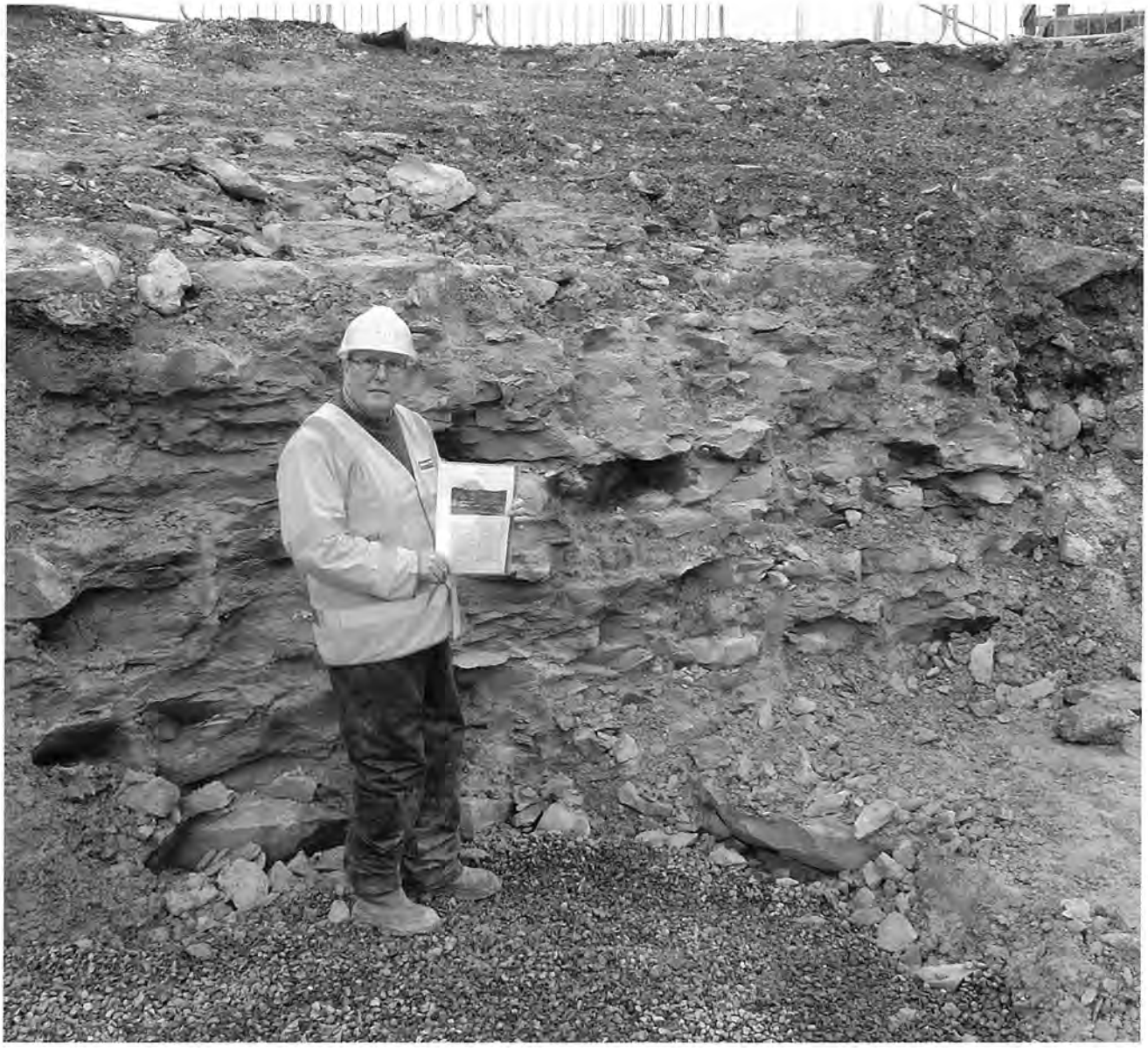

Figure 3 The eastern face of the excavation at HST3. The extent of the Fuller's Earth Rock Member examined. R. Chandler is 1.75 m tall and is standing on the stone chippings placed at the base of the section. Bottom right is the top of Bed 2 above the Lower Fuller's Earth Member. A blue horizontal line marks 1 m from the top of Bed 2. The transition from more massive beds to thinner units can be seen at around 2 m. Photograph by J. Whicher.

THE SECTIONS

One permanent section, the SSSI, is available for examination and is adjacent to the filter beds on the eastern boundary of the site (Fig. 2). The other description here was taken at a point where the excavation reached the top of the Lower Fuller's Earth Member with the lower junction of the Fuller's Earth Rock Member. This excavation now houses a tank called Humus Settlement Tank 3 (HST3). A section of the beds previously recorded at Troll is given by Cox and Sumbler (2002, p. 60–63) and that bed numbering is followed here. The bed numbers are estimates based on the account given in the *GCR* but, as stated by Torrens (1966), there is considerable difficulty subdividing the un-weathered rock. The two sections described here expose different parts of the succession. The exact point of overlap is unknown due to an installed plant on the slope between the SSSI and HST3. At HST3 there is a broad division of the strata into two parts. A lower section of *c.* 2 m (here assumed to be Beds 2 to 12 of

Torrens in Cox and Sumbler 2002) is made up of thicker beds of stone, some blue-hearted and intensely hard with nests of very small broken shell debris. These are lenticular units separated by marl and decalcified mudstones of various thicknesses. Above is a bedding surface above which the beds are thinner and softer. At *c.* 2.30 m there is a flat surface that is heavily stained orange. This is possibly a secondary feature caused by water percolation from domestic debris prior to site redevelopment. Above this is a series of softer, thinly bedded levels (thought to be Beds 13 to 19) that are difficult to discriminate, other than very roughly. With a total of less than 4 m exposed and a known thickness in the area of around 7.5 m it is clear that what is seen represents only the lower half of the Thornford Beds, but it does equate approximately to the thickness of the section given in Cox and Sumbler (2002). A further section exposed in the SSSI extends this section but is obscured towards the top. A photograph of the section at HST3 is given as Fig. 3.

Fuller's Earth Formation

Fuller's Earth Rock Member, Thornford Beds

Domestic waste infill and soil	Variable	
Beds 20 and 21:	Obscured or removed?	0.25 m
Bed 19: Limestone	?Top of section seen at HST3	0.20 m
Bed 18: Limestone	*Pholadomya* sp.	0.25 m
Bed 17: Limestone	*Pholadomya* sp.	0.15 m
Bed 16: Limestone	?*Tulites* partial fragment, *Pholadomya* sp.	0.15 m
Bed 15: Limestone	*Tulites modiolaris* (W. Smith, 1817) (crushed), *Pholadomya* sp.	0.15 m
Bed 14: Limestone	*T. modiolaris*, *Pleuromya* sp.	0.10 m
Bed 13: Limestone		0.10 m
Abrupt change to thinly bedded pale, buff limestones		
..... flat surface.....		
Bed 12: Limestone with strong orange discoloration		0.30 m
Bed 11: Cream limestone		0.30 m
Bed 10: Cream limestone		0.25 m
Bed 9: Soft limestone		0.20 m
Bed 8: Marl and broken stone	*Pholadomya* sp., *Rhynchonelloidella* sp.	0.10 m
..... flat surface.....		
Bed 7: Intensely hard band of bluish stone (un-weathered) with central parting. Abundant broken small shell debris, ?crustacean fragment, small bivalves and brachiopods, possible oppelid impression.		0.40 m
Bed 6: Marly stone		0.20 m
Bed 5: Soft cream stone		0.10 m
Bed 4: Cream limestone with nests of broken shell fragments		0.30 m
Bed 3: Buff, marly stone, irregular and penetrating depressions in the bed below		0.10 m
Bed 2: Irregular transition from buff, silty marl then distinct change to very hard, bluish stone (when un-weathered)		0.30–0.35 m
Lower Fuller's Earth		
Bed 1: Blue grey clay, silty with occasional belemnite and oyster fragments		seen to *c.* 1.00 m

REMARKS

Macrofossil remains are evident and common in a number of beds examined; however, these consist mostly of small, broken, indeterminate shell material, the exception being the ubiquitous infaunal bivalve *Pholadomya lirata* (J. Sowerby) which is not evident in the harder broken shell units and is more abundant in the upper horizons. Almost all have both valves intact and are preserved as decalcified moulds. In the course of a number of visits no ammonites were found below the surface of Bed 12 (on the assumption that the record here relates reasonably closely to bed numbers given by Cox and Sumbler 2002). In the beds above, ammonites were obtained but rarely and only belonging to the genus *Tulites*. No determinable examples of any other ammonite species were obtained; however, impressions of a small discoidal form welded into the hard matrix of Bed 11 could be an *Oxycerites* sp. based only on the existence of this group throughout the Middle Bathonian. At HST3 the most productive horizons of the newly exposed part of the Fuller's Earth Member was around Bed 14 from which three specimens of *Tulites* sp. were obtained *in situ*. Further rare examples and fragments were collected from beds above and three were obtained from the spoil from these levels and reported *ex-situ*.

The zonal index *Tulites subcontractus* (Morris and Lycett, 1851) is reported from Troll quarry, (see Arkell 1952, text figure 30), but this specimen stands apart from the morphology of the specimens collected from the lower half of the Thornford Beds here. It possesses a marked contraction of the body-chamber and is more compressed. *Ammonites subcontractus* Morris and Lycett, 1851, figured on pl. 2, figs. 11a, p.11 in Morris and Lycett (1851–1855), is a syntype from Minchinhampton, Gloucestershire; it is a composite drawing made from two specimens from different matrices (Buckman, *TA* 3, 1921, p. 43). However, it is now accepted that most of the sphaeroconic ammonites from Troll quarry are placed in the genus *Tulites* (see Arkell 1952, p. 82) and the strata of the Thornford Beds are placed in the Standard Subcontractus Zone (Torrens 1980). Examples of the specimens obtained are presented as Fig. 4. Arkell (1952, pp. 84–86) discusses the genera erected by Buckman now regarded as *Tulites*, observing that all have a deep funnel-shaped umbilicus like the type of *T. modiolaris*. This specimen appears to be lost but is depicted as a copy of Smith's original image in *William Smith's Fossils Reunited* (Darrell *et al.* 2018, p. 84) and reproduced from Smith (1817) in Arkell (1952, p. 11, fig. 3 in Arkell 1951–1958).

S.S. Buckman erected the genus *Tulites* in 1921 and selected *Tulites tula* Buckman, 1921 OD, figured in *TA*, 4, 1922, pl. 177 as type species placing it in his family Tulitidae Buckman, 1921. The type specimen is from Milborne Wick, Somerset. This specimen has prominent nodes on the inner whorls; it comes from the Milborne Beds, *morrisi* hemera, Morrisi Zone of the Middle Bathonian (Cox and Sumbler 2002). According to Torrens (1980) the Thornford Beds are the lateral equivalent of the lower part of the Milborne Beds. The Thornford Beds must therefore be older than the beds from which Buckman's type species specimen was obtained. In *TA*, 1921, volume 3, Buckman gives a division of the Fuller's Earth Rock of Dorset and Somerset (table 3, p. 51) in which he concludes that the Thornford Beds contain different variants of *Tulites* (placed by him in a number of his new genera) obtained from different stratigraphical levels. It is not clear however if this information was collected first hand or was acquired from accounts by himself and others including James Buckman. No attempt is made to accurately correlate Buckman's bed numbering with those used here other than to estimate that we have probably examined the lower and middle portion of his Beds 1–3. He concludes that in the following beds, numbered by S.S. Buckman bottom upwards, the following genera typify the strata: Beds 1–3 *Sphaeromorphites* and *Pleuromorphites* are in Beds 1–2 and *Madarites*, *Rugiferites* and *Tulophorites* in Bed 3. From this he derived the hemerae sequence (p. 51 of text *TA* 3, 1921) 1 *Sphaeromorphites*. 2 *Pleurophorites*, 3 *Madarites*. Based on this information Buckman's Beds 1–3 are in the Thornford Beds, Bed 4 is unallocated and Beds 5–6 are separated as Milborne Beds. The discrimination of these morphogenera is based on differences of biometry and ornament. Examples of two of Buckman's type specimens are depicted in Fig. 5. It must be understood that the specimens from the Fuller's Earth Rock Member are generally as poorly preserved internal moulds often with the inner whorls welded into the infilling matrix. A number

of Buckman's types have the centre whorls carved into shape. After cleaning, any observations based on biometry must take this into account. In most of the specimens collected in this work the enclosing matrix is completely at one with the inner whorls making cleaning impossible; however one specimen (Fig. 4, 3a–b, WC2316) is relatively well preserved and a brown film appears to depict the passage of the inner whorls.

The following tulitid genera and species were introduced by Buckman in his work *Type Ammonites* (1909–1930). The list here includes only those where the locality is specifically identified as Troll; however, it is by no means certain that these specimens come from the quarry or from beds exposed in the course of Buckman's work or this study. This author (R. Chandler) has recorded closely adjacent locations, such as Troll or Trill Farm (ST 591 123) and the adjacent railway cutting where it is also possible to collect ammonites. Arkell (1952) appears to accept that Buckman's specimens do come from the quarry, possibly on the basis of unpublished data with the original specimens.

Sphaeromorphites sphaeroidalis S. Buckman, 1921. GT, HT Troll below Bed 9? *TA* 4, 1923, pl. 156.

Pleurophorites pleurophorus S. Buckman, 1921. GT, HT, Bed 7 or 7–9. *TA* 4, 1923, pl. 157.

Pleurophorites polypleurus S. Buckman, 1921, HT Bed 7 or 7–9. Most ribbed variant so far. *TA* 4, 1923, pl. 158.

Rugiferites rugifer S. Buckman, 1921, GT, HT, *Rhynchonella* Bed, Bed 5. *TA* 4, 1923, pl. 160.

Tulophotites praeclarus S. Buckman, 1921, HT Bed 1. *TA* 4, 1923, pl. 163. The holotype of *Tulophotites tulotus* S. Buckman, 1921 is considered by Arkell (1952, p. 95) to be a smaller variant of *T. praeclarus*, thus the species *T. tulotus* is a synonym of *T. praeclarus* as it has both plate and page priority by date in Buckman (1921).

T. tulotus. S. Buckman, 1921, GT HT, Bed 1.*TA* 4, 1923, pl. 164. Ribbed inner whorls.

Further specimens were not figured by Buckman but were described by Arkell (1952):

Madarites pravus S. Buckman, *TA* 3, 1921, p. 46, *Madarites pravus* S. Buckman (not figured); Figured by Arkell (1952, p. 100, pl. 11, fig. 5). Contracted last whorl.

Madarites calvus S. Buckman, 1921 (not figured), HT. NHMUK C40502. Figured by Arkell (1952, p. 99, text fig. 31). The last whorl is not contracted.

Some general observations are here presented. Buckman's type species *T. tula* Buckman, 1921 is figured as pl. 177 in *TA*, 3, 1922, is from the Milborne Beds of Milborne Wick; it stands apart from the specimens collected for this work in the possession of coarser ornament and significant contraction of the body-chamber. Along with a consideration of Buckman's bed allocations, it is observed that the more coarsely ornamented forms constitute a higher proportion of the variability of the assemblage in the higher beds. The view here is that the specimens from the present excavations from Troll quarry are older than Buckman's type of *T. tula* and are morphologically closest to *T. modiolaris* (William Smith 1817). Arkell (1952, p. 9696) regards *Tulites madarus* (S. Buckman) as a synonym of *T. modiolaris* and designates a neotype for the lost specimen of *Ammonites modiolaris* William Smith 1817. The neotype is figured by Arkell (1952, pl. 11, figs. 4a, 4c) and is a close match for specimens collected for this work. A true assessment of the ontogenetic stage is difficult; however, the specimens from Troll quarry appear to be adults. Fig. 4 depicts three specimens showing the large variation in size of specimens found from the Thornford Beds, middle to upper part, the smallest complete example measuring around 50 mm and the largest 128 mm. Fig. 4, 1a–b, WC2318 is comparable to the largest known specimen known (type of *M. madarus*) of 123 mm. WC2318 is 128 mm diameter with the termination crushed. It would therefore exceed 130 mm diameter if complete. In all the specimens collected, there is no marked contraction of the body-chamber. This is a discriminating feature used by Buckman to separate the occurring forms into new morphogenera. The ornament is restricted to feeble, hooped broad, radial undulations on the inner whorls, if ornamented at all. All specimens obtained are very similar and no coarsely ribbed variants occurred. The lack of well-preserved suture lines makes the adult condition

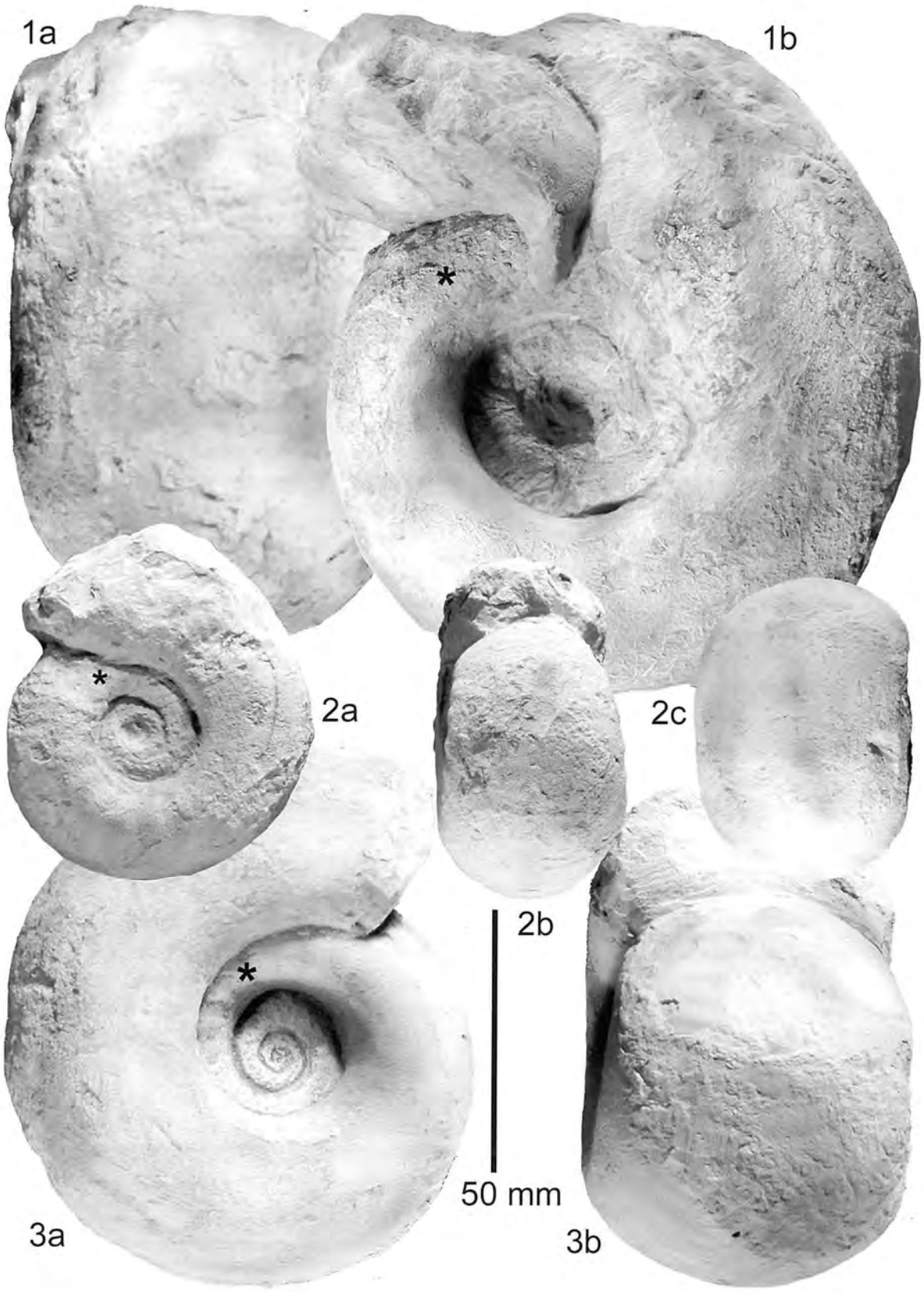

Figure 4 1–3. *Tulites modiolaris* (W. Smith, 1817). Figure depicting the variability of specimens from Troll quarry. All Thornford Beds, middle to upper part. 1a–b. WC2318. Comparable to the largest known specimen (type of *Madarites madarus* S. Buckman) of 123 mm. This example is 128 mm with a portion of the aperture preserved. If complete it would be in excess of 130 mm. The specimen is septate to an estimated 80–90 mm. 2a–c. WC2317. A small example showing evidence of radial-like corrugation ribbing on the inner whorls. 3a–b. WC2316. A typical specimen of average size (around 100 mm). The inner whorls are cleaned and probably closely follow the true coiling.

difficult to confirm; however, the terminations of the complete specimens are modified and there is eccentricity in the last whorl. With such a restricted sample (10 specimens including fragments) it cannot be ruled out that coarser variants will be present in the assemblage. In common with other ammonite studies, e.g. Chandler and Callomon (2009), the morphological variability in some groups is enormous in respect of both ornament and adult size often with the extreme end-members constituting the rarer components. No microconchs were recovered.

Sampling during the installations occurred from rocks of approximately the lower half of the Thornford Beds succession down to the junction with the Lower Fuller's Earth Member. The findings suggest that the portion of the Thornford Beds studied is dominated by the less ornamented forms of the genus *Tulites* and that the succession throughout the Thornford and Milborne Beds represents a lineage, but with a different proportion of morphological variants at different levels with the more coarsely ribbed forms higher up (based on figures presented in the literature). The new excavation seems to have been restricted to a segment of the Thornford Beds that lies within a narrow range of strata, possibly one ammonite biohorizon, and is represented by a range of variability centred on the smoother variants.

Topographically, the profile of the SSSI stands higher than the floor of the old quarry. Following the clearance by volunteer groups an examination was made of the face, but with very limited hand excavation. The upper part is sloped back and invaded by tree roots and fox burrows. There are significantly more fossils including many *Pholadomya* sp., but no ammonites were recovered. It is likely that a number of the historically recorded specimens from Troll originated from this upper part, long removed from the level of the present working, so the ammonite assemblages were probably different from those recorded here.

CONCLUSIONS

The new but small sample of ammonites collected following extensive examination of the strata suggests that the lowest part of the Thornford Beds is poorly represented by, or devoid of, *Tulites*. The morphology of the earliest specimens at Troll quarry is likely to be represented by the newly collected forms we have figured. They show very limited intraspecific morphological variability and closely match *T. modiolaris*. The significant features are the lack of ribbing and the lack of any marked contraction of the body-chamber. The size range of what appear to be adults is very large and the largest of our specimens is the largest recorded to date. The relatively common specimens recorded by other workers from the Troll quarry vicinity and cited or figured in the literature likely come from a higher part of the Thornford Beds, a portion that was not exposed during this work.

The name Subcontractus Zone was suggested by Buckman (1898). The ammonites of the Subcontractus Zone are relatively well represented over their whole range and variability. The index *T. subcontractus* (Morris and Lycett) is probably no more than a higher variant of *T. modiolaris* but the name of the zone is retained as a *nomen conservandum*. We confirm that the section of Thornford Beds examined lie entirely within the Subcontractus Zone of the Middle Bathonian and probably belong to one ammonite biohorizon. The name *T. modiolaris* fits well for the specimens we have collected, but we have retained Buckman's original generic and specific identifiers for his figured types (Fig. 5) as their exact stratigraphical position is unknown. The presence in old collections of coarsely ornamented variants from Troll likely indicates the existence of other horizons not sampled in this work or collected elsewhere in the vicinity.

ACKNOWLEDGEMENTS

From the outset this has been a collaborative partnership between Wessex Water and the geological community with the proposed construction works providing the opportunity to add to the scientific record of Troll (Trill) quarry SSSI. The authors thank Professor András Galácz (Budapest) for providing constructive comments and a critical review of the manuscript. Dr Giles Droop has provided support throughout production of the text. This research

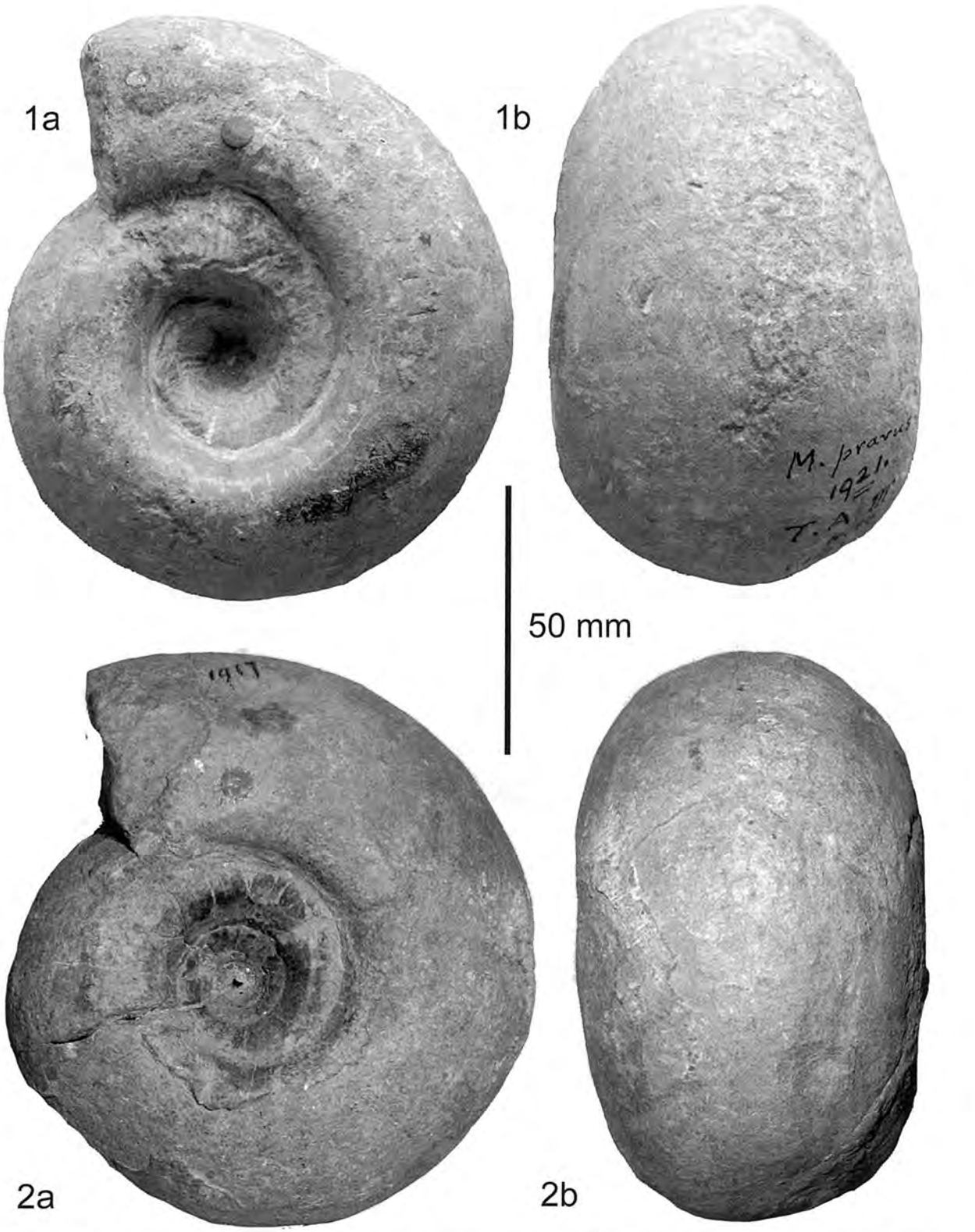

Figure 5 Two of S. Buckman's type specimens of *Tulites*, both displaying differences from specimens collected during this work. 1a–b show the strongly contracted body-chamber and 2a–b show a more evolute specimen in which the body-chamber is not contracted and shows a better level of preservation of the inner whorls than that preserved in most specimens. 1a–b. *Tulites pravus* (S. Buckman, 1921) HT. NHMUK PI C 40501. The inner whorls of the specimen are carved. In *Type Ammonites* 3, 1921, p. 46, *Madarites pravus* S. Buckman (not figured); Figured by Arkell (1952, p. 100, pl. 11, fig. 5). The last whorl is showing contraction. Fuller's Earth Rock, Subcontractus Zone, Troll quarry. Diameter 93 mm. 2a–b. *Tulites calvus* (S. Buckman, 1921) HT. NHMUK PI C40502. *Madarites calvus* S. Buckman, 1921 (not figured). Figured by Arkell (1952, p. 99, text fig. 31). The last whorl is not contracted. Fuller's Earth Rock, Subcontractus Zone, Troll quarry. Diameter 99 mm.

opportunity within the SSSI has been welcomed by Natural England. The authors wish to acknowledge the support and collaboration of the following people: Zoe Hughes, Natural History Museum, London; Dr Jonathan Larwood and Helen Powell, Natural England; George Gregory and all staff at Wessex Water, Thornford Water Recycling Centre; Jeff Mitchell, Andy Steadman and Dr John Whicher for assistance on site and comments on the proof version of the manuscript. Consent to reproduce Figure 2 is granted by Wessex Water.

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CHANNEL MODIFICATIONS, HABITAT DIVERSITY, AND MACROINVERTEBRATE SPECIES RICHNESS IN THE MORETON STREAM (DORSET, UK)

PATRICK D ARMITAGE AND GLORIA TAPIA

As part of an ongoing series of stream surveys, four sites along the length of the Moreton Stream were sampled in spring, summer and autumn in 2018. To supplement these data a further four sites were sampled within the ornamental gardens in 2019. Based on spring, summer, and autumn samples 75 taxa were recorded from the 2018 survey of stream sites and 113 taxa from the four sites in the Moreton Gardens giving a total of 128 taxa in 64 families for the combined surveys. No rare taxa were recorded, and ecological classifications ranged from Poor at sites 1 and 3 and Good at sites 3 and 4 in the 2018 survey and Moderate to Good in 2019. A comparison with faunas of five other low alkalinity streams based on cluster analysis showed that the 29 sites fell into 3 major groups with sites on the Moreton Stream forming one group with the 2019 garden sites separated from the 2018 sites. The main finding from these surveys is the major contribution of the Ornamental Gardens to species richness through the provision of increased habitat diversity. The single most 'positive' impact on total biodiversity is the presence of the ponded site in the gardens which despite draining in the winter period, supported 20 unique taxa. Sites within the Garden Area or immediately downstream together contributed 48 'unique' taxa. The concepts of restoration/rehabilitation and 'naturalness are discussed in relation to the heavily modified Moreton Stream.

INTRODUCTION

The River Frome arises in chalk and is considered to be a groundwater dominated river. However, in its lower reaches it flows through tertiary deposits consisting of Reading Beds, London Clays and Bagshot Beds. The mixed sand/clay stratigraphy results in the development of perched water tables and springs occur at the junction with the underlying clay rich sediments. These springs can develop into small streams which flow into the River Frome through a mixture of improved pasture, arable farming, and blocks of woodland.

Headwater streams are frequently neglected in national surveys (Richardson 2019) but may support rare and endangered species and information on their environmental quality can provide insights into activities within their catchment areas. At this time of emerging threats and challenges to freshwater conservation and biodiversity (Riley *et al.* 2018, Reid *et al.* 2019) detailed information on faunal communities provides valuable data for future comparisons. As part of a continuing series of studies on macroinvertebrate fauna of small Dorset water courses (Armitage *et al* 2010, Armitage *et al*

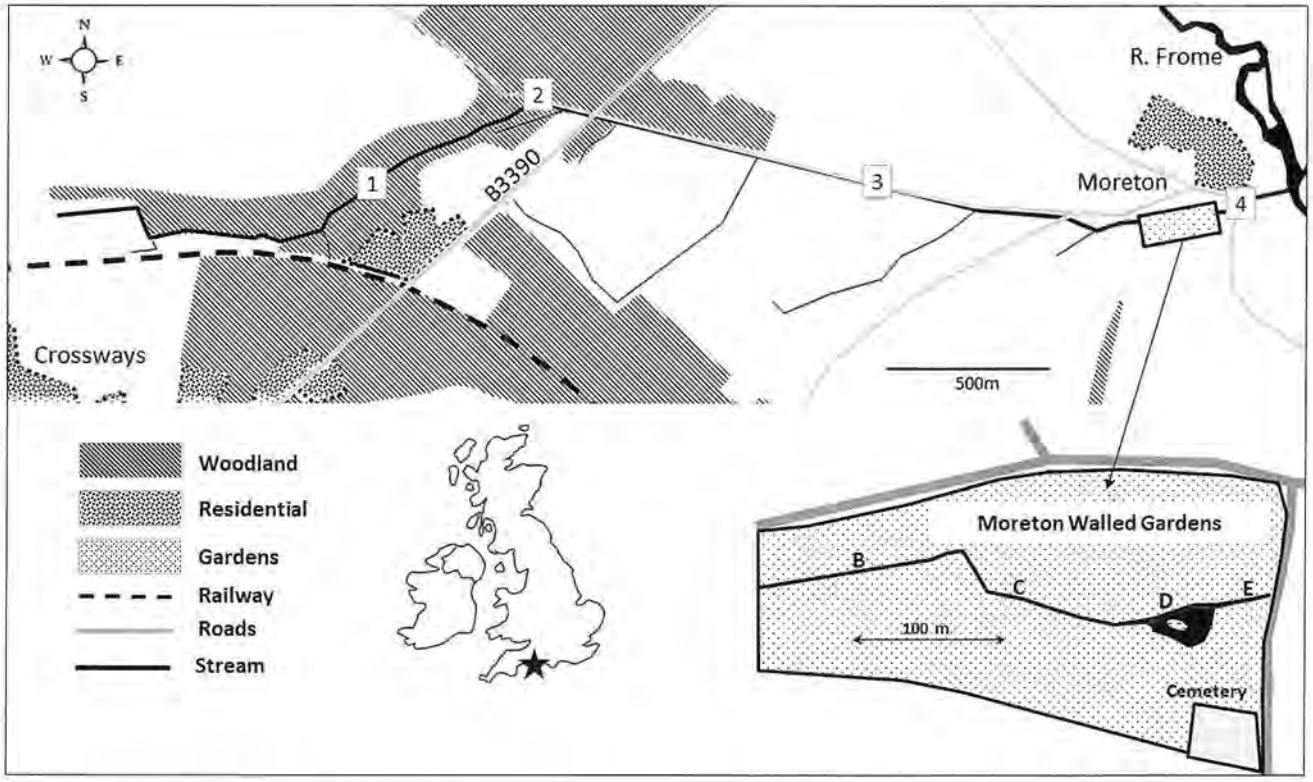

Figure 1 Sketch map showing the location of Sites 1, 2, 3 and 4 sampled in 2018 along the length of the Moreton Stream and inset, Sites B, C, D, and E sampled within the Ornamental Gardens in 2019.

2020) the Moreton Stream was chosen to represent an example of such streams. The stream is unusual in that it flows through an ornamental garden in its lower reaches where the stream channel has been modified. The objectives of this work are 1: - To describe the macroinvertebrate fauna of the stream 2: - Use these data to assess their environmental quality using a standard national accepted method and 3: - Examine the effects of channel modifications in the ornamental gardens on species diversity.

STUDY AREA AND METHODS

The stream arises at an altitude of 45m from a 250m long ditch draining a field adjacent to the railway before flowing for 1.3 km through wet woodland (Birch Aspen, Oak, Willow) and emerging adjacent to a minor road. The course of the stream parallels the road for 1.9 km before flowing for 300m through an ornamental walled garden. It leaves the garden and flows under a road to join the River Frome 150m downstream (Fig. 1).

Land use within 200m either side of the stream (excluding land south of the railway embankment) comprises Pasture (39%), Arable (23%), Woodland (29%) and Residential (9%). Land use within 5m of the bank top is however predominantly woodland with 2.6 km of its length tree-lined with deciduous trees. Four sites were sampled along the length of the stream in 2018 in spring (11/3), summer (14/7) and autumn (13/10). A further 4 sites were sampled in spring (13/3), summer (1/7) and autumn (15/10) in 2019 within the ornamental garden area.

2018 Sites

Site 1 (SY 77830 89350) is situated in a moderately shaded section of the primarily deciduous wet woodland. The substratum is mainly sand and silt and supports dense growth of *Potamogeton polygonifolius* with occasional patches of *Ranunculus flammula*, *Apium/Berula* and *Glyceria fluitans*. Site 2 (SY 78371 89619) located where the stream exits from the woodland has a pebble and gravel bottom with patches of *P. polygonifolius*. The left bank is bordered by the road and the right has extensive

Table 1 Physical and chemical characteristics of 8 sites on the Moreton Stream based on mean values from 3 seasons samples.

Site	1	2	3	4	B	C	D	E
Distance from Source Km	0.94	1.58	2.70	3.70	3.43	3.49	3.58	3.63
Altitude (m OD)	45	42	31	28	29	29	29	28
Width (m)	1.23	1.87	1.58	2.03	2.07	2.40	14.00	2.47
Depth (cm)	17	8	16	8	43	12	ca100	17
Velocity (cm s^{-1})	24	24	9	20	31	31	<10	31
Substratum cover (%)								
Boulders/Cobbles	0	1	0	1	0	2	0	12
Pebbles/Gravel	2	75	7	69	0	83	0	62
Sand	65	11	47	13	17	9	0	18
Silt	33	13	46	17	83	6	100	8
Macrophyte cover (%)	90	60	0	48	83	19	60	27
pH	6.50	6.50	6.50	7.00	6.50	6.50	6.50	6.50
Conductivity (μS^{-1})	206	205	204	215	247	247	247	247
NO3 (mg l^{-1} N)	-	-	-	-	1.50	1.50	1.50	1.00

growths of *Rhododendron*. Site 3 (SY 79407 89373) is densely shaded with no macrophytes and a bottom of sand and silt. Site 4 (SY 80431 89313) is an open site situated downstream of the ornamental gardens. The substratum is predominantly pebbly and gravel supporting patches of *Apium/Berula*, and *Rorippa*. All sites except for site 1 are artificially channelised.

2019 sites

Site B (SY80221 89285) is a heavily vegetated open site dominated by stands of *Typha latifolia* and *Phalaris arundinacea* with occasional patches of *Apium/Berula*, *Oenanthe crocata* and *Ranunculus* sp.. Site C (SY 80308 89271) is a shaded site just downstream of a small weir with a stony substratum with occasional clumps of *Oenanthe crocata, Apium* sp., *Cardamine flexuosa* and *Ranunculus* sp.. Site D (SY 80369 89283) is a partially shaded ponded area controlled by a sluice gate supporting dense growths of *Phalaris arundinacea, Glyceria maxima, Callitriche* sp. and a cover of *Lemna* in the summer. During the winter high flows, when there is danger of the gardens flooding, the sluice is opened, and the pond reverts to being a stream for a period up to 4 months. Site E (SY 80406 89302) is a shaded channel about 25m downstream of the pond with patches of *Callitriche* sp., *Ranunculus fluitans, Mentha aquatica* and *Oenanthe crocata.*

The macroinvertebrate samples were collected using a standard 3-min kick/sweep technique with a 900 mm mesh pond net (Davy-Bowker *et al* 2008). Samples were sorted live in the laboratory, preserved in 70 per cent alcohol and identified to the lowest practicable level. Oligochaeta and the bivalve family Sphaeriidae were identified as such, and Chironomidae to sub-family and tribe level and the remaining fauna to species level wherever keys and life history stage allowed.

Physical features of the sites were recorded at each visit together with measurements of pH and conductivity taken with a portable meter (Hanna HI 98129). Estimates of nitrate concentration were obtained using "*Water Works*" Nitrate and Nitrite test strips. Assessment of substratum conditions was carried out by visual inspection and recording the percentage cover of boulders and cobbles, pebbles and gravel, sand, silt and clay and macrophytes. Physical/chemical characteristics of the stream are summarised in Table 1. Estimates of discharge at each site were made using depth, width and velocity measurements for every sample visit. Values ranged from 0.006 to 0.1 m^3s^{-1} with a mean of 0.04. Flows were maintained at all sites despite dry summers.

Table 2 The distribution of taxa in major groups based on combined seasons data from each site.

	1	2	3	4	B	C	D	E	All
Tricladida	1	0	0	1	2	2	2	1	2
Gastropoda	0	1	2	5	3	6	3	4	6
Pisidium sp.	1	1	1	1	0	1	1	1	1
Oligochaeta	1	1	1	1	1	1	1	1	1
Hirudinea	0	1	1	3	3	2	3	2	5
Hydracarina	1	1	1	1	1	1	1	1	1
Crustacea	1	2	2	2	2	2	3	2	3
Ephemeroptera	1	1	0	1	1	1	1	2	4
Plecoptera	5	5	5	4	5	5	1	4	5
Odonata	3	2	1	3	1	1	5	1	9
Hemiptera	2	1	1	2	1	1	9	1	9
Coleoptera	3	1	2	7	11	8	14	7	26
Megaloptera	0	0	0	0	0	0	1	1	1
Neuroptera	0	0	0	0	0	1	0	0	1
Lepidoptera	0	0	0	0	0	0	0	1	1
Trichoptera	10	9	4	16	11	17	8	11	29
Diptera	7	11	9	16	13	16	9	14	24
Total	36	37	30	63	55	65	62	54	128

Analysis methods

Seasonal and spatial changes in the faunal composition of the Moreton Stream sites were examined using CAP (Community Analysis Package Version 3.0, 2004, PISCES Conservation Ltd) and after standardisation for taxonomic level the Moreton Stream data set was compared with 5 other low alkalinity (<100 mg l^{-1} $CaCO_3$) streams in the area. Ecological quality was assessed using the River Invertebrate Classification Tool, (RICT) (Davy-Bowker *et al* 2008). The ratio of an 'observed to expected' index value, the ecological quality ratio (EQR), is classified by RICT into bands (High, Good, Moderate, Poor and Bad). Spring and Autumn data are used for assessment. The final overall classification of a site is based on the minimum EQR value from the Average Score Per Taxon (ASPT), an index of organic pollution impacts, and the number of scoring taxa (NTAXA), an index of general degradation. Application of the Community Conservation Index (Chadd and Extence 2004) provided information on the conservation value of sites on the Moreton Stream.

RESULTS

Macroinvertebrate Fauna

Based on spring, summer, and autumn samples 75 taxa were recorded from the 2018 survey of stream sites and 113 taxa from the four sites in the Moreton Gardens giving a total of 128 taxa in 64 families for the combined surveys (Table 2, Appendix 1). Fifteen taxa were found only in the 2018 survey and 53 taxa occurred only in the garden sites with 60 taxa common to both surveys. Forty-nine taxa occurred at one site only, ('unique' taxa), with 20 of these occurring at the ponded site D (Table 2). No Red Data Book species occurred but 4 'Notable' or 'Regionally Notable' (sensu Chadd and Extence 2004) species were found. These were the beetles *Gyrinus urinator*, *Helochares lividus* and *Hydraena testacea* and the caddisfly *Lasiocephala basalis*.

Abundance and faunal composition varied strikingly between the sites and seasons and most particularly between the 2018 and 2019 surveys (Fig. 2). Of taxa comprising 70% of the total abundance, 7 taxa were common to both surveys (Oligochaeta, the gastropod

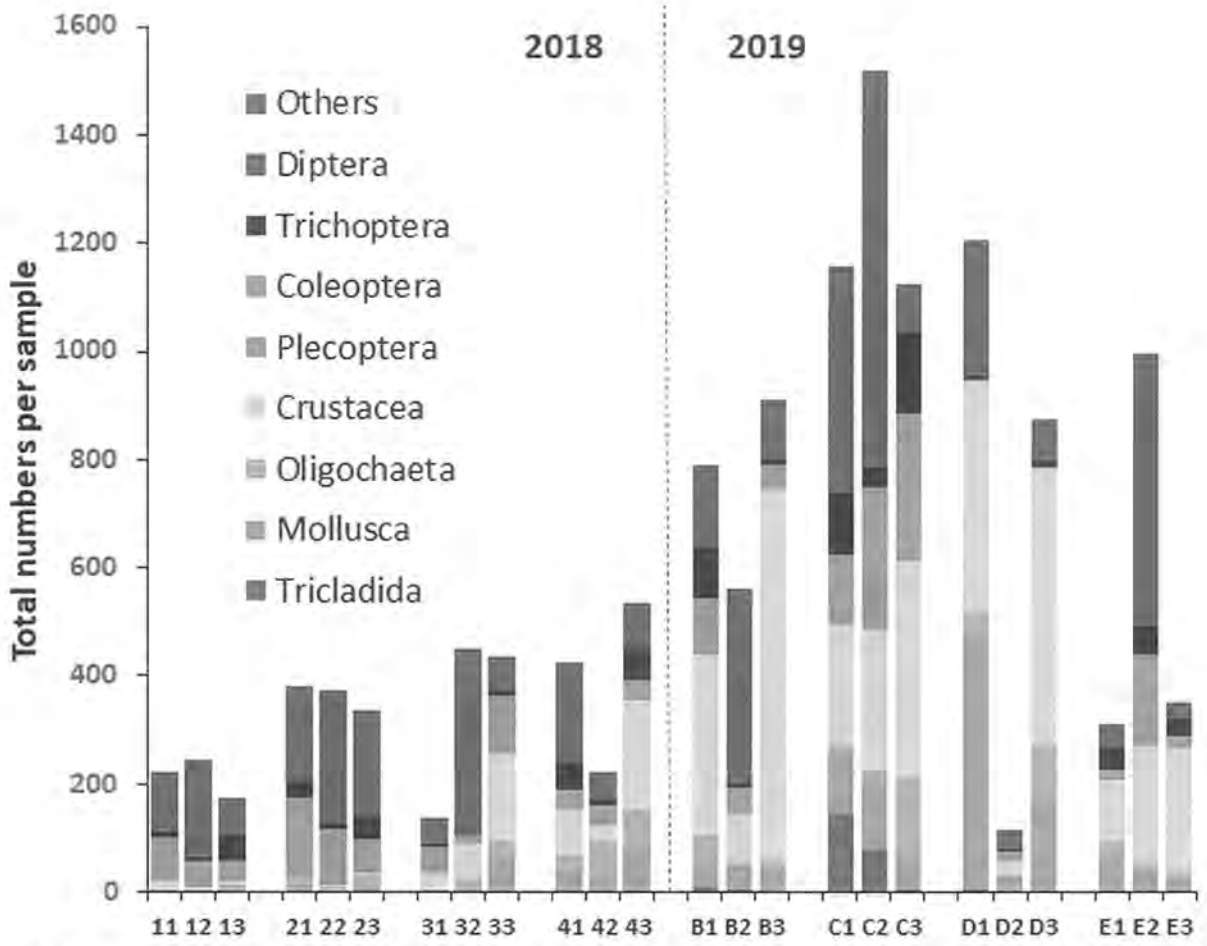

Figure 2 Seasonal differences in the proportion of major groups at each site on the Moreton Stream. (the numbers 1 2 and 3 after the site number/letter indicate spring, summer and autumn samples thus 13 is the autumn sample at Site 1 and C2 is the summer sample at Site C).

Physa fontinalis, Crustaceans – *Asellus aquaticus* and *Crangonyx pseudogracilis*, and dipterans *Simulium cryophilum*, Tanypodinae and Tanytarsini). Two stoneflies *Leuctra nigra* and *Nemoura avicularis* were more abundant in the 2018 survey and Sphaeriidae (*Pisidium* spp.) and Orthocladiinae were more abundant in 2019. *Gammarus pulex*, a common amphipod crustacean species in a wide variety of running water habitats, was absent from the Moreton Stream, replaced by large populations of the non-native amphipod crustacean *Crangonyx pseudogracilis*. The absence of *G. pulex* has been noted in two other small low alkalinity streams, Holy Stream (Armitage and Blackburn 2001) and Oakers Stream (Hawczak *et al* 2009). The highest taxon diversity was observed at sites either within or just downstream of the Moreton Gardens (Table 3). Cluster analysis of the faunal samples from the combined 2018 and 2019

Table 3 The number of 'unique' taxa in major groups occurring at sites on the Moreton Stream based on combined seasons collections.

	1	2	3	4	B	C	D	E
Crustacea	-	-	-	-	-	-	1	-
Hirudinea	-	-	-	-	1	-	-	-
Gastropoda	-	-	-	-	-	1	-	-
Ephemeroptera	-	-	-	-	-	-	1	2
Odonata	-	-	-	1	-	-	4	-
Hemiptera	-	-	-	-	-	-	6	-
Coleoptera	1	-	-	1	4	1	6	-
Neuroptera	-	-	-	-	-	1	-	-
Lepidoptera	-	-	-	-	-	-	-	1
Trichoptera	-	-	-	3	1	1	2	2
Diptera	-	-	-	3	1	3	-	1
Totals	1	0	0	8	7	7	20	6

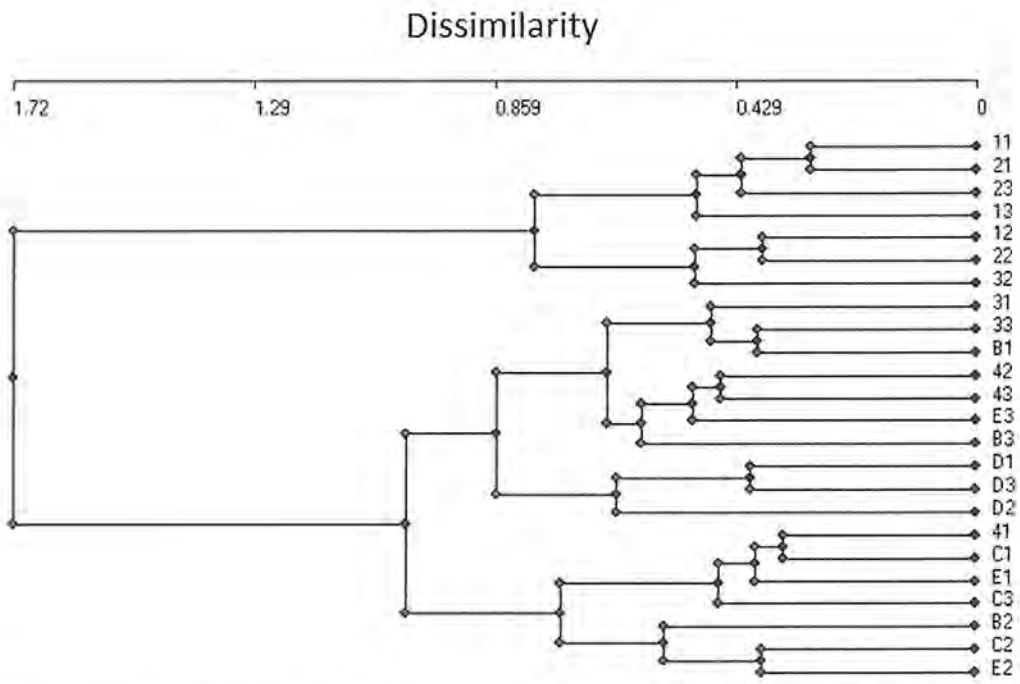

Figure 3 Dendrogram showing the seasonal relationship between samples on the Moreton Stream based on species abundance data. (Seasonal codes as in Figure 2).

survey data showed 5 main groups of sites (Fig. 3). The main division separates the top sites from those close to or within the Gardens and the samples from the ponded site D form a group on their own. Summer samples tend to group together separated from spring and autumn samples.

Environmental Assessment

The national water quality assessment system, RICT (Davy-Bowker *et al* 2008) was applied to sites on the Moreton Stream with the exclusion of the 'ponded' site D. RICT makes a site-specific prediction of the fauna expected at a site in the absence of any pollution and various indices derived from that fauna, based on environmental variables recorded at the site. It is important therefore that the test site falls within the environmental ranges of sites within the reference database. The program assigns a 'suitability code' which gives the probability of a test site belonging to any group in the database. (1: > 5%, 2: < 5%, 3: < 2%, 4: < 1%, 5: < 0.1%). If any site has a 'code' greater than 4, then the predictions and classifications arising should be carefully reviewed to consider if they are appropriate. In the Moreton Stream only Site 1 with a suitability code of 4, fell outside this range due to its proximity to the source. Site D was omitted from the analysis due to its pond-like characteristics.

Table 4 Classification Bands for NTAXA and ASPT with combined classification (CLASS) based on combined Spring and Autumn data from 2018 (sites 1,2,3 and 4) and 2019 (sites B, C, E).

SITE	Suitability	NTAXA	ASPT	CLASS
1	4	**P**	**H**	**P**
2	1	**G**	**G**	**G**
3	1	**P**	**G**	**P**
4	1	**H**	**G**	**G**
B	1	**M**	**M**	**M**
C	1	**H**	**G**	**G**
E	1	**G**	**M**	**M**

Quality classifications (Table 4) ranged from Poor at sites 1 and 3 to Good at 2 and 4 respectively. Within the gardens, classification ranged from Moderate at B and E to Good at C. ASPT EQRs indicated that organic pollution was generally not affecting the stream. It was the lower than expected taxon richness at Sites 1 and 3 that resulted in the Poor classification at both these locations (Table 4). The Community Conservation Index (Chadd and Extence 2004)

Table 5 CCI and RICT classifications of low alkalinity stream sites based on combined seasons faunal data. (CCI classes: – VH very high, H high, FH fairly high, M moderate. RICT classes: – G good, M moderate, P poor).

Stream	SITE	CCI	RICT
Luckford Lake	Lf1	FH	M
	Lf2	H	G
	Lf3	VH	G
Holy	Ho1	VH	M
	Ho2	FH	P
	Ho3	FH	G
Furzebrook	F1	FH	G
	F2	VH	G
	F3	FH	G
	F4	VH	G
	F5	M	G
	F6	H	G
Sherford	sh1	H	M
	sh2	H	M
	sh3	FH	M
Oakers	ok0	H	P
	ok1	H	P
	ok2	FH	P
	ok3	FH	P
	ok4	VH	M
	ok5	H	M
Moreton 2018	1	M	P
	2	M	G
	3	FH	P
	4	FH	G
Moreton 2019	B	H	M
	C	H	G
	D	FH	-
	E	M	M

(Table 5) which unlike RICT accounts for community richness and the relative rarity of the defined species present, was also applied to combined seasons data. In 2018, Sites 1 and 2 were classed as Moderate and sites 3 and 4 Fairly High. The sites within the gardens B, C, D, and E were classified as High, High, Fairly High, and Moderate respectively.

Comparison with other streams

The faunal communities of sites on five previously surveyed low alkalinity streams in the local area (Hawczak *et al* 2009, Armitage and Blackburn 2010, Armitage *et al* 2015) were compared using Cluster analysis on species presence/absence data from combined seasons (Spring, Summer and Autumn) samples (Fig. 4). The 29 sites fall into three groups. There is a certain amount of site fidelity to each stream with sites on the Oakers Stream (oK) and Furzebrook Stream (F) separated into two groups but sites on the Holy Stream, Luckford Lake and the Sherford River were distributed amongst those two groups. Sites on the Moreton Stream group together with the 2019 garden sites separated from the 2018 sites.

RICT classifications ranged from poor to good but CCI conservation values are generally higher with five sites classified as of very high conservation value (Table 5). These values were attributable in part to the occurrence of two rare taxa, the caddis *Hydropsyche saxonica* at Lf3 and F2 and the beetle *Agabus brunneus* at Ho1 and oK4.

DISCUSSION

No rare or unusual taxa were recorded in this survey and the main interest centres around the effects of stream channel modifications on faunal community diversity. The Moreton Stream is greatly modified and channelised along its length, the only exception being the wet woodland section in which Site 1 is situated. However, in 1902 this area was open fields bordered by a brick works. The Garden area has been in existence since about 1800 but has undergone several changes over that period, including food production in World War II, a plant nursery, a period of neglect and its current state as an ornamental garden. Throughout, the basic course of the stream has remained unchanged and the 1902 OS map indicates a situation very similar to the present day. A further impact on the Moreton Stream in the 20th century was the impoundment of the stream to power a nearby sawmill. A sluice dammed the stream, and the resulting reservoir powered the mill via a pipe across the fields. One filling powered the mill for a day and during the night the pond was filled again. In addition to these past impacts the flow of the stream is currently modified in the Garden area

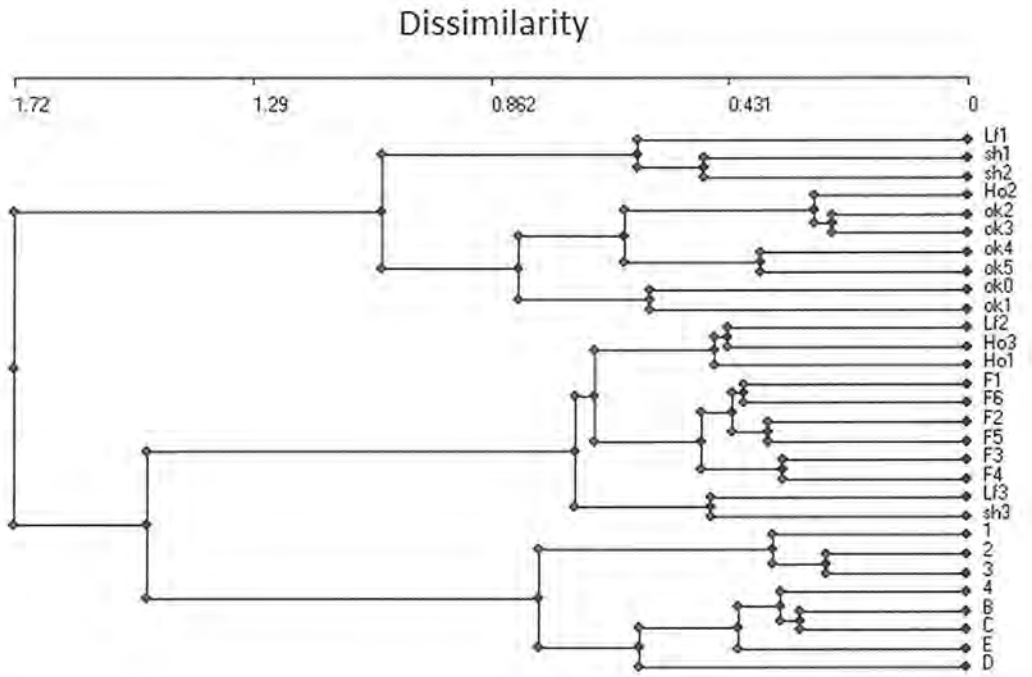

Figure 4 Dendrogram showing the relationship between sites on 5 low alkalinity streams (Furzebrook (F), Holy (Ho), Luckford (Lf), Oakers (ok) and Sherford (sh) based on species presence/absence data from combined seasons samples.

by sluices which are raised below the Pond Area D in winter to prevent flooding.

The consequences of these historic and current impacts are not reflected in the environmental quality of the stream, which is classed as poor at site 1 (relatively unmodified) and site 3 (very modified), whereas the most modified stream section in the lower reaches is classed as good or moderate by the RICT methodology and moderate to high by the Community Conservation Index. The main reason for this is the increased habitat diversity (small weirs, open unshaded areas, ponded sections) which the gardens have provided. This in turn has favoured colonisation by a wide variety of species. The single most 'positive' impact on total biodiversity is the presence of the ponded site D which despite draining in the winter period, supported 20 unique taxa. Sites within the Garden Area (B, C, D, E) or affected by it (4) together contributed 48 'unique' taxa.

There has been considerable debate in the last few years about 'naturalness' in freshwater streams (Fryirs and Brierley 2009, Mainstone *et al* 2014) and its conservation/protection (Mainstone *et al* 2016). Restoration/Rehabilitation of rivers and streams to reinstate characteristic river habitat and biodiversity is embraced by many (Addy *et al* 2016) despite the very few published examples of the efficacy of these measures and the recognition that over-arching catchment processes may determine the outcome of reach scale restoration (Rubin *et al* 2017). We would argue that most water courses in southern England are heavily modified by anthropogenic impacts some of which can be extremely detrimental to stream communities. However, we have observed in our small stream surveys that anthropogenic impacts can have a positive effect on stream communities. Traditional small-scale agricultural activities such as thinning of the riparian corridor allowing more light into the channel (with consequent increase in macrophytes) and careful ditching procedures, can benefit biodiversity of stream invertebrates in the absence of pollution and excessive inputs of fine sediment (Armitage *et al* 2020). Intensive land use, in contrast, can lead to habitat fragmentation, extreme channelisation and the destruction of the natural riparian corridor. In these cases there may be actual in-stream habitat loss, and any anthropogenic increases in habitat diversity can help redress this situation. Although the increased habitat may not be 'natural' it can still offer a refuge

and as such contributes to overall biodiversity. In southern England where practically every small stream has been affected in some way by human activities it is hard to say what the 'natural' community should be and in the absence of this information the maintenance of habitat diversity will at least ensure living-space for a diversity of species. Despite the difficulties of relating habitat structure (heterogeneity and complexity) to increased macroinvertebrate diversity (Barnes *et al* 2013) it is clear that an increase in number of in-stream habitat types, including patches of macrophytes, can increase species richness and may also increase abundance (Armitage *et al* 1995, Beisel *et al* 2000). So, where rehabilitation measures are not practical due to the costs of diverting channels, local biodiversity can be increased by the creation of additional habitats. This is the case in the Moreton Stream which for most of its length runs in a straightened unvarying channel alongside a road and a diversity of flow patterns and an increase in habitat types is found only within the Garden Area. We do not advocate artificially elevating species richness through the creation of a mass of contrived in-stream habitats as a management policy. However, in many cases, there are no easy ways of completely rehabilitating streams to some ideal pristine state without excessive costs or draconian upheaval of communities living alongside them. Natural recolonisation of 'restored' sites is most likely from sites in the same stream (Hughes 2007) so in those streams where full rehabilitation is impractical the creation of a more diverse range of in-stream habitats, could help preserve faunal communities and maintain gene pools.

ACKNOWLEDGEMENTS

We are grateful to Tim Newman (Head Gardener at the Moreton Ornamental Gardens) for granting permission to sample and for information on the stream management and to Liz Frampton-Hobbs who provided some information on the sawmill. Special thanks to our colleagues, Dave Cooling, Jon Bass, Iwan Jones, and James Pretty for help with identification problems and John Murphy for useful comments on the manuscript.

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Appendix 1 The total number of taxa recorded at eight sites on the Moreton Stream based on combined spring, summer and autumn samples taken in 2018 (sites 1,2,3,4) and in 2019 (B, C, D E).

	1	2	3	4	B	C	D	E
Polycelis felina (Dalyell)	3	0	0	5	15	228	6	2
Polycelis nigra/tenuis	0	0	0	0	2	1	1	0
Potamopyrgus antipodarum J.E.Gray	0	0	0	5	4	1	0	0
Physa fontinalis (L.)	0	9	57	104	125	121	133	43
Radix balthica (Müller)	0	0	0	4	5	24	148	20
Anisus leucostoma (Millet)	0	0	1	9	0	22	123	3
Ancylus fluviatilis Müller	0	0	0	11	0	62	0	17
Succinea sp.	0	0	0	0	0	1	0	0
Sphaeriidae	3	15	9	10	0	49	268	34
Oligochaeta	19	53	56	171	63	203	142	64
Helobdella stagnalis (L.)	0	1	1	1	3	2	0	0
Glossiphonia complanata (L.)	0	0	0	1	0	0	3	0
Alboglossiphonia heteroclita (L.)	0	0	0	0	0	0	7	3
Trocheta subviridis Dutrochet	0	0	0	0	2	0	0	0
Piscicola geometra (L.)	0	0	0	3	1	2	4	2
Hydracarina	3	7	1	8	284	3	2	2
Cladocera	0	0	0	0	0	0	4	0
Asellus aquaticus (L.)	0	1	198	277	912	760	463	405
Crangonyx pseudogracilis Bousfield	30	7	64	38	206	127	496	159
Baetis rhodani (Pictet)	2	4	0	15	1	5	0	0
Nigrobaetis niger (L.)	0	0	0	0	0	0	0	1
Cloeon dipterum (L.)	0	0	0	0	0	0	22	0
Ephemera danica Müller	0	0	0	0	0	0	0	1
Nemoura avicularis Morton	20	38	122	5	98	4	2	11
Nemoura cinerea (Retzius)	1	2	1	0	31	16	0	4
Nemurella picteti Klapalek	22	41	5	1	1	3	0	2
Leuctra nigra (Olivier)	77	128	21	1	1	3	0	0
Leuctra fusca (L.)	23	81	7	15	7	100	0	20
*Calopteryx splendens (*Harris*)*	0	0	0	1	5	0	0	0
Calopteryx virgo (L.)	0	0	0	5	0	0	0	0
Coenagrion puella/pulchellum	0	0	0	0	0	0	2	0
Pyrrhosoma nymphula (Sulzer)	1	0	0	1	0	0	9	0
Cordulegaster boltonii (Donovan)	15	11	7	0	0	3	0	1
Aeshna mixta (Latreille)	0	0	0	0	0	0	15	0
Aeshna cyanea (Muller)	0	0	0	0	0	0	1	0
Aeshna sp juvenile	0	0	0	0	0	0	6	0
Libellulidae juvenile	1	1	0	0	0	0	0	0
Velia sp.	11	1	1	1	9	15	4	9
Gerris sp.	0	0	0	1	0	0	2	0
Hydrometra stagnorum (L.)	1	0	0	0	0	0	8	0
Notonecta viridis Delcourt	0	0	0	0	0	0	1	0
Notonecta glauca (L.)	0	0	0	0	0	0	1	0

	1	2	3	4	B	C	D	E
Notonecta nymph	0	0	0	0	0	0	2	0
Hesperocorixa sahlbergi (Fieber)	0	0	0	0	0	0	1	0
Hesperocorixa castanea (Thomson)	0	0	0	0	0	0	1	0
Corixinae nymph	0	0	0	0	0	0	2	0
Haliplus lineatocollis (Marsham)	0	0	0	0	0	0	10	1
Haliplus ruficollis group	0	0	0	0	0	0	1	0
Gyrinus urinator Illiger	0	0	0	0	1	2	0	0
Gyrinus sp. I	0	0	1	0	6	1	1	0
Orechtochilus villosus Müller	0	0	0	2	0	0	0	0
Agabus sp.	0	0	0	0	0	0	1	2
Hydroporus tesselatus (Drapiez)	1	0	0	0	0	0	0	0
Ilybius sp. exuvium	0	0	0	0	0	0	1	0
Platambus maculatus (L.)	0	0	0	4	0	0	0	0
Helophorus aequalis Thomson	0	0	0	0	1	0	0	0
Helophorus brevipalpis Bedel	0	0	0	0	17	0	2	5
Helophorus grandis Illiger	0	0	0	0	2	0	1	0
Helophorus minutus Fabricius	0	0	0	0	4	0	0	0
Helophorus obscurus Mulsant	0	0	0	0	1	0	0	0
Helophorus sp. females	0	0	0	0	4	0	0	0
Anacaena lutescens (Stephens)	0	0	0	0	0	0	1	0
Anacaena globulus (Paykull)	0	0	0	0	0	0	1	0
Hydrobius fuscipes (L.)	0	0	0	0	0	0	2	0
Helochares lividus (Forster)	0	0	0	0	0	0	1	0
Hydraena riparia Kugelann	8	0	0	2	0	0	0	0
Hydraena testacea Curtis	0	0	0	0	0	1	0	0
Limnebius truncatellus (Thunberg)	11	0	0	0	1	2	0	1
Elodes sp.	0	0	0	6	16	84	2	0
Elmis aenea Müller	0	0	0	22	0	134	1	72
*Limnius volckmari (*Panzer)	0	14	10	38	5	253	0	41
Oulimnius tuberculatus (Müller)	0	0	0	10	0	57	1	47
Sialis lutaria (L.)	0	0	0	0	0	0	18	4
Osmylus fulvicephalus (Scopoli)	0	0	0	0	0	1	0	0
Lepidopteran larva	0	0	0	0	0	0	0	1
Lype sp.	2	0	2	0	0	0	0	0
Rhyacophila dorsalis (Curtis)	0	0	0	8	0	14	0	2
Agapetus fuscipes Curtis	0	15	0	5	0	10	0	0
Plectrocnemia conspersa (Curtis)	22	22	10	2	11	12	0	0
Plectrocnemia geniculata McLachlan	0	0	0	0	4	0	0	0
Wormaldia sp.	26	2	0	0	0	0	0	0
Hydropsyche siltalai Dohler	4	9	0	13	15	61	0	17
Hydropsyche pellucidula (Curtis)	0	0	0	0	0	46	0	0
Crunoecia irrorata (Curtis)	1	1	0	1	0	0	0	0
Lasiocephala basalis (Kolenati)	0	0	0	3	0	0	0	0
Limnephilidae	6	2	1	9	8	13	1	5
Halesus radiatus (Curtis)	1	0	6	3	26	12	1	0

	1	2	3	4	B	C	D	E
Halesus digitatus (Schrank)	0	0	0	0	0	1	0	2
Glyphotaelius pellucidus (Retzius)	0	0	0	0	13	4	3	0
Limnephilus lunatus Curtis	2	0	0	1	31	5	3	21
Chaetopteryx villosa (Fabricius)	0	0	0	4	0	9	0	4
Potamophylax latipennis (Curtis)	0	0	0	0	0	0	0	6
Micropterna sequax McLachlan	1	5	0	0	2	1	0	0
Oxyethira sp.	0	0	0	0	0	0	0	20
Silo pallipes (Fabricius)	0	0	0	0	0	1	0	0
Silo nigricornis (Pictet)	0	0	0	1	2	62	0	1
Athripsodes aterrimus (Stephens)	0	0	0	0	0	0	5	0
Oecetis testacea (Curtis)	0	0	0	6	0	0	0	0
Adicella reducta (McLachlan)	0	0	0	2	0	5	0	0
Mystacides azurea (L.)	0	0	0	18	1	0	1	24
Beraea maurus (Curtis)	1	22	0	0	0	1	0	0
Beraeodes minutus (L.)	0	0	0	0	0	0	1	0
Odontocerum albicorne (Scopoli)	0	0	0	3	0	0	0	0
Sericostoma personatum (Spence)	0	2	0	48	3	45	2	29
Dicranota sp.	0	24	1	16	5	29	0	11
Elaeophila sp.	0	0	1	0	0	11	0	4
Pilaria sp.	0	0	0	0	0	1	0	0
Tipula maxima Poda	0	0	0	0	0	6	0	0
Psychodidae	0	0	0	0	0	5	0	1
Dixa nebulosa Meigen	0	1	0	3	4	1	1	0
Anopheles algeriensis/claviger	0	0	0	0	0	0	0	1
Simulium cryophilum group	196	499	6	114	87	419	1	27
Simulium vernum group	35	21	0	26	0	0	0	1
Simulium angustitarse group	0	0	0	1	0	0	0	0
Simulium aureum group	0	0	0	3	7	8	0	0
Simulium lundstromi (Enderlein)	0	0	0	0	0	20	0	1
Simulium ornatum group	33	14	0	18	78	70	0	3
Ceratopogonidae	0	10	3	3	5	11	1	10
Tanypodinae	28	15	118	15	43	306	58	225
Prodiamesinae	1	1	13	5	11	18	23	15
Orthocladiinae	6	4	25	17	17	189	125	27
Tanytarsini	37	6	257	51	55	110	69	231
Chironomini	0	4	19	4	12	0	4	4
Clinocerinae	0	0	0	0	1	0	0	0
Sciomyzidae	0	0	0	1	1	0	1	0
Limnophora sp.	0	0	0	1	0	0	0	0
Antocha vitripennis (Meigen)	0	0	0	0	0	20	0	0
Syrphidae indet	0	0	0	1	0	0	0	0
Total	**36**	**37**	**30**	**63**	**55**	**65**	**62**	**54**

A VIEW FROM A SMALL ANCIENT WOODLAND IN DORSET – 'TANPITS COPPICE' AND 'PICKARDS COPPICE', BERE REGIS

RICHARD SMITH

The foundation stone for this essay is the property where we have lived for the last 22 years, the majority of the site being designated as ancient woodland. The responsibility for maintaining a site of such acknowledged conservation and historical importance is clear to us. Beyond this however, there are more complex issues at stake. The field of study of ancient woodlands is multi-disciplinary, taking in ecology, general, natural and landscape history, and each have brought their own perspectives and priorities. This work aims to look at some of the main issues by concentrating primarily on three interrelated areas, and using our own woodland as the framework ; firstly, changing views on the value of ancient woodlands and the issues that surround their definition ; secondly, the history of the woodland itself, not just because all such sites, however small, have a unique story to tell or to be deciphered, but also to highlight some of the areas of historical debate; and thirdly, the main issues concerning the way that this woodland is now being maintained, in the light of its traditions and its continuing ecological importance.

INTRODUCTION – THE WOODLAND ITSELF

Our residential property, containing the ancient woodland, is located in the parish of Bere Regis, about 2 ½ miles south-east of the centre of the village, and consists of two adjoining parcels of land shown on the latest Ordnance Survey maps as 'Tanpits Coppice' and 'Pickards Coppice' (see Figure 1). Separating the two is a narrow stretch of sunken terrain, with the typical U-shaped form which suggests an ancient track or 'holloway'. The overall area is around 3 ½ hectares, almost evenly split between the two. Tanpits Coppice is, in turn, divided into two areas, the eastern half being woodland and the western half wet grassland/marshland. The whole of Tanpits Coppice was designated as a Site of Special Scientific Interest in 1984, as part of the Bere Stream SSSI.

As regards geology and soils, the overall site is underlain with the varying sands, gravels and clays of what were collectively known as the Bagshot Beds. However, the two areas have different ground conditions. Pickards Coppice has more free draining acid soils over the predominantly sandy bedrock, and with more recent 'river terrace' deposits of sand and gravel above this. Tanpits Coppice has only mildly acid soils over 'Oakdale Clay' which, despite the name, contains a mixture of clay, silt and sand. The section of Tanpits Coppice nearest to the Bere Stream has a surface layer of alluvial soils (British Geological Survey 2021).

Both the eastern half of Tanpits and the northern half of Pickards have been designated as 'ancient

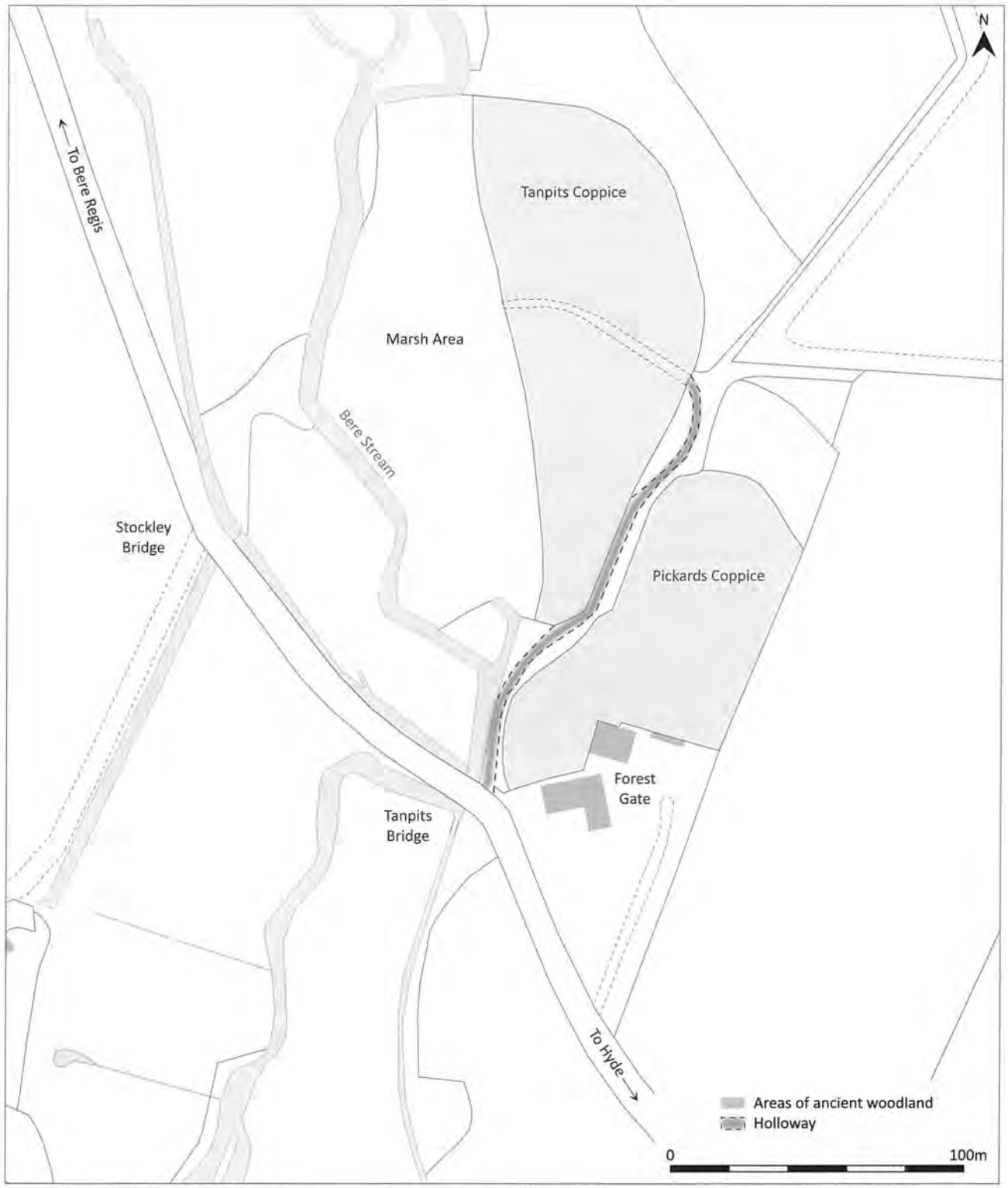

Figure 1 Map of Tanpits and Pickards Coppice, showing the areas designated as ancient woodland. Also marked are the marsh section of Tanpits Coppice, the ancient track or holloway between the two Coppices, and the Bere Stream. Prepared by Tara Fairclough.

woodland' so we will look first at how these areas are defined, including why they are important despite many sites being, like Tanpits and Pickards Coppices, small and little researched. The next section covers the history of the sites, seeing how much can be ascertained from both documentary evidence and fieldwork, before looking at the botanical features and how this may assist in tracing the origin of the

woodlands, through the use of 'ancient woodland indicator' species. This section also takes in a comparison with a small number of other ancient woodlands in Bere Regis parish. Finally, there is a discussion of the issues surrounding the present day and future management of the woodland.

The definition of ancient woodlands

Before the end of the 19th century, the ecological significance of long standing woodland was beginning to be recognised, especially as possible survivors of the original post-Ice Age natural woods. However, the present day useage was really developed in response to the realisation that the period after 1945, and especially the 1950s and 1960s, had seen an abnormally high loss of deciduous woodland, by policy as much as by neglect and disuse. That realisation was linked to a large extent with the writings, more or less independently, of Oliver Rackham, initially with his first major publication of 'Trees and Woodlands in the British Landscape' (Rackham 1976, revised 1990), and George Peterken of the then Nature Conservancy during the 1970s.

The government body responsible for managing nature conservation areas, then the Nature Conservancy Council, was tasked with compiling an 'Ancient Woodland Inventory' (AWI), initiated in 1981, for woods in excess of two hectares, as a first step towards the protection of remaining areas. Evidence gathering began at county level through the early 1980s; revisions to the evidence have been necessary, and much of the data remains 'provisional', although the results vary by county. The definition used for what exactly constitutes 'ancient woodland' was, and remains (for England and Wales), areas that are deemed to have been continuously wooded since at least 1600. This date was chosen principally because few woods would have been deliberately planted prior to this date. Any woodland present in 1600 would therefore likely owe its existence to natural generation or regeneration, and potentially date back many centuries. The other reason for the date of 1600 was the advent of wider scale map making. The first estate maps for Dorset are from the later 16th century, although the wider Inclosure maps accompanying Acts of Parliament begin in the later 18th century, and the first edition Ordnance Survey maps for Dorset were produced in 1811 (Beaton 2001).

The AWI recognised two major types of ancient woodland, depending on its likely history; firstly, 'ancient semi-natural woodland' (ASNW), which includes the eastern half of Tanpits Coppice, and secondly, 'plantations on ancient woodland sites' (PAWS), which covers the northern section of Pickards Coppice. The ASNW sites are largely those which are thought to be the most untarnished by human activity and may hark back, in however modified a form, to the 'wildwood' that colonised after the most recent Ice Age. The use of the word 'semi' indicates that the definition of 'natural' woodland raises wider issues which are discussed below when considering the woodland as it is today. The PAWS sites are usually where ancient woods have been radically altered, or the deciduous woodland largely destroyed, often by post-1945 replanting schemes, frequently, although not in the case of Pickards Coppice, involving fast growing conifers. Both Tanpits and Pickards Coppice were included on the first detailed AWI for Dorset in 1988.

A large scale update was published for Dorset in 2003, detailing changes that had come to light on the original data, including still significant losses of woodland to agriculture etc in the intervening period. No changes to the original designation of either Tanpits or Pickards have been made in these revisions. The first survey from 1988 was primarily desk based, heavily reliant upon map information, and in view of the foundational nature of the project, this was all that could be expected. The more recent revision has benefitted from greater field survey work and information from outside organisations but, except in rare circumstances where actual documentation exists, dating back to 1600, and which has been researched, the process of identifying ancient sites has been compared to 'a murder mystery, proceeding on the basis of clues and probabilities' (Rose 1999, 242). This work will aim to look at those 'clues and probabilities', as well as any documentary evidence, arising from the history and ecology of this particular small ancient woodland.

A few words need to be included here on the main categories of use and development of ancient woods.

The vast majority of woodlands included in the AWI, and including both Tanpits and Pickards Coppice, are those which have long been managed on a 'coppice-with-standards' basis ; that is regularly cut smaller coppice 'wood', existing alongside major standard trees for larger scale 'timber' uses. However, there is debate about the age and development of woodlands of this type, and the degree to which they are primarily or solely a product of management for economic purposes. An increasing recognition of other historical models has therefore been made and, in particular, much interest now centres on the idea of 'wood pasture', a much more open type of landscape where larger standard size trees, regenerated as necessary by 'pollarding' (effectively coppicing at higher above ground level), co-existed with animal grazing. Such landscapes are now very rare outside of formal parkland but they are important when considering the longer history of a woodland, perhaps regardless of its more recent history and its modern day appearance (Rackham 1990, 143–150).

The value of ancient woodlands

It is easy to initially assess ancient woodlands as worthy of preservation solely on account of their likely age; 'they bear the hallmark of time as visibly as a rustic village or parish church' (Marren 1992, 17). Their age, and in particular, the implied long term continuity of woodland use, means that they are of huge ecological importance due to their rich and often unique plant and animal species. The loss of such woodlands since 1945 has been mentioned already but it remains true that England has been a comparatively sparsely wooded country for considerably longer. For Dorset, it has been estimated that, at the time of the Domesday survey in 1086, only 13% of the land area was wooded. (Rackham 1990). Today, this has fallen to just over 10%, and it is only this high because of the inclusion of recent mass conifer plantations (Forestry Commission 2001). Only around 2 to 3% of the land area in the county is ancient woodland (Horsfall 2003), most of which are small in area and isolated in location. With particular applicability to the small size of Tanpits and Pickards Coppice, it has been noted that it is 'the scattered remnants of ancient woodlands that are most significant' (Horsfall 2003). The ecological importance has been supplemented, especially in recent years, by the emotional attachment that such woodlands have for us, by being seen as a direct or indirect link to the resurgence of biological life after the most recent Ice Age.

History of the woodland

The history of the sites is best looked at in two parts. The period after around 1750 corresponds to virtually all of the documentary and cartographic evidence for the use of the site. This is also the period upon which those compiling the AWI would have primarily based their assumption of ancient status. However this does not take us back to 1600 or earlier, so it is necessary to look at the pre-1750 period for historical clues on the longevity of woodland cover. The ecological and botanical evidence for the latter will be looked at in the following section.

The period before 1750

It is very difficult to ascertain the history for this period and to know what form any woodland cover would have taken. This is the case with many ancient woodlands, especially those small and isolated, unless there is the rare privilege of written, mainly large estate papers. Ancient woodland status implies likely woodland use back to 1600 with the follow on implication of woodland use well before that date. It is therefore necessary to ascertain as much as possible from the nature of the site and the history of the surrounding area.

A convenient starting point is with the Domesday survey, not because it signifies any significant landmark in landscape development in itself, but due to its unique analysis of the landscape of late 11th century England. Unfortunately, Bere Regis manor, having been Royal demesne since late Saxon times (Hutchins 1774), and then subject to Royal Forest laws introduced to England from 1066, was not included in the survey. Woodland cover is not directly implied by the Forest laws; it is a legal term aimed at the protection of deer and wild boar within the designated areas, and more accurately defined as 'a portion of territory consisting of extensive waste lands and including a certain amount of both woodland and pasture' (Cox 1905, 2). The exact area covered at Bere Regis cannot be known but, as it

was probably established in areas where clearing and cultivation had made slow progress, and where there was a sparse population, it is likely that it included the heathland area where Tanpits and Pickards Coppice are now found. However, the rare references from this period to woodland in Bere Regis, such as the Close Rolls of Henry III, probably refer to the still existing large area of Bere Wood to the east of the parish. Hutchins' assertion that the forest at Bere was 'afforested by King John' should probably be read in the light of the large number of recorded visits made by John rather than that the advent of Forest Laws dates from his reign (Hutchins 1774). The Forest Charter in 1217, issued subsequent to, but linked with the Magna Carta process, began the gradual reduction in both the extent and legal provisions of the Royal Forests, and although that of Bere manor continued, it ceased in 1259 when the manor was granted outside of royal control by Henry III.

Coppice woodlands were already established by the time of the Domesday survey and are described as *silva minuta*. However a wider extension of coppicing is mainly associated with the expansion of settlement onto marginal land which continued from the 11th century into the 14th century; a period of rising population before the major outbreak of the Black Death in 1348. This extension would have required enclosure of land, mostly from common or 'waste' land, so that animals could be excluded and the regular new tree growth protected. As Rackham says, 'much woodland of 1086 was wood-pasture' (Rackham 1986, 121) but that coppicing 'already well established in 1086, by 1350 had spread to nearly all woods' (Rackham 1990, 63). From 1350, as he goes on to say, woodland cover and usage enters a period of greater stability. There may therefore be good grounds for believing that the woodland of both Tanpits and Pickards Coppice, that we know was in existence in the mid-18th century, may be a product of this medieval expansion, even though its appearance today may be in large measure an artefact of primarily 18th and 19th century economic management.

The possible applicability of this in our area of Bere Regis manor, has been set out by Christopher Taylor (1970). He notes that the overall population growth applied even in more sparsely populated heathland areas such as this, especially along the river valleys of the Piddle and Bere Stream, suggesting a 'massive expansion of settlement and farming in the form of isolated farmsteads in newly enclosed fields in the 12th and 13th centuries ' (Taylor 1970, 90). Evidence of enclosure of fields at these farms (see Fig. 2), probably from common land, includes a likely reference to the Stockley Farms from 1257 (Taylor 1970). This may reflect the impact of relaxing the Forest laws at around the time of ceasing to be Royal Forest (see earlier), making the conversion of former common/waste land (or 'assarting') simpler. Hutchins refers more generally to the ancient status of the heathland farmsteads in the Piddle and Bere Stream valley: Stockley Farm was under the ownership of the lord of Bere manor by the mid-14th century at the latest, and Philliols Farm as 'anciently' belonging to the family of that name, well before the 16th century (Hutchins 1774).

Tanpits Coppice in particular, appears to be the result of some form of earlier enclosure, with a marked segregation between the meadow land and the woodland sections. Early enclosed woodlands would normally show evidence of woodbanks around the perimeter, often with accompanying external ditches, as a way of keeping animals, mostly deer, from browsing and damaging new tree growth. There are traces of banks on parts of the perimeter of both sites although of varying height and with stretches where no bank is visible. No areas of external ditch are readily apparent. In both cases, this may be because of damage or infilling of earlier structures, or possibly that any woodbanks are of a later date; such banks, when of later medieval or post-medieval origin, are usually smaller in size for reasons that have never been clear. It is certain that enclosed woodlands reflected the huge importance of wood and timber for so many purposes, such that their protection from grazing animals would have been vitally necessary (Rackham 1990, 76–83). The other feature of likely ancient interest is the section of holloway mentioned earlier, and marked on Figure 1. As noted in the following section, this could have been used during the period of tanning in the 18th and 19th centuries but the depth of the track and the banking alongside would suggest that it is much older. Early OS maps show a pathway leading from

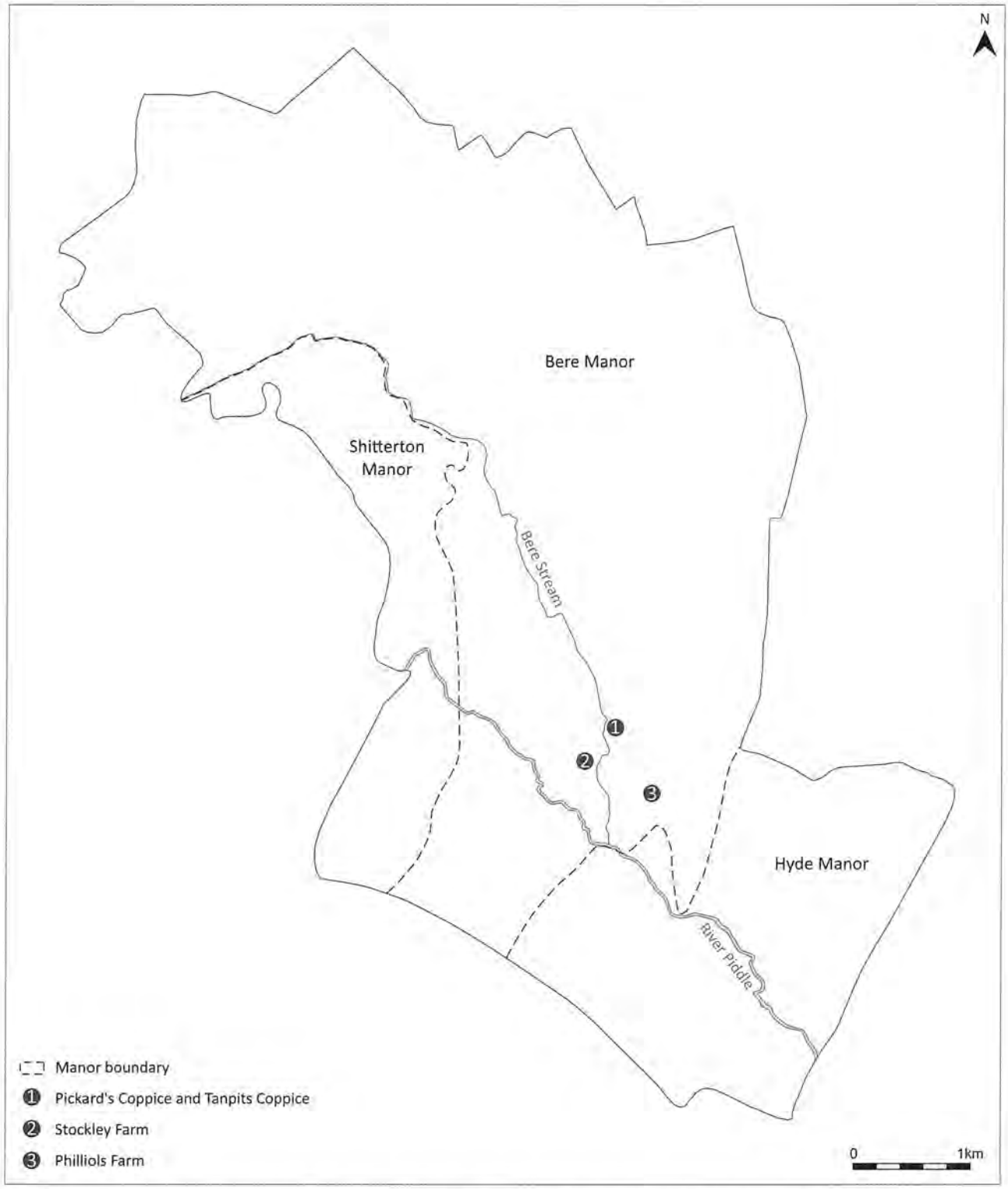

Figure 2 Map of Bere Regis, showing the outer parish boundary, as well as the boundaries of the three manors making up the parish. Prepared by Tara Fairclough.

the holloway across Tanpits Coppice as far as the boundary of the meadow/woodland sections (Sheet XLII.SW, 1888, six inch to mile). It is possible that the track was used for the movement of animals in and out of the pasture, back to enclosure of this, and adjoining land, in the Middle Ages – and in all probability, for uses before then.

The period after 1750

The earliest detailed map of the area was commissioned by Henry Drax after beginning the acquisition of Bere Regis manor in the mid-18th century. It was undertaken by the famous private map maker, Isaac Taylor, known principally for his large scale county maps including that of Dorset in 1765. It was produced between 1773 and 1777 and is highly detailed, showing every plot of land within Bere Regis manor, along with the area and the owner or tenant of each. In a way, it provides, 60 years or so earlier, similar information on land ownership to that provided by the surveys of the Tithe Commissioners in the 19th century.

Taylor's map suggests evidence of a rural industry which fairly briefly was of huge importance but now attracts only passing attention in historical studies; the use of bark, but very predominantly oak bark, for the tanning or softening of leather. Oak bark is richer in the necessary tannic acid than any other native tree and was always the preferred choice for the liquid in which the animal hides were cured and softened. Bark had been used for this purpose for many centuries, often as a minor by-product but it is the period from about 1750 to 1870 that saw the use of oak bark rise to the status of an industry. Although the names 'Tanpits' and 'Pickards' Coppice do not appear, both areas are shown as 'copse' (either name is usually evidence of a long existence as managed woodland), there is a reference to 'Tanhouse Corner', buildings are shown which no longer exist and, on the other side of the road, there is what is shown on the terrier as 'the Site of a Tanhouse' (Fig. 3). The latter is connected to the woodland by an obviously ancient trackway or 'holloway' which stills forms a deep and mysterious boundary between the two coppices (Fig. 4). The oak bark would have been stripped, probably from younger coppiced trees rather than the mightily sized oaks that now more readily spring to mind, and taken to the tanning pits, to cure the hides from the local area. Thomas Hardy's novel, 'The Woodlanders' describes the bark stripping activity in the north Dorset woods, including the strange noises generated by the activity, which brings an old industry to life more graphically than mere description (Hardy 1887, 36).

It is perhaps difficult to imagine the scale of the industry although less hard to appreciate how quickly an industry can take off when there is a huge surge in demand for leather products, as there was from about 1750 but peaking during the Napoleonic wars (Victoria County History 1908, 298). One of the few detailed studies on the history of the industry shows that 'the manufacture of leather and leather goods was, by value, the most important industry, after textiles, between 1680 and 1830, and one of the largest rural employers outside agriculture' whilst also noting that 'roughly 90% of all leather was tanned with oak bark' (Clarkson 1974, 136).

With the difficulty of working out the earlier history of the woodland, what light may be thrown by the existence of the oak/tanbark industry? As well as the more documented history of the predominance of oak for construction and shipbuilding purposes, the rise of the oak bark industry has contributed very much to the idea of oak as the dominant tree throughout our history. Oak still largely dominates our two areas of woodland, at least in terms of the larger 'standard' trees, but is this primarily a reflection of the choice of the tree for specific economic purposes, rather than the more romantically (patriotically?) based notion that it formed the major element of our primeval woods; the 'wildwood'?

Despite the undoubted importance of oak bark for a relatively short period in the 18th and early 19th centuries, it would be wise not to overstate its importance in the longer term history of this, and other ancient woodlands. As Clarkson warns, 'the fundamental fact about oak bark was that it was not grown because tanners needed it, but as a by-product of timber and wood fuel' (Clarkson 1974, 143. The stripping of bark would have killed the tree, so coppiced oak would have been preferred, both because of its constant regrowth and the greater suitability of younger bark; coppice growth of around twenty years seems to have been the ideal for tanning use, rather than the older, mature trees. The 17th and 18th centuries both saw large increases in the demand for timber which resulted in an 'increasing cultivation of coppices and a more systematic exploitation of natural woodlands' (Clarkson 1974, 143).

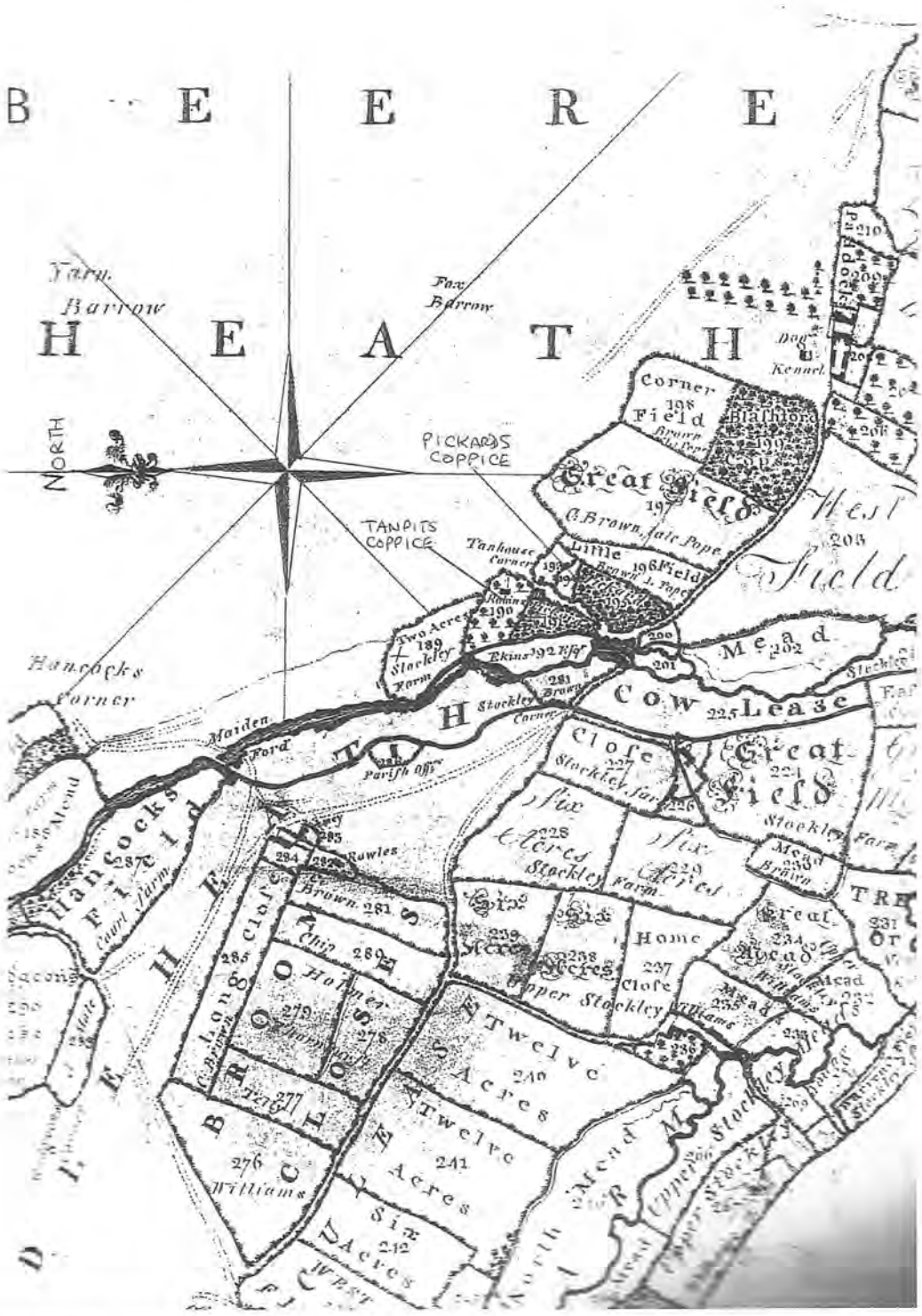

Figure 3 Extract from Isaac Taylor map of Bere Regis Manor, 1773–1777. Tanpits and Pickards Coppices are in the centre. The 'Site of a Tanhouse' is marked as plot 200, just to the south of Pickards Coppice. 'Tanhouse Corner' is as marked.

It is very probable therefore that woodland cover in Tanpits and Pickards pre-dated the oak bark period as managed coppice, although any earlier evolution from wooded common, wood pasture or wooded 'waste' (a word that should not be interpreted with its modern pejorative meaning) is almost impossible to identify. As Marren says, with possible relevance to this woodland, bark production was often 'an incentive for woodland owners to convert their scrubby, untidy woods into

Figure 4 The ancient holloway between Tanpits and Pickards Coppice, looking westwards, on 3rd June 2019. © Author.

Figure 5 Extract from Bere Regis Tithe map of 1844, showing Tanpits Coppice as areas 427 ('Copse') and 428 ('Pickards Meadow'), and Pickards Coppice as area 429 ('Pickards Copse').

commercially organised coppices' (Marren 1990, 76). Any woodland in existence in the pre-1600 period, and the harvesting of oak bark would have likely been at least a secondary use even then, is likely to have been too precious a resource not to have been carefully protected and maintained. More widely, what was the likely scale of oak bark harvesting in this part of Dorset? This is difficult to tell because, as already mentioned, this industry has received little attention in historical study. Certainly the harvesting of oak bark would have been widespread in oak woodlands over many centuries.

The ownership of the Coppices during this period gives some interesting clues on the value of the woodland. At the time of Taylor's map of 1777 (Dorset History Centre ref T/BER), Pickards Coppice was owned by the Pickard family, almost certainly the family holding the adjoining manor of Bloxworth. By the time of the detailed land use survey of 1844, resulting from the Tithe Commutation Act of 1836 (Dorset History Centre ref T/BER), Tanpits Coppice had also fallen into Pickard ownership, and this despite the fact that the Drax family had acquired virtually the whole of Bere Regis manor, and certainly all adjoining land, in the decades after their initial acquisition in the later 18th century. According to the Tithe apportionment, the western half of what is now Tanpits Coppice is shown as 'Pickards Meadow', whilst the eastern half is shown unnamed as 'copse' (Fig. 5). What is now called Pickards Coppice had already acquired that name, although with the use of 'copse' rather than 'coppice'. It is also interesting that the Tithe apportionments now show the 'site of the tanhouse' plot simply as a 'plantation' suggesting that any tanning industry use was already over or much diminished. The land has remained outside of Drax ownership throughout; at some point between 1844 and 1947, when the land was sold by conveyance, (Dorset History Centre ref. D/HDS/SP/1947/28), both Tanpits and Pickards Coppice were acquired by the Radclyffe family, holders of Hyde manor, which adjoins Bere Regis manor to the south-east, since 1836. The land must have had a significant economic value, perhaps for shooting or other sporting purposes, for it to have been worthy of acquisition by two separate large local landowners.

The tangible map evidence would have certainly included the first edition of the OS 1" map (the 'Old Series') published for this area in 1811 although the detail of woodland is not clear; the majority of this series have been called the 'least accurate ever published by the Ordnance Survey' (Hindle 1998, 121)). The original drawings for these maps, made up to ten years earlier, are, in many ways, clearer and appear to show woodland for all of Pickards Coppice but a smaller area than at present for Tanpits Coppice (Hodson 1989). By the time of the publication of the OS 25" inch map for the area in 1889 (the 6" equivalent was a reduction from this), both Tanpits and Pickards Coppice are now shown with these names, and at their full present day size, with full tree cover (Fig. 6). This would suggest that, in addition to what was shown on the 1844 tithe map, woodland cover in Tanpits was extended for the peak tanning period in the first half of the 19th century, or at least the pre-existing woodland largely took on its full coppice-with-standards use and appearance at this time.

All that is known of the woodland since the late 19th century is that coppice working, of primarily hazel, was still being undertaken until the 1950s, the period when many long standing coppice woods had fallen, or were falling, into disuse and neglect. However, there was a particular twist to the story here because the purchase of both sites in 1947

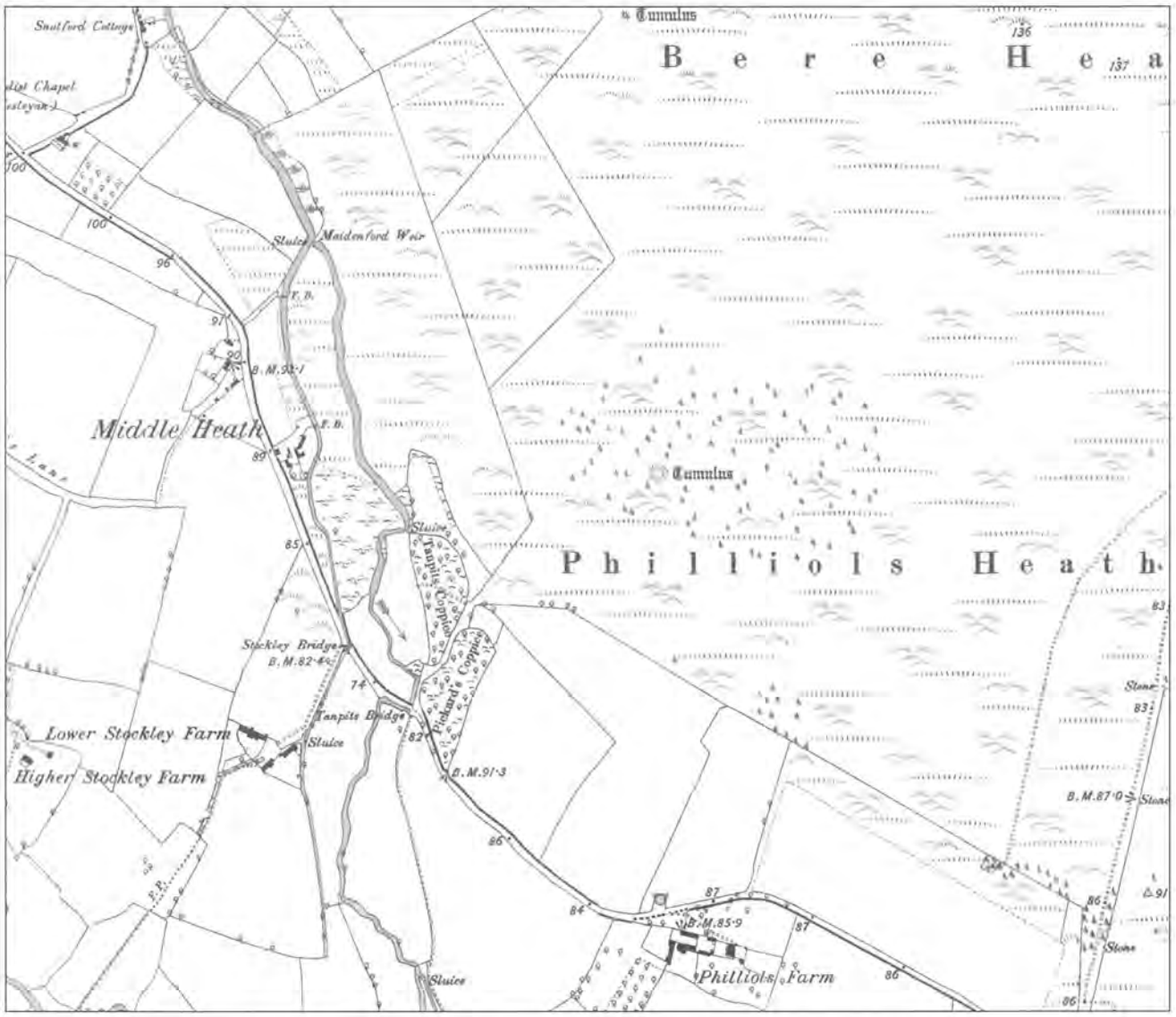

Figure 6 From the six-inch OS map 1888 XLII.SW. Both Tanpits Coppice and Pickards Coppice are shown with their present day names and extent. Note the heathland to the east before the advent of 20th century conifer planting in what is now Wareham Forest

appears to have led to a degree of clearance of many of the smaller coppiced trees (the 'understorey') and eventually to the building of the house on the Pickards site in 1963. Notably, the sale particulars for the auction of the land in 1947 describe it as 'an interesting little sporting property'. Although these refer to the 'oak and other timber trees' as well as the 'coppice underwood', there is also emphasis on the fishing rights of the 'trout stream', and the 'sporting' reference no doubt links in with the extensive planting of wild rhododendron (now cleared) probably for game shooting cover. Also, in 1947, the western half of Tanpits Coppice was still seen as 'meadow'.

The botanical character of the woodland

As well as the diversity of native trees and shrubs, perhaps the greatest visual glory that can be ascribed to this woodland, and ancient woodlands in general, is the extensive ground flora which is predominantly found in an ancient woodland environment. Carpets of wild daffodils and wild bluebells cover the floor during the springtime, the bluebells on both sites and the daffodils largely restricted to Tanpits Coppice (Figs. 7 and 8). The latter seem to thrive in the increasingly damp conditions and on the more water retentive soils, their sheer numbers made more dramatic in the often wild late February landscape. But wild daffodils have a fairly patchy, although

Figure 7 Bluebells carpeting the floor of Tanpits Coppice on 30th April 2019. Two other strong ancient woodland indicator plants are also shown; the white wood anemone and, in the background, the lime green wood spurge as well as the more extensive white of Greater Stitchwort. © Tony Bates.

widespread, distribution in Britain, with Dorset and counties westward being one of the areas well endowed. They seem to appear either in profusion or not at all, without any consistent link to soils or other natural conditions, and for reasons not fully understood. Both the bluebells and the daffodils are the true native species; no adjoining sites appear to have allowed the spread of, or hybridisation with, non-native species.

The exact link between plant species and ancient woodlands has been the subject of much debate and there is no doubt that the presence of ancient woodland 'indicator species', and most especially the vascular plants, provide general botanical evidence for the longevity of woodland cover (these plants must be contrasted with those growing more generally in a woodland environment). A number of factors lay behind this. Firstly, many plants have limited powers of dispersal for propagation and so their ability to extend into, or out of, a particular site will be very limited. Secondly, the plants present in a woodland may also be at least partly explained by many centuries of coppice management, with the alternating periods of light and shade as the coppice wood is periodically harvested. Thirdly, sites long occupied as woodland will have less fertile soils than if farming activities, especially ploughing, had taken place, and so taller, more competitive vegetation will not have outcompeted what we would now see as the specialist ancient woodland flora. Related to the latter, the fundamentally important mycorrhizal soil fungi will have suffered little disturbance over the centuries.

An analysis of the Tanpits Coppice site in 2001, undertaken by an experienced ecological surveyor of the Dorset Environmental Records Centre, revealed that 23 indicator plants were present in the woodland section, including native trees and shrubs that one can be pretty sure were not subject to planting (Table 1). For a small site of under two hectares, this

Figure 8 Wild Daffodils near to their peak on 16th March 2016. © Tony Bates.

is a significant number and a good percentage of the overall number of relevant plants recognised in an influential study from 1999 based on the South of England. In view of the many different attempts to list species, often based on local studies, the author felt that the overall list of around 100 plant species was 'as close as possible to a consensus of botanical opinion' (Rose 1999). As well as wild daffodils and bluebells, these are plants which are generally seen as having an especially strong link with ancient sites, such as Wood Anemone, Wood Spurge, Wood Melick and Primrose (again, the latter not impacted by other non-wild varieties).

To what extent can the presence of these indicator plants throw light upon the possible length of tree cover in our coppices, and act as a surrogate for the lack of general historical records? One study, albeit based on a different part of Britain, has suggested a minimum of 25 species for a two hectare plot, to more reliably indicate ancient status (Castle *et al.* 2008); this appears very much in line with the size

Table 1 Ancient woodland indicator plants in Tanpits Coppice

Acer campestre (Field Maple)
Anemone nemorosa (Wood Anemone)
Carex remota (Remote Sedge)
Carex sylvatica (Wood Sedge)
Conopodium majus (Pignut)
Euonymus europaeus (Spindle)
Euphorbia amygdaloides (Wood Spurge)
Holcus mollis (Creeping Soft-grass)
Hyacinthoides non-scripta (Bluebell)
Hypericum pulchrum (Slender St John's-wort)
Ilex aquifolium (Holly)
Luzula pilosa (Hairy Wood-rush)
Melanpyrum pretense (Common Cow-wheat)
Melica uniflora (Wood Melick)
Narcissus pseudonarcissus (Wild Daffodil)
Polystichum setiferum (Soft Shield-fern)
Populus tremula (Aspen)
Potentilla sterilis (Barren Strawberry)
Primula vulgaris (Primrose)
Ribes rubrum (Red Currant)
Rosa arvensis (Field-rose)
Ruscus aculeatus (Butcher's Broom)
Vicia sepium (Bush Vetch)

Survey of plants was undertaken in May 2001 by Bryan Edwards of the Dorset Environmental Records Centre. Only includes plants known to be present naturally and not through planting.

and species reported in Tanpits Coppice. But the full picture is inevitably more complex. Botanical writers in this field express caution in trying to infer woodland history, and especially any notion of an exact dating technique, from its present day flora; 'there is no single reason why a plant may be linked to ancient woodland' (Kirby 2020). The principal other factors would include the size of the woodland in question, the nature of the soils, and in particular the diversity of soils on the site, the area of the country and its climate, and the density of woodland cover in the nearby area.

In view of the complexity of the research findings in this field, it would be best to look at these factors through the evidence of plant species in two other ancient woodlands in Bere Regis parish, and compare these with Tanpits Coppice. Firstly, Lower Hove Wood, just under three kilometres north of Tanpits Coppice, around seven hectares in size and on largely clay soils, but bordered to the west by chalk. Secondly, Piddle Wood, about five kilometres to the North West, much larger at about 15 hectares, and more influenced by chalk soils but with some clay and sand. Both Tanpits and Lower Hove are on better soils on the edge of open heathland, and, as suggested above, may represent sites for enclosure and the spread of coppice management in the early medieval period. The plant analysis for these two other woods was also undertaken by the same ecological surveyor as for Tanpits Coppice.

On the most initial level, all three woods have a significant number of specialist indicator plants, Lower Hove Wood with 38, and Piddle Wood with 31. Although one would normally expect a larger woodland to contain more such species than a smaller one, these figures suggest that this only applies at the most basic level. It is the diversity of soil types and topography that primarily dictate the richness of the overall species. Fewer plants occur on acid soils than on base rich soils but both types will have their own specialists. Particularly noticeable is that the richer clay soils of Lower Hove, combined with its proximity to chalk, support significantly more species than the slightly more acid soils of Tanpits, and also more than the significantly larger, but predominantly calcareous Piddle Wood. This includes plants needing a heavier clay soil, such as Bitter Vetch and Narrow Leaved Lungwort, or those needing richer or less acid soils, such as Yellow Archangel or Yellow Pimpernel. In turn, Tanpits Coppice provides conditions suitable for more acid loving plants such as Common Cow Wheat and Orpine. Study on other woods has shown how a woodland area as small as Tanpits Coppice can support a very high number of species because of its diverse conditions, even though, as may also be the case with Tanpits Coppice, the wood owes its origin to regeneration on open ground in the Middle Ages (Day 1993); using another important classification of ancient woodlands, this would make this woodland 'secondary', in that it likely resulted from natural

regeneration on land that had previously been cleared, rather than 'primary' woodland where there is a more or less direct link to the original postglacial tree cover.

One or two other factors relevant to the indicator plants may also be mentioned. There is a low density of woodland on the heathland area, ignoring the 20th century conifer planting of Wareham Forest, and Pickards/Tanpits appear as largely isolated islands of deciduous woodland, on the edge of the heathland and partly influenced by the adjoining Bere Stream. Although there appear to have been small losses of woodland in the most recent centuries, using the Isaac Taylor map of 1777 as evidence, this seems to support the longevity of woodland cover, given the generally accepted slow rate of spread of many indicator plants.

And finally, one important question arises: how strongly can the existence of indicator plants be conclusive evidence of continuous woodland cover back to before 1600? Local studies have shown that some plants may be restricted to ancient sites in parts of the country, whilst appearing to colonise more recently wooded sites in other areas. One example from many would be Wood Spurge (Euphorbia), widespread in Tanpits Coppice, which 'may be faithful to ancient woods on acid clays in central-southern England but certainly not so on the chalk' (Rose 1999). Research in other parts of England has also cast doubt more generally on the relationship by finding woodlands with a large range of indicator plants that map evidence seems to show were the product of late 18th century planting (Barnes and Williamson 2015).

Protecting and managing this ancient woodland

With its historical antiquity and its ecological importance, where does this leave the present day woodland, and how does this influence our view of its future? Disappointingly, ancient woodland does not of itself have any official conservation status, other than its now more informal importance in the planning process. In the case of Tanpits Coppice, it is afforded protection because this is part of the Bere Stream Site of Special Scientific Interest (SSSI), but this was motivated primarily by the marsh and streamside habitats that adjoin the woodland. An agreement was drawn up by us in 2006 with English Nature (as the Nature Conservancy Council had then become) which largely recommends that the woodland element has its worked coppice environment maintained; this is seen as its semi-natural condition which likely dates back, as discussed above, for an appreciable period. Although we have planted native deciduous trees within Tanpits Coppice over the last 20 years, this has been aimed at maintaining its status as 'natural woodland'. However the word 'natural' is a nuanced term rather than one with a fixed definition, and, as was mentioned earlier, the use of the term 'semi-natural' reflects this. In the most basic terms, a natural woodland is one where trees grow or regrow by generating or regenerating naturally, with no, or minimal, human intervention.

Written from this perspective, Rackham felt that 'planting trees is not conservation but an admission that conservation has failed' (Rackham 1990, 208). A different viewpoint, written from the outlook of a forester would be that 'maintaining native species is not enough to sustain an ancient woodland. The vital element is the management; the human intervention' (Lennon 2014, 125).

As our aim is to maintain the woodland for conservation purposes rather than for any commercial objective, how would the planting of native trees be justified? One consideration has been the enormous damage to natural regeneration of trees by deer, very large, and increasing numbers of which use the woodland from their adjoining main habitat in Wareham Forest. Outside of the huge cost and the inappropriateness of perimeter fencing, the deer problem is now almost beyond solution. It is not new because ancient woodbanks on the boundaries of many woodlands (some of these can still be seen here as noted already) attest to the need for protection throughout history but deer numbers are now far higher, and with a larger number of species, than ever before.

The choice of small trees which have been planted in Tanpits Coppice was made on the basis of the type of natural woodland which would be expected

to occupy the site. From the evidence of the trees already there, as well as the complex analysis of woodland types developed by Peterken (1981), the main trees planted were hazel, ash, maple, and in the wetter areas, alder, to supplement holly which regenerates in profusion despite it being palatable to deer. On the perimeter there are also a number of existing, suckering English elms, some of which seem to be surviving beyond the eight to ten year age when they have traditionally been susceptible to the Dutch Elm beetle/fungus. More unusually perhaps, a small number of native small-leaved lime trees have also been planted. These are generally reckoned to have been the most common tree in the natural 'wildwood' of southern Britain up to around 3000 BC and, although they remain numerous in some areas, they are now much less widespread. Rackham's polemic against planting in ancient woodland was primarily a response to huge damage that was done by insensitive conifer replanting, often destroying the existing deciduous trees and also the distinctive features, vegetation and soils, which made that unique environment. I believe that our planting has been sympathetic to the ecology of the site, takes account of its recent history and has not effaced the earlier vegetation. Bearing in mind what has happened to the woodland in the past, what can be envisaged for the future? The 'pure' option would be that the woodland is left to its own devices, to be natural by developing as nature dictates. This has to reflect present day problems of regeneration such as deer damage, and assumes what one prominent woodland ecologist terms a 'future-natural' woodland; the trees will be those that survive in future conditions (Peterken 1996). This is likely to include species such as sycamore and beech which may be seen as invasive in some present contexts. Is a natural species often an 'invasive' one which, in the case of sycamore in particular, is just too successful for its own (and our) good? This outlook is also complicated by long established species being severely depleted by disease. In the 1970s it was elm; in the near future it may be ash, which is presently one of the more successfully generating natural species here.

But perhaps it is necessary to recognise what is most valuable in the woodland, particularly the associated woodland flora, and accept that these have arisen through the long established use and management, almost certainly long before 1600 AD. To some minds, the bluebells may even have their origins back to the virgin untouched woodland, with their very limited powers of dispersal, their inability to colonise new sites and their need for the varying conditions of light and shade which is available through regular coppicing. Light is, in many respects, the easily neglected key factor here and many trees will not prosper or regenerate under too dense a canopy, hazel being one, so this has always been paramount for the use of our woodlands. Many woodland plants have adapted to the alternate periods of growth and dormancy with the light and shade and it will not be an easy factor to replicate in the future unless, in the absence of a commercial use, 'recreation' or 'conservation' coppicing is practised. Our woodland has actually experienced a relatively long period of lighter conditions because of its recent history; the bluebell cover, although still extensive, seems to have become slightly less prominent in recent years but whether this is related to the lack of periods of shade, or possibly wetter conditions, is hard to say. The wild daffodils if anything have become stronger, and more extensive. The increasingly wet autumn and winter conditions may be a factor in this.

CONCLUSION

This paper has examined the general importance of ancient woodlands, and the issues involved in their present and future maintenance, based on the circumstances of our small and therefore easily overlooked woodland, and the research that has prompted. It also reflects that an appreciation of their history, as well as being interesting in itself, is a necessary context for how we view them now. The major concern will be the part that ancient woodlands will play in our lives in the future because their beauty and their ecological importance result primarily from the fact that they formed a fundamental part of our lives until comparatively recent times. We refer to the most important remaining ancient woodlands as 'semi-natural', to reflect a complex and seemingly paradoxical balance between human management, and leaving nature to operate unhindered by human impact. This paper is a survey of how one woodland has arrived at its

present situation as well as an initial examination of the type of decisions that will dictate its future.

ACKNOWLEDGEMENTS

I would like to thank Bryan Edwards of the Dorset Environmental Records Centre for his survey of plants, and particularly of the ancient woodland indicator plants, and also for the benefit of his huge knowledge and enthusiasm for all things in the natural world. Thanks also to Tony Bates for the wonderful photographs taken through the seasons which show the beauty of this woodland setting.

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Map of Bere Regis Manor, and terrier, by Isaac Taylor 1773–1777 (T/BER))

Bere Regis Tithe Map 1845 and Apportionment of same date (T/BER)

Particulars of Sale of Tanpits and Pickard Coppice 1947 (D/HDS/SP/1947/28)

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SHEDDING NEW LIGHT ON THE LONG BARROWS NEAR THE DORSET CURSUS: A DIGITAL AND GEOPHYSICAL APPROACH

MICHAEL GILL

INTRODUCTION

The Neolithic long barrows that cluster around the Dorset Cursus have been the subject of intensive study over a long period, and it would be easy to assume that little could be added to the existing narrative without invasive and expensive excavation. However, we now have at our disposal an array of techniques and data unavailable to earlier archaeological pioneers, facilitating a reassessment of both individual monuments and the landscape which they populate.

Long barrow studies on Cranborne Chase began in earnest with the first 'scientific' excavation of a long barrow by Pitt Rivers (1898) in 1893–4, followed by Drew and Piggott (1936), who added to this pioneering work by fully excavating another long barrow at the west end of the Dorset Cursus, on Thickthorn Down. Atkinson (1955) was the first to recognise the full extent of the Cursus, and described its association with specific long barrows; soon after, invaluable regional surveys of long barrows in the region were completed by Grinsell (1959) and RCHME (1975). Barrows are referenced here using their RCHME inventory numbers (e.g. 'Pentridge 30') except where indicated as being a Grinsell number. The most comprehensive study, however, was the detailed multi-disciplinary Cranborne Chase landscape research project undertaken by Barrett *et al.* (1991), in which ideas were fully developed in a seminal volume highlighting the tight integration between the Cursus and its surrounding long barrows.

Given the number of long barrows in the vicinity of the Dorset Cursus, it is perhaps surprising we have relatively limited information about their form, structure and chronology. Geophysical survey has been restricted to that undertaken as part of a study of the Upper Allen valley by French *et al.* (2007, 251–62). Excavation has led to only a handful of radiocarbon dates, with the Wor Barrow dates being revised only in the last few years and suggesting an earlier date than previously thought (Allen *et al.* 2016). As a result, commentators have tended to rely on the landscape position of the monuments to glean new insight into the associations and relative chronology of the barrows when compared with the Cursus (Bradley *et al.* 1984).

The present study will utilise a variety of techniques to build upon previous analyses of the long barrows near the Dorset Cursus. Lidar data will be used to allow the 3D visualisation of not only the surviving long barrow mounds, but also the relationships between the barrows, the Cursus and the surrounding terrain. A magnetometer survey of the Gussage St Michael 10 long barrow, located near the west terminal of the Cursus, will be used to clarify the plan of the barrow and provide a comparison with other long barrows on Cranborne Chase. Finally, more and more aerial and satellite imagery has come into the public domain via the internet. Detailed analysis of this imagery suggests that a scheduled bowl barrow, Pentridge 26, located just 50m from the Cursus, may in fact be a long barrow. The characteristics of this monument and its landscape setting will be discussed in detail.

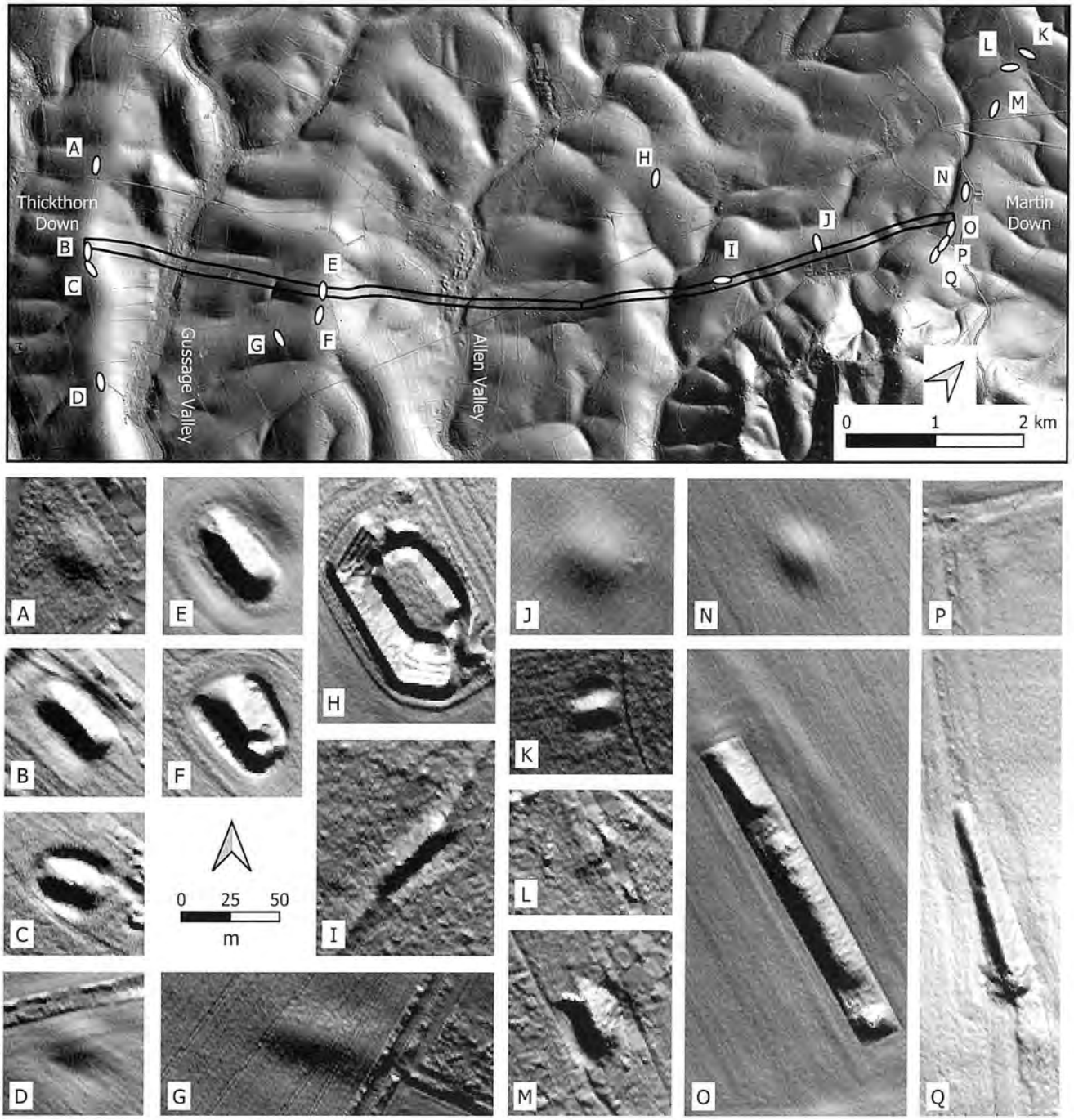

Figure 1 Overview map of the long barrows in the vicinity of the Dorset Cursus. Insets shown at same scale. Includes uncertain mound (L). A: Tarrant Hinton 25. B: Gussage St Michael 11. C: Gussage St Michael 12. D: Gussage St Michael 10. E: Gussage St Michael 14. F: Gussage St Michael 15. G: Gussage St Michael 13. H: Sixpenny Handley 29 (Wor Barrow). I: Pentridge 19. J: Pentridge 26. K: Broad Chalke 11. L: Uncertain mound on Lidar. M: Martin 1. N: Pentridge 23. O: Pentridge 21 & 22. P: Pentridge 30. Q: Pentridge 20. Contains public sector information licensed under the Open Government Licence v3.0.

As will be seen later, long barrows come in a variety of shapes and sizes. Some commentators (for example Darvill 2006, 84–85) have argued that the smaller more ovoid examples form a separate class of 'oval barrow', originally thought to be later in date. This distinction, however, is far from clear cut (Kinnes 1992, 70; Roberts *et al.* 2018, Section 5.3), with many national and regional studies adopting a broader, more inclusive definition for the term 'long barrow' (for example Field 2006, 27), and this latter approach has been adopted here.

Lidar visualisation

The Environment Agency has recently released high resolution Lidar elevation data covering the full length of the Dorset Cursus. This dataset allows visualisation of the terrain and individual monuments in unprecedented detail. By computer simulation of a low angle sun shade across the landscape from multiple directions, it is possible to produce what is termed a multi-directional hillshade, which allows even the most ephemeral earthwork features to be picked out in stark detail.

This technique has been used in Figure 1 for two purposes: to show how the long barrows and Cursus relate to the terrain, and, via a series of insets, to provide detailed views of the form of the upstanding long barrow earthworks. The distribution map shows the route of the Dorset Cursus, and demonstrates with great clarity how the Cursus cuts across two wide valleys (Gussage and Allen) and two more minor valleys. To the north-east, in the section that approaches the Martin Down terminal, it curves slightly to maintain its course along the ridge above Pentridge village. Here it is interesting that it follows a course which is slightly offset from the top of the ridge.

It is clear from Figure 1 that the long barrows cluster along the top of the chalk ridges, and are in general aligned with the topography, as noted by Tilley (1994, 159). The ridges at either end of the Cursus have significant concentrations of long barrows, and the Cursus appears to link together the long barrow clusters. It is however curious that the prominent ridge south of Wor Barrow (H) is devoid of long barrows, providing an exception to the other ridges crossed by the Cursus.

The insets in Figure 1 show the detail of the extant long barrow mounds as revealed by the Lidar data. Despite differing survival, the diversity of mound shape and length is immediately striking, ranging from long thin tapering mounds, for example Pentridge 20 (Q), to short squat mound forms, such as Broad Chalke 11 (K). It is clear some mounds have been subject to ploughing, for example Pentridge 23 (N) and Gussage St Michael 10 (D); erosion of the latter has led to an almost circular mound which could easily be mistaken for a bowl barrow. It should also be noted that the two fully excavated mounds, Wor Barrow (H) and Gussage St Michael 12 (C), have both been subject to substantial reconstruction or alteration, the former being re-modelled by Pitt Rivers as an 'amphitheatre' for the holding of exhibitions and games, with the mound material being used to construct a large terraced bank along the south-west side (RCHME 1975, 71).

Three of the mounds marked on Figure 1 were not recorded as long barrows by the Royal Commission. Two of them are recorded as bowl barrows. Pentridge 26 (J) is described later. Pentridge 30 (P) is scheduled as bowl barrow, but aerial photographs, and a geophysics survey by Bournemouth University (Burrows 2020), suggest this is a small long barrow, positioned at the end of a rectangular enclosure, probably a mortuary enclosure. It is interesting that this barrow is shown as an elongated mound on early Ordnance Survey maps, for example the 1888 25-inch map. The final unrecorded mound (L in Figure 1) appears on Lidar as a severely eroded, elongated mound, 30 metres long, with a wider and higher end towards the north-east. It is situated at grid reference SU 03367 20884, just 30m south of Grim's Ditch, and is crossed by the present county boundary between Hampshire and Wiltshire, as shown in Figure 2. A site visit confirmed a low spread mound in thick undergrowth, clearly not of recent origin, and crossed by the boundary bank which follows the county boundary. Without further investigation, it is impossible to say whether this is a long barrow, although its shape, topographic location and position next to two major boundaries are encouraging.

If shown to be a barrow, it is perhaps tempting to speculate whether this could be the barrow mentioned in Anglo Saxon charters as *Cotelesburgh* and *Chetoles Beorh* (Grundy 1924, 68). A boundary described in one charter follows Bokerley Dyke to Woodyates (*'lang Dich to Wideyate'*), then to a triangular ploughland (*'Gore'*), then to *Cotelesburgh*, then to the Roman Road (*Seuenestrete*). This last section could have followed Grim's Ditch which meanders from the mound to meet Ackling Dyke to the east. Grundy (1924, 68) instead placed *Cotelesburgh* at a place called Kitt's Grave, shown on the 1901 OS 25-inch map at a location 350m to

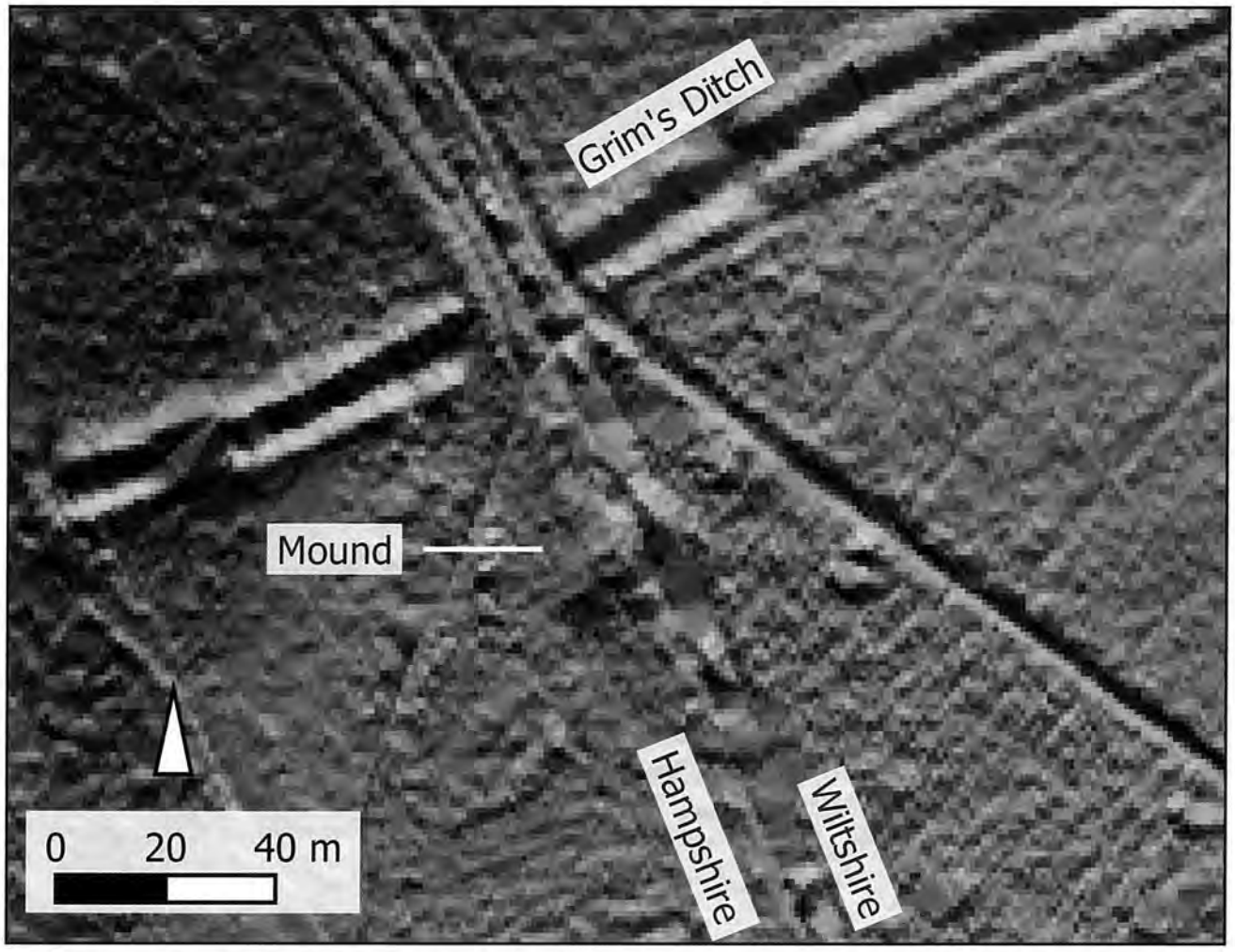

Figure 2 Eroded mound shown on Lidar of Vernditch Chase. Contains public sector information licensed under the Open Government Licence v3.0.

the north-west of the mound (L), where the county boundaries of Dorset, Wiltshire and Hampshire meet. When Grinsell (1938, 34) visited the site, he reported "*I could find nothing definitive but the ground is covered with very thick undergrowth*", and more recently the name Kitt's Grave appears to have been applied to the Broad Chalke 11 long barrow (K), 300m to the east. Lane Poole (1953, 77–8) notes that the Abbess of Wilton erected gallows at *Chutelborghe*, almost certainly the same barrow as described in the earlier charters. An estate survey in 1560 for the Earl of Pembroke describes a boundary which begins at 'Gallows Barrow' at the western end of Vernditch, "*and so passes by the ditch which divides Chalke and Martin*" (Lane Poole 1953, 77–8). The latter is Grim's Ditch, suggesting a close association between this linear earthwork and the barrow.

Lidar allows us to see in detail the relationships between long barrows and the Cursus. Heywood Sumner (1913, 50) was the first to describe Pentridge 19 (I in Figure 1), south-east of Oakley Down, which is incorporated into the western bank of the Cursus, "*suggesting it was there, and utilised as a bank when the track was embanked by its makers.*" Atkinson (1955, 7) described the ten degree variation in orientation between the axis of the long barrow and Cursus bank, agreeing with Heywood Sumner that the Cursus must have been aligned on a pre-existing barrow, although more recently there has been speculation that perhaps the barrow was constructed alongside an earlier phase of the Cursus and later incorporated into an enlarged bank (Barrett *et al.* 1991, 49). Tilley (1994, 181) sees the lack of complete incorporation of the barrow into the Cursus bank as significant,

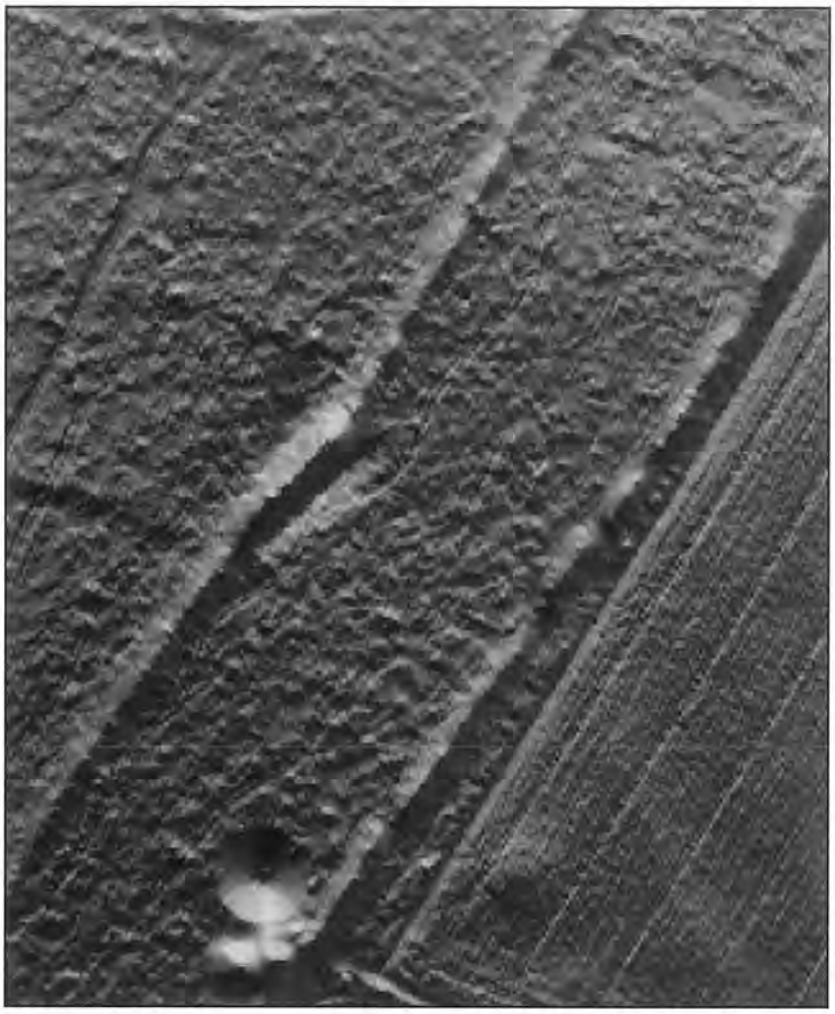

Figure 3 Lidar showing Pentridge 19 incorporated into the west bank of the Cursus. Contains public sector information licensed under the Open Government Licence v3.0.

allowing the mound to provide a symbolic visual impact as it was revealed to an observer walking south-west along the Cursus.

Although Pentridge 19 is located in a thick conifer plantation, Lidar has been able to penetrate this to reveal the surviving earthworks. Figure 3 shows in detail the relationship between the barrow and the bank of the Cursus. It is clear the barrow is indeed at a slightly different angle to the Cursus, and that the Cursus banks to the north and south appear to deviate slightly in order to meet each end of the barrow, supporting the contention that the barrow is earlier. It is also interesting to note the segmented nature of the Cursus bank to the east of the barrow. Two shorter segments appear slightly disjointed and misaligned, with different widths, although without excavation it would be impossible to understand whether this results from more modern disturbance.

There has been much discussion of the two long barrows Pentridge 21 and 22, built end-to-end, close to, and pointing at, the north-east terminal of the Cursus at Martin Down, as shown in Figure 4. Probing suggested to Atkinson (1955, 8) there was one continuous ditch along either side of the barrows, leading him to conclude this was one barrow of 'exceptional length', despite a gap between the two mounds. However, crop marks on more recent aerial photographs (for example Green 2000, Fig. 36) show a gap between the ditches, which are also on slightly different alignments, indicating separate phases of construction. Bradley (1983, 16–17) suggests the more southerly mound is a 'tail', of constant height

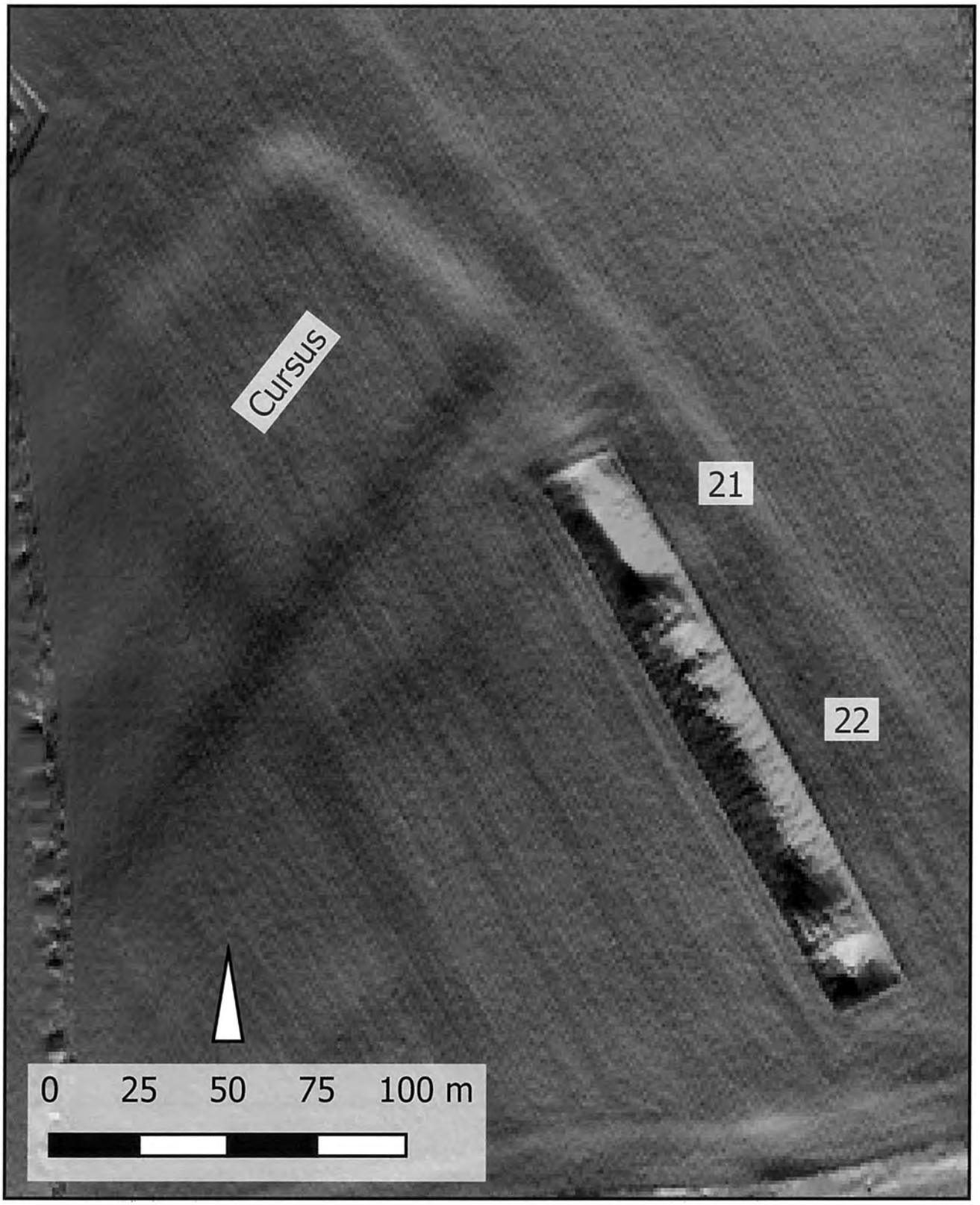

Figure 4 Lidar showing Pentridge 21 and 22 aligned on the Martin Down terminal of the Dorset Cursus. Contains public sector information licensed under the Open Government Licence v3.0.

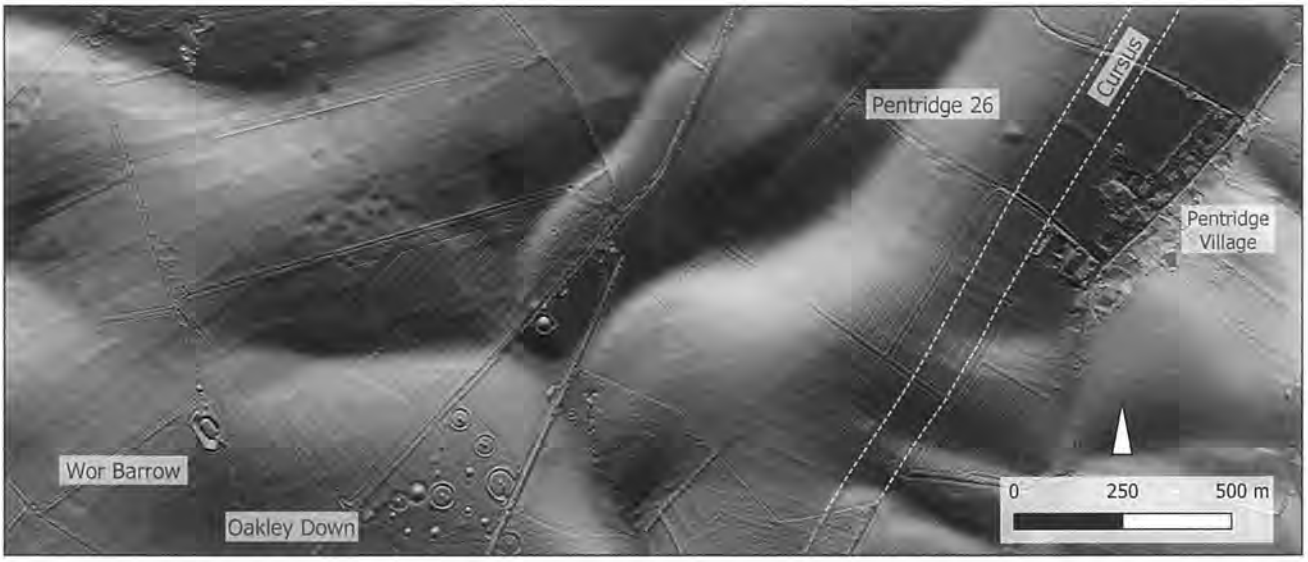

Figure 5 Location of Pentridge 26 barrow. Contains public sector information licensed under the Open Government Licence v3.0.

and width, added to Pentridge 21, the latter a long barrow of more traditional form and size, with a higher and broader end to the south-east. He speculates the 'tail' has been added to the 'wrong end' of the barrow, perhaps because the Cursus was blocking construction in the other direction, and so implying the extension might be later in date. Bradley identified the resulting combined monument as a 'bank barrow', which is an impressive 144m in total length.

The Lidar data in Figure 4 provides a detailed view of the relationship between the long barrows and the Cursus. The slight difference in alignment between the two barrows is apparent, as is the clear gap between the mounds. Although the building of the more southerly mound would have served to magnify the importance of the first mound, the difference in alignment and the gap between the mounds are curious traits if the intention was to create a single unified 'bank barrow' of significant length.

Pentridge 26 – An unrecognised long barrow?

The barrow named 'Pentridge 26' by RCHME is situated just over 200m north-west of Pentridge village, and a mere 50m from the west ditch of the Dorset Cursus (Fig. 5). It is depicted as a substantial, slightly oval mound on early Ordnance Survey 25-inch maps and labelled as a tumulus.

The barrow was listed as 'Pentridge 8' by Grinsell (1959, 123) in his comprehensive inventory of *Dorset Barrows*. It was classified as a bowl barrow, although curiously it was one of very few bowl barrows provided with both north–south and east–west dimensions, 41 and 50 paces respectively, suggesting an elongated barrow. Its height was specified as four and a half feet and it was clearly already under plough when visited, described as 'on arable'.

The monument was scheduled in 1958 as a bowl barrow, and is described in the current listing as follows:

> "*The barrow survives as a circular mound measuring up to 14m in diameter and 1.3m high with its surrounding quarry ditch from which the construction material was derived being preserved as an entirely buried feature.*" (Historic England, 2020)

The measurement given for the diameter appears at odds with that noted by Grinsell; it is likely the measured 'paces' were accidentally transcribed as 'feet', with 45 feet equating to just under 14 metres.

Measurements from Lidar indeed indicate a 45m mound.

Penny and Wood (1973) posited a lunar alignment from the corner of the Martin Down Cursus terminal through to Pentridge 26. In order to provide a satisfactory chronological fit, they questioned the identification of the barrow as a bowl barrow:

> *"Grinsell lists this as a bowl barrow, but it is not actually round, and one suspects that it is a mutilated long barrow of the short U-ditched variety."* (Penny and Wood 1973, 61)

A number of authors, for example Barrett *et al.* (1991, 56), have cast doubt on the significance of many of the alignments described in Penny and Wood's paper. It might appear that, with scant evidence, they put forward the identification of Pentridge 26 as a long barrow in order to bolster their theory of a lunar alignment.

In 2014 analysis of Google Earth imagery (dated 2005) indicated some interesting crop marks surrounding the barrow, as shown in Figure 6A. Rather than a circular ditch normally associated with a bowl barrow, they suggested the presence of ditches of more linear form, with what appeared to be two wide, straight side ditches, one of which continued around the south-east end of the mound, with an apparent causeway where it approached the southern side ditch. There was also the suggestion of a continuation of the southern ditch around the north-west end of the mound, albeit as a very thin cropmark.

The crop marks suggested this may in fact be a long barrow, and given its position only 50m from the north side of the Dorset Cursus, a potentially significant find. There was however the need for some caution; the crop marks were unconventional as they seemed to be caused by the collapse, or lodging, of the cereal crop, and the clarity of the outline seemed somewhat suspicious. Could they in fact have some sort of modern agricultural explanation? Despite a similar type of crop mark in the adjacent field indicating the line of the Dorset Cursus, more evidence would be needed to confirm the tentative identification of an unrecognised long barrow.

New evidence was to come in 2018, when Jo and Sue Crane photographed the barrow from their light aircraft during the dry conditions of that year. Their photographs indicated two straight side ditches, and Google later released imagery from that year showing similar crop marks (Fig. 6B). These crop marks are very similar to those from 2005, although the continuation of ditches around the ends of the barrow is unclear. Figure 6D shows the relationship of the crop marks, transcribed from the aerial images, with a 3D representation of the barrow generated from Environment Agency Lidar data. It suggests that the ploughed out mound has spread out over the position of the ditches.

The aerial photographs appear to corroborate the tentative identification of a long barrow made from the 2005 Google Earth imagery; it seems a long barrow has been hiding in plain sight, misidentified as a bowl barrow due to a change in the shape of the mound following ploughing. If proved to be a long barrow, this is potentially a significant identification; the barrow is situated only 50m from the north ditch of the Dorset Cursus. Much has been written on the integrated relationship between the Cursus and what are seen as potentially later 'Cranborne Chase' type long barrows (Bradley *et al.* 1984, 89–94; Barrett *et al.* 1991, 35–58), with a suggestion that some long barrows were built during or after the construction of the Cursus.

Pentridge 26 is positioned on the crest of a chalk ridge, with the terrain falling off rapidly on either side. The Cursus was constructed along the east side of the ridge, offset from the crest. This means that although the north bank of the Cursus would have been visible from the barrow, just 50m to the south-east, the nearby internal area and south bank of the Cursus would not have been visible. Likewise, the barrow would not have been visible from the closest point within the Cursus. Bradley *et al.* (1984, 90–92) described three types of relationship between long barrows and the Cursus: incorporation, alignment and imitation. It appears that despite its close proximity, Pentridge 26 fulfils none of these traits. If the barrow had been built at the time of, or shortly after, the construction of

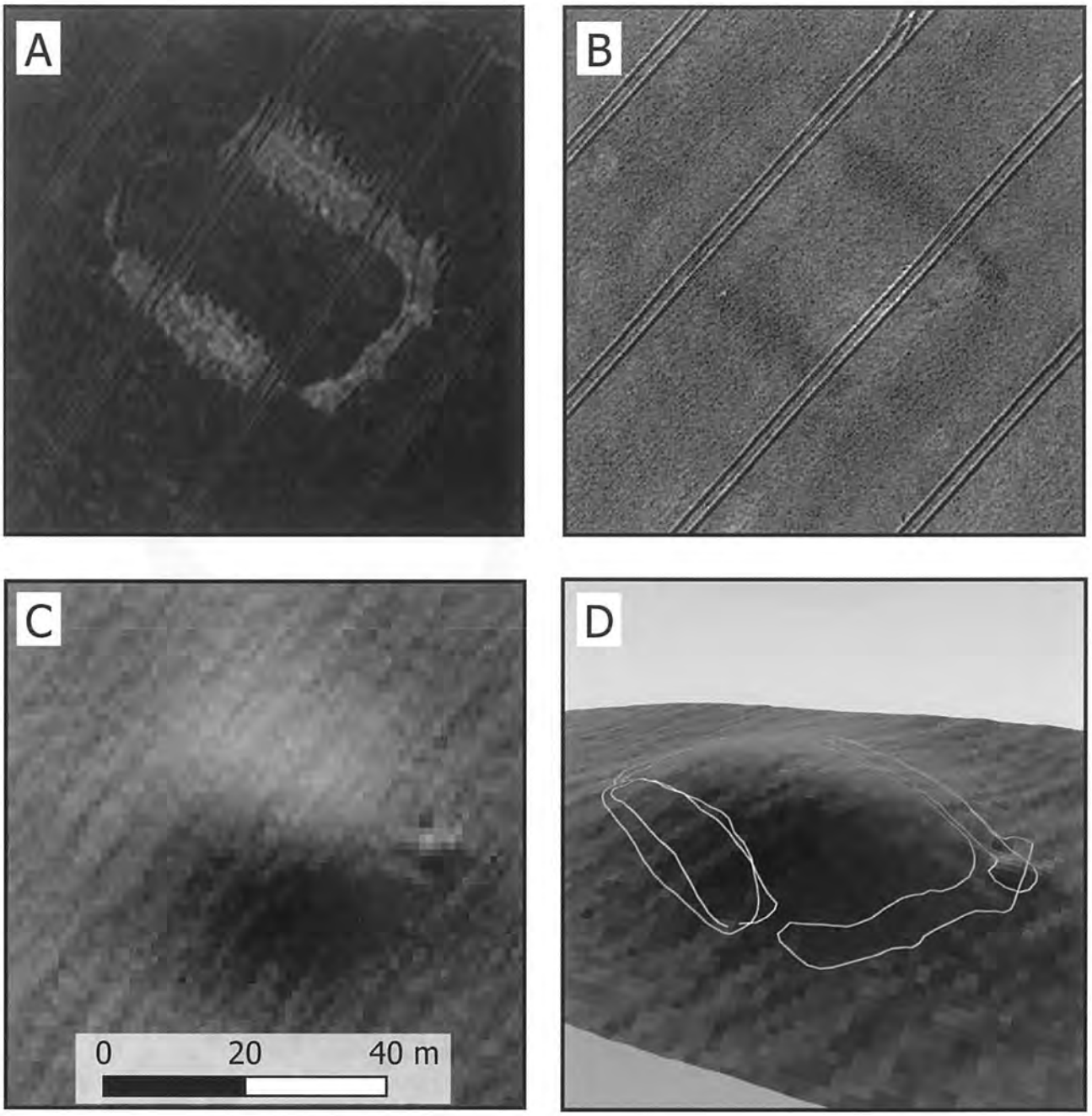

Figure 6 Aerial imagery and Lidar views of Pentridge 26. A: Google Earth 2005, Map Data: ©2020 Google, Getmapping plc. B: Google Earth 2018, Map Data: ©2020 Google. C: Environment Agency Lidar multi-direction hillshade. D: 3D view showing position of cropmarks, vertical exaggeration x6. Contains public sector information licensed under the Open Government Licence v3.0.

the Cursus, it would surely have been positioned to share a closer relationship.

This landscape juxtaposition therefore hints that the barrow may have been built prior to construction of the Cursus. We can cast our eyes two kilometres to the south-west to find another monument with which Pentridge 26 shares a close relationship. That monument is Wor Barrow, a large and prominent long barrow excavated by Pitt Rivers (1898) in 1894, using what were at the time pioneering scientific methods to record the archaeological deposits.

Wor Barrow is perhaps unusual in that its causewayed ditches continue around both ends of the mound, as well as along the sides. Although the shape of the Pentridge 26 ditches is less clear due to the nature of the crop marks, a close comparison can be made

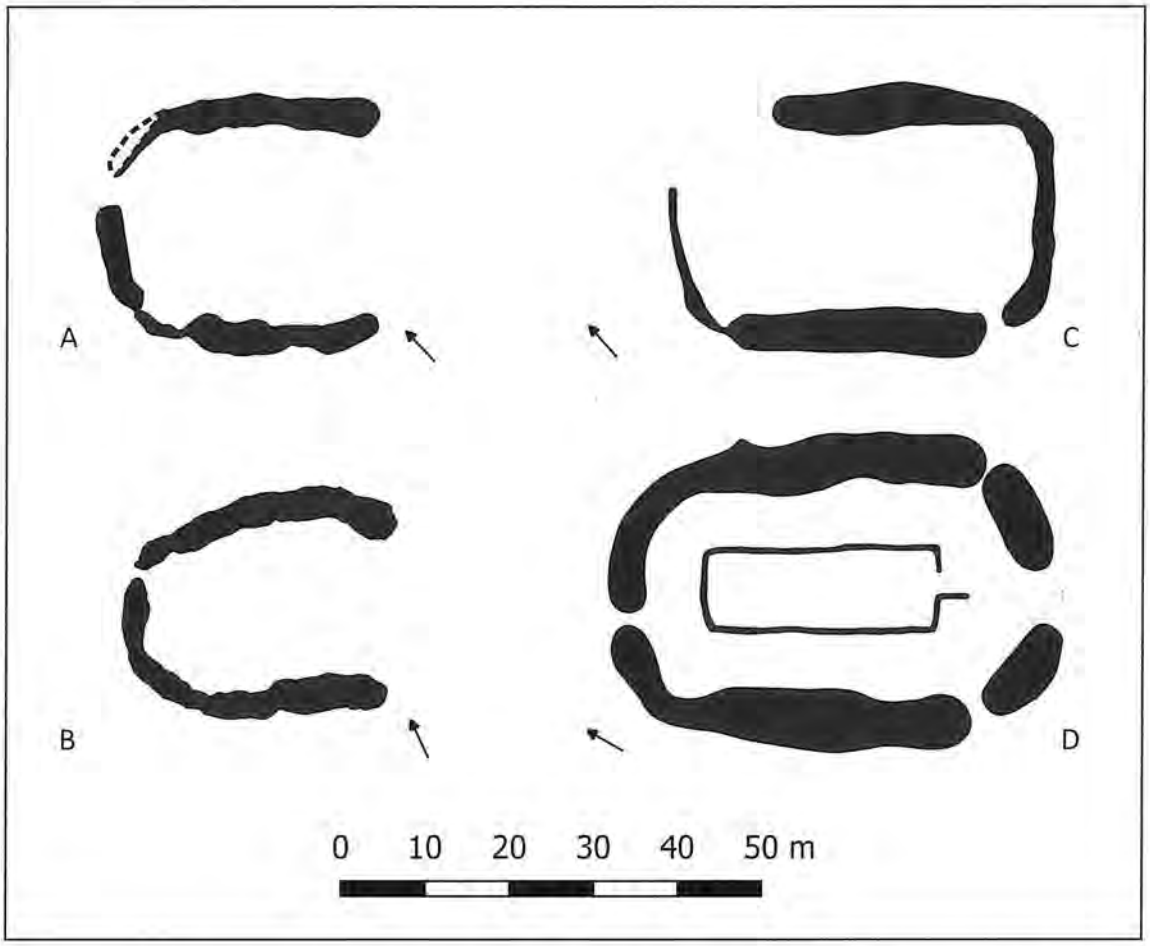

Figure 7 Comparative plans of Cranborne Chase Type long barrows. A: Gussage St Michael 10, B: Gussage St Michael 12 (after Drew and Piggott 1936, Plate XVI), C: Pentridge 26 crop marks, D: Wor Barrow (after Pitt-Rivers 1898, Plate 249)

between the two monuments (Fig. 7). Pentridge 26 is slightly smaller, but similar in size to Wor Barrow, with a suggestion the ditches may have continued around both ends of the barrow, just as was found at Wor Barrow.

This is not where the relationship ends. Both are positioned above branches of the same dry chalk valley, Wor Barrow at the head of one branch, and Pentridge 26 to one side of an eastern branch. Due to a slight curve in the valley, the two barrows face directly along the valley and are inter-visible. Even more striking is that the barrows are seen in silhouette on local horizons when viewed from each other. Figure 8 shows the results of viewshed analysis performed in a Geographical Information System (GIS). From an observation point on Wor Barrow, Pentridge 26 is shown in Figure 8B to be blocking the edge of the visible area, suggesting it is positioned on a local horizon. Likewise, Wor Barrow is clearly on the edge of the visible area from Pentridge 26 (shown in Figure 8A), again indicating a horizon feature, despite Wor Barrow being significantly reduced in height following excavation.

A site visit to Pentridge 26 confirmed that it commands an impressive view of the valley, with Wor Barrow, despite its reduced size, still visible at the head of the valley, and silhouetted on the horizon (Fig. 9). The valley itself was clearly important in prehistoric times, later acting as a focus for the Oakley Down group of elaborate Bronze Age barrows. We should of course be cautious when drawing conclusions about visibility in a modern arable landscape, lacking trees. A study of snail shells from the buried soil at the Handley Down mortuary enclosure, close to Wor Barrow,

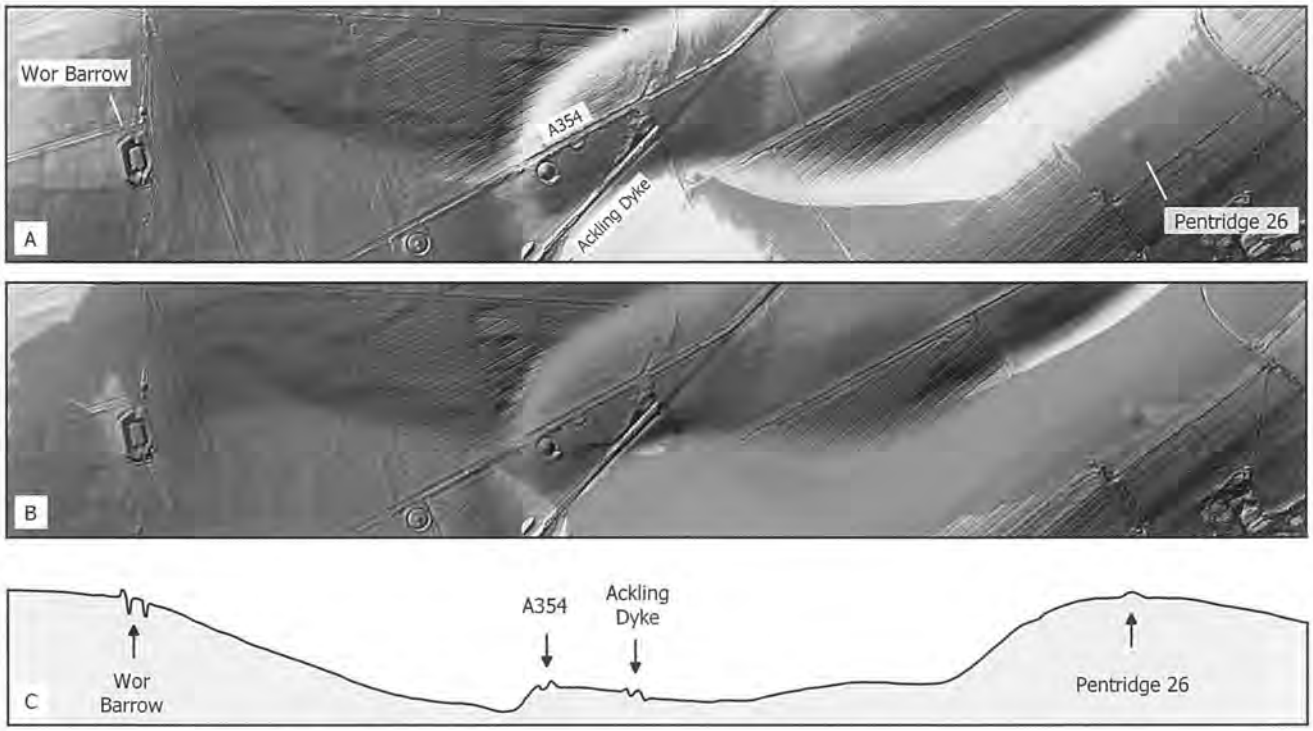

Figure 8 Viewshed analysis of Pentridge 26 and Wor Barrow. A: Viewshed from Pentridge 26. B: Viewshed from Wor Barrow. C: Profile along a line passing through the two barrows, generated from Lidar data. Contains public sector information licensed under the Open Government Licence v3.0.

suggested mixed ancient woodland and localised clearings (Allen 2000, 43–44). However, given the ridge top positions of Wor Barrow and Pentridge 26, even limited clearance would have opened up the views across tree cover in the valley below, and such localised clearance around the barrows may have served to signpost and enhance the prominence of the monuments.

Some long barrow visibility studies (for example Tilley 1994, 143–201, Wheatley 1995; Exon *et al.* 2000, 30–42) have perhaps stretched the visual acuity of the Neolithic people, using computer generated and theoretical visibility networks over long distances, where a field observer might struggle to spot a monument even with the benefit of binoculars. The distance between Pentridge 26 and Wor Barrow is a mere two kilometres, and there is a tangible visual relationship which is enhanced by their horizon presence. Pentridge 26 and Wor Barrow act as sentinels at either end of a valley, and it is tantalising to think that as well as sharing a similar form, the barrows were perhaps positioned to be visible from each other.

Gussage St Michael 10

Gussage St Michael 10 is a ploughed out scheduled long barrow, located on Parsonage Hill, 300m west of the village of Gussage St Michael. The monument is situated on a prominent ridge between the Gussage and Crichel valleys. This ridge provided an important focus for Neolithic monuments, as shown in Figure 10. Just 1.25km to the north-west is a small long barrow on Thickthorn Down named 'Gussage St Michael 12' by the Royal Commission (RCHME 1975, 25), and referenced 163a on the Map of Neolithic Wessex (Crawford 1932). As mentioned earlier, this was completely excavated in the 1930s and found to have a ditch form typical of the 'Cranborne Chase type' of long barrow, with the ditch continuing around one end of the barrow, forming a U-shape (Drew and Piggott 1936, Plate XVI). Just 150m further along the ridge is a larger long barrow, Gussage St Michael 11, which is directly associated with the Thickthorn Down terminal of the Dorset Cursus. This terminal is itself of substantial proportions and, it has been suggested, may have been subject to aggrandisement to imitate the adjacent long barrows (Bradley *et al.* 1984, 92; Field and McOmish 2016, 75–77). Finally, the Tarrant

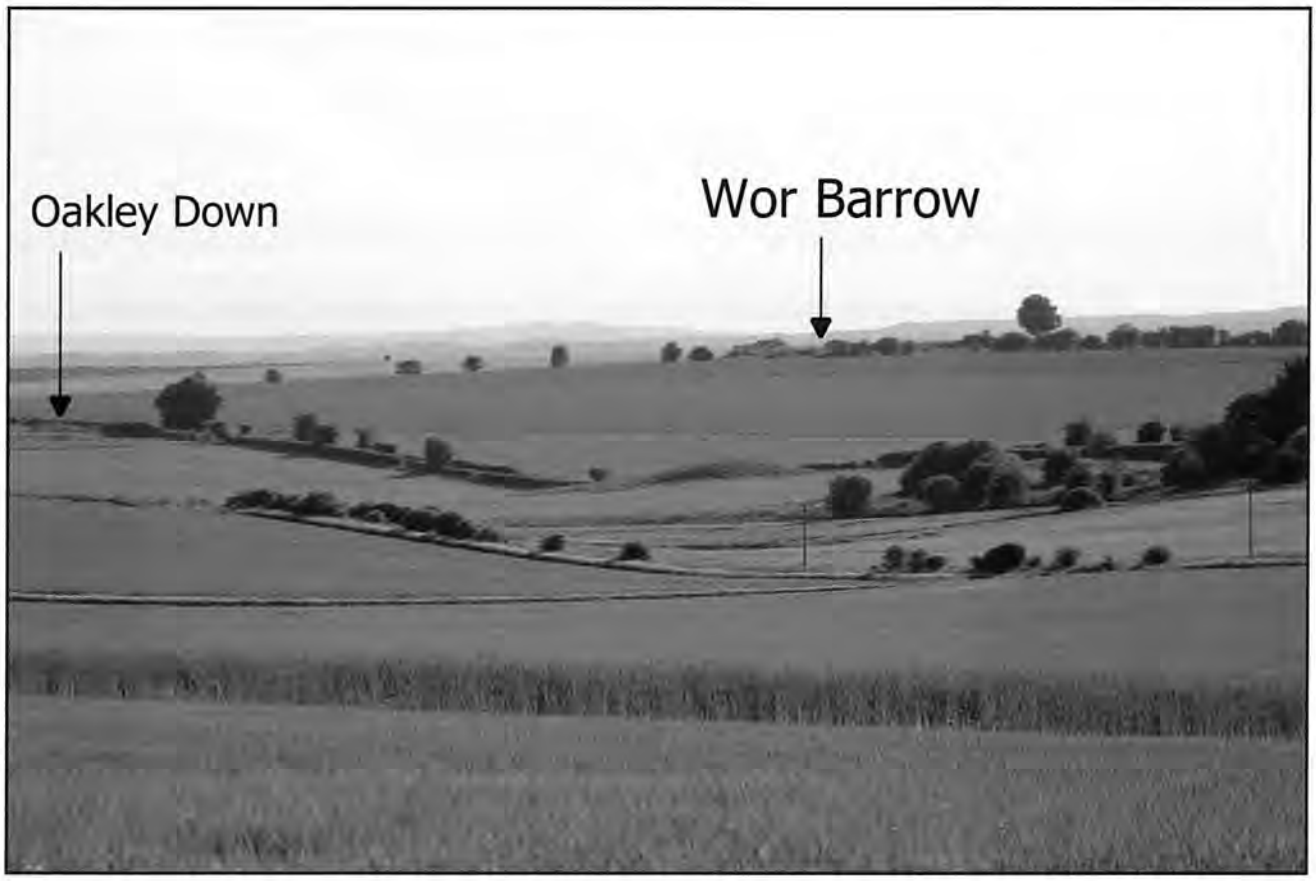

Figure 9 The view of Wor Barrow from Pentridge 26

Hinton 25 long barrow is positioned a further 900m along the ridge to the north-west. This was symbolised as a U-shaped barrow on a plan by Barrett *et al.* (1991, Fig. 2.4), but an aerial photograph published in the RCHME Bokerley Dyke volume (Bowen 1990, Plate 17) suggests standard side ditches with no return around either end.

The Gussage St Michael 10 mound was not recognised as a long barrow at the time of the publication of the Map of Neolithic Wessex (Crawford 1932), but was described by Grinsell (1959, 79) as having '*very wide side ditches which turn inwards but do not go round SSE end*'. The monument was subsequently mentioned in the RCHME (1975, 25) volume on the monuments in East Dorset, stating that the barrow was almost round, perhaps due to ploughing, with very broad side ditches.

Crop marks seen on aerial imagery gave clues to the shape of the ditch surrounding the barrow. Imagery on Bing Maps (https://www.bing.com/maps, accessed 27th June 2020) suggested wide side ditches as referred to in the RCHME monument description above, as well as a ditch which appeared to go around the north-west end. However, an image from the OS Maps website (https://osmaps.ordnancesurvey.co.uk/50.90196,-2.02789,18, accessed 27th June 2020) suggested much narrower side ditches. These photographs illustrate the caution required in interpreting the size of features from crop marks, as a result of the varying responses given by different crops and different soil moisture conditions.

Figure 11 shows a Lidar image of the barrow. It is clear the mound is now almost circular and, were it not for the crop mark evidence, would probably be interpreted as a bowl barrow through examination of the Lidar alone. Comparison can be drawn with the nearby Gussage St Michael 12 long barrow on Thickthorn Down which was described prior to excavation:

> *"It is somewhat abnormal in plan, as its length is less than usual, when compared to its breadth. Further, it is highest at*

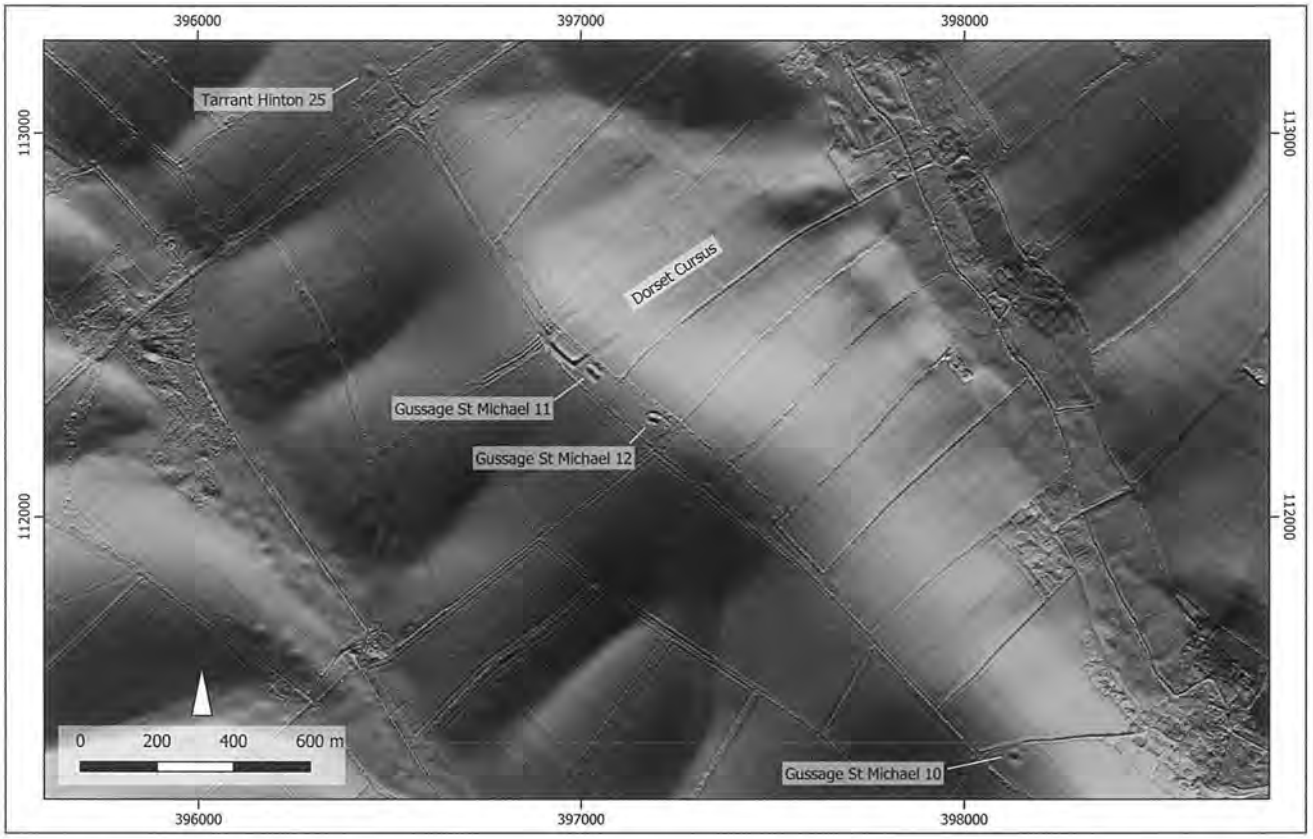

Figure 10 Relationship of Gussage St Michael 10 to other long barrows and the Dorset Cursus. Contains public sector information licensed under the Open Government Licence v3.0.

> *its central point, and indeed a cursory glance from a distance gives one the impression of a large round barrow.*" (Drew and Piggott 1936, 79)

Given the limited information available for Gussage St Michael 10, it was decided to undertake a gradiometer survey of the mound to better understand its morphology (Gill 2020). Figure 11 shows the survey area in relation to the mound, and Figure 12 shows a plot of the results showing the magnetic response, processed to remove instrument drift. This involved applying the 'Multi Zero Mean Line' de-stripe filter available in the Snuffler software package, followed by two passes of horizontal interpolation. The data is displayed using a linear greyscale ranging from -3.0 to +3.0 nT.

A graphical summary of the significant magnetic anomalies is provided in Figure 13, with anomalies given alphabetic identifiers for ease of reference in the text below. The clearest feature is a large, U-shaped anomaly (A, B and C) which is partially clipped by the northern boundary of the field. This U-shape brackets the ploughed out mound, is consistent with the aerial photographs of the barrow, and clearly represents the ditches associated with the long barrow.

The magnetic results provide detail of the shape and size of the long barrow ditches, in particular:

1. Ditches A and B appear to be joined by a thin irregular ditch.
2. Ditch A, the south-west side ditch of the long barrow, is about 23m in length and varies between 2.3m and 4.2m in width (excluding the thin irregular ditch which joins it to B).
3. Ditch B, at the north-west end of the barrow, is about 12.5m in length and 3m wide.
4. Ditch C, on the north-east side of the barrow, is estimated to have been 30m long, allowing for the part of the ditch clipped by the hedge, and varies between 2.5m and 4.5m in width.
5. The ditches appear to be irregular in plan. Their shape suggests they might have been dug in sections, perhaps as a series of pits.

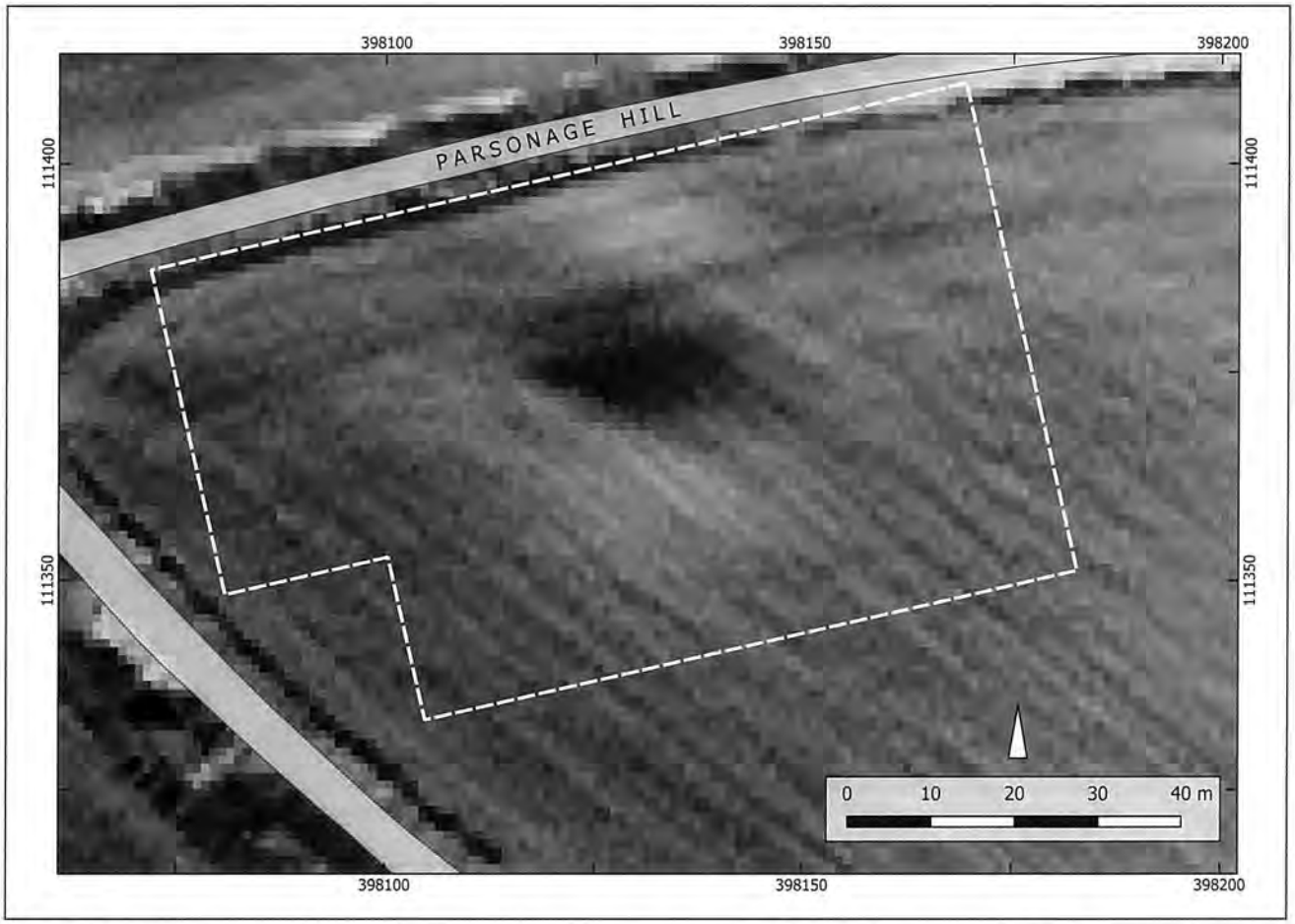

Figure 11 Lidar visualisation of Gussage St Michael 10. Geophysics survey area shown with white dashed line. Contains public sector information licensed under the Open Government Licence v3.0.

6. Although partially obscured by the field boundary, and by the magnetic disturbance at the edge of the field, there appears to be a causeway between ditch sections B and C. This was confirmed by applying different greyscale ranges when visualising the results. .
7. The gap between the side ditches at the open end of the barrow measures about 21m.
8. At the south-east end of ditch A there is a circular pit-like anomaly (E). Given the irregular nature of the ditch, there is a possibility E was part of the long barrow ditch. However, this anomaly could also represent a separate feature, and, given its position adjacent to the ditch terminal, could be an integral feature closely associated with the long barrow.

At the south end of the barrow, between the ditches and closer to the terminal of ditch A, there is an amorphous area of weak positive anomalies centred on F. This could represent traces of archaeological activity, perhaps associated with the barrow, although it should be noted that this area roughly corresponds with a shallow depression in the field, shown in the Lidar and apparent during the survey, and could represent more modern quarrying of the mound.

Between the barrow ditches, in the area of the mound, there is a scatter of small positive anomalies which could represent small pits. There is however one positive anomaly (G) which is larger in size and partially obscured by a ferrous spike. Given its position between the ditch terminals, this could represent a more significant pit-like feature, perhaps associated with the barrow.

The survey has also detected a number of linear anomalies, most probably ditches. Anomalies H, I and J appear to form a coherent feature, despite the gaps between the linear sections. Given this feature appears to deviate around the southern end of the barrow, it seems reasonable to suggest that these

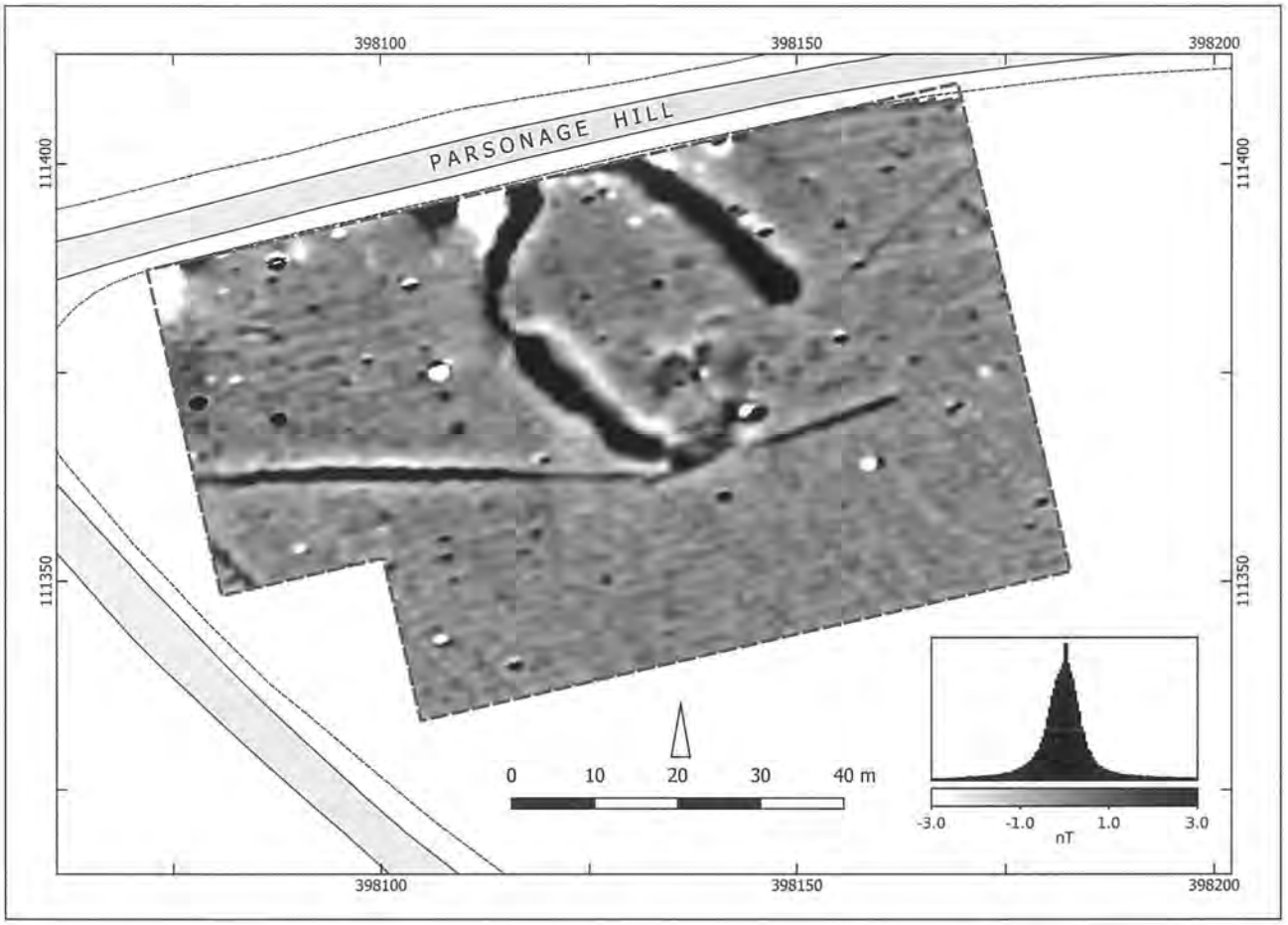

Figure 12 Processed results of gradiometer survey: de-striped and interpolated. Linear greyscale, display range -3.0 to +3.0nT.

probable ditches are later than the barrow, and were dug when the barrow was still an extant earthwork. The middle section of ditch H has given a stronger magnetic response than the other linear ditches, suggesting the ditch is either deeper or wider in this area. A weaker linear anomaly (K) approaches the terminal of the eastern ditch of the long barrow and, given its alignment, is a probable later ditch aligned on the extant earthworks of the barrow. A linear anomaly appears to be located at right angles and to the south of K, but it continues outside the survey area and so its length is unknown. Likewise, a further linear anomaly (L) is only clipped by the survey area. Given this anomaly is parallel to the road, it could represent a more modern feature.

The gradiometer survey has supplied a clear definition of the barrow and provided compelling evidence that this monument is indeed a long barrow, with ditches on three sides forming a U-shape. Details of the ditches, which were not visible from the crop marks, have been revealed in the survey results. The evidence from the aerial photographs was ambiguous regarding the width of the ditches. It is likely that ploughing had obscured the true edges of the ditches, and the survey has shown that the ditches are at their widest about 4.5m wide.

Figure 14 shows the geophysics results draped on a 3D model of the extant earthworks of the barrow, derived from Lidar data. The ditches clearly bracket the mound, and there is a suggestion they may sit partially under the spread mound. It is also possible to see the depression near the terminal of the south-western ditch, and how it corresponds with the weak magnetic anomaly F shown in Figure 13.

The U-shaped ditch revealed by the survey is typical of a form of long barrow found in the vicinity of

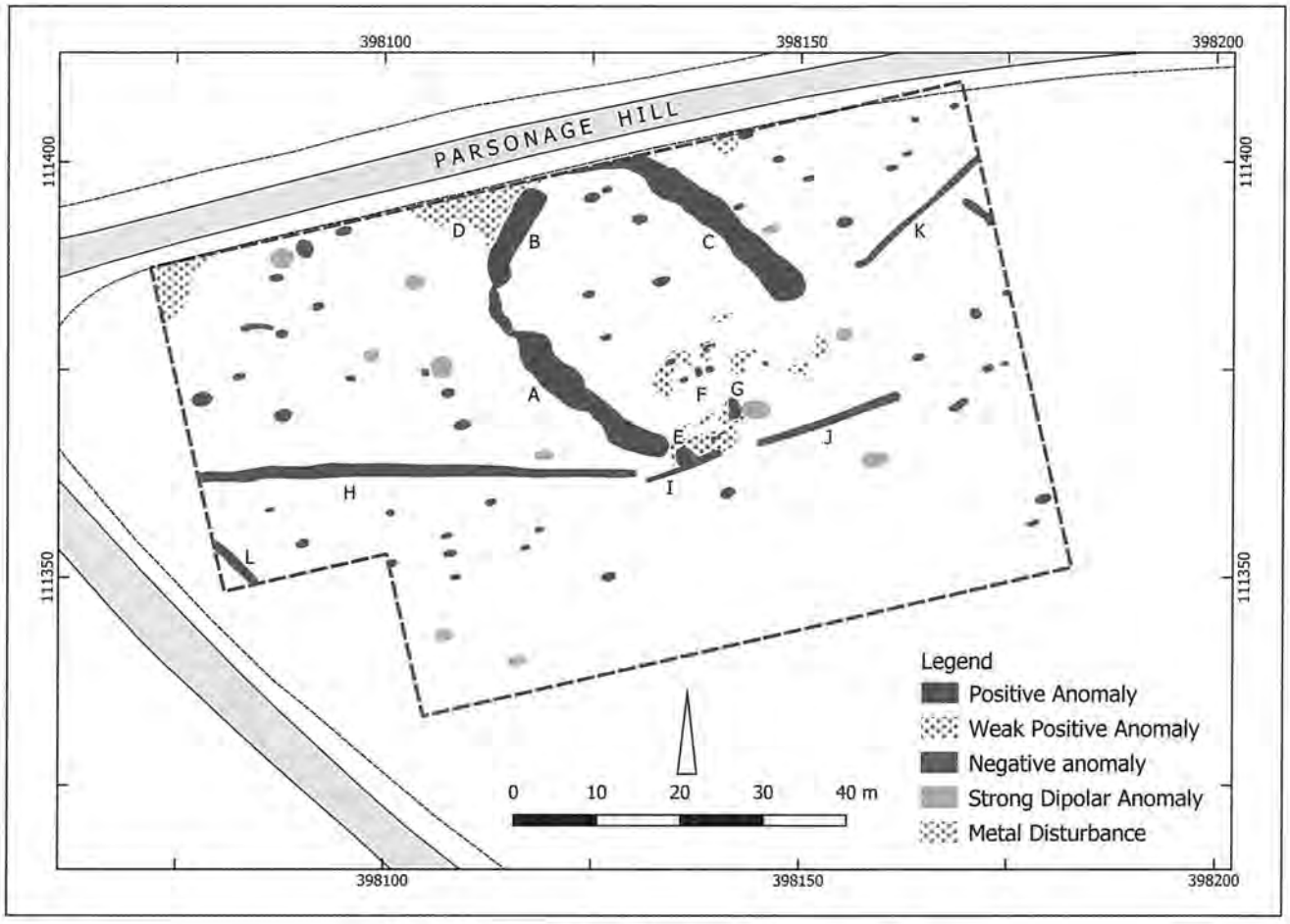

Figure 13 Interpretation of gradiometer survey results

Cranborne Chase, often termed the 'Cranborne Chase' type. It is useful to compare the plan of Gussage St Michael 10, as revealed by the geophysics survey, with other examples of this type of long barrow, as shown in Figure 7. The most striking comparison is with the nearby Gussage St Michael 12. The ditches have an almost identical size and shape, both have a causeway between the side and end ditches, and both have irregular ditch edges. These barrows are clearly smaller in scale when compared with the other excavated example, Wor Barrow (D in Figure 7), but there are clear parallels in tradition, again with irregular ditches and causeways.

The survey also aimed to look for any structures between the ditches of the long barrow, such as the mortuary enclosure found beneath Wor Barrow. There is no evidence from the survey of any such structure. This does not however mean that a structure did not exist; the excavators of Gussage St Michael 12 found traces of a possible turf structure, a feature which would probably leave no magnetic signature (Drew and Piggott 1936, 81). During that excavation they found three post holes near the open end of the barrow, between the ends of the side ditches. It is inviting to compare these features with the anomalies E, F and G described earlier, which occupy a similar general position. It is just possible that the pit-like anomalies E and G, and perhaps some of the smaller anomalies close by, represent comparable features, with this part of the barrow perhaps having a function akin to the forecourt of more traditional barrows.

CONCLUSION

Despite the Neolithic landscape of the Dorset Cursus being the subject of intense previous study, this paper has been able to reveal new details about the long barrows and their relationship to the Cursus. Innovative use of recently released Lidar data has

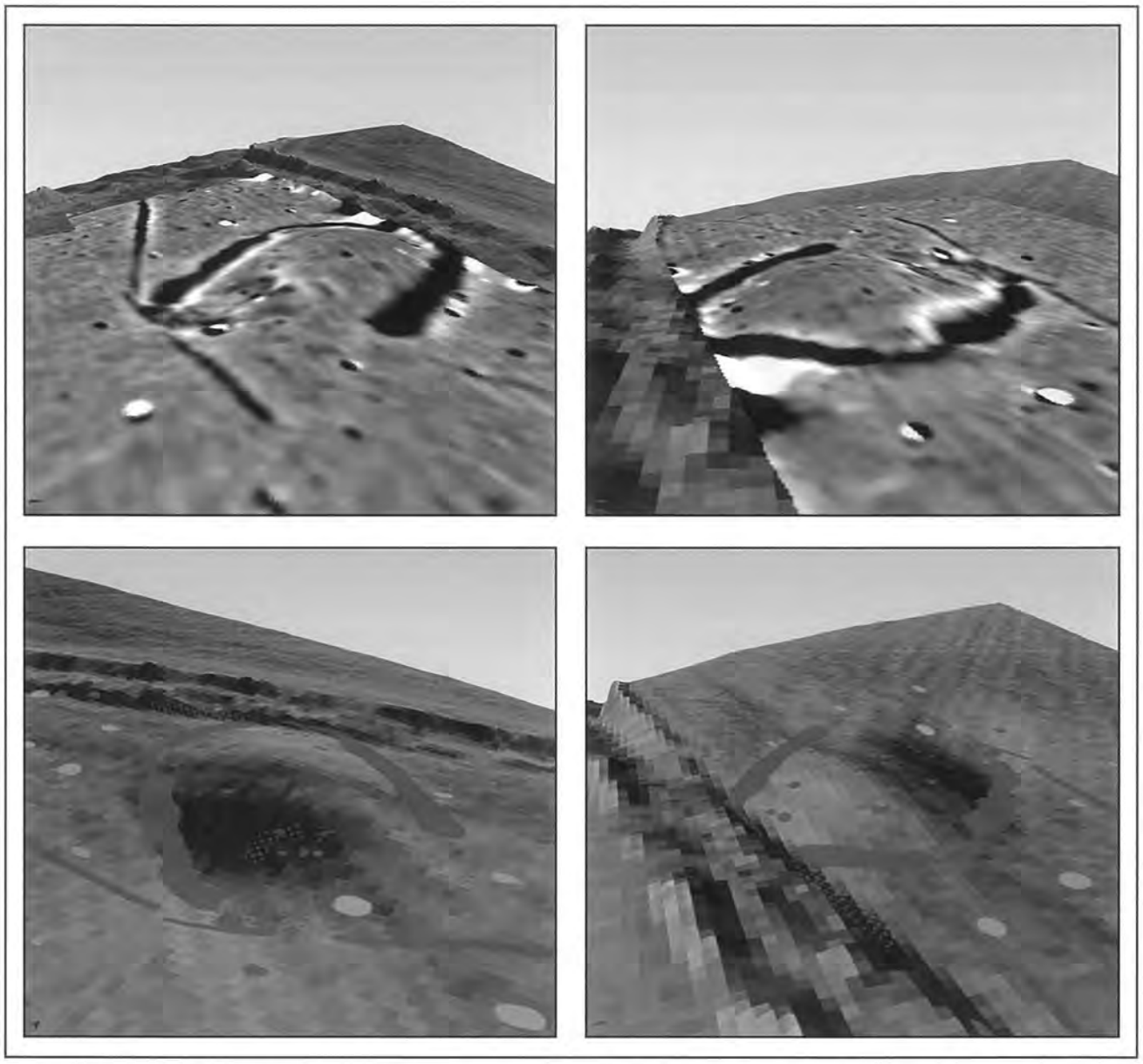

Figure 14 Geophysics results draped onto 3D model derived from Lidar 1m DSM. Vertical exaggeration x6. Contains public sector information licensed under the Open Government Licence v3.0.

enabled an analysis, in unprecedented detail, of the shape and form of the upstanding earthworks, their relationships and their landscape position. The high resolution elevation data can even 'see through' thick vegetation to pick out the detail of the earthworks below, which has led to the identification of an unrecorded mound close to Grim's Ditch which would repay further investigation.

Scrutiny of aerial photographs, in conjunction with the Lidar, has allowed the identification of a probable long barrow that appears to have been misidentified as the scheduled bowl barrow Pentridge 26. Although situated near to the Dorset Cursus, this monument does not appear to have a close visual relationship with the Cursus. Instead, we should perhaps look to Wor Barrow, just 2km away, for parallels in size and ditch form, as well as sharing a distinct visual relationship focussed on a dry valley and silhouetted local horizon positions.

Finally, geophysical survey of the Gussage St Michael 10 long barrow has provided compelling results, confirming a typical Cranborne Chase type

U-shaped ditch very similar to that excavated at Thickthorn Down, just along the same chalk ridge, the latter positioned close to the west terminal of the Cursus. The survey has therefore added another example to what is a small corpus of ditch plans of this type of long barrow. It is clear that even in a well-researched area such as Cranborne Chase, the application of technology and new techniques can still shed new light on long barrow relationships, distribution and form.

ACKNOWLEDGEMENTS

The author is grateful to David Field for providing detailed comments on an early draft of this paper. The geophysics survey of Gussage St Michael 10 was undertaken by Avon Valley Archaeological Society (AVAS). The equipment was made available to AVAS through the LoCATE project, a joint initiative run by Bournemouth University and the New Forest National Park Authority aimed at providing local heritage groups with access to, and training in, advanced geophysics equipment. AVAS would like to thank the landowner Bob Rowe for granting permission to undertake the survey, and Historic England for granting the Section 42 licence.

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ACQUIRING SKILLS, TRAVELLING TO FIGHT: MOBILITY IN LATE IRON AGE DORSET

REBECCA REDFERN, CHRISTINE HAMLIN, JULIA BEAUMONT, MANDY JAY, JANET MONTGOMERY, GEOFF NOWELL, MARGARET SCOLLAN AND MELISSA CLARK

The Iron Age Durotriges community, whose main territory included the county of Dorset, were one of the few British groups to practice a recoverable burial rite. Their life course and gender roles shaped funerary practice and, for a few, reflect specialised/elite roles. We applied an osteobiographical approach to the lives of seven individuals, to unite mobility and dietary isotope data with other archaeological evidence for exchange/connections during the 1st century BC to AD 1st century. Incremental dentine analysis showed that weaning was completed by the age of 4 years old, but childhood dietary patterns were not consistent across the group. Mobility data identified at least two individuals who may have originated further north and east, an area for which there is no archaeological evidence for exchange. The results support earlier hypotheses for combatant mobility reflecting their training and martial activities, and the movement of individuals earlier in life for the acquisition of knowledge. Importantly, the results show that non-local individuals were afforded Durotrigian funerary rites, potentially revealing the role of kinship networks in southern Britain.

INTRODUCTION

Over the past two decades, isotope analysis of human remains from middle (400–100 BC) and late Iron Age (1st century BC to AD 1st century) (MIA and LIA) communities in Britain has established information about dietary practices and population mobility. These studies have provided much needed detail about the lives of these often archaeologically-elusive communities, allowing us to shed light on gender-roles and life-courses – information hitherto not captured as an independent dataset by other forms of archaeological evidence – because they analyse the chemicals incorporated into a person's skeleton and dentition from their drinking water and diet (Makarewicz and Sealy 2015; Montgomery 2010). Studies have focused on key-sites such as Danebury hillfort (Hampshire), or regional populations such as those excavated from east Yorkshire and Dorset (Jay and Montgomery 2020; Jay *et al.* 2013; Redfern *et al.* 2010, 2012; Stevens *et al.* 2013), but at present the only evidence for people who spent their childhood overseas comes from Kent where a number of MIA individuals are suggested to have originated in Scandinavia (Millard 2015). Immigration has also been suggested for an adult female from Somerset (Madgwick *et al.* 2013); however, this may be a contentious identification, as similar data from Yorkshire and Derbyshire have been found difficult

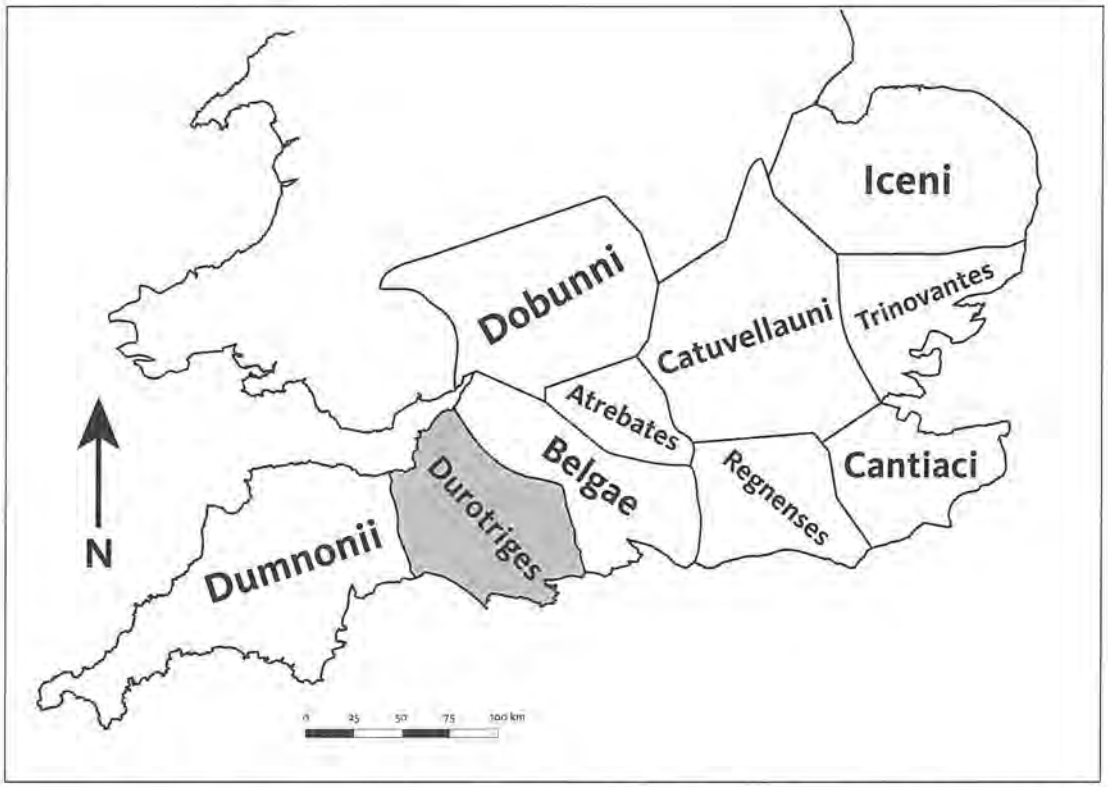

Figure 1 Map of southern England and Wales showing the territories of different IA communities. © Museum of London.

to interpret with certainty, so it could be argued that such individuals actually originate from Britain (Jay and Montgomery 2020; Waddington and Montgomery 2017). Regardless, these data require further research in order to more fully understand mobility in Iron Age (IA) Britain (Jay and Montgomery 2020).

Our current study focuses on the individual and integrates archaeological, bioarchaeological and isotope data in order to reconstruct their unique 'osteobiography', thus illuminating their life experience from birth to death, but also using that information to understand the wider community to which they belonged (Hosek and Robb 2019). In part, this is possible because it is the first study of IA individuals to employ incremental analysis of dentine from within a tooth in order to reconstruct childhood diet and wellbeing from birth to adolescence (Beaumont *et al.* 2013; Burt 2015). We employ the term 'osteobiography' as defined by Robb (2002, 160–1): 'biography as cultural narrative...to focus on the cultural understanding of life events and to encompass the history of human remains after death.'

LATE IRON AGE DORSET

The 1st century BC to AD 1st century communities known as the Durotriges lived in what is now the modern county of Dorset, and were a confederacy of agricultural groups (Papworth 2011).[1] Their territory has been identified using the distribution of material culture and coinage (Papworth 2011), but we recognize that this creates a somewhat static picture of what must have been a mutable boundary, particularly in light of the archaeological evidence for inter-tribal conflict during the Iron Age (Cunliffe 2009). Archaeological data suggest that the territory extended north-west to near the Bristol Channel, close to Salisbury in the east, to the New Forest in the south-east, and to the River Axe and Lyme Regis area in the west (Papworth 2011) (Fig. 1). This territory borders other communities and includes many natural harbours and a sea-route to north-west France – a logboat found in Poole harbour is testament to their ability to sail across the channel (Berry *et al.* 2019). Finds of LIA Durotrigian coins reveal a north to south trade route which linked the Dobunni in the Somerset-Gloucestershire area with communities on the Isle of Wight, Channel

Islands and Gallic coast (Papworth 2011). One of the Durotriges' trading harbours was Hengistbury Head, near Bournemouth. Excavations by Cunliffe (1987) showed that it had been in use from *c.* 150 BC with resources and material culture coming from the Mendips, Devon and Cornwall, as well as imported goods from the Continent, including Armorican pottery, Italian amphorae, un-worked coloured glass, coinage from Gaul, and botanical evidence for figs, corn and chamomile (Cunliffe 1987). Poole Harbour fulfilled a similar role (Wilkes *et al.* 2021). Sharples' (2010, 302–6) review of communities in Wessex[2] emphasizes trading connections to south west Britain, with coinage reflecting the importance of trade to the Durotriges, and the crucial role skilled craftspeople and specialist knowledge-holders held in this area, because their relationships to other communities were central to the networks which shaped LIA society, and enabled elite life-styles to be maintained. The work of Nash (1984) emphasizes the role played by professional combatants in these networks, whereby they undertook raiding to acquire the resources (e.g. slaves) to trade for these goods, but also 'sold' their skills outside of their community for these commodities (e.g. olive oil).

Within LIA Britain, the Durotriges were also distinctive because they were one of the few communities to practice an inhumation burial rite, a funerary tradition which may be related to those practiced further west in Devon and Cornwall by the Dumnonii (Whimster 1977; Cunliffe 2009). The practice of inhumation was only utilized by those living in southern Dorset, with flat grave cemeteries located near settlements (Blackmore *et al.* 1979; Sharples 2010; Whimster 1981). Those who received this rite were buried with a 'standard' range of grave-goods which included local Black Burnished ware pottery, utilitarian items, jewellery, and cuts of meat (Hamlin 2007; Whimster 1981). A minority of individuals were afforded 'elite' burials with prestige items, including imports such as Samian ware and hobnail shoes, and British items. However, work by Pope and Ralston (2011) cautions against interpreting weapon burials as indicative of high-status (see also, Farley *et al.* 2014; Wells 2015). This holds true in Dorset, where the majority of individuals buried with weapons appear to have been killed during episodes of inter-tribal warfare and interred at Maiden Castle hillfort (Redfern 2011; Hamlin 2007; Stewart and Russell 2017).

It has been suggested that IA communities were hierarchical, with status groups ranging from king/queen, ritual specialist, warrior and enslaved (amongst others, Hill 2011). The social and physical landscape of hillforts, prestige items (e.g. mirrors) and imported goods suggest that such groups and roles also existed within the communities that formed the Durotriges (Gale 2003; Sharples 2010). Although these statuses may have been enacted from childhood, the bioarchaeological evidence suggests that they did not negatively impact on childhood health, and did not create sex-differences in adult health and mortality risk (Redfern 2007; Redfern and DeWitte 2011). This is also supported by the isotope evidence for food-ways in this population, which did not show differences between burial locations, funerary treatment, or between adult age and sex groups (Redfern *et al.* 2010). This is in contrast to Mill Hill (Kent), where the majority of sampled individuals consumed a homogenous diet, but the male with a 'crown' had some of the lowest isotope ratios for nitrogen ($\delta^{15}N$) and carbon ($\delta^{13}C$), and the individual accompanied by the imported spoons had a very high $\delta^{15}N$ value, which Green (2008) proposes to reflect a special diet related to their social activities. It is possible, however, that these data reflect mobility between different environments, rather than special dietary constituents (see discussion of isotope data below).

The Durotrigian life course can be established using funerary data, as the standard inhumation rite appears to have been structured to reflect the different stages of this socio-cultural process, rather than to emphasize differences between the sexes (Hamlin 2007; Redfern 2012). Hamlin's (2007) research found that the majority of funerary variables related to grave good inclusion did not exhibit significant levels of engendering, though task related differences were present. There was no statistically significant difference between subadults (<18 years old) and adults (>18 years old) in grave-good types, as both had personal ornaments, animal inclusions, utilitarian items, and containers. Exclusive to subadults were a projectile point, stylus, gaming pieces, studs/clothing fasteners, and

botanical remains. It should be noted that each of these items was recovered in isolation (i.e., only with one individual). Adults of both sexes had similar grave-goods, including pottery vessels, jewellery, and animal inclusions; and there were no statistically significant differences between the sexes in the mean number of items in each burial. A minority of adult males were accompanied by weaponry, and these burials were only found at Whitcombe Farm and Maiden Castle hillfort.

Childhood is a crucial period for differences between gender and status groups to be enacted, as this is the time when behaviours, patterns of activity, and the learning of a craft or skill begins (Lillehammer 2000; Moore and Scott 1997; Rogoff 2003; Sofaer Derevenski 2000). Our knowledge of childhood is very limited for this period; there are some 'toy' or miniature versions of weaponry buried with children in La Tène (mid 5th century BC to AD 1st century) cemeteries in Europe (Pope and Ralston 2011), and Karl's (2005) analysis of the primary sources relating to 'Celtic' communities, emphasizes that some status groups may have had a very mobile childhood and were active social agents in these decisions, with individuals being fostered/apprenticed outside their community. To avoid over-interpretation, and taking into account the biases associated with the various primary sources for 'Celtic tribes' (amongst others, Chapman 1992; James 2002), we can propose some activities based on these sources, as well as anthropological studies of agrarian communities. These show that children can undertake considerable amounts of work, perform agricultural activities which are more energy efficient for them to undertake (e.g. herding animals or collecting firewood), spend time learning and practicing new skills, and take care of their siblings/peers to free-up adult time (Nag *et al.* 1978; Panter-Brick 1998).

Giles' (2012) research on IA burials in east Yorkshire raises the important point, likely to have applied to the Durotrigians, that the ownership of objects (e.g. mirrors/necklaces) may have been earned over a life-time, through the gradual acquisition of skills. Understanding the association between mobility and learning in IA societies may be glimpsed through the Roman primary sources for Druids in France (Gaul), which describe their training as taking place over many years, and involved them travelling to Britain (Aldhouse Green 2010).

For many in LIA Dorset, the juvenile (8–16 years old) and adolescent (17–20 years old) phases of the life course were when individuals appear to have increasingly adopted adult activities and responsibilities. Evidence indicates that these age-groups were involved in organised violence. At Maiden Castle hillfort, a 15 year old girl (T29) had multiple peri-mortem cranial fractures and their burial included a projectile point (Hamlin 2007; Redfern 2007 and pers.ob). In order to be successful combatants, individuals would have had to begin training in martial activities from a young age. This is supported by the fact that the majority of Durotriges with weapon burials or injuries from inter-personal violence are less than 35 years old (Redfern 2009; 2011; Redfern and Chamberlain 2011). It must also not be forgotten that many children may have been forcibly removed from their natal locale through enslavement, likely to have been undertaken by elite combatants (Arnold 1988; Nash Briggs 2003; Nash 1984; Redfern 2020). The trade was well-established between Britain and the Continent at this time, with the Greek geographer Strabo describing slaves as one of the main exports from Britain in the late 1st century BC (Cunliffe 2007; 2004; Thompson 1993).

In summary, the archaeological evidence suggests that the LIA communities which formed the Durotriges had trade and cultural connections with communities from western, central and southern Britain, and to those across the Channel in north-west Gaul. Their funerary and material culture evidence suggests that different status groups were present, and combined with primary source evidence indicates that knowledge/craft specialists existed, many of whom were likely to have undertaken lengthy training outside their community of origin.

ISOTOPE ANALYSIS TECHNIQUES

Childhood origin: strontium and oxygen

Strontium ($^{87}Sr/^{86}Sr$) and oxygen ($\delta^{18}O$) isotope analysis of tooth enamel is usually undertaken to obtain evidence for mobility (amongst others, Evans

et al. 2012; Lightfoot and O'Connell 2016; Makarewicz and Sealy 2015; Montgomery 2010). Tooth enamel is used rather than bone mineral for these analyses, because it is highly resistant to diagenetic alteration. The enamel represents childhood diet because once the tooth has formed there are no turnover effects in later life, as there are for other tissues such as bone, hair or nails. As with all isotopic analysis, the chemical elements are obtained from ingested food and water, and as the skeleton forms, they are incorporated into teeth and bones. There will be an expectation for any particular environment that the isotope values were obtained from local dietary resources, so that any differences between the values obtained from the teeth and those expected for the burial location can suggest that the resources had been obtained from a different place, probably because the individual had lived elsewhere. Although there are many variables which can affect the values, the major environmental influences affecting bioavailable strontium are the underlying geology on which plants are grown, while for oxygen it is surface air temperature acting on rainwater that has the most effect in higher latitudes. For a maritime region such as the United Kingdom, the effect of strontium from rainwater, this deriving from seawater, must also be taken into account , as must marine salt deposition in coastal areas (Alonzi *et al.* 2020), while for $\delta^{18}O$ values a variety of factors such as latitude, altitude, season and distance from the coast can all produce different outcomes.

In considering mobility based on the dietary resources consumed during childhood, there are a variety of factors which can confuse the interpretation. An individual who moves away after childhood, lives away for a long time and then returns to their original location cannot be identified using these techniques. So, for instance, if a young female in a patrilocal society leaves a community on marriage and returns to her family later in life, these data will not provide evidence for this. Only if the person is buried in a location which is environmentally different to that in which they were raised as a child, will the evidence for mobility be available from bulk analysis of enamel. If they move between two locations where geology and climate is very similar, again this is unlikely to be identified from these data.

It is not just the pattern of human movement which can complicate matters; the resources themselves can obscure the situation. Bioavailable strontium comes mainly from the plants in the diet, so if these are obtained from elsewhere, such as during trade or perhaps transhumance, this will have an effect on the interpretation. For oxygen, drinking water may be isotopically altered by processing, such as boiling or in the production of alcoholic drinks (Brettell *et al.* 2012). It might also be obtained from a source where it is affected by factors such as evaporation from surface water, or recharge from rivers containing water from high altitude precipitation.

There is a direct relationship between $\delta^{18}O$ values from human skeletal remains and those from drinking water, but they are not the same. Ingested water comes not only from drinking water, but also from food sources and there is a species-specific relationship for the balance involved. Again, there are a range of factors which can affect this relationship, including physiological factors such as disease and activity level, and the consumption of liquids such as milk or blood. Past studies using oxygen isotope data to interpret mobility have often used skeletal $\delta^{18}O$ values which have been converted to environmental drinking water values using regression equations; this allows a comparison between the converted data and maps constructed from water values. However, for humans there are a number of different regression equations which can be used, and significant levels of error can be introduced into the data set by undertaking the conversion (Pollard *et al.* 2011). For this reason, more recent studies of British archaeological material have preferred to use the unconverted values in the context of empirical data sets available for the most relevant regions and time periods under consideration (e.g. Evans *et al.* 2012; Pellegrini *et al.* 2016). This is the approach taken in this study, although converted drinking water values have been provided for reference purposes (Table 1).

Childhood diet: carbon and nitrogen

Carbon and nitrogen stable isotope ratios ($\delta^{13}C$ and $\delta^{15}N$) from skeletal collagen are used to reconstruct diet, with these chemical constituents mainly

Table 1 Bulk isotope data

Sample ID (Table 2)	Sr Lab code	$^{87}Sr/^{86}Sr$ (enamel)	$^{87}Sr/^{86}Sr$ 2 SE	Sr conc (ppm)	$\delta^{13}C_{carb}$ (‰)	$\delta^{18}O_{carb}$ $_{SMOW}$ (‰)	Calc $\delta^{18}O_{phos}$ (‰)[1]	Calc $\delta^{18}O_{dw}$ (‰)[2]	$\delta^{13}C_{coll}$ (‰)[3]	$\delta^{15}N_{coll}$ (‰)[3]
GAS sk 285	A98.1	0.707968	0.000022	72.6	-13.6	27.6	18.8	-4.7	-20.3	9.0
WF sk 9	A98.2	0.708687	0.000018	102.6	-15.0	26.1	17.2	-7.2	-20.0	9.4
MC sk 7	A98.3	0.708458	0.000017	134.0	-15.3	25.4	16.5	-8.3	n/a	n/a
MC sk 7A	A98.4	0.708817	0.000016	74.7	-12.6	26.2	17.4	-6.9	n/a	n/a
PML sk 527	A98.5	0.709718	0.000018	45.9	-15.6	27.5	18.7	-4.9	n/a	n/a
PMF sk 502	A98.6	0.708918	0.000027	59.2	-14.2	25.3	16.4	-8.4	-19.7	9.3
LH sk 1	A98.7	0.709004	0.000017	87.6	-13.8	26.7	17.8	-6.2	-19.9	10.3

1. The calculated $\delta^{18}O_{phosphate}$ values use the equation from Chenery *et al.* (2012) to convert from the measured carbonate values. These data are provided for the purpose of comparison with other published data sets.
2. The calculated $\delta^{18}O_{dw}$ values use equation 6 from Chenery *et al.* 2012 (based on Daux *et al.* 2008) to convert from the measured carbonate values. These data are provided for the purpose of comparison with other published data sets, but care should be taken in using them with environmental water value maps (Pollard *et al.* 2011).
3. Bulk collagen data is from ribs and previously published in Redfern *et al.* (2010), except for LH sk 1 which is from long bone and published in Russell *et al.* (2019). N/a = not available.

coming from protein (amongst others, Lee-Thorp 2008; Makarewicz and Sealy 2015). Although there is some fractionation in both systems, there is a direct relationship between the $\delta^{13}C$ and $\delta^{15}N$ values from the consumer's collagen and those from the protein in the foods consumed. The food chain ultimately leads back to plants, so that the data can also be used to consider an individual's connection with the local environment at a particular time and place. This is usually done by using data from contemporaneous herbivores at the same site to consider the effects of that environment on their plant diets, although in this study no such animal data are available and published comparatives have been used.

The data can be used to consider the amount of animal protein consumed (trophic level), the consumption of aquatic resources (particularly marine) and whether plants with the C_4 photosynthetic pathway have been included in the food chain. There is an elevation between trophic levels of around 3 to 5‰ in $\delta^{15}N$ collagen values, although this can vary (O'Connell *et al.* 2012), while $\delta^{13}C$ values usually increase by around 1‰. Significant simultaneous enrichments in both ^{15}N and ^{13}C isotopes result from high levels of marine resource consumption, while breastfeeding will tend to lead to higher values for both isotope ratios which fall off as weaning foods are introduced and breast milk consumption is reduced. Non-dietary factors can also have an effect, with disease and nutritional stress usually increasing $\delta^{15}N$ values and potentially reducing $\delta^{13}C$ (Beaumont and Montgomery 2016; Beaumont *et al.* 2015; Curto *et al.* 2020; Katzenberg and Lovell 1999).

The different photosynthetic pathways of C_3 and C_4 plants result in $\delta^{13}C$ values which are significantly different (higher values for C_4) and this can be traced through the food chain. The main indigenous plant resources found in northern Europe are C_3, with C_4 more usually found in warmer and drier environments. The latter are not found in significant quantities in IA Britain. Where identified in British samples at this early point, they indicate immigrants who have moved from a region where C_4 plants, particularly millet, were present at this time. Millet starts to appear in Continental European food chains, either in the diet of animals or humans, from the late

Neolithic, and is clearly present in many IA studies of central and southern Europe (Laffranchi *et al.* 2016; Le Huray and Schutkowski 2005; Zavodny *et al.* 2017).

Dentine collagen represents the tooth formation period, which in the case of mandibular first molars is from around birth to ten years old, and for mandibular canines it is from around one to 13 years old. Incremental dentine samples are 'slices' across the length of a tooth root and crown dentine, which can be allocated approximate formation times according to their position based on the formation periods given by AlQahtani and colleagues (2010). This allows a sequence of data to be built up for childhood which can reflect changes in diet and the effects of stress and disease (Beaumont *et al.* 2014). Unlike dentine, bone remodels during life, with different skeletal elements changing at different rates. Rib bone samples will reflect diet towards the end of life, while cortical long bone samples will produce lifetime averages weighted towards adolescence (Cox and Sealy 1997; Fahy *et al.* 2017; Hedges *et al.* 2007). Using incremental dentine isotope measurements allows more than merely to estimate diet: bone collagen alone gives a temporally-blurred average value. Where changes in the isotope ratios are observable, such as seen in some of these dentine profiles, we can tease out temporally distinct changes. It is also important to note that combining the $\delta^{13}C$ and $\delta^{15}N$ provide a powerful tool to discriminate between changes due to a trophic level shift (where both isotope ratios move in the same direction), a change in dietary source (terrestrial to marine) or from nutritional distress (when the $\delta^{15}N$ and $\delta^{13}C$ display opposing covariance). Where the dietary changes observed in some individuals are consistent with different patterns of animal husbandry and therefore baseline faunal values in different geographical locations, it is justified to interpret these as evidence for migration.

Enamel oxygen isotope analyses can be undertaken on either the carbonate or the phosphate fraction. In this study, enamel carbonate has been used which allows the carbon isotope ratio from the carbonate to be measured alongside the oxygen and requires a less technically difficult pre-treatment of the sample. The $\delta^{13}C$ values obtained from the carbonate fraction of the tooth enamel reflects carbon from the whole diet rather than that from the dietary protein alone, while the values obtained from collagen are usually from protein unless this is a limiting factor in the diet (Hedges 2003; Jim *et al.* 2004).

MATERIALS AND METHODS

Individuals selected for sampling

Seven adult individuals were selected for analysis (Table 2, Fig. 2), because they were buried with elite grave-goods (e.g. a mirror) or had evidence for a traumatic death, potentially inferring a combatant, ritual or low social status (see Redfern 2020; Sharples 2010). The age, sex and pathological data for each individual were collected by the first author using the standards published by Buikstra and Ubelaker (1994), with stature calculated using the long bone formulae for White individuals published by Bass (1995). The funerary data for six of the individuals were derived from Hamlin (2007), with the burial information for Langton Herring taken from Murden (2014) and Russell *et al.* (2019). The enamel surface of each tooth was abraded using a diamond dental burr and discarded. A chip of core enamel, free from adhering dentine, was then removed with a diamond tipped rotary dental disc and the resultant sample used for strontium and oxygen isotope analysis. Each chip included enamel from the available crown length, thus representing an average of ingested elements over the period of crown development and subsequent waves of mineralisation (Dean, 1995).

Strontium and oxygen isotope analysis

Strontium isotope analysis was undertaken at the Arthur Holmes Isotope Geology Laboratory, Durham University Earth Sciences Department. The pre-cleaned enamel samples were prepared for Sr isotope analysis using previously published procedures (Font *et al.*, 2008). Samples were heated on a hot plate @ 100°C overnight in 1 ml of 3M HNO_3. The dissolved samples were loaded onto cleaned and preconditioned columns containing 60µl of strontium-specific resin. 2×250µl 3M HNO_3 was passed through the column to elute the bulk of the sample matrix, followed by 2×200µl MQ H_2O to elute the Sr, which was collected for analysis.

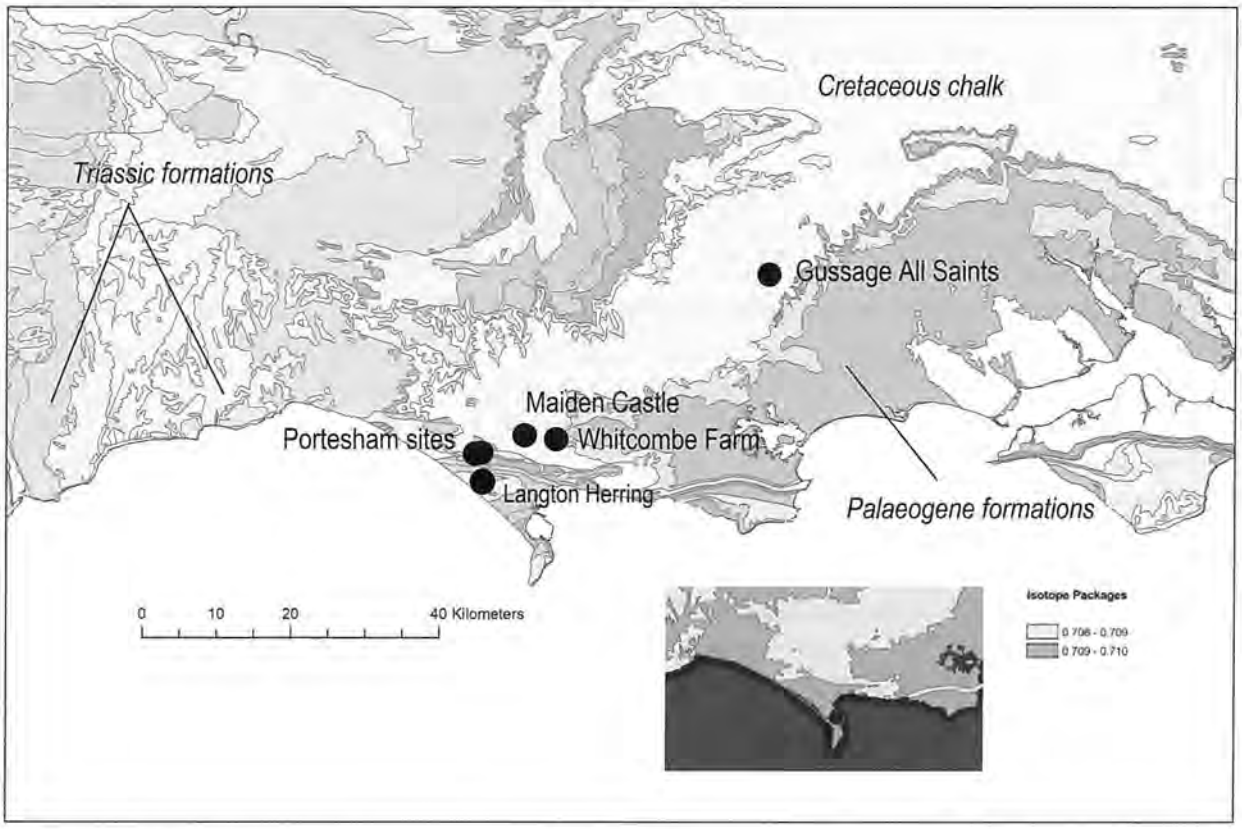

Figure 2 Map of the region showing bedrock geology and strontium isotope ratio 'packages' consistent with plants obtained locally. The central green band indicates Cretaceous chalk bedrock with other colours reflecting a range of sedimentary mudstones, siltstones, sandstones, limestones and clays. Higher strontium isotope ratios will tend to be obtained from regions of older bedrock, with the oldest formations on this map being Triassic (older than the Cretaceous chalk) and to the west, with Palaeogene formations (younger than the Cretaceous chalk) to the east. Based upon BGS Geology 625k and Biosphere Isotope Domains GB with the permission of the British Geological Survey.

The Sr samples were taken up in 1ml of 3% HNO_3 and were analysed by Multi-Collector Inductively Coupled Plasma Mass Spectrometry using a Neptune MC-ICP-MS. Samples were introduced into this using an ESI PFA50 nebuliser and a glass expansion cinnabar micro-cyclonic spraychamber. The average ^{88}Sr beam size for the samples was 15.5V (range 7.3V to 30.6V). Each analysis consisted of 1 block of 50 cycles with an integration time of 4.194secs per cycle; total analysis time ~3.5mins.Instrumental mass bias was corrected for using a $^{88}Sr/^{86}Sr$ ratio of 8.375209 (the reciprocal of the 'accepted' $^{86}Sr/^{88}Sr$ ratio of 0.1194) and an exponential law. Corrections were applied for isobaric interferences from Kr on ^{84}Sr and ^{86}Sr, derived from Ar gas supply, and Rb on ^{87}Sr, derived from the sample, by monitoring masses ^{82}Kr, ^{83}Kr and ^{85}Rb respectively. The average ^{83}Kr intensity throughout both analytical sessions was 0.11±0.02 mV (2SD), which is insignificant considering the Sr beam size (see above). The average ^{85}Rb intensity for the samples was 0.83±0.8mV, but given the range in Sr beam size, the Rb correction on the $^{87}Sr/^{86}Sr$ ratio, was very small (<0.0001)) and is accurate at that magnitude.

Samples were analysed during a single analytical session during which the average $^{87}Sr/^{86}Sr$ value and reproducibility for the international isotope reference material NBS987 was 0.710264 ± 0.000017 (2σ; n=11). Sr isotope data reported in Table 1 is normalised to an 'accepted' value for NBS987 of 0.71024.

Oxygen isotope analysis was undertaken at the University of Bradford (Stable Light Isotope Facility, Archaeology Department) where the sample was treated following a procedure modified after Sponheimer (1999). To remove organic matter and

Table 2 Summary of archaeological, bioarchaeological and sampling information for the late Iron Age individuals selected for analysis

	Individual	Citation	Sample identifier	Tooth sampled	Approx. Age-range of tooth formation Beaumont and Montgomery (2015)
Gussage All Saints	20–25 year old male	Wainwright (1979)	GAS sk 285	Right mandibular 1st molar	Just after birth to 10 years old
Summary of funerary context	Lightly flexed prone burial in a cylindrical pit close to a hut within the settlement's enclosure (Phase 3). Head placed to northeast, and his arms were bent, the right extending under his torso, with his hands over-lapping on the left, and his knees were bent, with legs in parallel extending towards the edge of the pit. Had two iron fragments at his pelvis – unable to identify to object type				
Summary of osteological data	• Stature: 169 cm • Antemortem loss of three teeth, two teeth with carious lesions, dental calculus, periodontal disease • Active cribra orbitalia • Right humerus: healed spiral fracture to m1/3 with soft-tissue involvement • Peri-mortem sharp-force weapon injuries to the anterior aspect of the midshaft left clavicle, lateral aspect of the left humerus m1/3, and possibly to the left parietal bone				
Portesham Manor Farm	18–24 year old female	Valentin (2003)	PMF sk 502	Right mandibular 1st molar	Just after birth to 10 years old
Summary of funerary context	Crouched burial on her right-side, with her head to the north, facing west; her right arm is superiorly flexed at the elbow, which is cupped by the left hand, with the right hand extending over and resting on her left shoulder, and her legs were bent, knees in front, with her feet together. An enamelled brooch was found on her left shoulder, above her finger bones, suggesting that it was holding clothing/cloth in place; hobnails were found at her feet suggesting that she may have been wearing shoes, and two Durotrigian pots and two South and Central Gaulish Samian ware pots were placed to the west of her head, close to her left hand. Around her head, an arc of vertically placed animal bones had been made.				
Summary of osteological data	• Stature:156 cm • Dental calculus • Cleft neural arch to 1st and 2nd sacral vertebrae				
Maiden Castle hillfort	20–35 year old male	Aitken and Aitken (1991)	WF sk 9	Left mandibular canine	Just before 1 year to 13 years old
Summary of funerary context	Crouched burial, he had been laid on his back; head almost upright in an easterly direction, with his arms bent at the elbows across the chest, and his legs flexed at the hip, knees bent to the right and his feet against the wall of the grave. By his knees was laid a broad sword with a copper alloy scabbard mount, two iron rings, a copper alloy ring, an iron spearhead, an iron hammerhead and file, a copper alloy strip and pseudo-La Tene II brooch, and a chalk spindle whorl.				
Summary of osteological data	• Stature: 169 cm • Dental calculus • Congenital absence of right 2nd maxillary incisor • Possible peri-mortem blunt-force injury to the cranium				
Portesham Farm	26–45 year old probable female	Fitzpatrick (1997)	PML sk 527	Right mandibular 1st molar	Just before birth to 10 years old
Summary of funerary context	Crouched burial, on her left side, with her right arm flexed at the elbow towards her head, which faces east. Her left arm is also flexed towards her head, and her legs are flexed at the hip, with the knees tucked up underneath. Buried with a decorated copper-alloy mirror and a Roman toilet set located at her waist, a knife in a leather sheath, a strainer pan placed behind her back, three brooches- one pinned to the mirror and the others at her shoulders, Dorset pottery was placed behind her back, and animal bone placed around the limbs and pelvis.				

Table 2 (continued) Summary of archaeological, bioarchaeological and sampling information for the late Iron Age individuals selected for analysis

Summary of osteological data	• Stature: unknown due to post-mortem damage • Dental calculus, periodontal disease, two carious lesions and one related abscess, antemortem loss of four teeth • Healed cribra orbitalia • Osteoarthritic changes to cervical vertebrae and hand phalanges • Congenital absence of 3rd molars, rotation of one tooth, retention of one deciduous tooth, and maleruption of one tooth				
Langton Herring	20–24 year old female	Murden (2014) Russell *et al.* (2019)	LH sk 1	Left mandibular canine	Just before 1 year to 13 years old
Summary of funerary context	Crouched burial, with her legs tightly flexed at the hips and knees. Placed in the grave was a decorated copper-alloy mirror, two brooches, a pair of tweezers, and a spiral bracelet/armlet a perforated late Republican Denarius coin (83–82 BC), five glass and three stone beads.				
Summary of osteological data	• Stature: 161 cm • Dental calculus to one mandibular molar, slight dental wear • Impacted right maxillary canine, retention of one deciduous tooth • New bone formation to tibiae, fibulae and foot bones, and bilaterally to second metacarpal • Healed endocranial lesions to occipital sulci • Sinusitis: maxillae, healed & mixed reaction • Remodelling cribra orbitalia and porotic hyperostosis to parietal bones • Eight ribs have remodelling bone to visceral aspect of head and neck • Schmorl's nodes are present to two thoracic and two lumbar vertebrae				
Maiden Castle hillfort	25–35 year old male	Wheeler (1943)	MC sk 7	Left mandibular 1st molar	Just before birth to 10 years old
Summary of funerary context	Extended position within a double grave (P7 and P7A). He was placed in an extended position, with his arms by his sides and his head in an east-south-east direction, with two Durotrigian pots placed by his left femur.				
Summary of osteological data	• Stature: 170 cm • Median anterior maxillary fissural inclusion cyst • Healed lamellar bone reaction to tibiae • One tooth lost antemortem with associated abscess, one tooth with a carious lesion, 3rd molars congenitally absent, calculus • Perimortem fractures to multiple ribs, facial bones • Perimortem weapon injuries to cranium including a square puncture wound on left temporal bone				
	20–34 year old male	Wheeler (1943)	MC sk 7A	Right mandibular canine	Just before 1 year to 13 years old
Summary of funerary context	Extended position within a double grave, his right hand had been placed on his pelvis and the left on his chest. Partially overlays P7.				
Summary of osteological data	• Stature: 172 cm • Two teeth with carious lesions, dental calculus • Healed cribra orbitalia and porotic hyperostosis • 6 lumbar vertebrae present, one is partially sacralised • Extra-suture to right parietal bone • Sharp-force weapon injuries to mandible, including a decapitation blow to the left ramus, and to upper left rib • Perimortem fractures to multiple rib bones • Embedded British weapon in 1st lumbar vertebra				

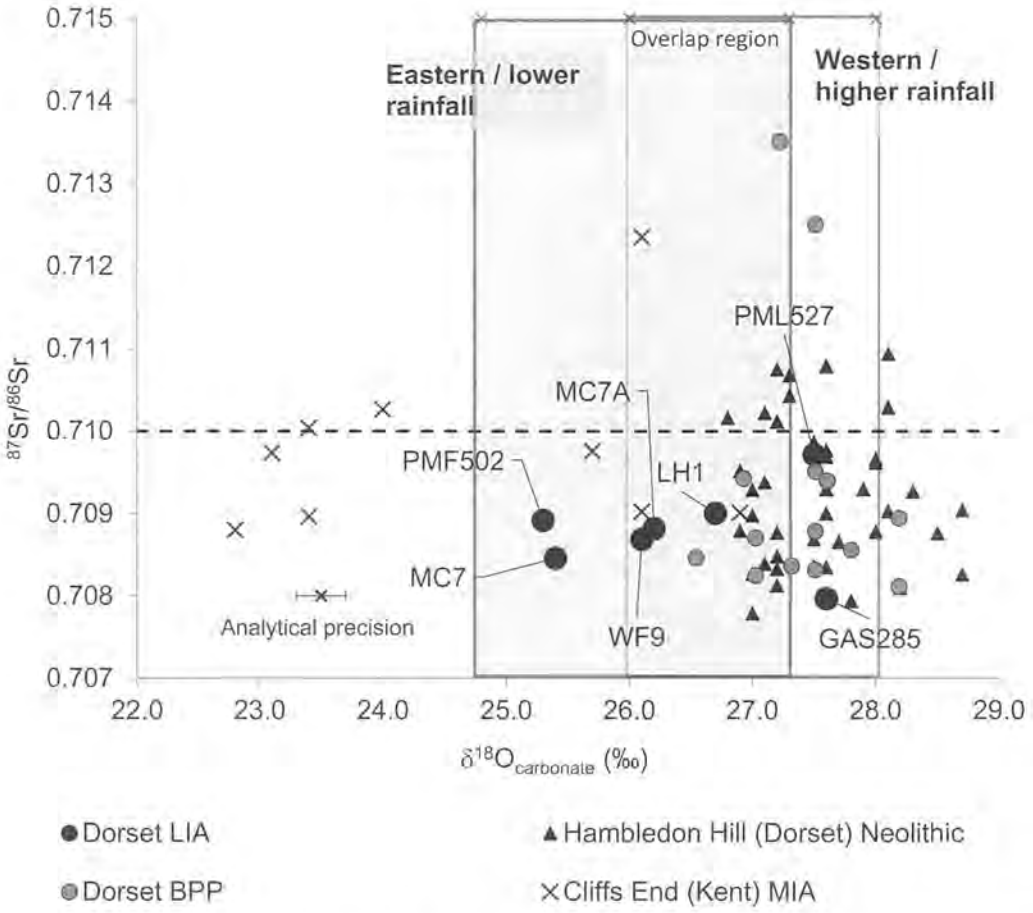

Figure 3 Strontium and oxygen isotope data plotted with comparatives. The dashed horizontal line indicates the upper limit of the strontium isotope ratios expected for the Dorset region. The vertical shaded bands indicate the range of oxygen values expected for Britain, with the 'cooler', eastern and northern regions at the lower end of the range and the 'warmer', western and southern regions at the higher end. The range is plotted at the 95% probability level, based on data from Evans *et al.* 2012. The comparative data are from: BPP (Beaker People Project; Montgomery *et al.* 2019 and Pellegrini *et al.* 2019); Hambledon Hill (Neil *et al.* 2018); Cliffs End Farm (Millard 2015).

exogenous carbonate, it was treated with 1.7 % NaOCl solution for 30 minutes, rinsed with de-ionised water, treated with 0.1 M acetic acid for ≤ 10 min, and then rinsed once more. It is accepted that pre-treatment of the enamel powder may affect the measured carbonate $\delta^{18}O$ in some cases (e.g. Chenery *et al.* 2012); however they have been used for a limited period here, reducing the possible effects. After freeze-drying, the sample was weighed into a septa-capped vial and loaded into a Finnigan Gasbench II. Oxygen and carbon isotope ratios were measured in a Thermo Delta V Advantage mass spectrometer connected to the Gasbench II. The enamel value was measured in duplicate and normalised relative to internal and international standards. The values for each tooth are mean values presented relative to the international standard VSMOW and the analytical error, based on the reproducibility of the standards, was ± 0.2 ‰ (1sd) or better for $\delta^{18}O_{carbonate}$ and ± 0.1 ‰ (1sd) for $\delta^{13}C_{carbonate}$.

Carbon and nitrogen isotope analysis

Carbon and nitrogen isotope analysis ($\delta^{13}C$ and $\delta^{15}N$) of incremental dentine was undertaken at the University of Bradford following the protocols described by Beaumont *et al.* (2013) for Method 2. As dentine is gradually laid-down during dental development, the dietary protein contributions are captured throughout the development of a tooth (Beaumont *et al.* 2013). Incremental portions of dentine were obtained by sectioning the tooth longitudinally using a rotatory dental saw, removing any cementum and secondary dentine, demineralizing one section and dividing the resulting collagen into 1mm increments with a scalpel. These increments

were denatured by heating to 70°C in a pH 3 solution of HCl for 24 hr, frozen and then freeze-dried. Each increment was assigned a probable age-range, based on the development of that tooth during life (AlQahtani *et al.* 2010; Beaumont and Montgomery 2015). Carbon ($\delta^{13}C$) and nitrogen ($\delta^{15}N$) isotope ratios were obtained by combustion in a Thermo Flash EA 1112 and the separated N_2 and CO_2 was introduced to a Delta plus XL via a Conflo III interface. All samples were interspersed with laboratory and international standards, and the analytical error was determined to be 0.2‰ or less. The collagen quality parameters were within acceptable limits with a C:N ratio of between 3.1–3.3 (van Klinken 1999).

RESULTS OF THE ISOTOPE ANALYSES

The data are presented in Tables 1 and 3 and Figures 3 to 5. The $^{87}Sr/^{86}Sr$ values fall into a relatively small range from 0.7080 to 0.7097. These are mainly consistent with individuals obtaining their resources from a Cretaceous chalk substrate with an input from rainwater, which will have a value similar to seawater (approximately 0.7092), and who should fall within the $^{87}Sr/^{86}Sr$ range of approximately 0.7075 up to the seawater value (Montgomery *et al.* 2007). Most of these burials are from sites on the Cretaceous chalk, although the surrounding areas provide a variety of mudstone, siltstone, sandstone, limestone and clays (Fig. 2). The only value above 0.7092 is from PMF; both of the Portesham sites are close to the edge of the chalk, on these other formations. Figure 2 shows an inset for the strontium isotope ratio mapping produced by the NERC Isotope Geosciences Laboratories (NIGL) which gives a general idea of the values expected for these locations based on a UK-wide database of values obtained from plants, water and archaeological skeletal material. An upper value of approximately 0.710 is expected for this region based on these parameters. This is shown as a horizontal dotted line in Figure 3 and all of the data obtained from the Dorset burials are within the expected range.

The $\delta^{18}O$ values range from 25.3‰ to 27.6‰ and these are shown in Figure 3 alongside the strontium isotope data and some comparative data from Neolithic and Bronze Age Britain (Millard 2015; Montgomery *et al.* 2019; Neil *et al.* 2018; Pellegrini *et al.* 2019). The horizontal bands on the chart indicate the range, to 2 sd, which might be expected for Britain based on the NIGL database of values (Evans *et al.* 2012), with the higher values being from the western and southern extremes which are wetter and warmer, and the lower values from regions further north and east. The comparative data spread towards the higher end of the British range and beyond; both data sets shown here were published after 2012 and suggest that the British extreme expected for the south coast should be increased. The range from the Dorset LIA burials is relatively large in that it falls into both ends of the British range, as well as the 'overlap' area in the centre, although at the 95% error level all of them fall within the range expected for Britain. The two lowest values at 25.3‰ and 25.4‰ (female from PML and male MC sk 7A) are not likely to have originated from the Dorset region based on these data, and it is possible that WF and the other MC male (sk 7) did not either.

The incremental dentine $\delta^{13}C$ and $\delta^{15}N$ values are plotted in Figure 4 for each tooth separately, showing the changes over time during childhood. Where rib or long bone values are available for the same individuals from previous publications, these are also shown in these charts as horizontal dotted lines. Figure 5 shows the mean averaged dentine values after the age of four years old (when breastfeeding influences can be assumed to be minimal) for each individual in the context of regional comparative data. The $\delta^{15}N$ values for the whole group range from 7.8‰ to 13.0‰ and the $\delta^{13}C$ values from -20.8‰ to -19.4‰. Breastfeeding in the early years is identifiable for some of the individuals, the most obvious being MC sk 7, where the $\delta^{15}N$ values drop by 3.2‰ over the first 2.5 years of life with a coinciding small drop in $\delta^{13}C$ values. The two most unusual individuals in the context of the overall data are the females with mirror burials from PML and LH. The first of these has generally lower $\delta^{13}C$ values combined with higher $\delta^{15}N$ values when compared with this group of individuals and also with the regional comparatives. For an adult diet, this might be interpreted as the consumption of freshwater fish, but the low $\delta^{13}C$ values go back to early infancy and the overall pattern may be more indicative of dietary stress being caused by low

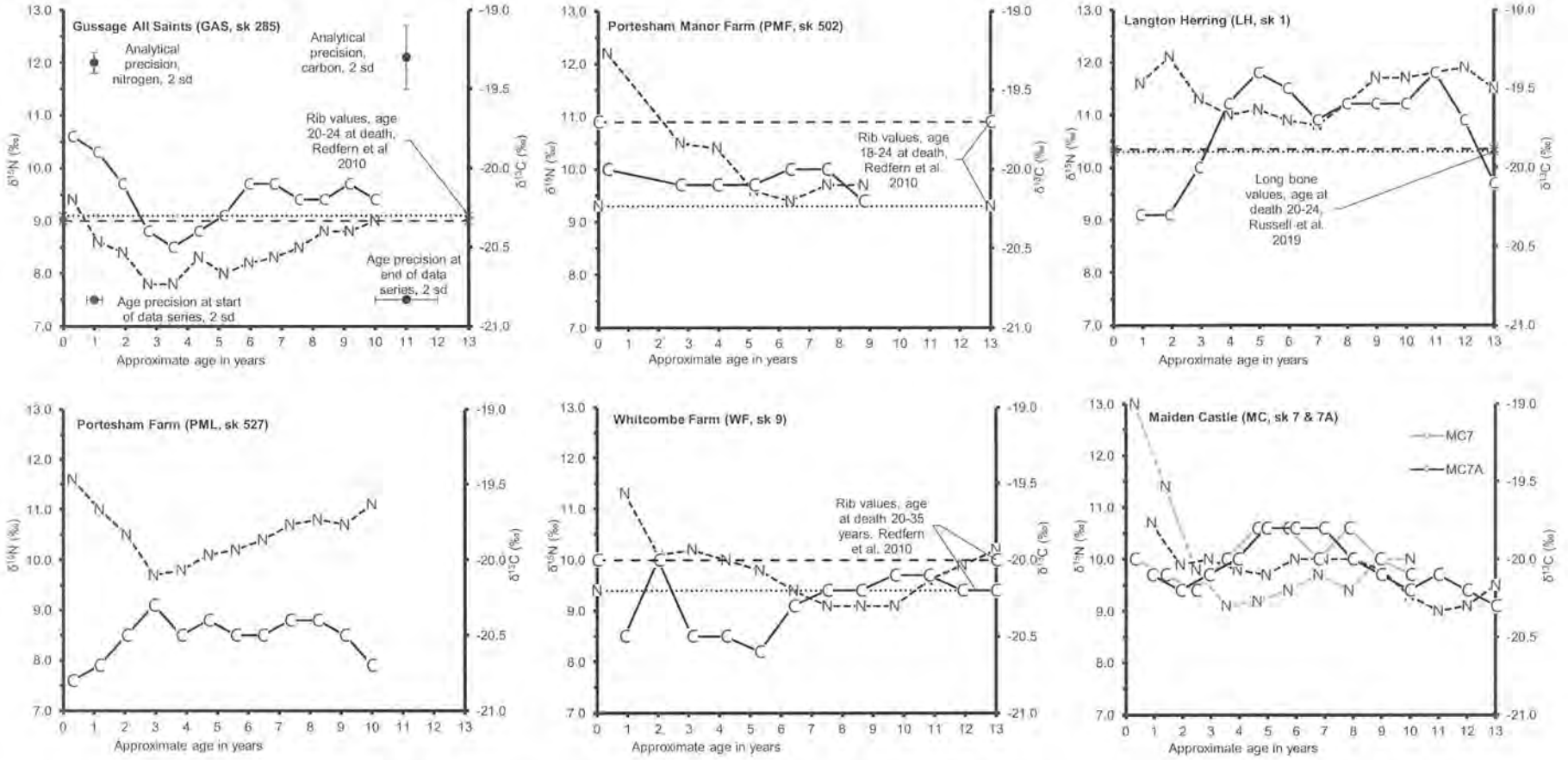

Figure 4 Incremental dentine δ13C and δ15N values for each of the individual teeth. Horizontal dashed lines indicate the values for bulk bone values from previous studies, with the relevant bone and source labelled on the individual charts. Each chart is shown with the same axis ranges for easy comparison and the precision error bars are shown for the analytical data and age in the first chart (GAS285) only. The two Maiden Castle teeth are shown on the same chart.

Table 3 Incremental dentine collagen isotope data

Sample ID[1]	**$\delta^{13}C$ (‰)**	**$\delta^{15}N$ (‰)**	**C:N[2]**
GAS-13	-19.8	9.4	3.2
GAS-12	-19.9	8.6	3.2
GAS-11	-20.1	8.4	3.2
GAS-10	-20.4	7.8	3.3
GAS-9	-20.5	7.8	3.2
GAS-8	-20.4	8.3	3.3
GAS-7	-20.3	8.0	3.2
GAS-6	-20.1	8.2	3.2
GAS-5	-20.1	8.3	3.2
GAS-4	-20.2	8.5	3.3
GAS-3	-20.2	8.8	3.3
GAS-2	-20.1	8.8	3.2
GAS-1	-20.2	9.0	3.3
Range: min	**-20.5**	**7.8**	
Range: max	**-19.8**	**9.4**	
Mean	**-20.2**	**8.5**	
SD	**0.2**	**0.5**	
Mean after 4 yrs old	**-20.2**	**8.5**	
WWC-12	-20.5	11.3	3.2
WWC-11	-20.0	10.1	3.3
WWC-10	-20.5	10.2	3.3
WWC-9	-20.5	10.0	3.3
WWC-8	-20.6	9.8	3.3
WWC-7	-20.3	9.4	3.3
WWC-6	-20.2	9.1	3.3
WWC-5	-20.2	9.1	3.3
WWC-4	-20.1	9.1	3.3
WWC-3	-20.1	9.6	3.3
WWC-2	-20.2	9.9	3.3
WWC-1	-20.2	10.2	3.2
Range: min	**-20.6**	**9.1**	
Range: max	**-20.0**	**11.3**	
Mean	**-20.3**	**9.8**	
SD	**0.2**	**0.6**	
Mean after 4 yrs old	**-20.3**	**9.6**	
MCP7-10	-20.0	13.0	3.2
MCP7-9	-20.1	11.4	3.2
MCP7-8	-20.2	9.8	3.2
MCP7-7	-20.0	9.1	3.2
MCP7-6	-19.8	9.2	3.2
MCP7-5	-19.8	9.4	3.2
MCP7-4	-20.0	9.7	3.2
MCP7-3	-19.8	9.4	3.3
MCP7-2	-20.0	10.0	3.3
MCP7-1	-20.1	10.0	3.3
Range: min	**-20.2**	**9.1**	
Range: max	**-19.8**	**13.0**	
Mean	**-20.0**	**10.1**	
SD	**0.1**	**1.2**	
Mean after 4 yrs old	**-19.9**	**9.6**	
Sample ID[1]	**$\delta^{13}C$ (‰)**	**$\delta^{15}N$ (‰)**	**C:N[2]**

Table 3 (continued) Incremental dentine collagen isotope data

MCP7A-13	-20.1	10.7	3.2
MCP7A-12	-20.2	9.9	3.2
MCP7A-11	-20.1	10.0	3.2
MCP7A-10	-20.0	9.8	3.2
MCP7A-9	-19.8	9.7	3.2
MCP7A-8	-19.8	10.0	3.2
MCP7A-7	-19.8	10.0	3.2
MCP7A-6	-20.0	10.0	3.2
MCP7A-5	-20.1	9.8	3.2
MCP7A-4	-20.2	9.3	3.2
MCP7A-3	-20.1	9.0	3.3
MCP7A-2	-20.2	9.1	3.3
MCP7A-1	-20.3	9.5	3.3
Range: min	**-20.8**	**9.0**	
Range: max	**-19.8**	**10.7**	
Mean	**-20.1**	**9.8**	
SD	**0.2**	**0.5**	
Mean after 4 yrs old	**-20.1**	**9.6**	
PMLSK007-12	-20.8	11.6	3.2
PMLSK007-11	-20.7	11.0	3.2
PMLSK007-10	-20.5	10.5	3.2
PMLSK007-9	-20.3	9.7	3.2
PMLSK007-8	-20.5	9.8	3.2
PMLSK007-7	-20.4	10.1	3.2
PMLSK007-6	-20.5	10.2	3.2
PMLSK007-5	-20.5	10.4	3.2
PMLSK007-4	-20.4	10.7	3.2
PMLSK007-3	-20.4	10.8	3.2
PMLSK007-2	-20.5	10.7	3.2
PMLSK007-1	-20.7	11.1	3.3
Range: min	**-20.8**	**9.7**	
Range: max	**-20.3**	**11.6**	
Mean	**-20.5**	**10.6**	
SD	**0.1**	**0.6**	
Mean after 4 yrs old	**-20.5**	**10.6**	
PMF-9	-20.0	12.2	3.2
PMF-7	-20.1	10.5	3.2
PMF-6	-20.1	10.4	3.2
PMF-5	-20.1	9.6	3.2
PMF-4	-20.0	9.4	3.2
PMF-3	-20.0	9.7	3.2
PMF-2	-20.2	9.7	3.2
Range: min	**-20.2**	**9.4**	
Range: max	**-20.0**	**12.2**	
Mean	**-20.1**	**10.2**	
SD	**0.1**	**1.0**	
Mean after 4 yrs old	**-20.1**	**9.6**	

Table 3 (continued) Incremental dentine collagen isotope data

LHSK1-13	-20.3	11.6	3.1
LHSK1-12	-20.3	12.1	3.1
LHSK1-11	-20.0	11.3	3.1
LHSK1-10	-19.6	11.0	3.2
LHSK1-9	-19.4	11.1	3.1
LHSK1-8	-19.5	10.9	3.1
LHSK1-7	-19.7	10.8	3.1
LHSK1-6	-19.6	11.2	3.1
LHSK1-5	-19.6	11.7	3.2
LHSK1-4	-19.6	11.7	3.2
LHSK1-3	-19.4	11.8	3.2
LHSK1-2	-19.7	11.9	3.2
LHSK1-1	-20.1	11.5	3.2
Range: min	**-20.3**	**10.8**	
Range: max	**-19.4**	**12.1**	
Mean	**-19.8**	**11.4**	
SD	**0.3**	**0.4**	
Mean after 4 yrs old	**-19.6**	**11.4**	

Notes:

1. The samples were run as duplicates and the data shown in the table are mean values.
2. All elemental ratios are atomic. C:N values fall into the acceptable quality indicator range of 3.0 to 3.4.

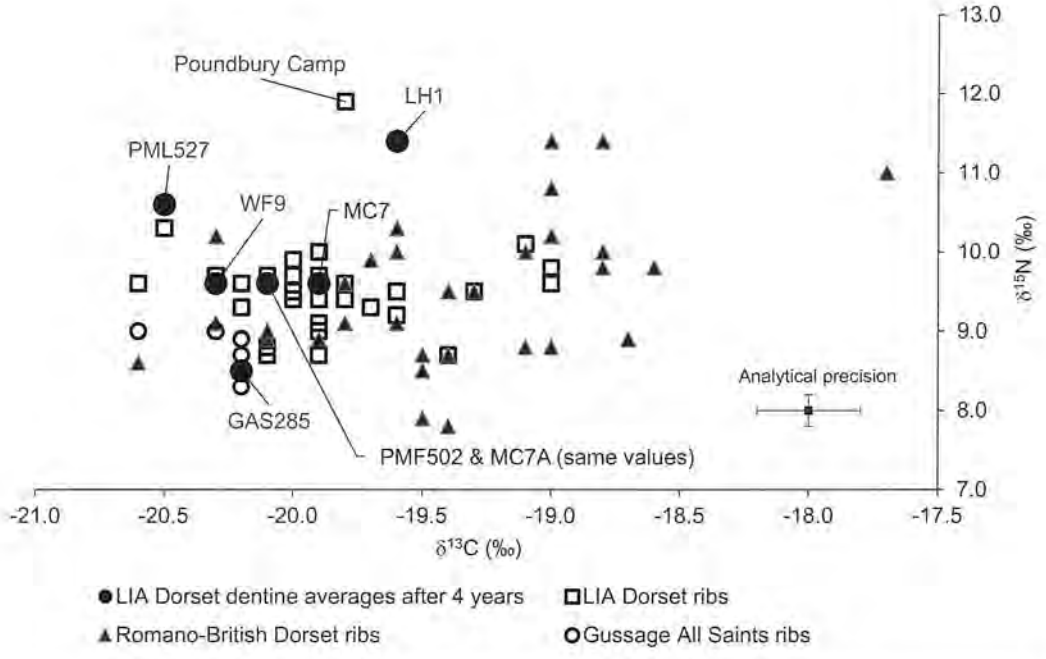

Figure 5 Dentine $\delta^{13}C$ and $\delta^{15}N$ averages for the increments after the age of 4 years (to eliminate any period of breastfeeding) plotted with Dorset bone data comparatives (all from Redfern *et al.* 2010). The Gussage All Saints ribs have been shown separately as a comparative for GAS285.

protein consumption. Dietary insufficiency would give rise to the recycling of body tissues (raising $\delta^{15}N$) and mobilization of fat stores (causing $\delta^{13}C$ to fall) (Beaumont and Montgomery 2016) : this pattern of opposing co-variance is seen both at the beginning and the end of the incremental dentine profiles (Fig. 4). The LH female has high values for both $\delta^{13}C$ and $\delta^{15}N$. These data are relatively consistent for the ages

from around four to 11 years old, and higher values for both $\delta^{13}C$ and $\delta^{15}N$ suggests low level consumption of marine resources during childhood, with a fall in both in later childhood towards the $\delta^{13}C$ and $\delta^{15}N$ measurements from adult rib collagen which represents the adult diet.

DISCUSSION

Gussage All Saints (GAS, sk 285)

This settlement site is located in north-east Dorset, where a range of activities including weaving and farming took place, but is most famous for chariot and horse harness gear that appears to have been made on-site (Wainwright 1979). The material culture includes pottery vessels and quern-stones from the Isle of Wight and other locales within Dorset and Gaul, as Samian ware and amphorae sherds were identified. The remains of 53 individuals, dating from the early to LIA were excavated from the enclosure ditch and pits within the settlement (Wainwright 1979). One articulated adult was selected for analysis, a 20–25 year old male with multiple peri-mortem weapon injuries, who was buried in the top layer of a cylindrical pit (Wainwright 1979, 32) (Table 2).

His oxygen and strontium isotope ratios are consistent with a Dorset origin when compared with data shown in Figure 3. Analysis of his childhood diet (Fig. 4) showed that he was probably fully weaned by around the age of 3 years old, with the covariation in $\delta^{13}C$ and $\delta^{15}N$ data probably reflecting adequate childhood nutrition and normal growth and development; an outcome reflected in his adult stature (169 cm), which was average for males in LIA Dorset (Redfern 2008). Like many other IA people across Britain, the isotope data provide no evidence for the consumption of marine resources (Jay 2008; Jay and Richards 2007). His post-weaning $\delta^{15}N$ values are the lowest in the study, and are also at the bottom of the range obtained for LIA Dorset generally, although they are similar to the rib bone values obtained from other individuals from LIA Gussage All Saints and also the later Romano-British inhumation found at the site (Fig. 5) (Redfern *et al.* 2010). This suggests that the 'baseline' $\delta^{15}N$ values for Gussage All Saints are generally low and are consistent with other southern British IA sites on chalk geology from Dorset and Hampshire, and for which herbivore data are also available to support the lower 'baseline' values, including Danebury, Poundbury Camp, Micheldever Wood and Winnall Down (Jay and Richards 2007; Richards *et al.* 1998; Stevens *et al.* 2010). Stevens *et al.* (2013) measured bone collagen isotope ratios for a wide range of fauna from the LIA and concluded that the animal husbandry practices were responsible for the low $\delta^{13}C$ and $\delta^{15}N$ in both the animals and the humans at Danebury. Therefore, the lower $\delta^{15}N$ values for this male are more likely to suggest that he had always lived in this general location, rather than his animal protein consumption being lower than the other individuals in this study from other locations. His rib values, which provide an indication of diet in the later years of life, are very close to those of the final dentine increment (reflecting the age of around 10 years old), which also suggests stability of both location and diet (Fig. 4).

Several years before he died, he had sustained a spiral fracture to his right humerus. It has significant tissue involvement at the callus site, but did not result in significant shortening or disuse atrophy of the bone and is only one of two humeral fractures observed in LIA Dorset (Redfern 2010). Such fractures may be caused by inter-personal violence or accident, such as twisting of the upper arm, or a fall onto the elbow or an outstretched arm, and typically take at least 3 months to heal (Wedel and Galloway 2014). Shortly before or at the time of death, he sustained multiple sharp-force weapon injuries to his left clavicle and humerus and possibly to his cranium (Table 2). The injury to his upper arm would have severed the cephalic vein, and the separate blow to the clavicle may have injured the subclavian and/or common carotid artery, and the massive blood loss would have been fatal (Drake *et al.* 2009). This injury distribution was not observed at Maiden Castle, but his age-at-death does fit a combatant profile (Redfern 2011). If he was a combatant, because of the old injury to his right humerus, it is possible that he fought left-handed, and these blows represent attempts to disarm him as they are not typical defensive injuries (Redfern 2016). However, his burial context (Table 2) and atypical distribution of peri-mortem injuries, combined with him being local to the settlement – in

contrast to the males from WF and MC (Figs. 3 and 4) – means that alternative interpretations for his osteobiography must be explored. Sharples (2010, 2014) suggests that pit burials in IA settlements are foundation deposits, ritual deaths made for the community's fertility/prosperity. Therefore, his injuries and death may have been sustained during an episode of such violence, which is believed to have been central to these groups (Aldhouse-Green 2001). Furthermore, these variables also fit with those proposed for identifying captives and the enslaved who were used in acts of performative violence (Redfern 2020), with his local isotope signature reflecting a life spent tied to local area, and his death perhaps ensuring its continued productivity. It is also possible that the lower $\delta^{13}C$ and $\delta^{15}N$ may be evidence for a lower trophic level diet than other individuals, potentially evidence for his status as a captive or enslaved person.

Portesham Manor Farm (PMF, sk 502)

This agricultural settlement and cemetery site is located in southern Dorset (Fig. 2) (Valentin 2003). Analysis of the pottery from the site and cemetery identified Gaulish Samian ware, a Mayen stone saddle quern from Central Europe, and pottery from southern Britain, showing typical Durotrigian connections within southern Britain but also to the Continent (Valentin 2003; Papworth 2011). The 18–24 year old female included in our study had a singular burial both within the cemetery and Dorset; she was accompanied by local and imported objects, and uniquely had a halo of animal bones around her head (Valentin 2003; Hamlin 2007) (Table 2). There was no evidence for her cause of death; only a very few young adults are found in non-catastrophic cemeteries in the region (Redfern and Chamberlain 2011; Redfern and DeWitte 2011) suggesting that risk of death for this age-group was low. Her $\delta^{18}O$ value suggests that she was not originally from Durotrigian territory, being well into the cooler eastern, 'lower rainfall', section of the chart in Figure 3. The value is still consistent with a British origin, although this is not necessarily the case, but combined with the $^{87}Sr/^{86}Sr$ value the data suggest an origin away from the south and west coasts from a variety of possible regions further north and east.

Analysis of her diet between birth and *c.* 9 years old revealed that she had probably finished weaning by the age of approximately 3 years old. The $\delta^{15}N$ values decrease between the ages of 4 and 6 years, before stabilising until the age of *c.* 9 years old, while the $\delta^{13}C$ values remain stable (Fig. 4). The rib $\delta^{15}N$ value (Redfern *et al.* 2010), which reflects the final years of life, is very similar to the final dentine increment value at around 9 years old, and they are both relatively low, which is consistent with the Dorset location (Stevens *et al.* 2013; and see discussion for GAS sk 285 above). This may suggest that the earlier 'baseline' for $\delta^{15}N$, when she was living further north and east, was higher and that she moved in early childhood. The $\delta^{13}C$ value from the final dentine increment is 0.5‰ lower than the rib value, but this is really within the range expected for a combination of normal dietary variation and analytical error. It is interesting to note that the mobility evidence coincides with the funerary evidence for juveniles (8–16 years old) for acquiring aspects of 'adult' gender roles and accompanying responsibilities.

The inclusion of local and imported Samian ware in her burial, as well as the brooch, which lay at her fingertips, lends support to Sharples' (2010, 302–4) argument for the presence of individuals who were involved in exchange networks, and his suggestion that brooches could have been used to create the personal relationships which facilitated these networks. Her movement from further north and east, outside Durotrigian territory, before adolescence, could have been part of trading or alliance (free or captive) connections (Cameron 2015), a milk-kin relationship between different communities (Sobo 2016), or as Karl (2005) and Giles (2012) suggest a fosterling to acquire new skills. Her Durotrigian-style burial suggests that the community identified and treated her as one of their own, but with the faunal bone halo marking her out– the meaning of this is elusive, as no comparative burials have been identified from Britain.

Whitcombe Farm (WF, sk 9)

This site is located south-east of Dorchester and was investigated between 1965–7 (Fig. 2). Although the excavation was quite limited, it is believed to have been a settlement with an associated cemetery. One

of the burials was of a 20–35 year old male dubbed the 'Warrior Burial' (Aitken and Aitken 1991) (Table 2). The skeleton was retrieved, but the skull was block-lifted and remains so. The sword, scabbard and spearhead items conform to martial equipment reported from other 'Warrior' burials across Britain (Collis 1972; Harding 2016, 141–2), but the atypical artefact is the chalk spindle whorl, an object typically buried with females – he is the only male in the region to be buried with one (Hamlin 2007) (see, Jordan 2016).

Incremental dentine analysis showed an early drop in $\delta^{15}N$ values between *c.* 1 and 2 years old which might suggest weaning, but the spike in $\delta^{13}C$ values between *c.* 1 and 3 years old and the low level of the value from the first increment might suggest that the earliest and highest $\delta^{15}N$ value represents stress in infancy rather than breastfeeding (Beaumont *et al.* 2015). The gradual decrease in $\delta^{15}N$ between *c.* 3 and 7 years old is likely to reflect a period of normal rapid growth (Fig. 4). He had probably received adequate nutrition throughout childhood; an outcome supported by his stature data (169 cm), which was average for males in this population (Redfern 2008). His rib carbon and nitrogen isotope data (Redfern *et al.* 2010) are very similar to the final dentine increments, suggesting no significant dietary changes between the end of childhood and later life.

His $\delta^{18}O$ value is in the 'overlap' region for eastern and western Britain shown in Figure 3, but it is lower than any of the Neolithic and Bronze Age comparative data shown on the chart. This suggests two possibilities; either he simply had a value at the lower end of the local Dorset range, or that he moved into Dorset, possibly from somewhere relatively close, but further inland towards the north and east, and movement would not necessarily have been over a significant distance.

Study of the breaks in his cranial bones determined that these were likely to have occurred at or around the time of death (Loe 2008), meaning that he suffered multiple blunt-force blows to the back and sides of his head (Redfern 2006). The lack of sharp-force injuries to his skeleton is not evidence of absence, as lethal soft-tissue trauma can be suffered without leaving a trace on the underlying skeleton (Judd and Redfern 2012). Parallels for his injuries can be found in males from Maiden Castle hillfort, and his age-at-death is also typical of death during combat (Redfern 2011). As none of the other burials from the cemetery have evidence for peri-mortem trauma and do not conform to a catastrophic demographic profile, perhaps he died in single combat or as a member of a raiding-party (Redfern 2006; 2011), with his burial acting as a focus for the community (Harding 2016, 142). Stead (1990, 75) suggests that unlike other 'Warrior burials' in Britain, his array of tools and weapons meant he was a warrior-craftsman. Given the IA life-course, it is likely that he entered into these specialised roles during adolescence (see Giles 2012, 188), perhaps moving into Durotrigian territory to do so.

Portesham Farm (PML, sk 527)

This burial was discovered by a metal-detectorist in 1994 near to the village of Portesham (Fitzpatrick 1997) (Fig. 2) (see also, Cooper *et al.* 2020). The rescue excavation was limited to the area of the find, and revealed the mirror burial of a 26–45 year old probable female, who was accompanied by a range of items, including a Roman toilet-set (Table 2). The $\delta^{13}C$ and $\delta^{15}N$ values from her incremental dentine samples were generally higher and lower, respectively, than seen in the other Dorset individuals discussed here (Figs. 4 and 5). While the fall in $\delta^{15}N$ values over the first 3 years of life might be interpreted as a weaning pattern, the corresponding increase in $\delta^{13}C$ values over the same period suggests that this may not be the case. Both $\delta^{13}C$ and $\delta^{15}N$ values should be higher during breastfeeding, falling as weaning occurs. In this case, the early higher $\delta^{15}N$ values may indicate stress in infancy; as this dissipates, the $\delta^{15}N$ values fall, with the increasing $\delta^{13}C$ values possibly indicating that the stress was dietary, so that as it falls off increasing protein levels drive the carbon values higher (Beaumont *et al.* 2015). Potentially, the presence of cribra orbitalia could reflect this episode of dietary stress, but this is a non-specific indicator of stress (Brickley 2018), and more research is required to understand how these two results may be linked.

The $\delta^{18}O$ value for this individual is similar to the GAS male and falls centrally within the comparative group for Dorset in Figure 3. There is no mobility

evidence from the enamel data. However, the $\delta^{15}N$ values in later childhood are perhaps higher than the expected 'baseline' for Dorset; this goes alongside lower carbon isotope ratios, so it is not indicative of marine resource consumption. It may, however, indicate the consumption of low levels of freshwater fish, or increasing dietary stress towards the end of the childhood sequence shown (see, Redfern *et al.* 2019).

Mirror burials are rare in Britain, and are regarded as the female equivalent of 'Warrior' burials, representing a person of high social status (Harding 2016; Sharples 2010) (op cit. Pope and Ralston 2011). The work of Giles and Joy (2007) suggests that this rare and significant object may have been used for divination, to 'see' into the past, bind oaths, and create magic. We follow Giles' (2012, 155–6) assertion that these are not merely luxury looking glasses, but are instead powerful socio-cultural items which required training, skill, knowledge and authority to use; a scenario also raised by Pearce (2007, 179) who observes that grave-goods in this period are also likely to 'make reference to other such ceremonies [i.e. rites of passage], all occasions during which the identity of a person was created.' The other items in her burial further emphasize her elite status, but also allowed her to create and maintain her connections with a wider sphere of influence and power. The mobility isotope data does not preclude her from spending time outside of Durotrigian territory or even in different locales within it during adolescence and adulthood; therefore we must not assume that she had not spent time with other communities to acquire these skills, as suggested for LH.

Langton Herring (LH, sk 1)

The crouched mirror burial of a 20–24 year old female was found by a metal-detectorist near the village of Langton Herring and was excavated by Bournemouth University (Murden 2014; Russell *et al.* 2019) (Fig. 2); AMS radiocarbon dating established that this unique burial had occurred between AD 25–53. She was accompanied by a range of jewellery and cosmetic items (Russell *et al.* 2019) (Table 2). Apart from the Roman coin-amulet, all of the items have parallels from southern, western and eastern Britain suggesting they were autochthonous objects; however, the possibility that the beads have a Continental origin cannot be discounted.

The oxygen and strontium isotope data for this female are consistent with Dorset, as is also the case for the other female buried with a mirror at PMF (Fig. 3), both of them having been buried with high-status and valuable objects reflecting their special roles in Durotrigian society. The LH female's incremental dentine analysis showed a more unusual pattern in the $\delta^{13}C$ values, which increased by nearly 1‰ over the period from around 2 to 5 years old and then fell by 0.7‰ over the period from around 11 to 13 years old. Her $\delta^{15}N$ values are consistently high throughout childhood when compared with the other individuals discussed here (Fig. 4). When compared with the other individuals from LIA Dorset, her averaged values after the age of 4 years old (to allow for breastfeeding effects to be removed) are higher for both carbon and nitrogen (Fig. 5). The values obtained from long bone during the radiocarbon dating process reflect an averaged lifetime diet, weighted towards adolescence (Russell *et al.* 2019). Since she was only 20–24 years old at death, this effectively gives a picture of later life for her and the values are both below that seen for the majority of her later childhood values, after the age of around 3 years old. Put simply, by the end of her life, she was beginning to equilibrate to values which were closer to those seen in other LIA individuals from this region. The combination of both higher $\delta^{13}C$ and $\delta^{15}N$ values suggest the consumption of marine resources, at a relatively low level, during childhood, this probably falling away after the age of around 11 years old. The low $\delta^{13}C$ values at the beginning of the dentine sequence suggest that early breastfeeding did not produce high values, so it is unlikely that her mother/wet-nurse was consuming marine foods.

The childhood $\delta^{13}C$ and $\delta^{15}N$ values seen for this female are unusual in the context of LIA Dorset; the only individual who looks similar in Figure 5 is a LIA male from Poundbury Camp (Redfern *et al.* 2010). If this were straightforward marine consumption, then the majority of LIA and Romano-British individuals with higher $\delta^{15}N$ values in Figure 5 would be expected to look similar, but this is not the case because the $\delta^{13}C$ values for those are also higher, indicating slightly higher levels of marine

consumption, but at the same time keeping the $\delta^{15}N$ values dampened because the Dorset 'baseline' for these is low. The LH values tend to suggest a low level of marine consumption, but with a higher 'baseline' for nitrogen, perhaps because this female spent her childhood somewhere outside of Dorset and Durotrigian territory, and at the same time consumed a low level of marine foods. If someone's diet is different to their peers, then it can often mean that they were living in another community, located some distance away. The oxygen and strontium data are consistent with Dorset, but the $\delta^{18}O$ value is at the lower end of the range obtained for comparatives in Figure 3, and in the 'overlap' region for the 'warmer and wetter' region of the south and west of Britain with the 'cooler and drier' region of central, north and eastern Britain. So, there are many other places, both within and outside of Britain, where these values would also be found. If she had spent most of her childhood on the Continent, then it is also possible that marine foods were not present, but that the higher $\delta^{13}C$ values were the result of either low levels of millet in the food chain, or a warmer climate, and that the higher $\delta^{15}N$ related to a higher regional 'baseline' or to resources obtained from manured land (Aguilera *et al.* 2018; Goude *et al.* 2017). Therefore, these dietary results could reflect mobility before adulthood, where she was outside of Durotrigian territory, perhaps acquiring the skills and/or objects needed to perform her elite role and which were included in her burial (Giles 2012).

Maiden Castle (MC, sk 7 and sk 7A)

These two males aged 25–35 (sk 7) and 20–34 years old (sk 7A) were buried together in the 'War cemetery'of Maiden Castle (Fig. 2) (Table 2) and are likely to have been killed during an episode of violence (Russell 2019). Although the eastern entrance of the hillfort was used as a burial-ground, excavations have shown that the hillfort was a centre for metal-work and wool production, and also functioned as a settlement (Sharples 1991; Wheeler 1943). Analysis of the material culture from the hillfort shows the presence of pottery made in the Dorset and Hampshire regions, and imported 'Glastonbury' ware from Somerset and other vessels from south-east Britain; connections also reflected in the coinage derived from these areas, as well as amphorae from the Continent. Other imported items from the Continent include coral and a brooch. Elite items of weaponry, vehicle fittings and a portion of an iron mirror have also been discovered in the burial ground, as well as from across the site (Wheeler 1943).

Both males had experienced multiple lethal blunt and sharp-force injuries shortly before or at the time of death, with sk 7A being decapitated and also having an British-made spear-head embedded in his 1st lumbar vertebra (Inall 2012; Redfern 2011) (Table 2). Their age-at-death is typical of combatants, but the absence of healed hard-tissue injuries does not mean that they were not veterans, as the majority of trauma sustained over a life-time is limited to the soft-tissue (Judd and Redfern 2012; Redfern and Chamberlain 2011). As discussed for WF, they were most likely members of the warrior-class, having begun training for this role in adolescence.

The isotopic data from sks 7 and 7A are similar, which may go some-way in explaining why they were buried together. The incremental dentine values from sk 7 are from a first molar, while those from sk 7A are from a canine (Table 2), so the periods of development are different for the chart in Figure 4, where sk 7 starts earlier and sk 7A finishes later. The earliest increments from sk 7 show a drop of nearly 4‰ in $\delta^{15}N$ values between just after birth and 3.5 years old which is likely to indicate normal levels of breastfeeding. The series starts a little later for sk 7A, but the pattern is likely to have been similar. The absolute values for both the carbon and nitrogen data are alike for these individuals (Figs. 4 and 5) and the post-weaning values show limited levels of variation. The carbon and nitrogen data are consistent with LIA Dorset (Fig. 5), but the oxygen isotope ratios indicate that both individuals probably originated from elsewhere. The $\delta^{18}O$ value from sk 7 is the lower of the two and is similar to that from PMF, indicating an origin further north and east, if he was from Britain at all. While the value from sk 7A is higher and within the overlap region shown in Figure 3, it is outside the range seen for comparative data from Dorset and similar to the 'Warrior-craftsman' from WF. While this might mean that the two males originated from different locations, because the range of oxygen isotope ratios obtainable from a single location can

easily encompass the 0.8‰ difference between sks 7 and 7A, and the fact that they both have lower $\delta^{18}O$ values, combined with the very similar dietary patterns and absolute values from the carbon and nitrogen analyses, suggest that they may well have originated from the same place and had very similar diets – potentially even being in the same cohort (see Beaumont 2020).

The MC and WF mobility isotope results suggest that the experience, and in all likelihood the training and activities of an elite combatant involved moving between communities – supporting Nash's (1984) hypothesis. The result has interesting parallels with the mobility isotope data from east Yorkshire, where males buried with weaponry and/or chariots appear to have moved around that territory over their life-time (Jay *et al.* 2013). It also corresponds to Karl's (2005) primary source analysis of how children were educated in IA France (Gaul), whereby fostering and specialist training took place within alliance networks that reaffirmed and embedded social and trading connections, and reinforced the presence of status-related roles within a community. Another possibility is that these males spent their childhood outside Dorset and Durotrigian territory – captive-taking and enslavement were activities undertaken by IA communities (Redfern 2020), and ethnohistorical evidence from North America recounts captive children and adults becoming members of raiding parties, and committing violence against their natal group (Cameron 2008).

The likelihood that the MC males came from outside what we currently understand to be Durotrigian territory, challenges our understanding of this hillfort yet again (see, Russell 2019), and highlights the need to investigate multiple individuals from a site in order to establish whether these results are typical of Durotrigian cemeteries or not.[3] Nevertheless, their burial followed local funerary practices, suggesting they were identified as belonging to the local community(ies).

CONCLUSIONS

Despite the limitations of studying a small group of individuals from IA Dorset, this analysis has raised several areas which require further investigation, as well as affirming the results of previous dietary studies. Overall, the food consumption results obtained from the dental incremental analysis confirmed the dietary patterns observed in the rib bone collagen population-based analyses of IA Dorset (Redfern *et al.* 2010, 2012). The dental incremental analyses are important, because they capture an individual's personal health and dietary experience, but also potential evidence for mobility. The absence of bone and dental dietary differences between individuals in IA Dorset, supports similar results observed for the communities of east Yorkshire (Jay and Montgomery 2019), suggesting that although social status differences existed within IA communities, they may be difficult to 'see' in dietary and bioarchaeological datasets (Redfern 2020).

We recognise that attempting to 'match' geological indicators of origin to IA territories is highly problematic, given that those boundaries are likely to have changed throughout the period. We have held back from asserting the Continental origin of three individuals (PMF and MC), as more data from IA Britain are needed; but we cannot rule-out the possibility that this took place, given the archaeological evidence for strong trading connections across the Channel and that potentially these males and possibly the female from LH, had spent some of their lives there. For the first time in southern Britain, we have been able to identify mobility in LIA individuals whose ability to travel between communities may relate to skill acquisition, martial activities, and their value within society. This seems to be particularly true for the combatants from MC and WF whose earlier lives were spent away from their eventual place of burial, lending further support for primary source and archaeological evidence for the movement of specialist status-groups within and between communities in Britain and abroad (Karl 2005; Nash 1984; Stead 1990; Sharples 2010).

Two important findings were the identification of people coming from further north and east, outside of Durotrigian territory, where there is a paucity of material culture evidence for connections. This suggests that there may well have been trading relationships with these communities, but for

resources (e.g. captives) which have not survived in the archaeological record, or ones that have not been substantially investigated in the region (e.g. isotope studies of domesticated animals). The second was confirmation that Durotrigian funerary identity was not tied to natal origin, all of the burials appeared 'local' (e.g. MC), including those with imported objects or indeed unique inclusions (e.g. PMF's halo of animal bones), which reflected ties to the Continent and elsewhere in southern Britain. This is in contrast to the east Yorkshire study which did not identify any out-of-region burials, rejecting the hypothesis for the presence of first-generation migrants from Gaul (Jay and Montgomery 2019). The Dorset results suggest that kin identity facilitated this relationship, confirming evidence for how kinship enabled tribal identities to be constructed and maintained in other past societies, as well as in IA Europe (Cameron 2013; Parkinson 2002; Wells 1998). It also serves to underscore the heterogeneous nature of IA communities in southern Britain and how proximity to the Continent shaped their activities.

ACKNOWLEDGMENTS

This work is dedicated to the memory of Peter Woodward.

We are most grateful to the Society of Antiquaries for providing funding for this project and for additional financial support from the University of Bradford. The isotope analyses were undertaken by MS and MC for their 2015 MSc theses at Durham and Bradford Universities. This project would not have been possible without the support and assistance of Dr Jon Murden, Dr Jenny Cripps and Richard Breward at Dorset County Museum; Emma Firth from AC Archaeology; Dr Nivien Speith (University of Derby), Dr Miles Russell, Dr Martin Smith, Paul Cheetham, Harry Manley and Hayley Roberts at Bournemouth University; Helen Ganiaris and Rob Payton formerly of the Museum of London for allowing me to borrow equipment. We are also most grateful to Prof. Niall Sharples (Cardiff University) for sharing the Ham Hill report with us, and to Jayne Davis (MoL) for drawing the map. RR would like to thank Mel Giles (University of Manchester) for her help searching for a comparable burial to the female from PMF, and for her many conversations about Iron Age funerary practices.

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Notes

1 Following Moore (2011), we have not used the term 'tribe' to describe these communities.

2 Wessex encompasses: Dorset, eastern Somerset, southern and central Wiltshire, Hampshire, Berkshire, southern Oxfordshire and Sussex (see Sharples 2010, 16, Fig. 2.1).

3 When the study was undertaken in 2015, it was only possible for us to sample individuals from Maiden Castle who were curated by Dorset County Museum. Additionally, our total funding budget only covered the analyses of 7 individuals, but we hope that these results can facilitate future isotope analyses of the Durotrigians.

COINAGE AND THE ECONOMY: IRON AGE AND ROMAN COINAGE RECORDED WITH THE PORTABLE ANTIQUITIES SCHEME IN DORSET IN THE CONTEXT OF THE SOUTH WEST

RICHARD HENRY

The Portable Antiquities Scheme (PAS) has provided a wealth of archaeological data for Dorset and the south west as a whole. When combined with data from the Roman Rural Settlement (RRS) project and data collected by Walton (2012) this offers a new insight into the distribution and circulation of coinage in the county. This paper evaluates the PAS dataset and the themes of Late Iron Age coinage, coinage in the Early Roman period and Late Roman coinage. The evidence places coin use and the circulation of coinage in the county of Dorset within its wider context, particularly the area of the Durotrigan civitas. Iron Age coinage has been used to define civitas boundaries in the past, yet is not always compared to features in the landscape or later Roman imposition on the landscape. In the Late Roman period, coinage contracts to follow trends and the broad distribution seen in the Iron Age. This is a significant change in distribution and coin use. The county spans a number of distinct trends in coinage and hoards that need to be considered in its wider context such as why there is a proliferation of late Roman silver coin hoards in the wider region.

THE PORTABLE ANTIQUITIES SCHEME DATASET AND ITS USE

The Portable Antiquities Scheme (PAS) encourages the recording of archaeological objects by members of the public. Each find is recorded onto a national database which provides new opportunities to reanalyse our understanding of the archaeology of Britain. This article will focus on Iron Age and Roman coinage recorded from Dorset within the wider context of the south west. The locations discussed in the text are shown in Figure 1. The methods of analysis and potential limitations with PAS data that should be considered by researchers will be highlighted and methods for mitigation presented. The discussion will focus on specific elements within the database in the Late Iron Age, the transition seen during the Roman conquest and also coinage in the late Roman period.

As of December 2018 there were 14,265 records on the PAS from Dorset. Roman coins form the largest proportion of finds recorded with the PAS as a whole; similarly this is the case in Dorset with 4,151 coins recorded. Interestingly the proportion of Iron Age coins from the county is high in contrast to most areas. In part this is due to the large numbers of

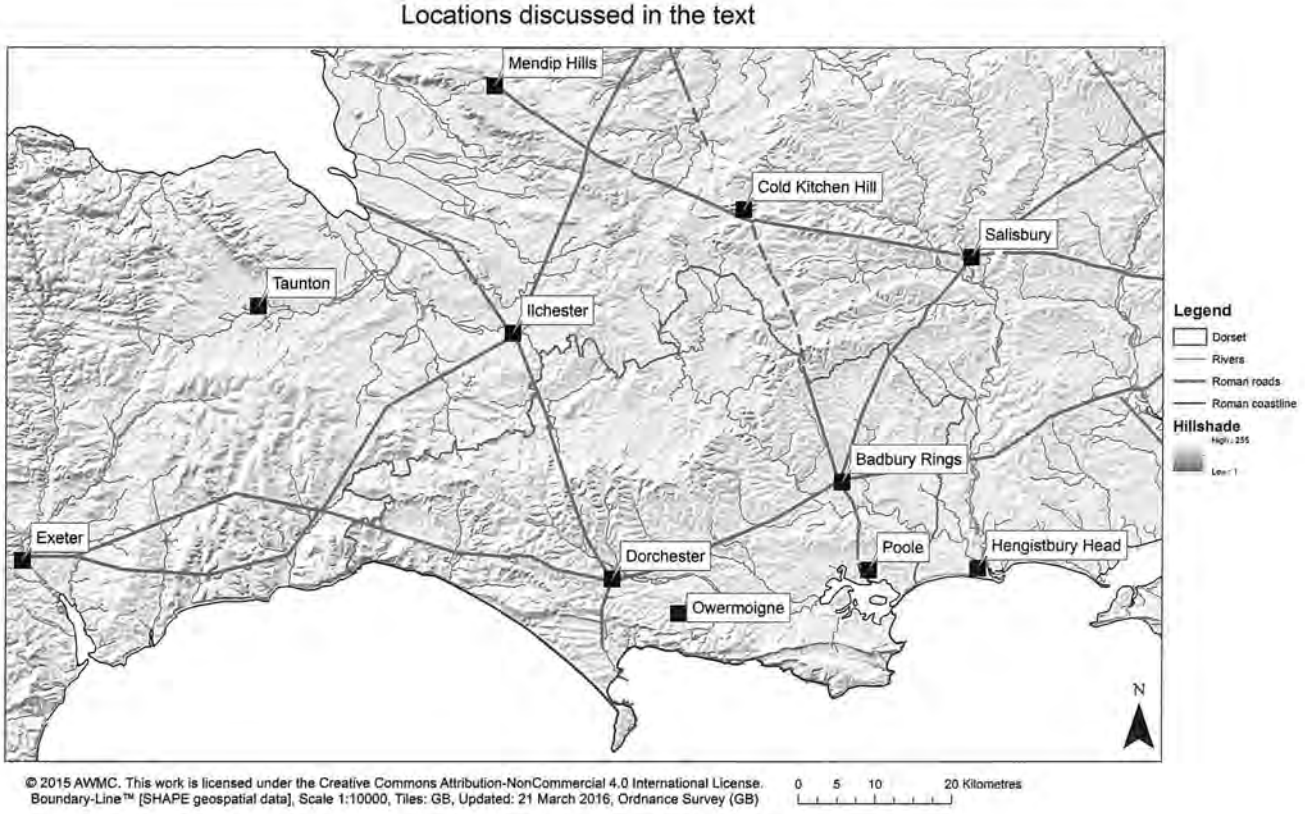

Figure 1 Locations discussed in the text.

silver and copper-alloy coins produced in the region in the Late Iron Age. Importantly it also reflects the recording methodology of the Celtic Coin Index (CCI) dataset which has been incorporated into the PAS database. CCI data includes hoards where each coin has been recorded individually rather than a group. In contrast, the vast majority of hoards recorded by the PAS are recorded as a single record recording the entire group.

When considering the overall distribution of Roman coins, the major concentrations follow the road network (Fig. 2). Previous studies by Worrell (2007) and Robbins (2012) have suggested that the distribution in the environs of Roman roads might be artificial, based on targeting bias by metal detectorists. Robbins (2012) noted that 70% of all finds reported to the PAS before May 2011 were within 2km of a Roman road. Such factors are important when considering distributions and data from specific periods should be considered as part of the wider whole. The distribution of finds from other periods recorded on the PAS from Dorset outside the key Roman road network also highlighted in Figure 1 suggests that the distribution seen perhaps is not representative of targeting bias. As importantly, although the road network would be significant, land based transportation would be considerably more expensive than water based transport. The distribution of finds also includes concentrations along the river network. The River Avon in particular was the major trade route in the Late Iron Age with a port at Hengistbury Head (Sherratt 1996).

The distribution of all PAS finds from Dorset is uneven with the main concentrations centred around the Wessex chalk downlands and the clay to the west of the county. There are areas where PAS finds are limited, such as around the urban centres of Bournemouth and Poole. This highlights how bias can affect distribution maps when considered at face value. The distribution is partly affected by constraints to metal detecting in these areas. To mitigate this bias within PAS data, the concept of 'constraint mapping' was developed to be used as part of the base map for distributions. These maps are essential tools in understanding why there are distribution gaps in the PAS dataset and will be included with all distribution maps.

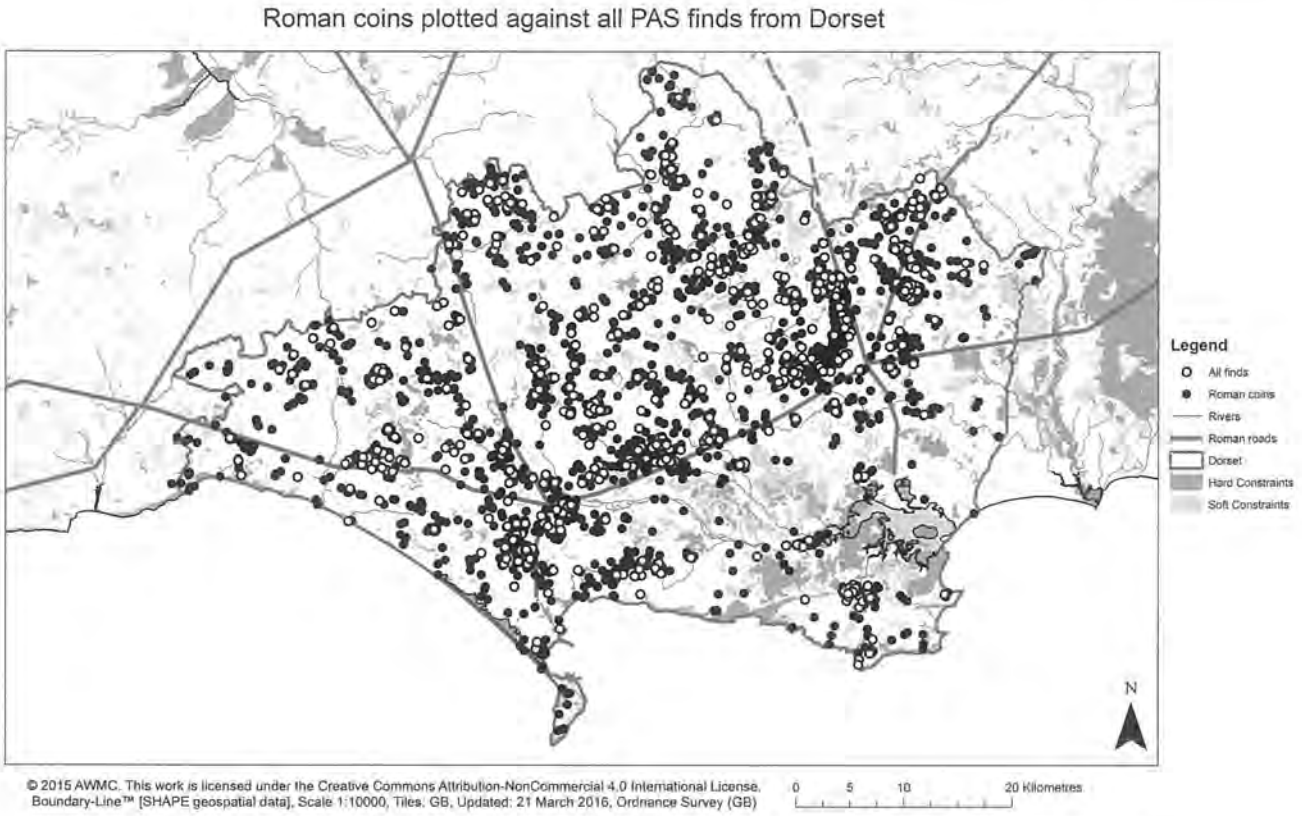

Figure 2 Distribution of Roman coins against the distribution of all finds recorded on the PAS database.

There are numerous constraints which limit metal detecting and they are described as either hard or soft constraints. Hard constraints are areas where detecting is banned, for example Scheduled Ancient Monuments or Sites of Special Scientific Interest. Soft constraints are areas where detecting is unlikely to occur or discouraged, for example woodland, World Heritage Sites or urban areas. World Heritage Sites have been classed as soft constraints as metal detecting is discouraged rather than banned.

For the study a constraints map was developed within ArcGIS, combining soft and hard constraints. In addition to the elements included in constraint mapping by Richards *et al.* (2009) or Robbins (2012), data from the Land Cover Map 2007 was also included as previous work has highlighted the benefit of its inclusion (Henry 2018; Henry *et al.* 2019). This dataset was modified from a TIFF to a shapefile then queried so that the arable and pasture elements of the dataset were excluded and all other broad habits such as woodland and built up areas were included. This was merged with the other soft constraint datasets to form the constraints map used within this study. The constraints maps have been supplied to the Dorset Historic Environment Record allowing their use for future research.

NUMISMATIC ANALYSIS

The numismatic analysis of the Roman coin dataset was undertaken using Reece period analysis and a modified version of Reece's ABCD analysis (Reece 1995; Henry and Ellis-Schön 2017). Both tools are beneficial as they allow for comparative numismatic study of any site throughout Britain with another. Reece divided Roman Britain into 21 periods allowing assemblages with varying quantities of coins to be studied and analysed together (Reece 1995, Walton 2012). The analysis is undertaken per mill (1000 coins). To create a mean for the county for numismatic analysis, data from the PAS, comparative sites collected by Walton (2012) and Roman Rural Settlement Project (RRS) has been combined. There was some duplication between the latter two datasets which has been removed; in total 7,960 have been incorporated into the Reece period analysis and 8,119

Table 1 – Reece period breakdown presented within the figures.

Reece period	Dorset PAS	Dorset RRS	Dorset Walton	Dorset Combined	Walton's British Mean
1 (To 41)	35	6	9	50	1730
2 (41-54)	25	7	17	49	2376
3 (54-69)	9	2	5	16	1324
4 (69-96)	48	16	33	97	7228
5 (96-117)	42	20	14	76	5913
6 (117-138)	56	31	20	107	6321
7 (138-161)	95	23	18	136	8453
8 (161-180)	57	45	20	122	4000
9 (180-192)	23	7	4	34	1309
10 (193-222)	49	20	15	84	3343
11 (222-238)	31	8	8	47	1496
12 (238-260)	34	47	10	91	2076
13 (260-275)	539	387	394	1320	28943
14 (275-296)	339	228	473	1040	23335
15 (296-317)	143	44	33	220	4640
16 (317-330)	261	103	56	420	8986
17 (330-348)	750	832	636	2218	49657
18 (348-364)	214	187	164	565	18808
19 (364-378)	434	183	159	776	23437
20 (378-388)	11	26	27	64	920
21 (388-402)	39	16	373	428	6760

into ABCDE. The Reece period and ABCDE period breakdowns for the elements highlighted within the relevant graphs can be found in Table 1 and Table 2.

Although Reece period analysis is a useful numismatic tool, it groups coins by when they were produced and not necessarily when they were used or lost. This is an important consideration as coins could remain in circulation for over a century after they were produced and initially brought into circulation (Reece 1988; Creighton 2014). Due to wear on many early coins, they often cannot be assigned a Reece period whereas we can assign them to period A as they were produced prior to AD 260. ABCD analysis can be an effective indicator of circulating currency, particularly in the years up to AD 260. It forms the majority of the analysis within the paper as it highlights wider long-term trends. It has been modified by splitting period D into two (D 330–364, E 364–378) to see trends in the late Roman period.

Table 2 – ABCDE breakdown presented within the figures.

ABCDE period	Dorset Combined	Walton's British Mean	Wiltshire Combined	Devon Combined
A (to AD 260)	1026	45569	1849	641
B (AD 260-296)	2397	52278	5657	207
C (AD 296-330)	640	13626	2096	83
D (AD 330-364)	2784	68465	8215	187
E (AD 364-402)	1272	31117	5690	102

In general we see a greater proportion of coins from Dorset in the late 3rd and 4th centuries which reflects the rural nature of the county during the Romano-British period. When comparing the Reece period mean from Dorset with the British mean by Walton (2012) the major variations are the lower quantities of coinage from Reece periods 4 to 7 and the peaks in periods 13, and 19 (Fig. 4). Although lower than the British mean, the peaks up to AD 260 on the Dorset mean are also significant when compared with the mean for the adjacent county of Wiltshire (Fig. 5). The coinage from Period A indicates a higher quantity of circulating currency in the first two centuries of after the Roman conquest in Dorset. In contrast, the peaks in coin loss in the 4th century are higher from Wiltshire, but the quantity of late Roman coinage circulating in Dorset is still substantial and indicates prosperity at many rural sites towards the end of Roman Britain. When evaluating the data from Wiltshire, the greatest concentration of late Roman coinage is to the north of the county (Henry *et al.* 2019). To the south, in contrast, there is a decline in coin loss in the 4th century and it has been noted that the area between Salisbury and Purbeck had a decline in coin loss during this period (Henry and Ellis-Schön 2017; Smith and Henry 2020). The evidence suggests that the material to the north of Wiltshire might relate to the sphere of influence of Cirencester as the provincial capital.

IRON AGE COINAGE FROM DORSET

The Iron Age tribe associated with Dorset and parts of Wiltshire is known as the Durotriges. This is based on Roman administrative areas known as *civitates*

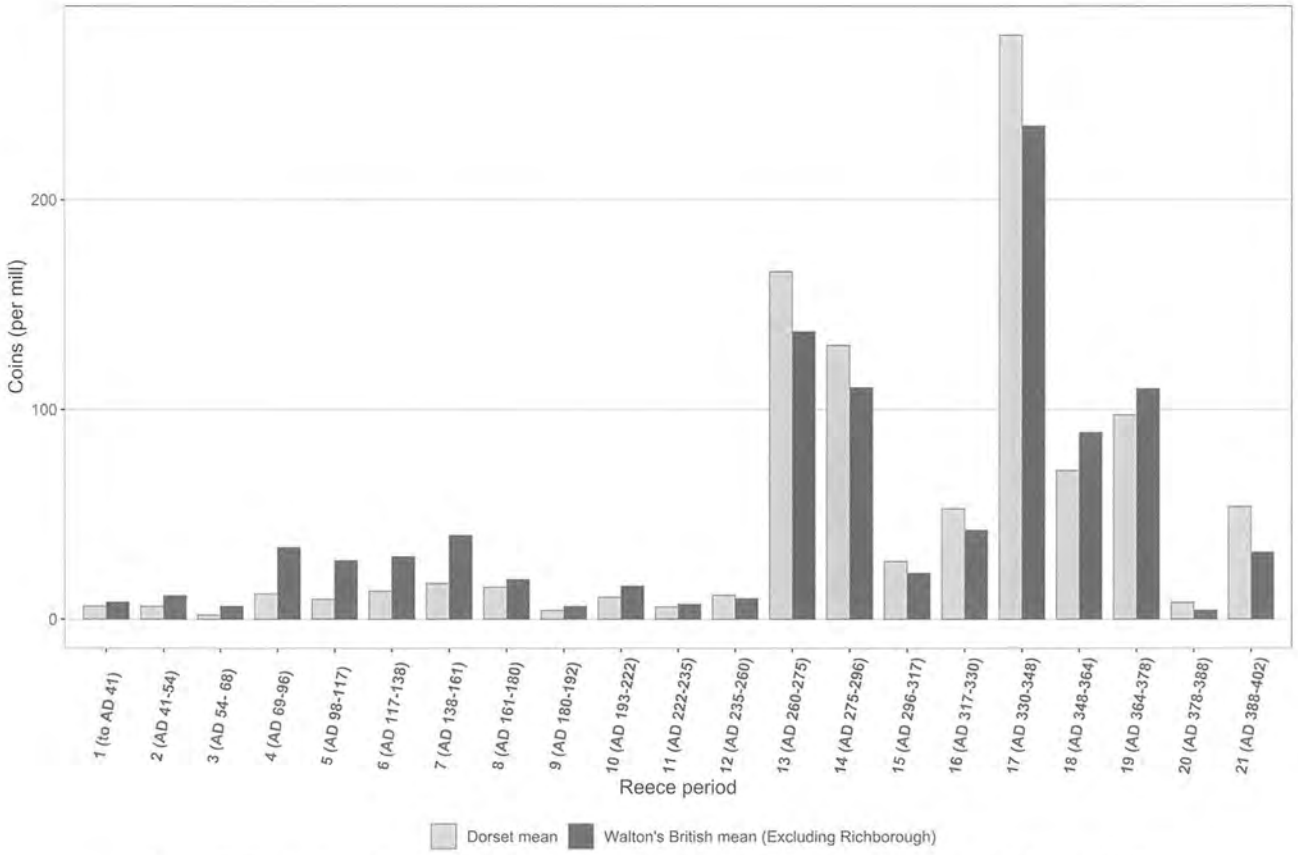

Figure 3 Comparison of the Dorset mean with the British mean excluding Richborough (Walton 2012).

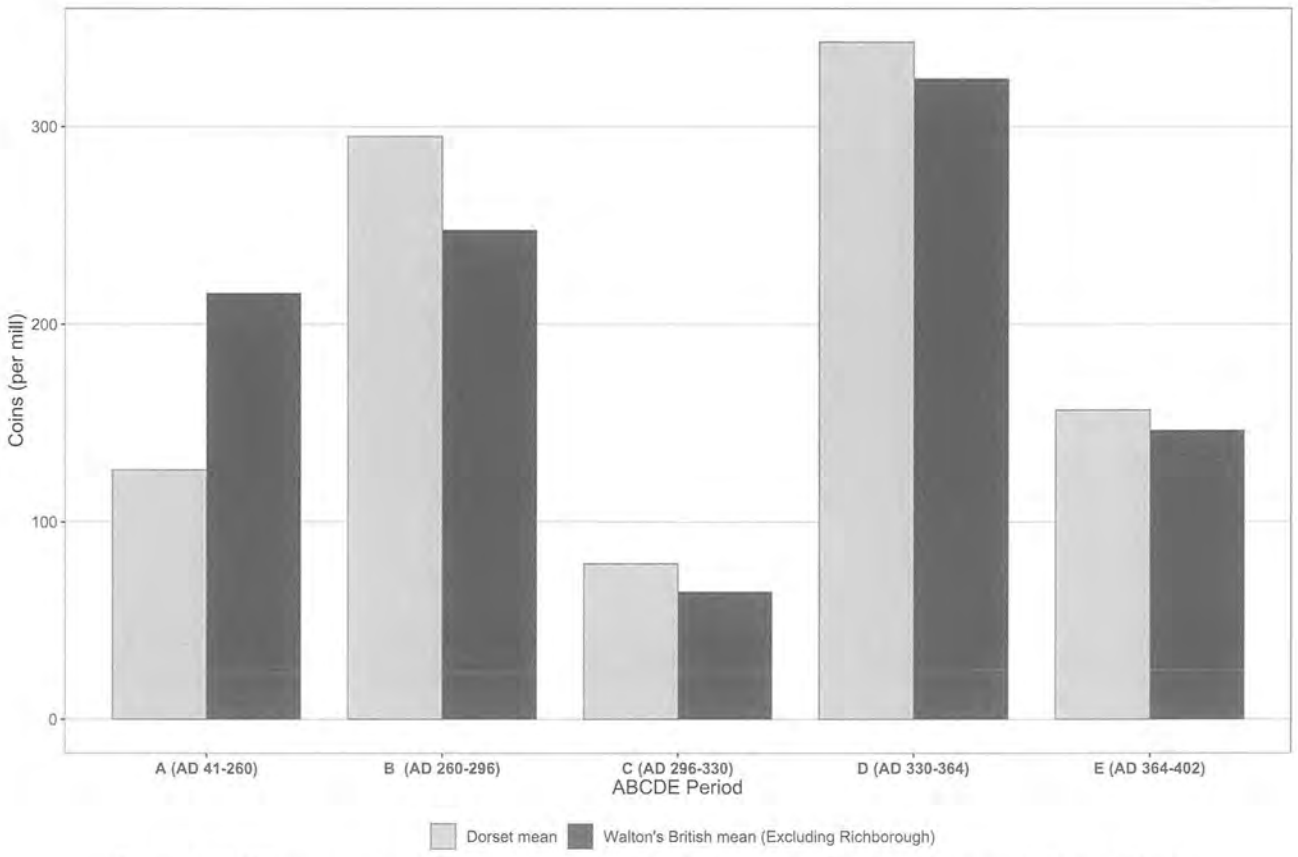

Figure 4 ABCDE comparison of the Dorset mean and the British mean excluding Richborough (Walton 2012).

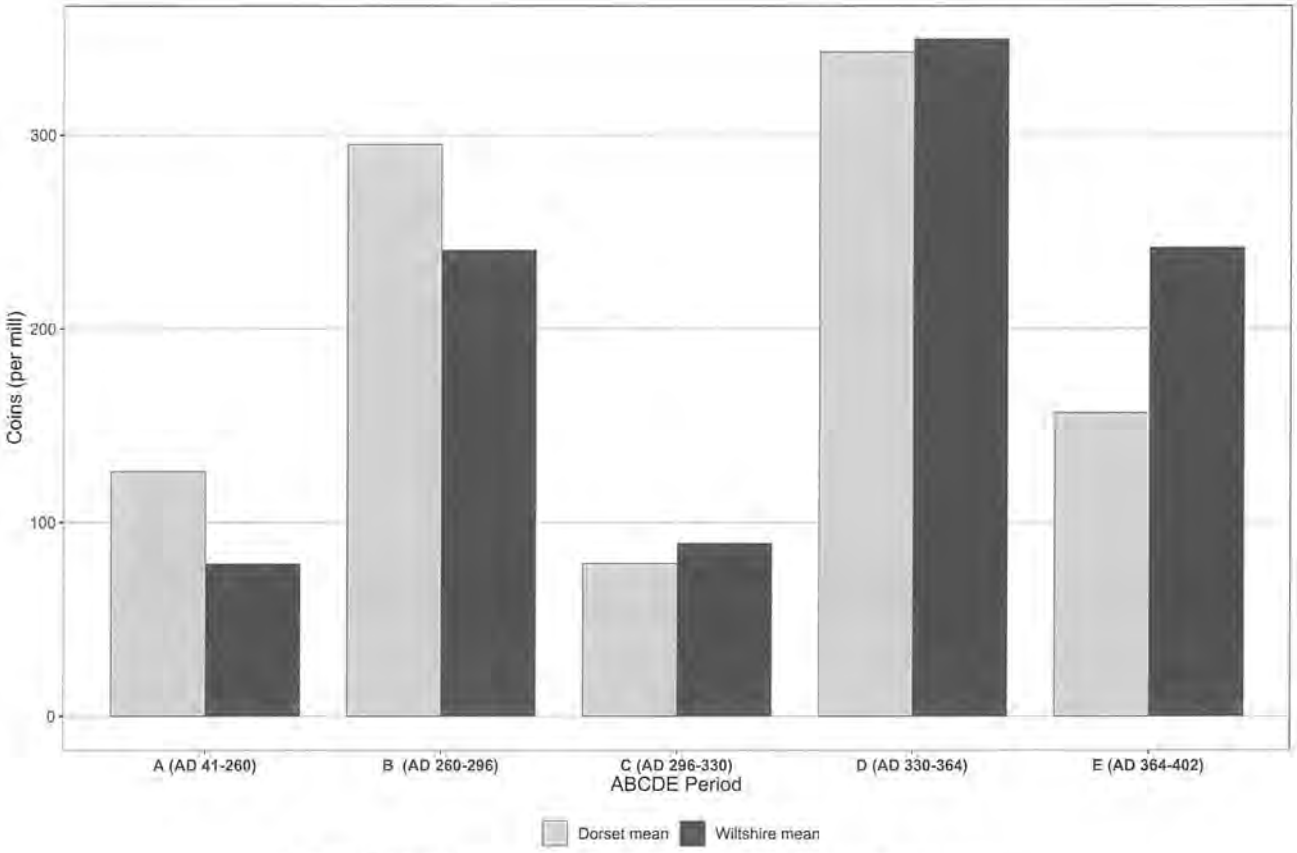

Figure 5 ABCDE comparison of the Wiltshire mean and the Dorset mean.

and there are dangers in linking administrative areas from the Roman period with tribal units defined through Iron Age coinage. This is perhaps best highlighted with the distribution of the gold Iron Age coinage discussed in due course. Therefore the term South Western coinage is also used.

The Durotriges have been interpreted as a close-knit confederacy of smaller units. Cunliffe (1991, 160) suggested that their history can be traced in two phases, 100–60 BC and 60 BC–AD 43. The former was a period of rapid development, the latter a period of retraction and isolation. Leins (2012) concludes that the failure to produce higher value gold denominations and to embrace inscriptions or new iconographic opportunities hint at a different socio-political structure and the lack of elites with the resources to produce such coinage. Cunliffe (1991, 170) also argues that from 60 BC the Durotriges became an isolated tribe with impoverished coinage and no signs of wealth accumulation or the emergence of an elite. This is however disputed by Papworth (2008, 375).

The date range for the South Western coinage is currently based largely on guesswork due to a lack of contextual evidence (de Jersey 2007). There is a transition from producing gold coin, to silver and subsequently to copper-alloy but when these transitions occurred is debated. Van Arsdell (1989) argued that by 54 BC the Durotriges had seemingly run out of gold and struck only silver coins. He proposes that the Durotriges were subsequently excluded from the British trade network due to a lack of gold coinage and that they disappear from the numismatic scene by 30 BC. Subsequently in the 1st century AD bronze coins were struck. The Durotriges may have chosen to mint in silver due to a lack of gold or to bring the tribe in line with continental trade links (Van Arsdell 1989, 287). Leins (2012, 149) suggested that silver was struck from around 50 BC onwards and that the transition to a base metal coinage occurred around 1 BC/AD or a little later. De Jersey (2007) suggested gold was struck until *c.* 40 BC and silver until 20 BC. It seems reasonable to suggest that the initial transition from gold to silver occurred around the middle of the 1st century BC.

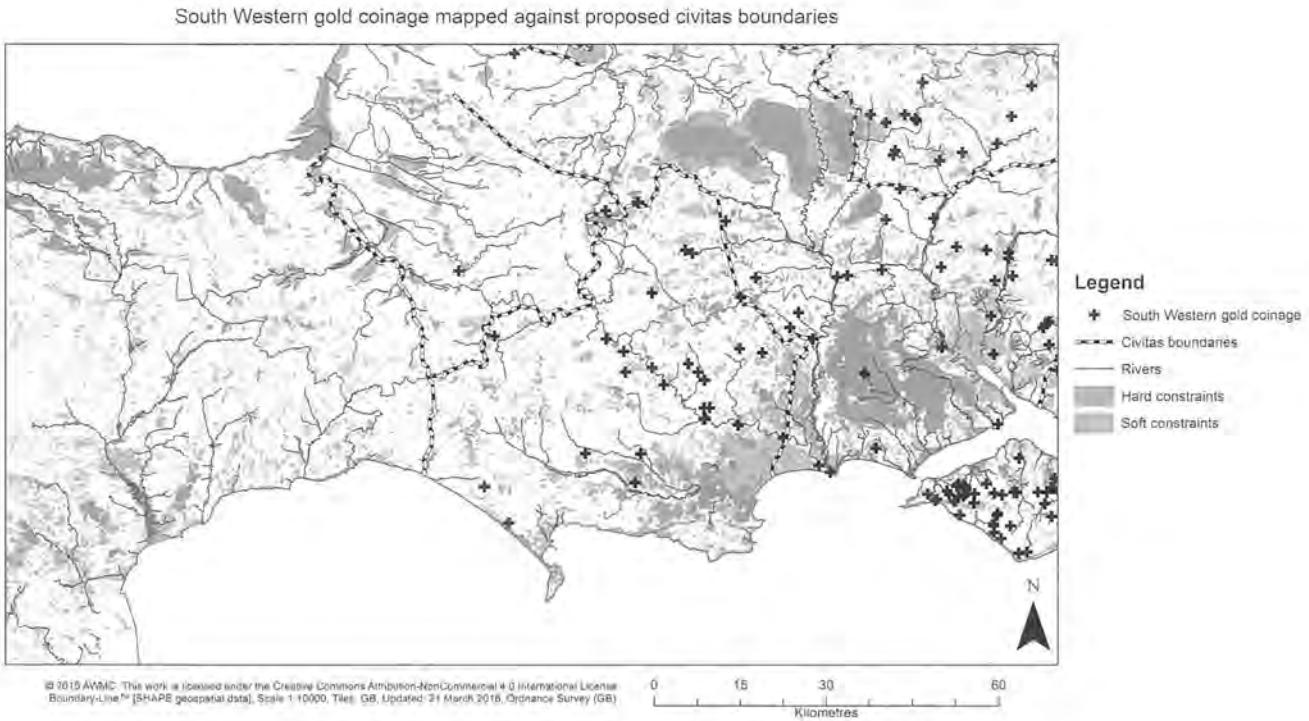

Figure 6 Distribution of South Western (Durotrigan) gold coinage.

The transition from silver to copper-alloy is more challenging as the evidence from hoards suggests the availability of coinage and its continued circulation well into the Roman period. It is likely that the sequence of steps and transitions from gold to silver to copper-alloy is far too simplistic and the picture is more complicated.

There are 5,628 South Western staters recorded on the PAS database. This figure includes examples recorded with the CCI. The data from the CCI can duplicate the Iron Age and Roman coin hoards project dataset on the PAS. Within the subsequent datasets and distribution maps the PAS and CCI data has been searched for coinage associated with the Durotriges or the South Western series. The varying dates suggested for the production of the gold, silver and copper-alloy series highlights the need for further research into South Western numismatic series particularly the die study analysis currently being undertaken by John Talbot (see Talbot 2020).

For this paper the approach undertaken has been to approach the dataset holistically from a landscape context and to view the distribution of the material the coin has been produced from rather than analyse specific typologies within the numismatic dataset due to the uncertainty regarding the date of production.

GOLD COINAGE

1,281 South Western gold staters and quarter staters have been recorded from Britain and are mapped in Figure 6 against the proposed later Roman *civitas* boundaries defined by Eagles (2018). The main boundaries defined by Eagles are the River Parrett and the River Brit to the west, the Bristol Avon to the north and the Wiltshire Avon to the east (Eagles 2018). The distribution of the South Western gold coinage highlights a strong correlation with the river network, particularly the River Stour, the River Avon and the River Test.

Sherratt (1996) argued that routes through the Wiltshire Avon and its tributaries, particularly the Wylye, to the Bristol Avon, were the major transport routes during several periods in British prehistory. The combined Avon trade axis was evident in the Late Iron Age up to 50 BC. Roman domination of Gaul appears to have altered the trading routes of

Table 3 Breakdown of South Western (Durotrigan) silver and copper-alloy denominations.

Silver (2,583 coins)	Copper alloy (1,764 coins)
1,841 staters	1,153 staters
674 quarter staters	55 units
59 units	35 quarter staters
5 minims	19 cast staters
4 half units	

the Channel to a significant extent, limiting the flow of imports (Cunliffe 1991, 116; Cunliffe 1993; Sherratt 1996). Hengistbury Head was the most important of the British ports up to 50 BC and was probably part of a currency based trade route by 125 BC (Van Arsdell 1989, 3; Cunliffe 1991, 161).

Leins (2012, 151) argues that the distribution of early South Western gold coinage (British B and British O types) cannot only be associated with those communities that used the later silver and copper-alloy coins. He argues that the distribution of the earlier British A type coins spread from Hampshire into Dorset, even if British B and British O types were produced in East Dorset (Leins 2012, 151). It is suggested by de Jersey (2007) that we should consider the British B (Chute) staters as a product of a single powerful individual rather than linking them to either the Durotriges or Atrebates.

Such conclusions are significant and the distribution of the gold South Western coinage should therefore be considered separately from the later silver and copper-alloy coins. They form distinct, separate distributions. The distribution of the gold staters in Dorset is centred on Cranborne Chase and in Hampshire along the river network. There are examples along the Dorset and Hampshire coast and a major concentration on the Isle of Wight.

SILVER AND COPPER-ALLOY COINAGE

After gold is removed from the alloy the silver content then rapidly diminishes from the alloy used. It has been suggested that this probably took place in steps (de Jersey 2007). Leins (2012) suggests that the transition to base metal from silver occurred around 1 BC/AD. This though does not mean that silver coinage left circulation by 1 BC/AD, as silver staters were included within the Owermoigne hoard, which deposited after AD 54.

The Iron Age silver and copper-alloy coins have a different distribution pattern from the gold coinage, which it has been suggested fell out of circulation after the mid 1st century BC. A varying distribution is perhaps unsurprising. Iron Age coins were not used in a similar fashion to Roman coinage, and gold coinage fulfilled a different role in the economy from that of silver or copper-alloy. Bevan (2012) states that the latter should provide a better impression of settlement distribution than the gold coinage.

The silver and copper-alloy Iron Age coinage should also provide an indicator of where coins were circulating in and around these settlements as well as the trade networks that were, or subsequently, developed. The different denominations have been listed in Table 3. The distribution of copper-alloy and silver coins in Dorset runs from Dorchester to Cranborne Chase with concentrations around Hengistbury Head. Within Wiltshire, the silver and copper-alloy coinage suggests that there were perhaps still British trade links with the Dobunni (*contra* Van Arsdell 1989). There are major concentrations of silver and copper-alloy coinage visible to the north of Salisbury Plain in Wiltshire and in the environs of Cold Kitchen Hill (Fig. 7). Such concentrations are not visible in the distribution of the gold coinage.

The trade route from the River Stour to Hengistbury Head is still archaeologically visible in the period AD 20–43 and the Dobunni had a lively and widespread trade network which declined to the west, though

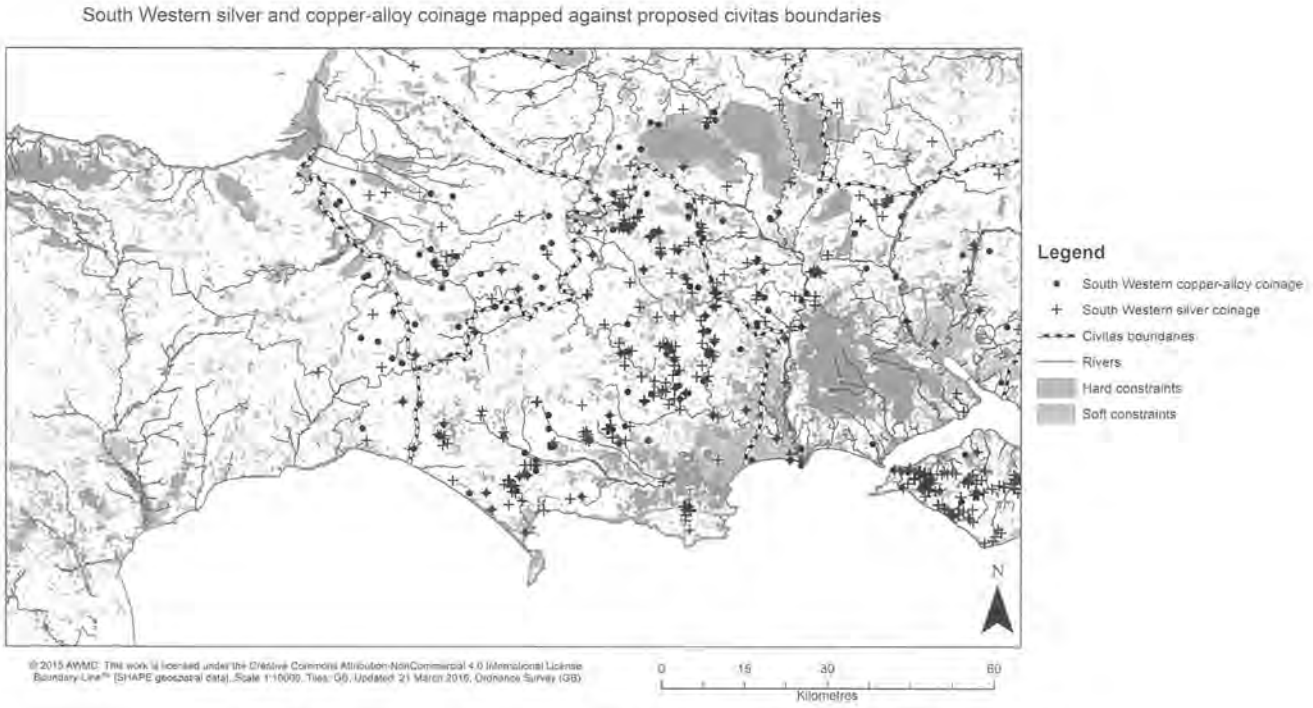

Figure 7 Distribution of South Western (Durotrigan) silver and copper-alloy coinage

not the south (Van Arsdell and de Jersey 1994, 16). It has been suggested that this is due to the potential severance of relations between the Dubunni and the Atrebates during Caesar's Gallic Wars from 58–50 BC (Van Arsdell and de Jersey 1994, 28). The datasets appear to be indicating different conclusions and have been interpreted in a myriad of ways. On one hand the coinage has been used to suggest a system of control confining elements to the core tribal territory. Whereas this is in direct contrast to the evidence of the pottery and elements of the numismatic dataset (Van Arsdell and de Jersey 1994; Brown 1997).

When this distribution is mapped against the suggested *civitas* boundaries, the main concentrations fall within the heartland of the suggested Durotrigan territory. A limited distribution runs along the boundary to the west with the Dumnonii and there are significant concentrations of coinage to the west of the Isle of Wight. The distribution also is visible along the River Frome, River Stour and the River Avon. Yet in contrast to the gold coinage, the distribution clusters, and it is uneven along each of the rivers (Fig. 7). Instead the focus of the distribution appears to be what became the Roman road network (Fig. 8). There could be a number of reasons for such a distribution including that the Roman road network was imposed on pre-existing land based trade routes; the impact (or no impact) of the road network on settlement pattern; or, this distribution partly reflects Iron Age coinage remaining in circulation into the Roman period.

The distribution of the coins along the road network represents the communication routes along which coinage was distributed in the south west. There is also a less pronounced distribution along parts of the river network, the emphasis should not only be on land based trade routes. Leins (2012) highlights the striking correlation of the distribution of coinage in East Anglia and Lincolnshire against the Roman road network. Both the distribution of South Western silver and copper-alloy coins and the distribution noted by Leins (2012) are not simply a feature of the recovery process but an actual representation. The distribution in East Anglia and Lincolnshire and the distribution of finds from Dorset may represent the evidence that prehistoric trackways appear to have then been formalised as Roman roads as part of the transformation and reshaping of local landscapes (Witcher 1998). For example, Grims Ditch, which is located between Salisbury and Cold Kitchen Hill, is a prehistoric boundary and possible trackway. It is

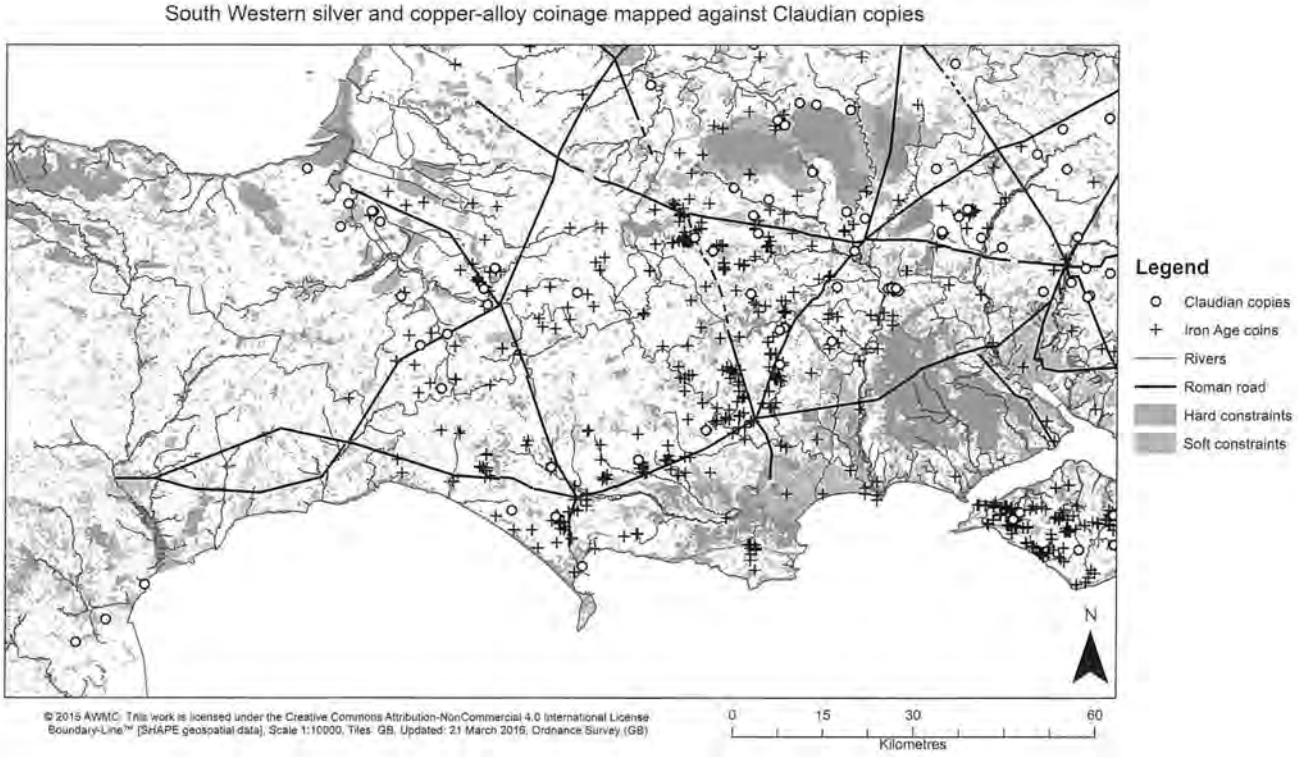

Figure 8 Distribution of Iron Age silver and copper-alloy coinage mapped against Claudian copies.

cut and slighted by the Roman road from Salisbury to the Mendips which is one of the earliest Roads in the region (Roberts 2014).

The main concentrations of Iron Age coinage around the road network focus on the Fosse Way (Margary 5); the Dorchester – Badbury road (Margary 4e); Salisbury – Mendip road (Margary 45b); Cold Kitchen Hill – Badbury (Margary 46); and Salisbury – Badbury road (Margary 4c). The Fosse Way was constructed around AD 47; the Salisbury to-Mendip road, The Old Sarum – Mendip road, was laid out prior to AD 45 (Manning 1988; Rawlings 1995). The date of the foundation of the Cold Kitchen Hill to Badbury road is less certain. The road network was an influence in landscape practice in the Roman period in some regions of the south west while having a limited or no impact in others.

Moorhead (2001) suggests that the Roman road running from the south coast through Salisbury to the Mendips may have acted as a distribution route for coinage. The Salisbury – Mendips Roman road appears to have had little impact on settlement pattern or everyday landscape practice (Corney 2001; Roberts 2014). Whereas, the major concentrations of PAS finds at the Cold Kitchen Hill crossroads highlight how the road network had a major influence on settlement (Henry 2018). Unlike the analysis available to Leins when considering the study area in Hampshire and Berkshire, our limited current understanding of the chronological development of South Western coinage prevents a more detailed breakdown to evaluate the nuances of the distribution against the Roman road in a greater detail.

The distribution highlighted in Figure 7 may also represent Iron Age coinage remaining in circulation into the Roman period. Nationally the RRS project highlighted that in the countryside Roman roadside settlements were the sites best represented with Iron Age coins as part of their numismatic assemblages (Brindle 2017, 249). These sites also have higher proportions of Roman coinage from period A. The higher proportion of both groups are partly because roadside settlements had important positions along the Roman road network and because they were founded early in the Roman period.

Many examples of South Western staters are unstratified and therefore we need to evaluate and compare hoard data as well as evidence for the distribution and wear of coinage. They have, as discussed, been suggested to date from the start of the 1st century AD but it is unclear how long production (and their use) continued after the transition from silver. From about AD 45 hoards with Iron Age coinage are only found in Durotrigan territory and East Anglia (de Jersey 2014). In particular, from AD 80 onwards, Durotrigan base issue coinage formed the majority of the Iron Age coins selected for deposition within Roman hoards with a focus in Dorset. The hoards from the region that include South Western coinage are listed in Table 2.

In this respect the inclusion of Iron Age coins in Roman hoards is interesting. Van Arsdell (1989) has argued that due to their resistance to the Roman invasion, the use of and production of Durotrigan coinage would have been suppressed. Conversely, Leech (1982) suggested that these coins remained in circulation, indicating the Durotriges enjoyed a privileged position as a client kingdom. The number of hoards listed in Table 3 which include Iron Age and Roman coins suggests that the coinage was not suppressed. A question which is difficult to answer is curation. Coins could have been curated or kept for specific reasons before deposition. As Van Arsdell (1989, 26) points out, Iron Age coinage from Roman contexts need not have represented circulating money.

The Owermoigne hoard provides an example of Iron Age base silver staters and Roman silver and copper-alloy coins deposited together in the first 15 years after the Roman conquest. This suggests that at least some Iron Age silver staters did remain in circulation after AD 43. Due to the wear on debased South Western staters it is likely that the copper-alloy coinage may have remained in circulation until after the reforms of AD 64 and probably fell out of use along with the Claudian copies *c.* 70 AD if not later (Henry 2018; see below). The East Anglian example highlighted by Leins (2012) may support the argument that perhaps a large quantity of these coins were deposited after the Roman conquest.

Ultimately, it is likely that the pattern in Figure 8 relates to a range of factors. The distribution does highlight that we should not discount the fact that Iron Age coins were circulating, perhaps in quantity, in the early Roman period.

THE DISTRIBUTION OF EARLY ROMAN COINAGE (TO AD 70)

There is a growing number of *denarii* struck during the Republic and the early empire recorded from Britain. Not all of these issues will have been lost after the conquest and the question of coin loss of Roman coins in the Late Iron Age and early Roman period should be considered both regarding *denarii* and copper-alloy coinage. It appears that *denarii* from Reece period 1 were retained by the native population in the Late Iron Age and this may be due to the silver content rather than use of money (Walton 2012, 67). Very few silver *denarii* and copper-alloy asses were struck by Claudius I. This can make it challenging to date some hoards to either before or after the conquest.

At the beginning of the Principate under Augustus (27 BC to AD 14) there was mass production of low value bronze denominations and the Roman west was well supplied with bronze coinage. Little was struck by Claudius I which meant that there was a lack of coins supplied to Britain. Pre Claudian copper-alloy Roman coins are rare as site finds in Britain as there were issues with supply from the mint at Rome. It also highlights that although silver moved due to the state taxation and payment cycle, once copper-alloy issues reached a province they generally stayed there. These issues with supply led to the production of Claudian copies. The most common reverse type for these coins depict Minerva, although other types are also known.

It was believed that many of these copies were semi-official and were struck at legionary bases such as Colchester (Kenyon 1987). The stylistic and chemical analyses undertaken by Bescombes and Barrandon (2000) suggests that many of these copies were actually produced by the army at auxiliary mints in Spain and at Lyon in Gaul. Kenyon is now assigning many Claudian copies to the auxiliary mints. He has

Table 4 Roman coin hoards containing South Western Iron Age coins. The terminus post quem is the earliest date these hoards could have been deposited based on numismatic evidence.

Hoard	*Terminus post quem*	Reference
Owermoigne	AD 54	Ghey 2010
Timsbury	AD 90	Robertson 2000; de Jersey 2014
Southants	AD 138	Robertson 2000; de Jersey 2014
Holdenhurst	AD 150	de Jersey 2014
Hengistbury Head	AD 155	Robertson 2000; de Jersey 2014
Downton	AD 165	de Jersey 2014
Bramshaw	AD 175	Robertson 2000; de Jersey 2014

attributed the vast majority of PAS coins either to those auxiliary mints or classified them as native copies and is undertaking a national reanalysis of such coinage.

Claudian copies are known at military sites, but are regularly found at rural sites and urban centres which highlights their acceptance for goods and services (Kenyon 1987; Kenyon 1991, 204). In his doctoral study, Kenyon (1991) notes that in the territory assigned to the Atrebates (focussing on Hampshire and West Sussex) Claudian coin finds were largely limited to Bitterne, Winchester and Silchester. Concentrations of early Roman coinage, Claudian copies and Iron Age coinage are also visible along the Fosse Way which was in existence as a frontier by AD 47 (Leech 1982; Manning 1988; Bland 2018). In Dorset, these copies occurred mostly in the southern half of the Durotrigan territory including a number of hill-forts (Kenyon 1991, 171). The distribution of PAS finds does shift the emphasis in places and highlights examples which were in circulation at rural sites.

From the invasion in AD 43 until AD 64, when Nero produced vast quantities of copper-alloy coinage, the general picture of coin circulation in Roman Britain is that Roman imperial coin types, including copies and issues from the auxiliary mints were the primary means of exchange. Reece (2002, 41) notes that these copies were likely to have remained in general circulation until around AD 70. They potentially continued to remain in circulation far longer than this. Claudian copies were found in Coventina's Well on Hadrian's Wall highlighting that at least some remained in circulation at least into the second quarter of the 2nd century. The high amount of wear evident on some Claudian coins from west Hampshire, Dorset and Wiltshire would also suggest longer circulation in more remote parts of Roman Britain.

They also continue to be selected for deposition within hoards; the hoard at Timsbury deposited after AD 90 contained Roman coins including Claudian asses as well as Durotrigan coins, as did the hoards at Southants (Table 4). Timsbury and Southants highlight how both Claudian copies and staters remained in circulation past AD 70, although perhaps in more limited numbers. In the south west, the currency pool appears to contain a wider mix of coins than seen in Britain in general (Fig. 8).

We might initially conclude that Iron Age staters included in hoards from the mid 2nd century might be curated items. Given that Claudian copies remained available might this instead question the orthodox position that Iron Age coins in the south west ceased to be produced and used post conquest. An important future avenue of research could be chemical analysis of the copper-alloy South Western staters building on the work by John Talbot.

LATE ROMAN COINAGE AND HOARDS

The Augustan system of coinage had broken down by the 3rd century and from AD 260 vast quantities of low value copper-alloy radiates were produced. After the reforms of Diocletian a new copper-alloy denomination known as the nummus was introduced

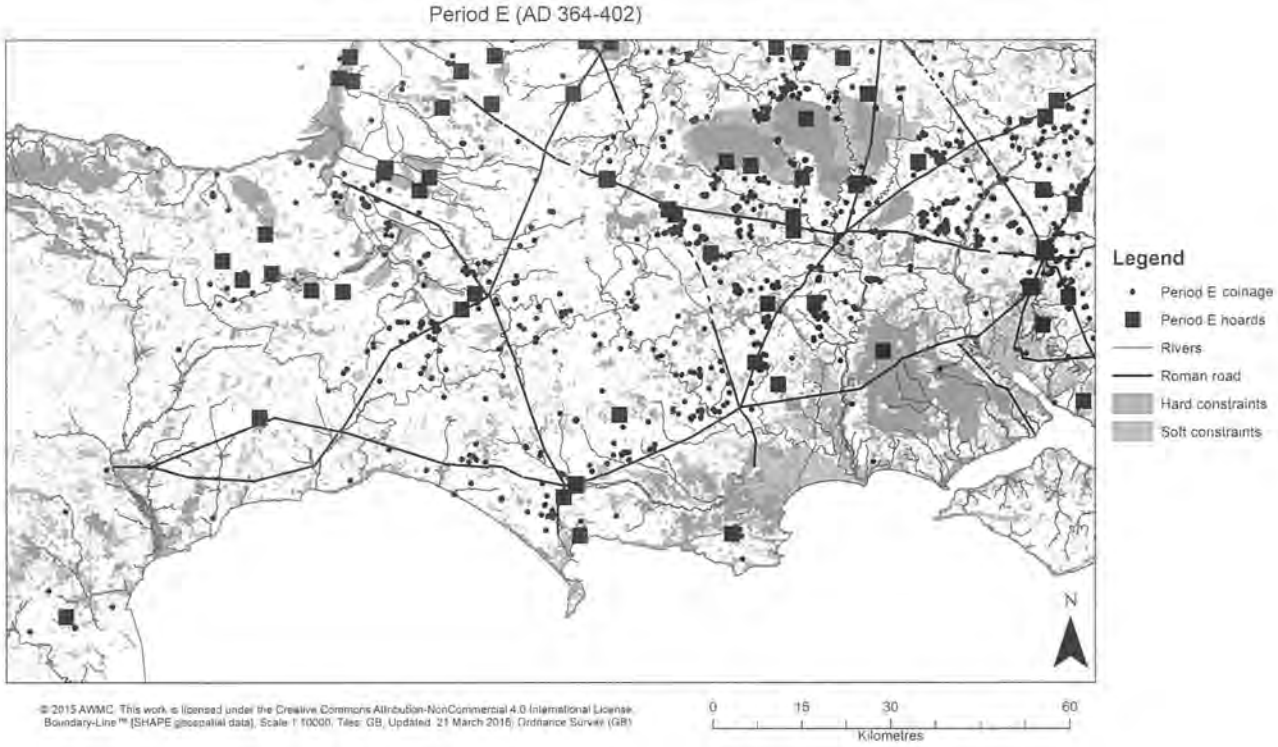

Figure 9 Distribution of coinage and hoards from period E

(the actual name of the denomination is unknown). By the late Roman period the main denominations were the gold *solidus*, the silver *miliarense*, the lower value silver *siliquae* and the nummus. Generally the gold *solidus* is extremely rare both as site finds and in hoards. Similarly the *miliarense* is rare as a site find but more common in hoards, the *siliquae* is more regularly found on sites. This masks the importance and regularity in the use of some denominations, as precious metal denominations were key to the taxation cycle.

When evaluating late Roman coinage, the peaks in coin loss in Wiltshire, Hampshire and Dorset are all significantly above the national average. The peak in the House of Valentinian (Reece period 19) is of particular importance. After AD 364 there is a sharp increase in the supply of gold and silver coinage that correlates with the increase in silver *siliquae* recorded as stray finds in the region and in Britain as a whole (Bland 2018; Bland *et al* 2013; Henry *et al* 2019). There is also a significant peak in coin loss of copper-alloy nummi in this period. Figure 9 highlights the significant concentration of hoards in Somerset, Wiltshire and Hampshire. The coinage and hoards in Dorset followed the Roman road network on the whole. The major focus for hoards is around Dorchester and Ilchester. The environs of Dorchester also contain two of the twenty-six sites highlighted by Moorhead and Walton (2014) as having above average late Roman coin loss with two further assemblages from the wider area – Thruxton (Hampshire) and Butterfield Down (Wiltshire) also highlighted.

Late Roman Wessex was a productive and wealthy agricultural landscape, able to produce considerable quantities of grain for export to the continent (Moorhead 2001b, 94–95). Significant peaks in coinage have been noted for the region, particularly the House of Valentinian (Moorhead 2001a; Henry and Ellis-Schön 2017; Henry *et al* 2019). This has been interpreted as evidence of increased prosperity of the region in the late Roman period. It has been suggested that this Valentinianic peak noted in the region highlights an apparently relatively brief increase in rural activity. This is possibly associated with the increased export of British grain to the continent beginning in the reign of Julian the Apostate (AD 355–363) (Moorhead 2001b).

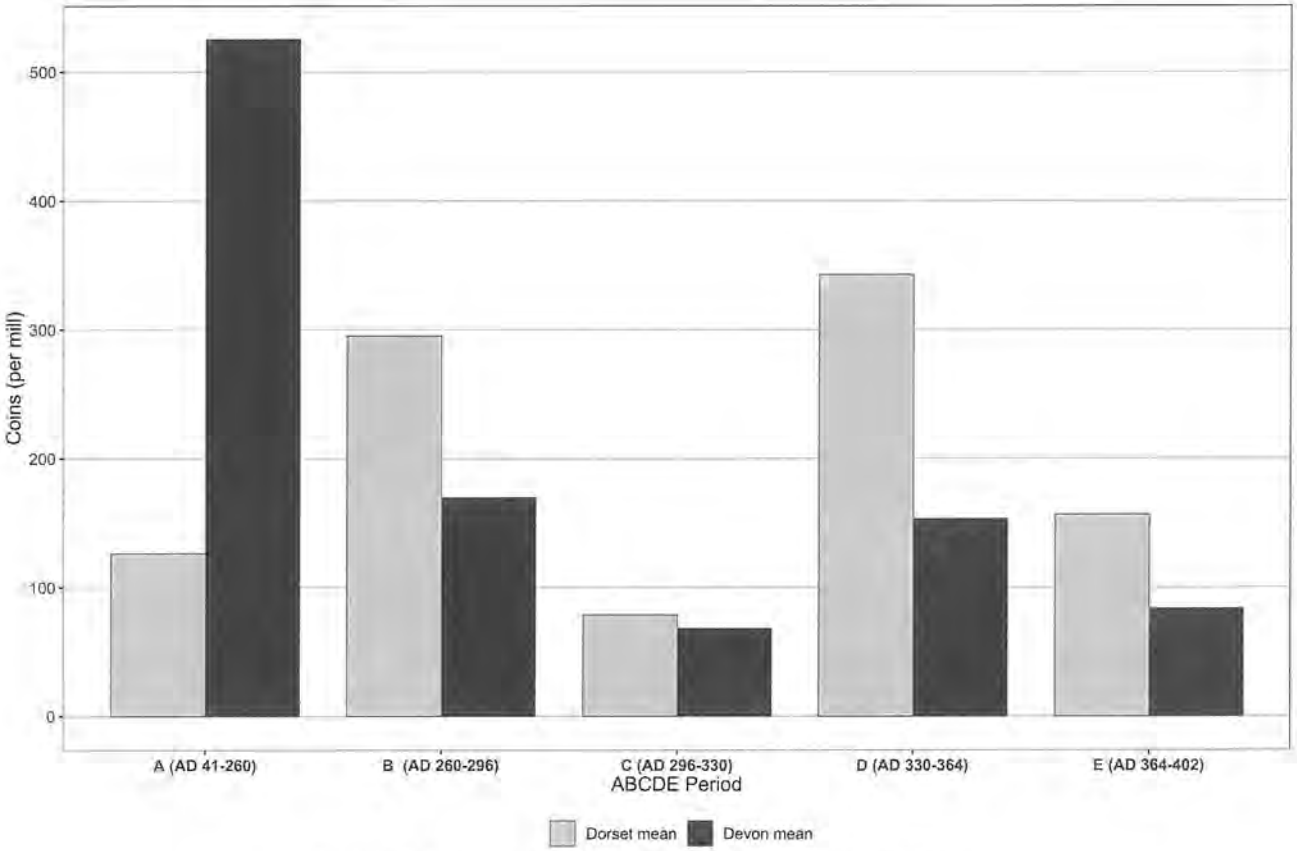

Figure 10 Comparison of the ABCDE analysis for Devon and Dorset.

The distribution maps also highlight a further element of significance – limited quantities of coinage from Devon in the late Roman period. When analysing the material from Devon there is a significant influx of period A coins in contrast to Dorset (Fig. 10). There are limitations to the PAS data in Devon which includes significant constraints and poor survival of material which might affect some elements of the ABCDE analysis. The distribution and ABCDE analysis highlights the significant influx of coinage in the first two centuries and the decline in coin loss in later periods in contrast to areas further to the east.

In Devon, Roman material culture occurs less frequently than in other areas. The RRS highlighted that new settlements from the 1st century AD onwards cluster around Exeter where there was a significant Roman military presence. The development of Exeter as a *civitas* capital also probably in part contributed to the proliferation of rural settlement in its environs (Smith *et al* 2016). The significant peak in period A is likely to reflect this early military presence and activity associated with a *civitas* capital. The RRS also highlighted that there was a significant episode of abandonment of these settlements in the environs of Exeter between the late 2nd and early 4th century (Smith *et al* 2016). This correlates with coin loss for the county but the wider picture may not necessarily indicate abandonment but instead as with parts of Wiltshire, it could relate to a change in land use (Henry and Ellis-Schön 2017).

Figure 11 highlights that there is a paucity of late Roman coins and distribution of coinage in parts of the south west, which effectively reverts back to the coin using area of the Iron Age with a few sporadic stray finds and hoards in Devon. There is a concentration in the south of Devon. Leech (1982) notes that there was little response to the Roman invasion and the later Roman collapse to the west of the River Parrett. This is visible within the coin profile for the county and the peak in period A is linked to the imposition of a new administrative system and the military.

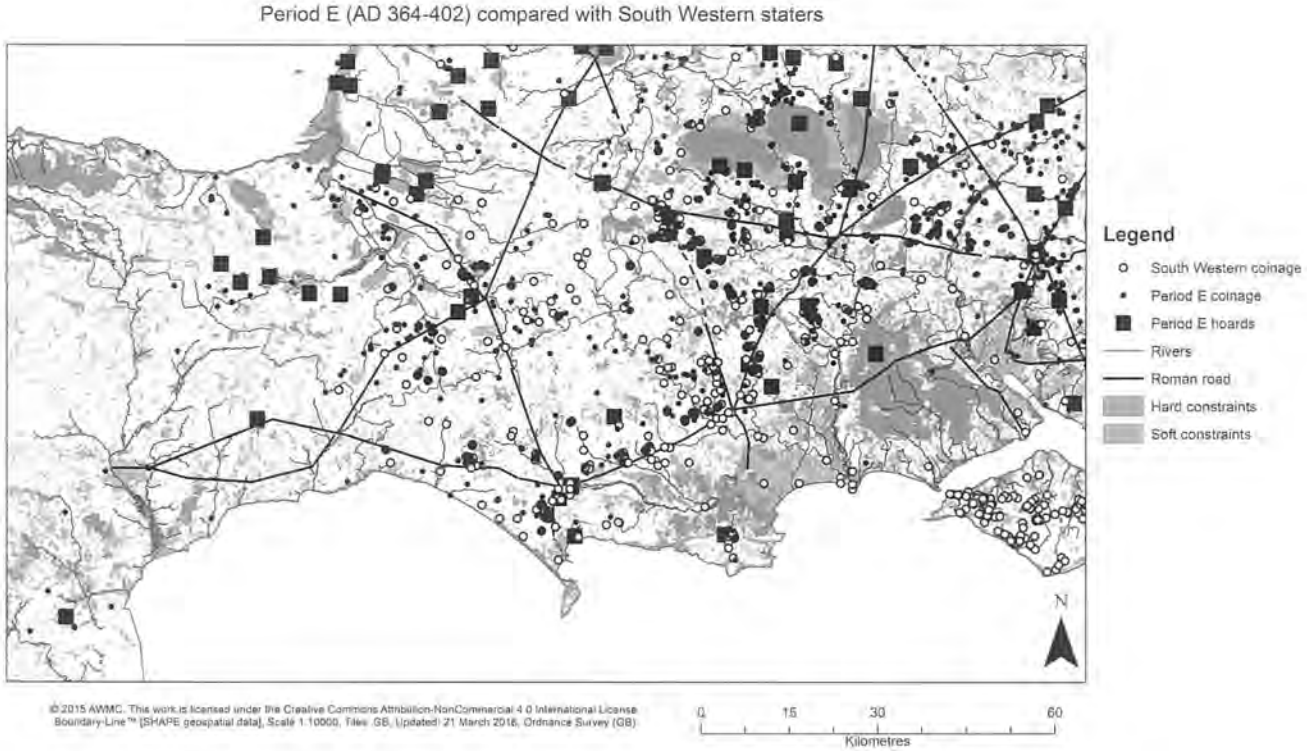

Figure 11 Distribution of Period E coins and hoards mapped against Iron Age coins.

As with the coinage from the Iron Age, the boundary of the distribution of coinage in the late 4th century appears to be the River Parrett and the River Brit. There is an interesting cluster of hoards focusing on the environs of Taunton on the River Tone. This concentration consists of six hoards and a cluster of late Roman silver *siliquae* which will be discussed further.

THE PHENOMENON OF HOARDING OF SILVER COINS IN 4TH CENTURY ROMAN BRITAIN

The hoarding of silver late Roman coins is a British phenomenon (Bland 1997, Bland 2018). In the south west, the quantity of coin hoards compared to hoards of artefacts produced from precious metal highlights that coinage was the principal means of wealth and society (Hobbs 2005; Abdy 2013). This is also reflected in site finds of *siliquae* (particularly from rural sites).

Previous studies have linked the phenomenon of hoarding in the south west to the Fosse Way (Hobbs 2006). These deposits are formed almost exclusively of late silver Roman coinage. Figure 12 highlights that although there is a concentration along the Fosse Way, in particular at Ilchester, the phenomenon of hoarding is visible along almost the entire road network in the south west, with the only notable exclusion being Exeter. There are also major concentrations in central Wiltshire, the Mendips, the River Parrett and the River Tone which form a different pattern indicating that the river network and boundaries also played an important role in the late Roman period. Although agricultural economy provided the backbone of the wealth of the region the concentration of hoards around the Mendips suggests other mineral resources were being utilised. The Mendips were an important source of lead and silver in the Roman period. Silver was extracted from the lead through the process of cupellation. The silver-rich lead was transported to ports in the south of Britain including Hengistbury Head. The Mendip Roman road connects with the road leading to Hengistbury Head in the environs of Cold Kitchen Hill. Lead would also be particularly important in the production of pewter. In the Late Iron Age, lead was not widely used but there was limited extraction (Cunliffe 1993, 229). There is evidence that some coinage from the Late Iron Age was produced from

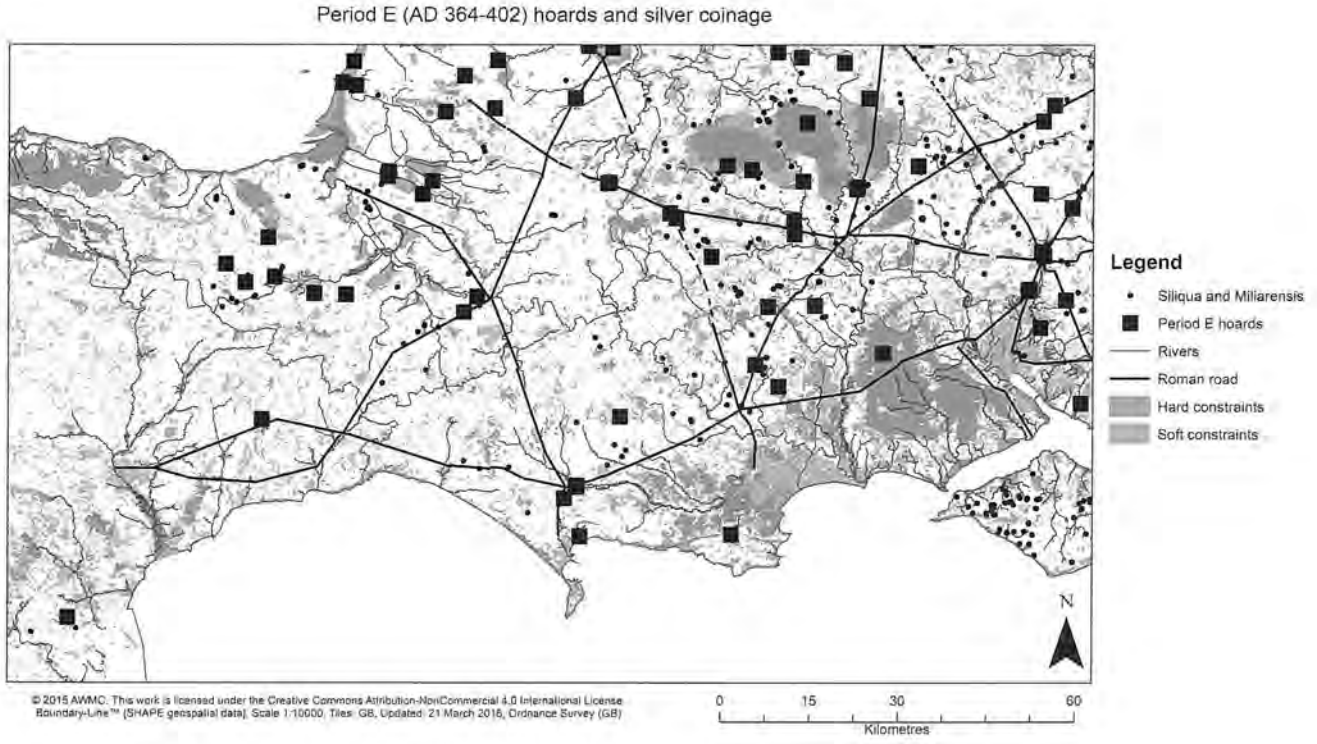

Figure 12 Distribution of period E hoards and stray finds of silver *siliquae* and silver *miliarense*.

silver derived from the Mendip ores but it must have been small scale (Pointing 2018, 191). In contrast, there is increased production in the Roman period and at least initially there was an imperial monopoly over its production with the earliest datable ingots produced in AD 49 (Cunliffe 1993, 229; Sherratt 1996, 225; Ponting 2018, 185). Ponting (2018) has argued that the control of silver production was one lever that the Roman state might have used to control the fluctuations in the price of silver.

Potential reasons for the quantity of silver hoards in the region have been debated. Evans (1915) suggested that there may be a link between silver hoards and the silver mines in Britain. This has been challenged by Bland (2018), as no pigs inscribed EX ARG from the Mendips are known after the second century. Significantly the EX ARG inscription is also not indicative of de-silvered lead (Ponting 2018, 185). After the 3rd century imperial lead extraction ceases in favour of small-scale production as the ingots vary in size and form (Todd 2007; Lee 2009). Although Imperial extraction ceases, three of the five sites in Britain with evidence of Roman cupellation are in Somerset: St Algar's farm; the Chew Valley; and Green Ore (Dunster and Dungworth 2012; Ponting 2019). The evidence for cupellation in Britain is sparse in contrast to the wider empire where silver was extracted on a large scale. This is likely to be due to a lack of evidence rather than production actually being limited in the 3rd and 4th centuries. A late 4th century hoard from East Hamptree included five pieces of cast silver which may suggest silver extraction or access to silver bullion in the area (Todd 2007).

In the mid to late 4th century, silver coin was not produced in Britain. The primary mints supplying silver coinage to Britain were Trier, Arles, Lyon and Milan. There was variation in supply, the ebb and flow of different mints producing coin changed over this period. Instead the concentration of these hoards in the Mendips could relate to wealth culminating from mineral extraction, cupellation or pewter production in the late Roman period. There is a significant concentration of pewter finds from the Mendips region and the Mendips and Fens are the richest regions for pewter finds (Beagrie 1989). Mould fragments, waste, scrap and ingots have been recorded in the Avon region which has been assumed to be due to the regional exploitation of tin from Cornwall and lead from the Mendips (Lee

2009, 15). Late Roman pewter manufacturing was a consequence of 3rd–4th century exploitation of tin in Cornwall and an economic re-orientation in the region (Lee 2009). The role of Cornish tin appears to be the key element to the production of pewter in the region. Pewter manufacture was widespread in Britain with high densities in the south west (Lee 2009). Given the concentration of late Roman silver hoards in the region of the Mendips, and the evidence of lead mining in the Mendips with pewter production and evidence of continued small-scale cupellation, a link can be argued.

The concentration of hoards and silver coinage at the Mendips and along the road network from the Mendips therefore potentially related to the mining of lead for a range of outputs in the 4th century. The concentration of hoards and coinage in the main urban centres and along the key nodes of the road network was likewise. Interestingly, late Roman hoards have not been found in some major centres on the road network including Ilchester, Badbury, Exeter and Salisbury (Sanna and Henry forthcoming).

LATE ROMAN AND POST-ROMAN HOARDS

A potential indicator of coinage that might have remained in circulation after the end of the Roman period is through the phenomenon of clipping. The clipping of *siliquae* is generally accepted to have become widespread at the beginning of the 5th century and to have continued until at least AD 420, and possibly even to the middle of the 5th century (Abdy 2013; Bland *et al.* 2013; Bland 2018). Moorhead and Walton (2014) argued that clipped *siliquae* were proportionately more popular in rural areas than nummi which suggested that silver outlived bronze in monetary use. King (1981) noted a cluster of clipped hoards in the south west – in particular around Taunton and a second cluster in the Mendips – and concludes that clipping was a Romano-British phenomenon as there is no evidence of Anglo-Saxon activity in the south west. These areas with less Anglo-Saxon contact would provide a setting for the continued use of bronze coinage and clipped coins are likely to have circulated with bronze nummi (Moorhead 2006; Walton 2012, 111).

The concentrations noted by King (1981) are visible in Figures 12 and 13, further concentrations of hoards and period E coins focus on the Roman road network, towns and cross roads as well as in the north of Wiltshire. In Dorset, the main concentration of hoards are located in the environs of Dorchester, and along the road from Badbury to Salisbury. The latter is located within a zone which has been defined as an area with a decline in coin loss after AD 350 (Henry and Ellis-Schön 2017).

The concentration of clipped coins in the south west is likely to demonstrate the continued use of Roman coinage with the implication of a monetary economy into the early post-Roman period. The distribution is uneven and it is significant that hoards have not been recorded from certain towns or key points in the road network in the south west such as Ilchester, Badbury and Salisbury. For clipping to occur, *siliquae* must surely still have played an important role as currency or in exchange and perhaps contact with late Roman officialdom among sections of post-Roman society. The evidence of continuing monetary use, possible contact with late Roman officialdom and a concentration of late Roman belt fittings in areas of the south west suggests evidence of continuity of control in the immediate post-Roman period in at least parts of the study area (Henry *et al.* 2019).

Within this context the concentration along the River Tone lies adjacent to an important boundary in the late Roman to post-Roman period. To the east of the River Parrett many Roman settlements were abandoned, whereas to the west they continued (Leech 1982). At least five settlements in the Tone valley were abandoned. The large-scale desertion occurred in the region where the economic and social changes in the early Roman period had been greatest. The date of abandonment of these settlements is uncertain, it could have been in the late Roman period, the post-Roman period after the end of the monetary economy in the region, or far later into the early-medieval period (Leech 1982). Within the cluster of hoards, the surviving records indicate at least one of the hoards contained clipped coins and the majority of the site finds in this area were clipped. Unlike Wiltshire, east Somerset and Dorset, there are limited quantities of material related to the late Roman administration

in this area although a fragment of a late Roman buckle has been recorded from the Quantocks. Therefore, although there is evidence of late Roman to post-Roman use of the monetary economy, other indicators of late Roman links with officialdom are not visible.

CONCLUSION

The combination of the PAS and RRS coin data from Dorset when compared to the distribution patterns in the south west offers new insights into circulating currency in the period. The variation between the gold and the silver and copper-alloy Iron Age coinage highlights a varying distribution pattern. The focus of the distribution pattern on the Roman road network instead of the river network and the inclusion of Iron Age coinage in hoards with Claudian copies and Roman coinage suggests that they remained in circulation into the Roman period. The date they fell out of circulation was probably after AD 70.

In the late Roman period the quantity of coins from the mid to late 4th century, particularly coins of the House of Valentinian, indicate wealth and prosperity in the south west. There are areas of variation such as the area between Salisbury and Purbeck which declined in coin loss after AD 350. The distribution maps also highlight a decline in circulating currency within Devon in the late Roman period broadly along the proposed *civitas* boundary. As the distribution of late Roman coinage and Iron Age coinage in this region is very similar this should be considered further. An element within this distribution which is more unusual is the late Roman silver coin hoards to the west of the *civitas* boundary near Taunton, which was an important boundary in the late Roman and post-Roman period. The phenomenon of silver coin hoards has been linked to the Mendips in the past and has been suggested as an indicator of silver extraction through cupellation. Such conclusions have been challenged, but should we consider these hoards as an indicator of continued lead mining for the raw material and also for pewter manufacturing, rather than silver extraction. Ultimately, these hoards highlight wealth in the Late Roman period which should be explored further in conjunction with other artefact types such as Late Roman belt fittings and artefact hoards.

ACKNOWLEDGEMENTS

Thank you to Philip de Jersey and John Talbot for their comments and insights into the continuing circulation of Iron Age coinage in the Roman period. Thanks also must be expressed to Sam Moorhead, Roger Leech, Robert Kenyon, Bruce Eagles and John Creighton for their comments and discussion on the circulation of Roman coinage in the south west and discussions on the phenomenon of silver hoarding in the Late Roman period. My interest was sparked by Miles Russell initially and also by John Gale my supervisor at Bournemouth University. Finally thank you to the anonymous peer reviewer for their insightful comments.

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THE DURNOVARIAN GROUP OF MOSAICS

S. R. COSH

The term 'Durnovarian' is often applied to any mosaic discovered in Dorset and the surrounding area, leading to the idea of mass manufacture within Dorchester (Roman Durnovaria). Here the theoretical development of the 'Durnovarian School' is examined and an analysis made of features which identify the work of this group. The picture that emerges is one with several groups of mosaic craftsmen operating in the area during the fourth century, of which the one we know as 'Durnovarian' produced some of the most famous mosaics in the country among its limited but widespread output.

INTRODUCTION

Since the term 'Durnovarian School' was coined in the 1960s by the late Dr David Smith, the noted Roman mosaic scholar, it has been widely accepted and also widely misunderstood, right up to the current time. Smith was referring to a group of mosaics sharing a number of affinities, discovered in and around Dorset, which he believed may have been the products of the same group of craftsmen; Dorchester (Roman *Durnovaria*), the *civitas* (Roman administrative) capital, was perhaps the obvious place for a workshop (*officina*) to be located. The Durnovarian Group is one of four groups, which he initially proposed, operating in distinct areas throughout Britain in the fourth century. They could,

> *'...conveniently be called 'schools' of mosaicists who had worked out their own repertory of designs and motifs'* (Smith 1969, 97).

'School' is an art history term but, because of the various meanings of 'school' which has sometimes been mistaken for a training establishment, the term 'Durnovarian Group' is now preferred (Cosh and Neal 2005, 22-25). It should be stated at the outset therefore that the idea of a physical base or workshop for the Durnovarian Group in the town is purely notional, and there is no archaeological evidence for one. On the other hand, given the number of mosaics in Dorchester – more than sixty are known – there were almost certainly craftsmen based in the town particularly during the fourth century. However, ironically, only one mosaic found there is attributable to the Durnovarian Group – from Durngate Street and exhibited in the Dorset Museum (see below) – meaning that the Group's craftsmen may have been itinerant, especially as most mosaics (except, possibly, some figured parts) appear to have been made *in situ* and not prefabricated in an urban workshop before being transported to the site of its installation. It is clear then that the Durnovarian Group did not have a monopoly for the production of mosaics in the town in the fourth century, nor would they in the countryside. Therefore, how valid is the concept of 'Durnovarian' mosaics?

THE 'HISTORY' OF THE DURNOVARIAN SCHOOL

David Smith originally proposed four fourth-century groups in Roman Britain. Without examining these

in detail here, they are, from south to north: the Durnovarian School with marine subject matter and hunting scenes; the Corinian School featuring Orpheus scenes and similar compositions at such sites as Stonesfield and Chedworth; the Durobrivan School with distinctive lozenge-based and other geometric schemes; and the Petuarian School with figured scenes within radial schemes. On Smith's distribution map of 1969 they appear to cluster neatly around the towns which provided them with their names: modern Dorchester (*Durnovaria*), Cirencester (*Corinium*), Water Newton (*Durobrivae*) and Brough on the Humber (*Petuaria*); all but *Durobrivae* were *civitas* capitals. The mosaics attributable to each of these urban-based groups at first appeared to come from a fairly restricted area, perhaps related in some way to the *civitas* boundaries, although not exclusively so.

The original listing of sites with mosaics attributable to the Durnovarian group included: Dorchester; Fifehead Neville; Frampton; Hemsworth; Hinton St Mary; Wynford Eagle, all in Dorset; Lufton (Somerset); and an outlier at Withington (Gloucestershire) (Smith 1965, 97; Smith 1969, 109–13, fig 3.4). In his hugely influential 1969 chapter, Smith added, within footnotes, the suggestion that Whatley, Low Ham, Pitney and East Coker, all in Somerset, should be added to the list (Smith 1969, 111).

Over the years Smith gradually refined his groups, especially as new mosaics came to light, such as the running dog panel at Cherhill (Wiltshire) which displays workmanship irrefutably linking it to Hinton St Mary and Frampton (Cosh and Neal 2005, Mosaic 239.1; Figs. 1 and 2). When mosaics were uncovered at Lufton villa, near Yeovil, the marine nature of one prompted him to attribute them to his Durnovarian 'School'. He concluded: 'Indeed, in due course it may be necessary to recognise the possibility of a mosaicists' workshop at Ilchester-*Lindinis* in addition to the postulated *officina* of Dorchester' (Smith 1972, 76). But he plainly considered this as an additional workshop of the Durnovarian 'School'. In his final assessment of the group he also went as far as to say,

> *'Indeed, there seems no reason not to attribute to this [school] all the fourth-century mythological mosaics in the south-west'* (Smith 1984, 370).

The mosaic scholar and protégé of David Smith, Peter Johnson, embraced the idea of the group, but recognised that it contained major differences in style. He redefined the Durnovarian 'School': 'as the Durotrigan Group, with its *officinae* at *Durnovaria* and *Lindinis*' (Johnson 1982, 41). He argued that, while the mosaics at Fifehead Neville and Hemsworth (Cosh and Neal 2005, Mosaics 167.1–167.2, 171.1–171.2) were very similar to each other (Figs 3 and 4), the workmanship differs significantly from the Frampton and Hinton St Mary pavements (Cosh and Neal 2005, Mosaics 168.1–168.5, 172.1). Instead Johnson linked them to other pavements with various forms of chevron bands and rainbow-shading, although it must be said, little else bears comparison. As their distribution is as much around Ilchester, Johnson was also prompted to suggest a hypothetical *officina* at Ilchester in addition to one at Dorchester (Johnson 1982, 41–48; 1983, 5–8). Concerning the hypothetical *Lindinis officina* he concluded,

> *'Fifehead Neville has a mosaic of acceptable Durnovarian origin as well as the more dubious dolphin mosaic, and this site may have been the starting point for a breakaway movement with mosaicists responsible for the dolphin mosaic obtaining a commission from Hemsworth for the Venus mosaic. After establishing the new officina at Lindinis, mosaics were subsequently produced for Low Ham, Pitney, Keynsham, Lufton, Colliton Park [Dorchester] and directly or indirectly, Rudston [Yorkshire] in the north'* (Johnson 1983, 7).

The distinctive striped and bulbous dolphins as well as the fish, not to mention foliate scrolls and other motifs, at both Fifehead Neville and Hemsworth are clearly by the same hand. Of the other sites, some mosaics at Low Ham probably should be linked to the Fifehead Neville and Hemsworth pavements because of the incidence of the red bands edged in black and the distinctive form of fish at all three villas; the other sites are rather dubious, relying almost entirely on the presence of the aforementioned bands with chevrons and rainbow shading.

In defining the areas of influence of these 'Groups' Smith noted that the incontrovertible examples of 'Durnovarian' work at Withington (Gloucestershire) (Fig. 5) and Cherhill (Wiltshire), were 'the clearest indication that territory which was once the preserve

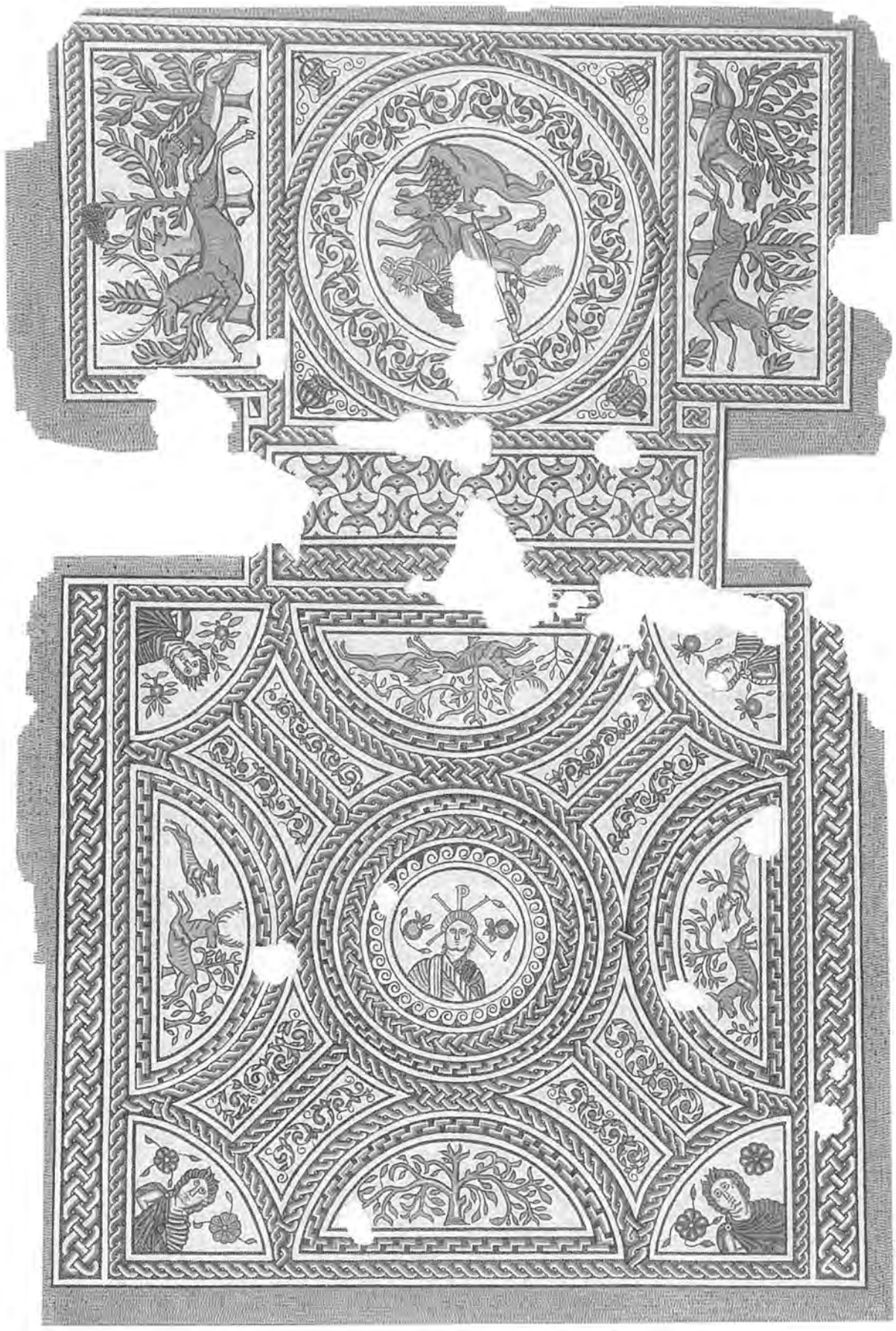

Figure 1 The mosaic from Hinton St Mary, Dorset (painting by David S. Neal).

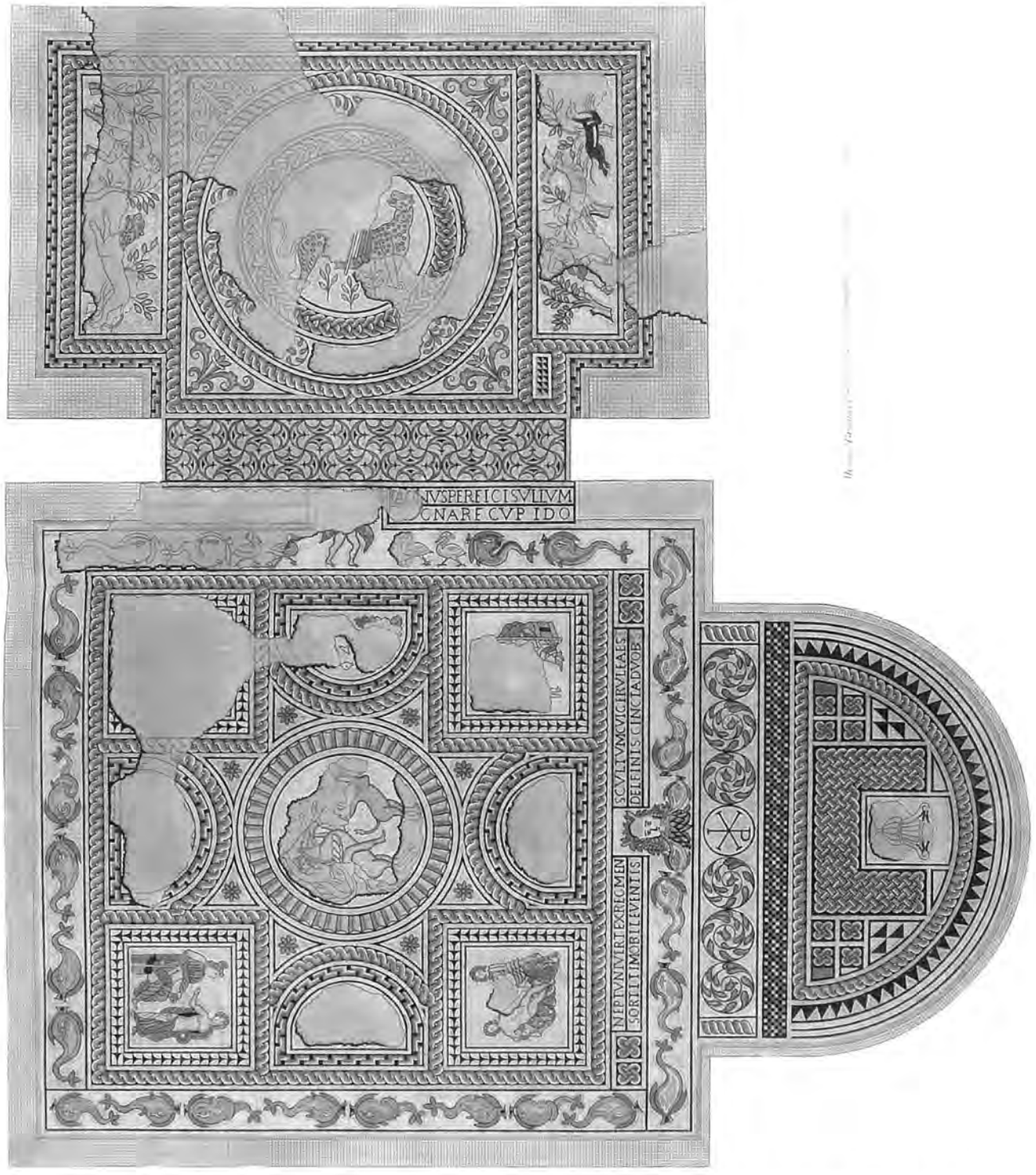

Figure 2 A mosaic from Frampton (engraving by Samuel Lysons 1813, *Reliquiae Britannico-Romanae* I, part iii, pl. V).

of the two Corinian schools came in time to be served by mosaicists of the Durnovarian School' (Smith 1986, 88). This suggested to him that the Corinian mosaicists had gone out of business, and perhaps the late mosaics from the Beeches Road site in Cirencester were also therefore 'Durnovarian' products whilst 'Corinian' ideas, and perhaps personnel, influenced their work. For Smith the mosaic from Olga Road, Dorchester, now in the Dorset Museum, which has debased saltires and pelta-urns with volutes more typical of Corinian mosaics, 'appears to confirm the evidence for a "Durno-Corinian" phase in the later

Figure 3 The Venus mosaic from Hemsworth, Dorset (Painting by David S. Neal).

history of the Durnovarian School' (Smith 1984, 372). Smith also suspected that the Orpheus pavement at Littlecote (Wiltshire) dating to *c.* AD 360 was 'a late Durno-Corinian phase of the Corinian School' (Johnson 1982, 56).

This forms a neat story of a mosaicist setting up a workshop in Dorchester at some time in the fourth century. As time went on commissions flowed in from further north necessitating the setting up of a second workshop in Ilchester – whether a branch of the old firm or a 'breakaway group'. As the century progressed, clients came from around Cirencester, with the demise of the Corinian workshops, leading to influences or the employment of Corinian personnel, which is reflected in their late mosaics. However, can this hypothetical scenario be justified?

IDENTIFYING GROUPS

Unlike a few mosaics on the continent, none of the products of the Durnovarian Group is signed with the phrase: EX OFFICINA... (from the workshop of ...) followed by a personal name in the genitive case. It has been suggested that the pomegranate was some kind of 'Durnovarian' trade mark, particularly when considering its appearance in just one of the eight concave-triangular spaces around the Durngate Street mosaic (Fig. 6). This is located in the equivalent position to the famous TER inscription

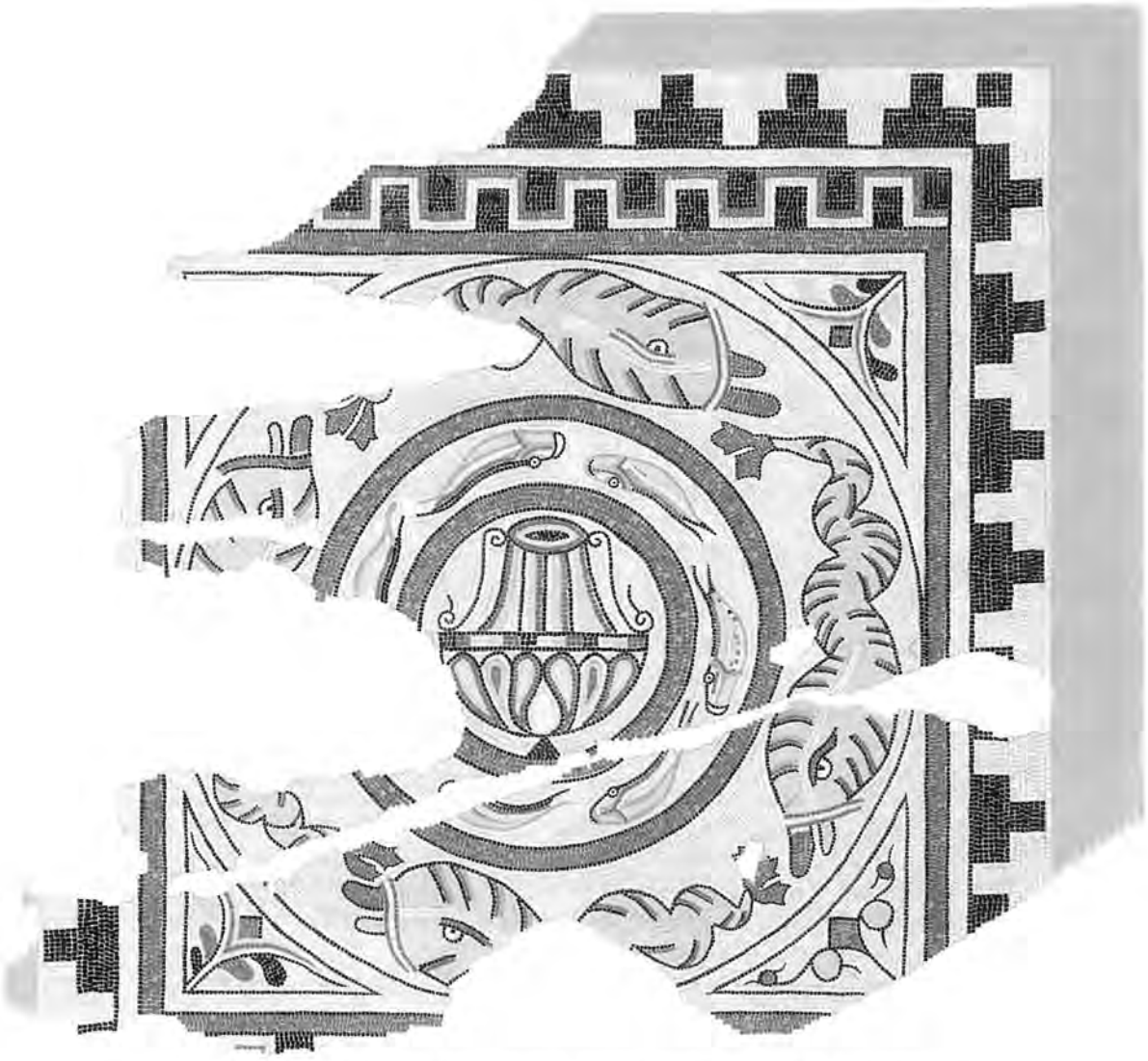

Figure 4 The marine mosaic from Fifehead Neville, Dorset (painting by S. R. Cosh).

at Bignor villa, which is generally quoted as being the abbreviated name of the mosaicist (Cosh 2001, 4, figs 4–5). Without this type of evidence, several other approaches can be taken to identify a group.

One of Smith's main methods for identifying Groups was the subject matter, but this is one of its main problems. This is particularly true with the Durnovarian Group, where the presence of hunting and/or marine scenes have led to attribution to it. In Smith's final analysis, all mythological scenes in the south west of Britain belong to the Durnovarian Group. However, examination of their style and techniques shows this not always to be the case. The distribution of subjects for figured work can be explained by having been popular in a particular region, but it was not necessarily the monopoly of one group of craftsmen. More likely it would be the villa owner who would specify the figures to be depicted on their pavement, and might even supply an illustrated manuscript for mythological or literary scenes to copy. In this respect the larger group as proposed by Smith can perhaps be at best regarded as representing a regional style rather than the products of one or two workshops. Craftsmen were likely to seek work in the same general area, although some clearly accepted contracts to work in fairly distant locations. However, the geometric elements and filling motifs are more likely to have formed the repertoire of a group, as this was their everyday stock in trade when considered in conjunction with the technique for depicting figured work.

Figure 5 The Durnovarian extension to an Orpheus mosaic from Withington, Gloucestershire (engraving by Samuel Lysons 1817, *Reliquiae Britannico-Romanae* II pl. XX).

Figure 6 The mosaic from Durngate Street, Dorchester (painting by S. R. Cosh).

A number of features in a mosaic can help with recognising the work of the same craftsmen. The scheme and distinctive motifs are the principal means – particularly those which are mutually exclusive – as well as their geographical proximity. Dimensions are less helpful, for units could be fairly standard. However whilst they should not be ignored, especially when they are consistently the same, technique is of greater importance. This is particularly true when examining ubiquitous patterns such as guilloche, swastika meander, wave-crest and right-angled Z-pattern. Because the craftsmen were

producing these designs over large floors, they not only needed to be uniform throughout a pavement, but went on to use precisely the same technique on all their mosaics partly through custom and partly laziness. Each group therefore developed a different but consistent method, and this would be followed by apprentices or fellow workers, in what today might well be termed 'standard operating procedure'. In some ways this is more diagnostic than the scheme itself, which is seldom original.

The materials used are of lesser importance since they are likely to reflect the availability of stone locally, but the particular use of colour is nonetheless significant. It is a combination of schemes and motifs, the idiosyncratic way of dealing with them, colour, their location and other additional factors, such as archaeological dating, that lead to the identification of work by the same Group; the pictorial content, as opposed to the technique in achieving it, is secondary. Whilst some mosaics can be seen unequivocally to form a group because of the sheer numbers of common factors, some fall into the category where one or two features hint at common manufacture but insufficient to be certain. Presumably some craftsmen or groups were operating over a number of years and their style and technique could develop or change. Individual craftsmen could move and their technique could occur on pavements which otherwise might be assigned to a different group; and, of course, interesting features by one group might be copied by others. Some mosaics have survived in an extremely fragmentary condition and others are known only from old engravings or drawings where, in some cases, the accuracy is suspect. Therefore, there are pavements of certain and probable attribution to a group, and those of possible attribution. Here mosaics which are likely to be by the same craftsmen are considered, rather than vague similarities which are actually part of a regional style.

To be attributed to a particular group, the mosaics should be roughly contemporary. Unfortunately very few mosaics can be dated with any degree of certainty; occasionally coins or pottery sealed beneath the mosaic can provide a *terminus post quem* (earliest possible date) or are linked to a building phase dated in the same way. At Withington 'Durnovarian' panels were added to a pre-existing Orpheus mosaic which had probably been laid in the fourth century, and therefore the 'Durnovarian' extension must post-date it (Cosh and Neal 2010, Mosaic 455.4). Because this and most of the mosaics considered here as possibly 'Durnovarian' mosaics are from historic excavations, evidence for close dating is not available. Internal evidence can be helpful: the presence of the Christian monogram *chi rho* (the first two letters of 'Christ' written in Greek) place Frampton and Hinton St Mary in the fourth century, and the hairstyle of the figure at the centre of the latter has been compared with imperial images on coins of the mid-fourth century (Reece 1980; Moorhead 2000); the tunics with *orbiculi* (circular patches) on them worn by the hunters on the East Coker pavement are late fourth century in style. Dating of a mosaic is therefore of paramount significance in being able to attribute it to a group. One of the mosaics from Dorchester which Smith attributed to his Durnovarian Group – from Fordington High Street and now in the Dorset Museum – is in fact typical of second-century mosaics and clearly created by the same craftsmen responsible for pavements from Dyer Street, Cirencester; this precludes its being the work of the Durnovarian Group (Cosh and Neal 2005, Mosaic 165.13).

THE DURNOVARIAN GROUP

The Durnovarian Group, with its notional base at Dorchester is probably the most problematic of all of Smith's 'schools'. In Smith's considerations of the Durnovarian group, he gradually added to the group all mosaics with figures, particularly marine and hunting elements, in south west Britain, sometimes without a great deal of justification – 25 sites in all. Many villa owners of Dorset and Somerset were wealthy enough to afford mosaics in the fourth century and there were probably several groups of craftsmen in that region catering for the demand – some individuals may well have collaborated on some commissions. There are many more large figured pavements there than elsewhere in Britain. If the idea of a Durnovarian Group is valid at all, it was certainly disparate.

However, there is certainly a core of Smith's list which can justifiably be asserted as being created by the same group of craftsmen. A summary of his 'School' and a reappraisal of it is provided in Table 1. Some of the most written-about mosaics, from Hinton St Mary and Frampton in Dorset (Figs 1 and 2) (Cosh and Neal 2005, Mosaics 172.1 and 168.2), both incorporating the Christian *chi rho*, were central to the identification of Smith's original Durnovarian group, and although many others of those which he later attributed to it are dubious, the Frampton and Hinton St Mary mosaics must form the basis for identifying 'Durnovarian Group' mosaics. The similarities are obvious: the scheme, motifs and treatment of subject matter – both have Bellerophon slaying the Chimera – make common manufacture almost beyond doubt. On this basis, for Smith, the Durnovarian group could be said to have specialised in fine figured work – notably mythological scenes, busts of Winds, hunts and processions of dolphins; of particular note is the idiosyncratic rippling musculature of the animals. The schemes employed are relatively simple, generally featuring a circle at the centre and are often based on a grid of nine squares or circles usually including multiple bands arranged concentrically. In addition to Smith's observations, similarities in technique can be cited. The guilloche (including double guilloche), as also the distinctive right-angled Z-pattern, is always drawn and shaded the same way, usually red, grey and white, throughout the mosaic, even in both elements of interlaced squares (this is very unusual in Britain); and where design elements are tangent, the guilloche of each is normally interbraided, often awkwardly. The open nature of the wave-crest pattern is also distinctive.

The majority of the mosaics at Frampton (but not the other one at Hinton St Mary) were almost certainly laid by the same craftsmen, or their associates. In 2019 the small excavation across the *porticus* mosaic at Frampton, directed by Miles Russell, confirmed that bands of guilloche and running peltae, were identical to those at Hinton St Mary (ARA News Spring 2020, 56–58); this was difficult to ascertain from the coloured engravings which were previously our only record of the mosaics at Frampton.

But how many mosaics from other sites are also attributable to the Durnovarian Group? Smith argued for a workshop existing in Dorchester – at least to begin with. The one mosaic from the town attributable to the Group, from Durngate Street (Fig. 6), is a relatively simple example, but it does have snakes issuing from two of the *canthari* (cups) that resemble the Chimera's snake-headed tail at Hinton St Mary. The double guilloche and pairs of guilloche knots (Cosh and Neal 2005, Mosaic 165.11) were also identical. The technique of the execution of the swastika-meander matches that used at Frampton, as revealed in the recent excavation. It conforms in every way with the attributes of the group. However, no other mosaics from Dorset have such obvious features. Two distant examples though are of interest: the extension to the Orpheus mosaic at Withington (Gloucestershire) (Fig. 5) (Cosh and Neal 2010, Mosaic 455.4) and Cherhill (Wiltshire) (Cosh and Neal 2005, Mosaic 239.1). The dolphins, trees, flowers and the distinctive wave-crest pattern and double guilloche at Withington show exactly the same technique as those at Hinton St Mary and, as far as one can tell from the engravings, at Frampton. The much damaged pavement from Cherhill (Wiltshire), has a similar scheme to Withington, and a running dog with bulbous musculature and trees are closely matched at both Hinton St Mary and Frampton. Both distant sites show rectangular panels bound by guilloche which contain parallel bands of geometric decoration, closely resembling the one from Hinton St Mary between the main panels. However, the schemes of the last two are very different from those further south, suggesting some of the same individual craftsmen perhaps working with a different master mosaicist.

A few other mosaics possibly belong to the group. The dolphins on a fragmentary mosaic from Wynford Eagle, near Frampton, are sufficiently similar to those at Withington to suggest attribution; the right-angled Z-pattern is almost of the Durnovarian type (Cosh and Neal 2005, Mosaic 185.1). An eighteenth-century drawing of a mosaic from East Coker, (south Somerset), shows winds and hunting scenes surrounding a large circular centrepiece with a figured scene showing Bacchus and Ariadne on Naxos; it may well be attributable to the same group but, because of the sketchy and incomplete nature of the artwork, this is far from certain (Cosh and Neal 2005, Mosaic 198.1). The mosaics at Pitney, near Ilchester also show some affinities (such as

Table 1 Mosaics attributed by D.J. Smith to his Durnovarian Group and author's assessment

	Status	Notes	RMB Cat no
Smith 1965			
Frampton			II, 165.1-5
Hinton St Mary			II, 172.1
Fifehead Neville			II, 167, 1-2
Hemsworth			II, 171, 1-2
Wynford Eagle		Small pieces only, scheme atypical	II, 185.1
Lufton, Somerset			II, 208.9
Withington, Gloucs.		Addition to earlier Orpheus mosaic	IV, 455.4
Smith 1969 additions			
Dorchester: Fordington High St		Second-century	II, 165.13
Dorchester: Durngate St			II, 165.11
Whatley, Somerset			II, 222.1
Low Ham, Somerset			II, 207.3-4
Pitney, Somerset			II, 211.1-3
East Coker, Somerset		Eighteenth-century sketch only	II, 198.1
Subsequent discovery			
Cherhill			II, 239.1
Smith1984 additions (marine scenes)			
Bath			II, 188.6
Bromham, Wilts.			II, 235.1
Dewlish	? ?	Wave-crest of Durnovarian form	II, 164.3-13
Caerwent, S. Wales			IV, 483.7
Llanfrynach, S. Wales			IV, 487.2
Lydney, Gloucs.			IV, 440.21
Kingscote, Gloucs.			IV, 438.1
Smith: Durno-Corinian Phase			
Dorchester: Olga Road		*Canthari* resemble Durnovarian work	II, 165.63
Cirencester: Beeches Road			IV, 421.23
Littlecote, Wilts.			II, 248.1

Key

RMB II = Cosh and Neal 2005 and RMB IV = Cosh and Neal 2010; Sites in Dorset unless stated otherwise.

	Definitely attributable to the Durnovarian Group
	Possibly attributable to the Durnovarian Group
	Transferred to the Durotrigan/Lindinis Officina
	Ones unattributable other than marine subject which is ubiquitous
	Hypothetical Durno-Corinian Phase

interbraiding of guilloche bands) though nothing significant but again the quality of the nineteenth century engravings make it difficult to assess the technique used for the personifications of the winds and other figures (Cosh and Neal 2005, Mosaics 211.1–211.3). However, notably, the mosaics from Dewlish, sometimes described as Durnovarian, have very little in common with the above pavements.

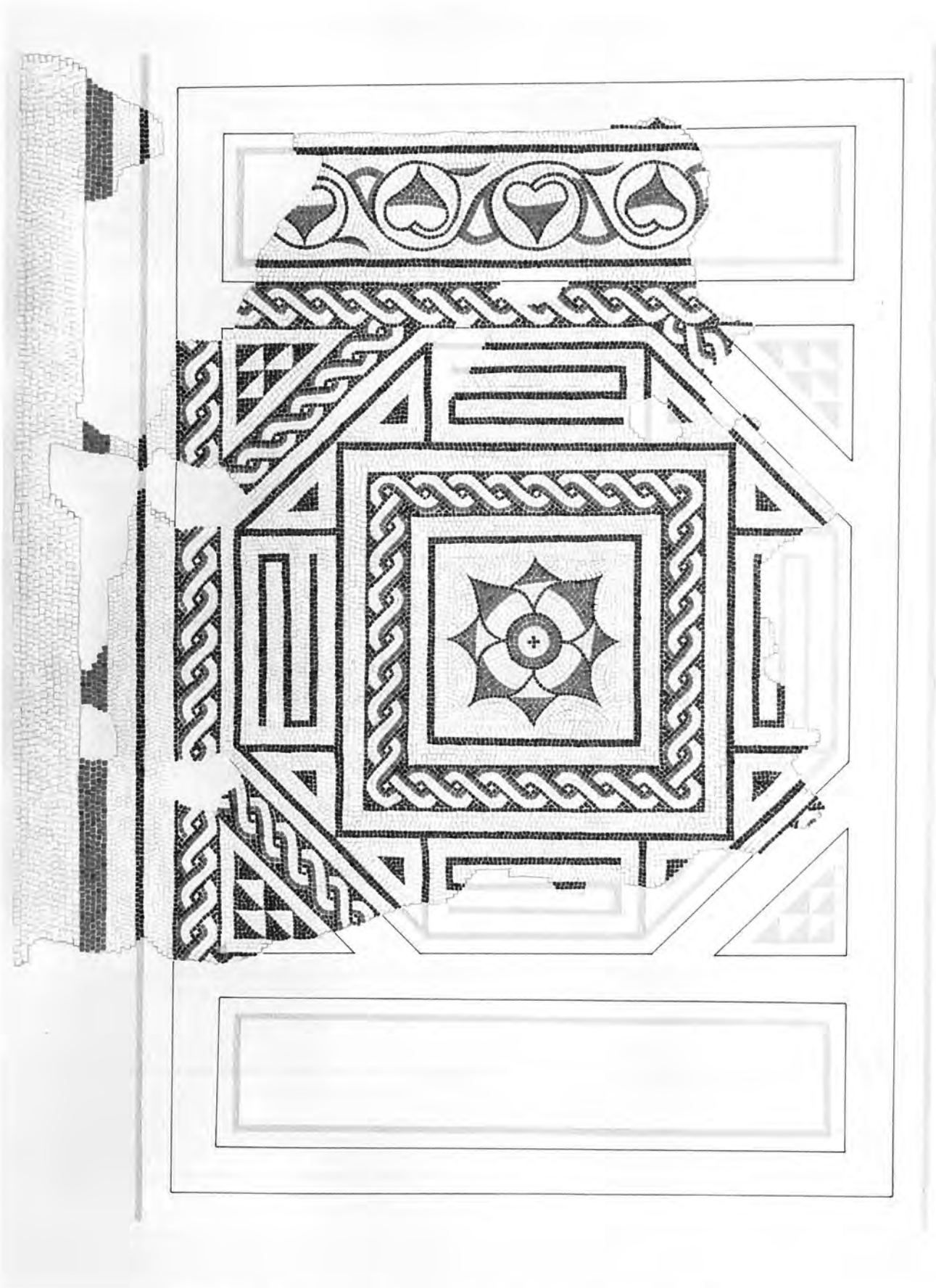

Figure 7 Mosaic from Preston, near Weymouth (painting by S. R. Cosh).

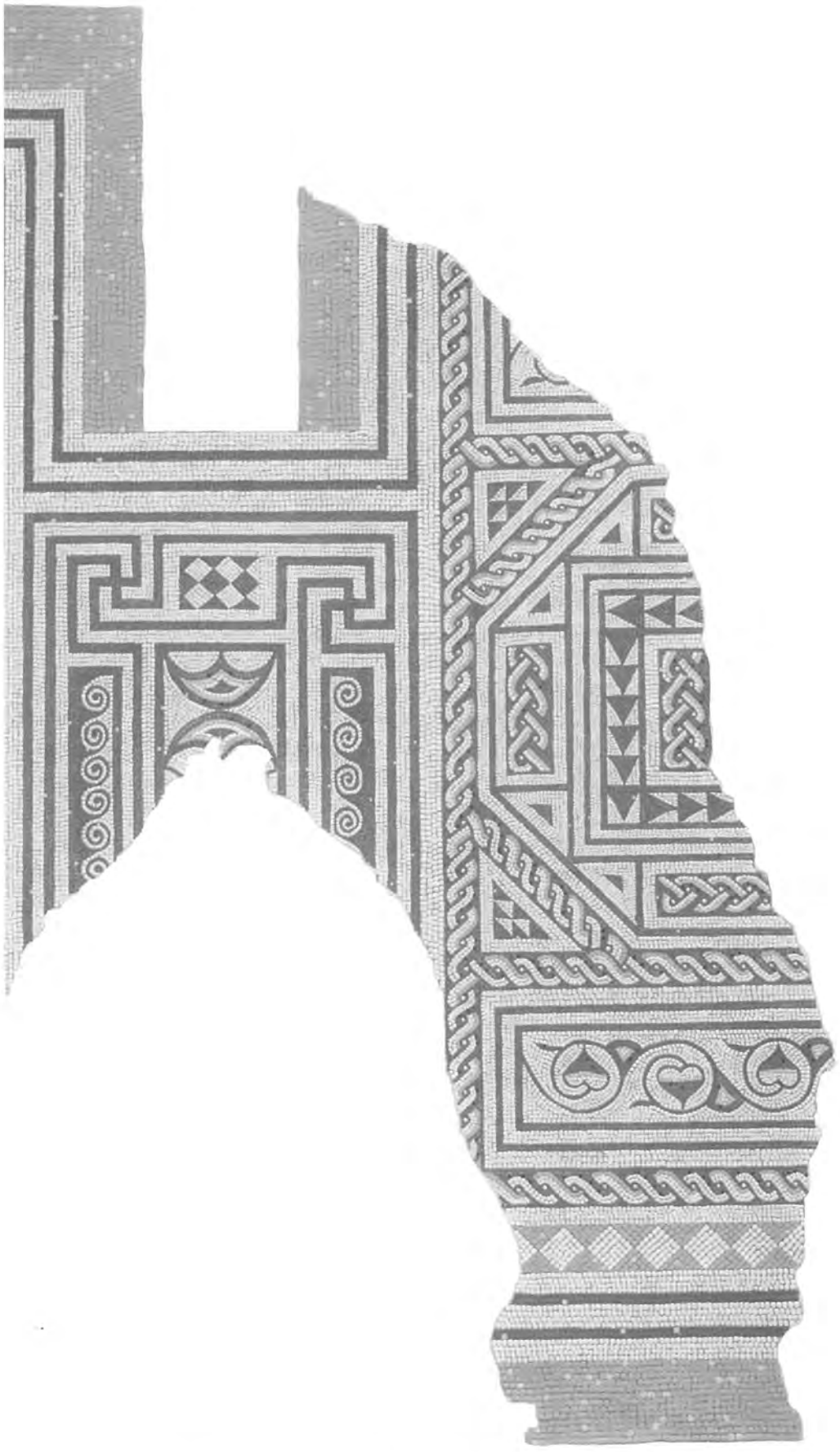

Figure 8 Hurcot, near Ilchester (Somerset) (painting by S. R. Cosh).

They have similarities only in the open form of the wave-crest pattern. Red bands edged in black are much more reminiscent of the Fifehead Neville/ Hemsworth/ Low Ham group, although they share no other similarities. The figured work and the foliate scrolls differ markedly (Cosh 2021)

THE CHARACTER OF THE PRIMARY DURNOVARIAN MOSAICS

In summary, the primary corpus of mosaics attributable to the Durnovarian Group (roughly equating Johnson's Durnovarian *Officina*) with certainty comprises Hinton St Mary, Frampton, Durngate St (Dorchester), the extension to the Withington pavement, and Cherhill. It is worth noting that the quality of workmanship of these examples is not actually of the highest order. Although the mosaics at Frampton appear perfectly symmetrical, this may be a consequence of the way they were drawn in the late eighteenth century. The mosaics at Hinton St Mary, Withington and Durngate Street display a number of anomalies and errors. At Withington, the inept layout is all too obvious where the long sides of rectangular panels are far from parallel (Cosh 2019, 5). At Hinton St Mary, the shape of the room, particularly the unequal responds between the two room sections, has some bearing on the design of the mosaic; this partially explains the different widths of the hunting scene panels flanking the Bellerophon roundel. However, the interbraiding of the guilloche in tangent bands is also inconsistent (Dunbabin 1999, 186–7). What does appear remarkable about this group is the difference in quality within the same mosaic. The dolphins on the left of Neptune/ Oceanus at Withington, for instance, are superior to those on the right, and at Durngate Street and Hinton St Mary the *canthari* on opposite sides are sufficiently different to suggest that workers of varying skills created them. Here we can see the work of individuals.

It should also be noted that although the northernmost and the southernmost attributable mosaics have links to Hinton St Mary and Frampton, they have little in common with each other. Smith made the assumption that the artist producing figured work was part of the same firm which created the more mundane geometric schemes; indeed it is suspected that sometimes figured scenes might well have been created at a workshop and transported to the site. Furthermore, apart from the pavements from Dorchester and Frampton, the rest are located nearer to Ilchester in south Somerset than Dorchester, which casts doubt over the Durnovarian nomenclature. What this implies is that we may be seeing the movement of individual craftsmen rather than a discrete 'firm' of mosaicists. There may have been some who worked from Dorchester, but the distribution of the mosaics suggests a looser arrangement reflecting the work of itinerant craftsmen.

Another important point to make is that although clearly significant, the Durnovarian group was not the only one operating in the area in the fourth century as is sometimes assumed. Less skilful mosaics within Dorchester and at nearby sites such as East Creech (Cosh and Neal 2005, Mosaic 166.1) featuring simple grids, chequers and stripes, may be by local craftsmen unrelated to the Durnovarian Group. The group of mosaics comprising Fifehead Neville, Hemsworth and at least two pavements from Low Ham (Somerset) which are included in Johnson's *Lindinis Officina* of his Durotrigan School, perhaps signifies another discrete group of craftsmen, but other groups were also operating in the area in the fourth century. Mosaics from South Street, Dorchester and, Preston near Weymouth (Fig. 7), have many features in common with several in and around Ilchester, (Somerset), such as Hurcot (Fig. 8), probably datable to the third quarter of the fourth century and unrelated to the Durnovarian Group. They are by craftsmen whose main body of work lies around Ilchester (some discovered in recent years after Smith's undertook his work). Significantly, parallels for the best surviving mosaic from the recently excavated Druce Farm villa are around Ilchester, and are possibly by the same group (Cosh 1989; Cosh 2010). This demonstrates how our appreciation of the complexity of provision of mosaics across Dorset and the south west has changed with new discoveries, and how our interpretation of it can also be enhanced through new research.

CONCLUSION

It can safely be said that certain mosaics from different sites in Dorset are attributable to the same craftsmen, but whether it is appropriate to link them to a particular town is another matter. If the 'Durnovarian Group' was what we might think of as a 'firm', we have no idea what it called itself. Certainly, the idea of a workshop (or factory) in Dorchester supplying figured mosaics to the whole of the south west Britain can no longer be sustained, and Smith's wider definition of what constituted his Durnovarian School is surely a regional style reflecting the fourth-century villa owners' interests, aspirations and social connections. However, the name 'Durnovarian' has become so embedded in reports and general works that it seems churlish to abandon it. If the Hinton St Mary/Frampton style is used to define the work of the actual craftsmen, then we are looking at a relatively small group of mosaics. It is, however, impossible to know what proportion of fourth-century mosaics survive from the area compared with how many have been lost or destroyed or indeed await discovery. The number of surviving pavements is probably a small percentage so that, even if a handful of mosaics by the same group of craftsmen can be identified, they may well have been prolific.

ACKNOWLEDGEMENTS

Thanks are due to the editor and anonymous reviewer for helpful comments. Also I am grateful to Dr David S. Neal for his kind permission to reproduce his excellent paintings of the Hinton St Mary and Hemsworth mosaics.

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A ROMAN ROAD FOUND AT TOP O' TOWN HOUSE, DORCHESTER

PETER BELLAMY

A partial section across a road running roughly west-north-west to east-south-east was exposed during works to the rear of Top o' Town House, Dorchester. It consisted of layers of sand and gravels over a chalk and flint nodule base built directly on top of an ancient soil. This road was probably part of the Roman road between Dorchester and Ilchester and it is assumed that originally the road ran directly towards the West Gate of the town at the top of High West Street. However, once the town defences were constructed, possibly at the end of the second century AD, it appears that the road may have been diverted, as previous archaeological observations around the Top o' Town junction indicate that it did not cross the ditches of the Roman town defences. Therefore, it is suggested that the Ilchester road was diverted to join the Exeter road before it reached the edge of the defences, so that only a single road crossed over the defences to approach the West Gate. This diversion may be marked by the sharp change in angle at the end of the present Poundbury Road.

INTRODUCTION

In March 2018, Terrain Archaeology carried out an archaeological evaluation of the proposed site of a new mews-style dwelling to the rear of Top o' Town House, Dorchester at SY 6886 9070 (Fig. 1). This revealed deposits of gravel below eighteenth and nineteenth century garden soils and features. In November 2019, a further trench was excavated to test the hypothesis that the gravels were part of a Roman road.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The site lay just beyond the northern boundary of the Roman town of *Durnovaria* close to the presumed site of the West Gate. Two Roman roads from Exeter and from Ilchester approached the town from the west and north-west to pass through the West Gate (RCHME 1970). At some time, probably in the late second century AD, earthen bank and ditch defences were constructed around the town and by the late third or early fourth century AD, these defences had been enlarged and elaborated with three ditches and a counterscarp bank and with a stone wall added to the inner bank, at least on the west and south sides of the town (RCHME 1970; Bellamy 2004; Trevarthen 2012). The site was projected to lie on the line of the counterscarp bank (Fig. 3).

The area of the site was within the fields of the manor of Fordington in the medieval and early post-medieval periods. By the late eighteenth century it was part of a close running down to West Mill. Top o' Town House, originally Grove House, was built

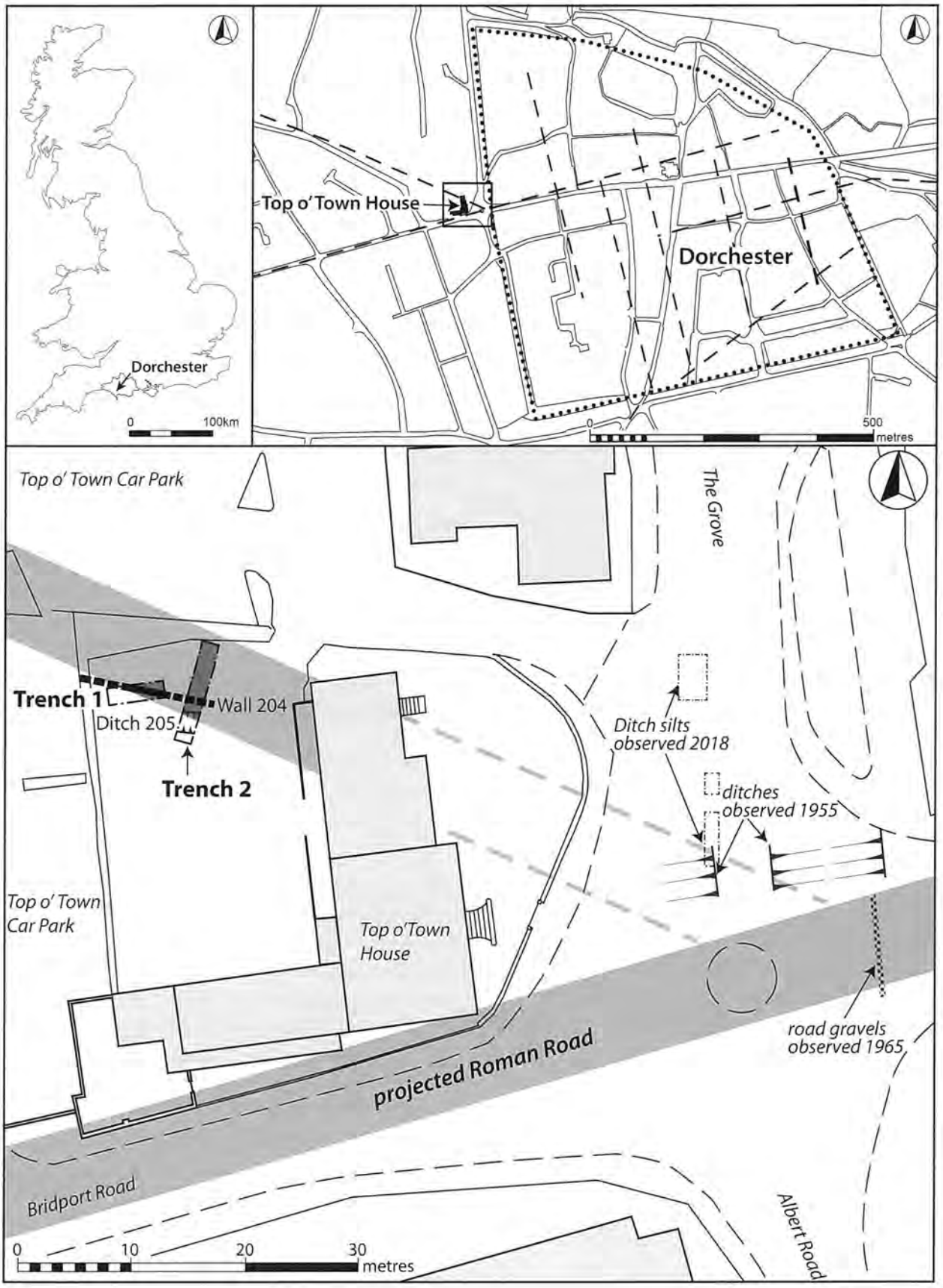

Figure 1 Site location with previously observed archaeological features associated with the Roman roads approaching the West Gate at Dorchester.

before 1835 on the corner of Bridport Road and The Grove, with extensive gardens to the front and rear. The house was extended in the nineteenth century.

METHODOLOGY

An evaluation trench (Trench 1) measuring 5.0m by 1.5m was excavated in the corner of the car park behind Top o' Town House (Fig. 1). The modern car park surface and underlying post-medieval soils were excavated by machine down on to the top of a hard-packed gravel layer at a depth of 0.95m below present ground level and a small slot was dug by hand through the gravel onto the top of the natural chalk. These gravels were thought to be part of an early road that ran at an oblique angle to the trench. In order to investigate this feature more fully, another trench 9.4m long (Trench 2) was dug by machine across the projected alignment (Fig. 1). The upper levels were carefully removed by machine to expose the top of the road. After cleaning and recording the upper surface, machining was continued down on to the top of the natural chalk to provide a section across the road, following the approved methodology (Fig. 2).

THE ROMAN ROAD

The road was constructed over a 0.15 m thick layer of decalcified mid-dark reddish-brown silty clay with a worm-worked flint horizon (219) that lay on top of the natural chalk. It contained eight flint flakes of possible Late Neolithic character. This soil is very similar to pre-urban soils found within the Roman Town of *Durnovaria* and beneath some of the Roman streets in the town. A single everted rim sherd from a countersunk handle storage jar (Seager Smith and Davies 1993, Type 4) of 50BC–AD50 date from the top of the buried soil 219 was the only dating evidence recovered.

The basal layer consisted of large flint cobbles and nodules beneath a deposit of rammed chalk (218) up to 0.19 m thick. This was exposed for a distance of about 6.0 m and continued to the north beyond the excavated end of the trench (Fig. 2). The upper surface of this layer was cambered and was thickest at a point about four metres from the north end of the trench. The chalk and flint base was covered by a 0.15 m thick layer of firm dark reddish-brown clayey sand and flint gravel (217), overlain by a series of thin layers and lenses of pale yellowish-grey and buff clayey sands and gravel, and orange and reddish-brown sands or sandy clays and flint gravel (230), forming a unit up to 0.35m thick with a cambered upper surface. There was a distinct concentration of larger gravels about 40 mm across at the surface near the apex. On the southern side were possible repair patches of pale brown chalky clay and flint.

To the south were a series of deposits that may represent erosion or wash from the road, consisting of a layer of mid yellowish-brown gritty clay silt loam with flint gravel (212), with a thin layer of redeposited marly chalk (211) and a layer of dark brown clayey silt and gravel (210) above, both dipping down to the south. Over these erosion deposits were soils (208, 209) containing small quantities of abraded Roman pottery that may represent later silting and infill above the road.

POST-MEDIEVAL GARDEN FEATURES

The road was directly sealed beneath a roughly 0.5m thick layer of humic dark greyish-brown soil (207), with various tip lines and lenses dipping down to the south and containing a mixture of Roman, medieval, and post-medieval finds. This soil appears to have accumulated gradually and been turned over and reworked on numerous occasions. It may have originated as an agricultural soil, before becoming part of the garden of Top o' Town House. A number of features were recorded both cutting through and sealed by this soil. A mortared chalk block wall (106/204), 0.5m wide was recorded in both Trenches 1 and 2 running in a roughly west-north-west to east south-east direction (Fig. 1). It was built in a construction trench that was dug down on to the top of the Roman road and was constructed from large undressed chalk blocks laid in rough courses with smaller chalk rubble infill, bonded with pale yellow sandy lime mortar (Fig.2). The pottery recovered from the construction trench suggests a possible late eighteenth or early nineteenth century date. It lies to the east of and on the same line as a garden

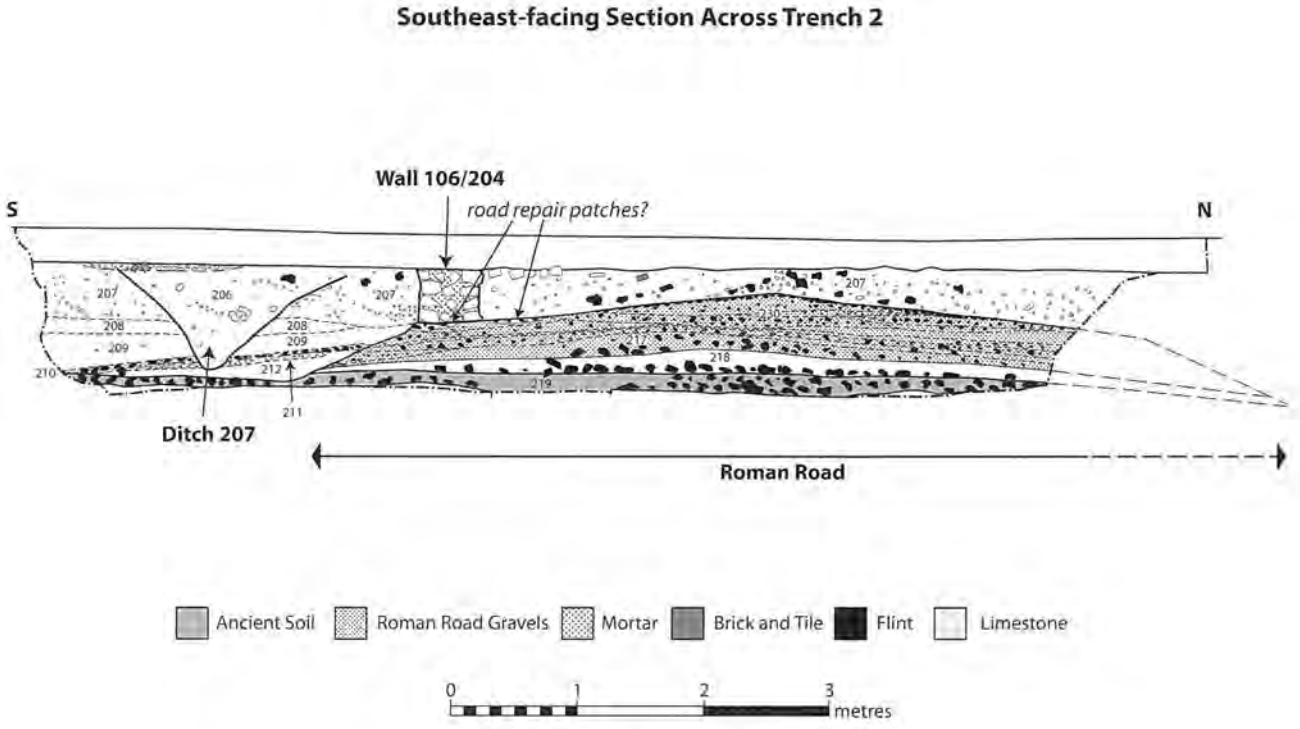

Figure 2 Section, Trench 2.

wall depicted on the 1888 Ordnance Survey 1:500 town plan and may have been an extension of it. To the south was a V-shaped ditch (205), about 1.85m wide and 0.75m deep, running roughly E–W (Fig. 2). This ditch was largely removed by machine and was primarily recorded in section. It was dug through garden soil 207 and was filled with a similar dark greyish-brown humic soil (206). It contained a small quantity of medieval and post-medieval pottery. The relationship with the chalk garden wall was not established and the function of this ditch is uncertain, but is most likely to be associated with activity in the rear garden of Top o' Town House.

DISCUSSION

The investigations behind Top o' Town House have revealed part of a gravel road running in a broadly WNW–ESE direction. This road has a projected overall width of about 7.7m and was built directly on top of an existing agricultural soil. The sequence of construction is clear: initially a layer of flint nodules was laid down, followed by a layer of rammed chalk, over which were layers of sand, sandy clay, and flint gravel a cambered upper surface. No trace of any cart ruts were recognised, but there were some possible repairs to the surface. Although this road is not well dated, its stratigraphic location, form, and size indicate that it is very similar to other Roman roads and streets in the Dorchester area. The cambered basal layer of chalk is a characteristic of a number of the Roman streets within Dorchester (RCHME 1970, nos. 177–179b, Woodward *et al.* 1993) and the flint and gravel metalling above is similar to these streets and other Roman roads. The orientation of this road has not been determined with absolute precision due to the small area exposed, but the general direction is clear. It appears to run more or less parallel with the current Poundbury Road towards the traditional location of the West Gate at the head of High West Street (Fig. 3). The modern Poundbury Road is considered to broadly reflect the line of the Roman Road to Ilchester (*Lendiniae*), so it is assumed here that the Top o' Town House exposure is part of this road, labelled Approach Road 4 by the Royal Commission (RCHME 1970). This discovery has enabled the projected alignment of the road as it approaches Dorchester to be plotted with more certainty.

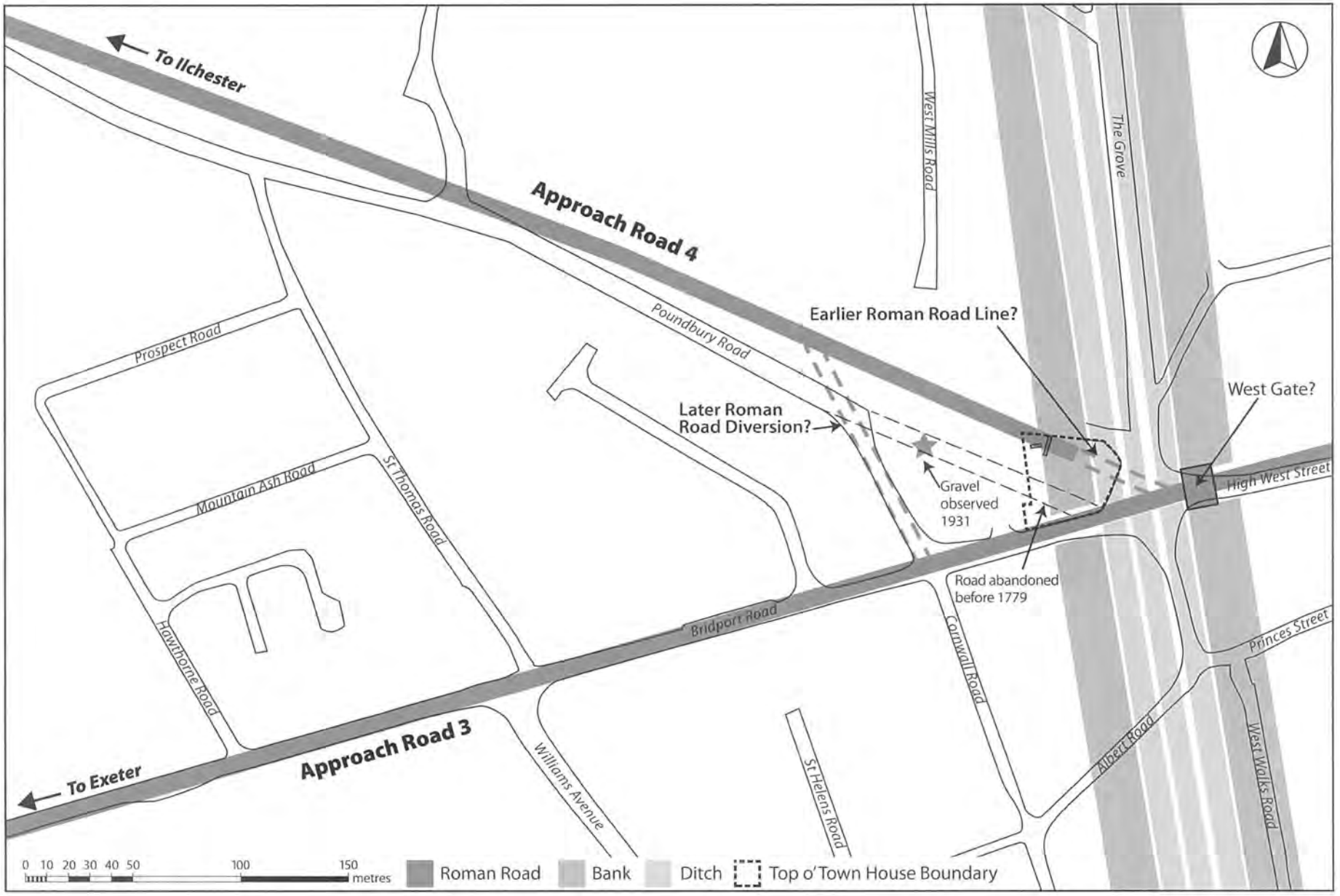

Figure 3 Roman Approach Roads 3 and 4 in relation to the defences of *Durnovaria*.

The road is assumed to have headed straight for the West Gate of the town. As the precise location of the West Gate is not known, this new discovery could help to determine its position with more certainty. Approach Road 4 is projected to meet the Roman road from Exeter (Approach Road 3) at the top of High East Street, just outside the line of the Roman town wall (Fig. 1). The location of the Exeter road where it enters the town appears to be marked by an eight metre wide spread of flinty gravel recorded at the top of High West Street in 1965 (Farrar 1966 and 1967) (Fig. 1). The line of the Exeter road (assuming it continued straight on into the town) would coincide with Roman street remains found at St Peter's Church Hall (Sparey Green 1981) and at Greenings Court (Putnam *et al.* 1970, 137). The alignment of Approach Road 3, together with the location of the junction with Approach Road 4, suggests that the position of the West Gate is likely to be at the top of High West Street, confirming the proposed location marked on the Ordnance Survey maps. No physical remains of the gate structure have been discovered, so its form and precise location relative to the line of the bank and stone wall of the town defences is not known.

The relationship of the road found at Top o' Town House to the town defences is not completely certain. It was built before the town defences were constructed, so it might be assumed to continue across the line of the defences either on a causeway or possibly a bridge. However no trace of the road has been found in the vicinity of the defences. Archaeological observations in 1955 at Top o' Town recorded the two inner town ditches and the chalk ridge between (Farrar 1955, 129), which taken together with the identification of possible road gravels at the top of High West Street in 1965 (Farrar 1966 and 1967), suggest that the ditches continued right up to the edge of Approach Road 3 from Exeter, which appears to have traversed the ditches on a causeway (Fig. 1). Gas main repairs at the top of The Grove in 2018 revealed possible Roman ditch silts associated with the middle ditch, but no trace of the natural chalk, or of any road gravels, although much of the area was disturbed by modern services (Fig. 1). This evidence suggests that the Ilchester road did not cross the ditches on a causeway, which leaves two possibilities; either it was carried on a bridge over the ditches, or the course of the road was diverted when the defences were constructed. No remains of a bridge structure have been found to date and, if one existed, it would have had a rather awkward arrangement with the Exeter road just outside the West Gate. If there were two roads meeting at the gate, it would require either one very wide gap in the counterscarp bank, or two smaller gaps positioned close together, thus weakening further what is already a potential weak point in the defences. Therefore, it is considered more likely that the road was diverted when the defences were constructed. This diversion may be marked by the sharp change in angle at the end of Poundbury Road (Fig. 3). This would mean that the two roads would join well clear of the defences and allow a single road to approach the gate via a causeway. If the above hypothesis is correct and the road was diverted when the defences were constructed, then the road remains at Top o' Town House should be sealed beneath the Counterscarp Bank (Fig. 3). Unfortunately later agricultural and garden activity has removed or reworked all trace of earlier deposits above the level of the road and no bank deposits could be positively identified in either Trench 1 or Trench 2.

Deposits of gravel were found in the area of Top o' Town car park in 1931 and were thought to be part of a metalled road running towards Top o' Town. The Royal Commission was unclear whether the gravel formed part of a Roman or later road (RCHME 1970, 541). The discoveries at Top o' Town House have clarified that the gravel was not part of Roman Approach Road 4, as it lies too far to the south (Fig. 3). It is more likely to have been part of the post-medieval Poundbury Road that originally also continued straight through towards Dorchester, in addition to turning down to meet Bridport Road, as in the present arrangement. The Dorchester end of this road (marked as *Frampton Waye*) is shown on a seventeenth century map (reproduced in Draper 2001, 35). It is also depicted on a 1757 military map (BL Add. MS. 15532). The part of the road that ran straight on appears to have been abandoned at some time before 1779, as the William Simpson Plan of Fordington Manor of this date illustrates the current road layout, with the former straight route marked only by a field boundary.

ACKNOWLEDGEMENTS

I would like to thank Mike Trevarthen for all his help on this project, both on site and during the preparation of this article. Thanks are also due to Phil Holdcroft and Landmark Estates who funded the work.

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PORTABLE ANTIQUITIES SCHEME 2019 & 2020

CIORSTAIDH HAYWARD TREVARTHEN

This brief round-up of the British Museum's Portable Antiquities Scheme in Dorset covers the work of the scheme in 2019 and 2020. The Covid-19 pandemic and a larger, differently focussed piece on the scheme which appeared in last year's volume has made this a necessary approach.

For this period there were 3196 finds recorded in 1653 records for Dorset on the Portable Antiquities Scheme (PAS) online database (finds.org.uk/database). These finds were recorded by the Dorset Finds Liaison Officer (FLO), and several other FLOs across the scheme. The Dorset FLO was also very fortunate to secure grant funding of a sixth month internship jointly from the Headley Trust and Dorset Council, shared with the Dorset Historic Environment Record.

As in previous years Dorset has benefitted from the work of many volunteers and self-recorders both working with the Dorset FLO and across the Portable Antiquities Scheme. In 2020 most of the Dorset volunteers have continued to assist, doing so remotely.

Of the finds recorded for Dorset in 2019 and 2020, approximately 50% were of post-medieval date. Of the remainder, 25% were dated to the Roman period, the medieval material accounted for 14%, 6% were of Palaeolithic to Neolithic date, 4% dated from the Bronze Age to Iron Age and around 1% were of Early medieval date. The high proportion of post-medieval finds can be attributed to the inclusion of two large coin hoards of that period, and in fact 66% of the objects recorded overall in 2019-2020 were coins.

A number of potential Treasure finds were reported as required under the Treasure Act 1996 (revised). These included coin hoards of Iron Age, Roman, and post-medieval date, hoards of Bronze Age objects, medieval and post-medieval finger rings (many with inscriptions), post-medieval silver thimbles, bodkins and cufflink elements. The Museum of East Dorset and Dorset Museum continue to express interest in acquiring Treasure items where funding allows.

Several previous acquisitions of Treasure and other finds reported through the PAS are on permanent or temporary display in both these Museums. Several items have also been generously donated by the finders and landowners during this period and for cases reported in previous years. A recent example is Treasure case 2019 T616 (PAS database record DOR-B4038C), part of a late 17th century silver locket decorated with an incised heart pierced by two crossed arrows (Fig. 1), kindly donated to Dorset Museum. The design is similar to that seen on many cufflinks, studs and buttons bearing hearts, clasped hands and crowned hearts, in various combinations, which are frequently reported under the Treasure Act. The designs are widely thought to have originally been produced to commemorate the marriage of Charles II to Catherine of Braganza in 1662 but continued to be used as a general symbol of love and marriage until the end of the 17th century.

Among the items recorded in 2020 was a gold coin found on a beach in Lyme Bay (Fig. 2). Steve Minnitt (former Director of Museums at the South West Heritage Trust) identified it as a post-medieval gold *ecu d'or au soleil* of Francis I of France (1515-47), of the second type and minted in Lyon in 1515 (pers. comm. 2020). Whilst this has been recorded on the PAS database (DOR-887895), the circumstances of its discovery meant there is a legal requirement for it to be reported to the Receiver of Wreck in accordance with the Merchant Shipping Act 1995. Wreck

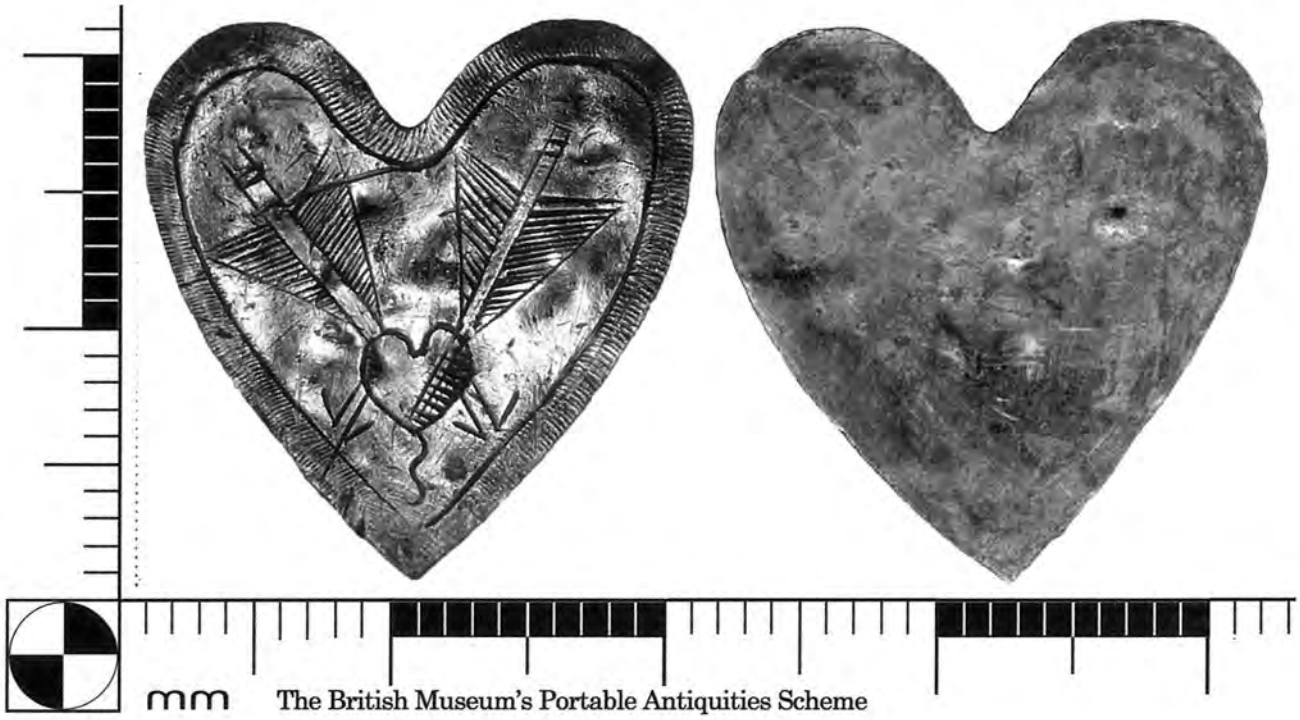

Figure 1 Part of a post-medieval silver locket. (DOR-B4038C)

Figure 2 A post-medieval gold coin. (DOR-887895)

material includes objects found on the seashore or in tidal waters that have come from a ship, aircraft or hovercraft (vessels). This could be parts of the vessel, its cargo or equipment. If unclaimed after a year the ownership of this material reverts to the crown and the Receiver of Wreck will dispose of it on the Crown's behalf. When appropriately reported, the finder may be entitled into a reward. The Finds Liaison Officer was able to supply the database report on the coin to assist in the reporting process.

For more details on wreck and how to report it, please visit https://www.gov.uk/report-wreck-material and https://www.gov.uk/guidance/wreck-and-salvage-law

To contact the Finds Liaison Officer please email finds@dorsetcouncil.gov.uk.

To contact the receiver of Wreck please email row@mcga.gov.uk

DORSET ARCHAEOLOGY IN 2020

Manor Farm, Caundle Street, Bishops Caundle ST 69798 13317

Context One Heritage & Archaeology carried out a programme of historic building recording at Manor Farm, as a condition of granting planning permission for the erection of 19 dwellings and conversion of ancillary barns to form a further five dwellings. The condition related to a large Grade II Listed corn barn (List Entry number 1305216), along with curtilage listed structures comprising two former cattle sheds and a former stable (Fig. 1). The farm buildings once belonged to Manor Farm, an historically significant 19th century farm complex centred on a late 18th century Grade II Listed farmhouse with adjacent 18th century granary. The farmhouse and granary are in separate ownership and do not form part of the development.

The corn barn has been converted into two dwellings, the two former cattle sheds into two dwellings and car ports, and the former stable into one dwelling. Previous assessment of the corn barn indicated a mid- to late 19th century date, however analysis of the structural and documentary evidence would strongly suggest that a 1783 datestone set within the south gable is likely to be accurate. This is a very traditional structure comparable to many other

Figure 1 Aerial view of Manor Farm, Bishops Caundle looking SE.

Figure 2 Manor Farm, Bishops Caundle, late 18th century corn barn with late 19th century porch. Looking SE; 2m scale.

corn barns found in England in the 18th and early 19th centuries, but both the barn and the farm were subject to significant reorganisation and expansion in the later 19th century in response to profound changes in agricultural practice and technological developments. Modifications to the corn barn include the addition of east and west porches (Fig. 2), evidence for the introduction of mechanisation perhaps associated with the storage of grain, and improved vehicular access and provision of additional pitching doors. It also saw formalization of the farmyard to the west of the corn barn, with the construction of ranges of agricultural buildings along the north and west sides, the latter subject to southward extension in the 20th century. Despite the north and west ranges being heavily altered to meet modern farming needs, the buildings have retained their late 19th century character and enclosed inward facing form of the yard.

Cheryl Green
Context One Heritage & Archaeology

33 kV Pole Replacement, Bryanston ST 86640 06738

In September 2020, Wessex Archaeology undertook an archaeological watching brief during the removal and replacement of a single existing 33KV electricity "H" pole structure. The site was within an enclosed prehistoric field system (NHLE 1002427). The watching brief monitored the excavation of a single trench immediately to the south of the pole structure which contained only bedrock and topsoil. No artefacts were recovered.

Finn Cresswell and Ashley Tuck
Wessex Archaeology

Hive Beach Car Park, Burton Bradstock SY 4915 8887

Terrain Archaeology carried out a watching brief

Figure 3 Dairy farm buildings behind 173–175 Brandy Row, prior to demolition; looking NW.

during the excavation of a new electricity duct to the National Trust Hive Beach Car Park hut in February 2020. No archaeological features or finds pre-dating the modern period were revealed.

Peter Bellamy
Terrain Archaeology

11kV Pole Replacements on Combe Ditch Linear Dyke, Charlton Down, ST 86010 17330, ST 86010 23280, ST 86010 26190 and ST 86010 29090

In September 2020, Wessex Archaeology undertook an archaeological watching brief during the replacement and realignment of five wooden electricity poles and associated stays along the length of Coombe Ditch Linear Dyke (NHLE 1002400), with monitored works at NGR ST 86010 17330 (Poles 1 and 5), ST 86010 23280 (Pole 2), ST 86010 26190 (Pole 3) and ST 86010 29090 (Pole 4). No excavation was required for the repair of Pole 5. Each of the four excavations revealed possible traces of the Coombe Ditch. The work at Pole 3 also encountered possible evidence of modern landscaping.

Finn Cresswell and Ashley Tuck
Wessex Archaeology

173–181 Brandy Row, Chiswell, Portland SX 68405 73344

Context One Heritage & Archaeology carried out a programme of historic building recording and archaeological monitoring and recording as a condition of granting planning permission for development at the rear of 173–181 Brandy Row. Chiswell lies mainly on the high shingle bank of Chesil Beach and the buildings that survive to this day were once fish wholesalers, former boat works, fishing huts/ stores, and a few older structures built into Chesil Beach. The site occupies part of the area remembered as being a dairy farm with a bull ring

to the north and the buildings either side of the Site (181 & 175) identified as Important Local Buildings, along with the former industrial single-storey stone building behind 181 being converted as part of the development.

The buildings on the site subject to demolition comprised former industrial buildings, however the oldest built fabric are the walls flanking the entrance from Brandy Row, dating to the late 18th or early 19th centuries, and a small rectangular structure depicted on the 1841 tithe map. In the later 19th century another outbuilding appeared within the northern part of the site, which was contemporary with the adjacent boundary walls. The remainder of the site may have been first developed for dairying (Fig. 3) in the early 20th century, with the largest building seemingly beginning life as a lean-to shed attached to the south side of an earlier small rectangular structure. The addition of further buildings suggests a change to light industry, and this endured into the mid-20th century when the second storey was added to the large building and the earlier fabric converted to offices. The archaeological monitoring and recording confirmed that prior to the construction of the dairying/industrial buildings the site was probably used as pasture and then gardens by the cottagers of Brandy Row. The steep eastward escarpment to the terrace in front of Cove Cottages and deep landslip deposits would have rendered the Site difficult for building on, and it seems likely that the western part underwent terracing prior to the construction of buildings.

Cheryl Green
Context One Heritage & Archaeology

2b–2c Salisbury Street, Dorchester SY 6955 9071

Terrain Archaeology carried out a watching brief during the construction of a new semi-detached house at 2b–2c Salisbury Street, Dorchester, between August 2019 and September 2020. A series of deep clay and coombe rock deposits infilling a coombe running down to the river Frome were recorded. These deposits were cut by a three-metre wide and 0.9m deep linear feature comprising alternate layers of rammed chalk and flint nodules, which ran in a NNW–SSE direction. This feature is similar in character to a wall base recorded on Bowling Alley Walk and West Walks and appears to represent an early abandoned phase of the Roman town defences. This feature has now been identified on the west, east and south sides of the Roman town defences. No secure dating evidence for the feature has been recovered. It was cut by a number of medieval and post-medieval pits.

Peter Bellamy
Terrain Archaeology

New Refill Water Point, South Street, Dorchester SY 6919 9034

In November 2020, Terrain Archaeology carried out a watching brief during the installation of a new refill water point at the south end of South Street, Dorchester. Most of the area exposed was heavily disturbed by modern services, but a deeper layer of soil was recorded at the base of the trench under the street may be part of the upper fill of the inner ditch of the Roman town defences.

Peter Bellamy
Terrain Archaeology

Roman Town House, Dorchester, Dorset SY 68818 91035

Context One Heritage & Archaeology carried out an archaeological programme of works at the Roman Town House, Dorchester, Dorset, as a condition of granting planning permission, Listed building consent and Scheduled Monument Consent relating to a scheme to improve access and interpretation of the monument. The project was commissioned by Dorset Council as part of Heritage Lottery Funding.

The proposal comprised the provision of a new entrance gateway and ramp from Colliton Walk; construction of new paths and a seating area and other changes to infrastructure items; repairs to the west range of the Roman Town House and its modern cover structures; and a new interpretation scheme for the site. The new entrance involved reopening a former gateway in the west wall of Colliton Park and was subject to historic building recording. From

Figure 4 Roman Town House, Dorchester. Excavations for the new ramp and re-opening of the entrance to West Walks. Looking WSW; 1m scales.

this entrance a new ramp was constructed alongside the wall, with archaeological excavation carried out during associated groundworks. Where necessary, the remaining works across the monument were covered by archaeological monitoring and recording.

The historic building recording of the reopened gateway proved that the ashlar piers were infilled in recent times, although it was interesting to note that the fabric approximately mirrored the form of the early 18th century walling on either side. Excavations along the new ramp trench provided a valuable opportunity to explore the western edge of Colliton Park, along the trajectory of the Romano-British rampart (Fig. 4). A series of alternating deposits identified beneath a probable early 18th century path yielded only a few artefacts to indicate a Roman date. However, the absence of later artefacts and the similarity of the deposits to those identified during other interventions through the rampart give weight to this interpretation. While it remains a possibility that the deposits found during the excavation relate to modifications associated with re-use of the defences during the medieval period and the English Civil War, the general dearth of cultural material is more in keeping with the redeposition of virgin soil during the earlier period of Roman occupation. Archaeological monitoring and recording did not identify any archaeological remains here and no residual discarded artefacts from the 1930's excavations of the Town House were recovered, although the limited nature of the ground impacts should be noted.

Cheryl Green
Context One Heritage & Archaeology

New Barn Farm, Knowlton SU 0237 0989

In June 2020, Terrain Archaeology carried out an archaeological evaluation of the proposed site of a new goat barn at New Barn Farm, Knowlton, Dorset. Two trenches were excavated to the south of the

farmyard adjacent to the B3078. The remnants of the bank of the South Circle henge was found just south of the farmyard with a well-preserved humic rendzina buried soil below. At the south end of the site, part of a substantial ditch was revealed, but this was not completely excavated due to the presence of a water pipe. This ditch appears to be part of an undated, but probably prehistoric, ditch on the south side of the coombe running down to the river Allen from the South Circle Henge. It may be part of a pair of ditches identified on aerial photographs that appear to define this coombe.

Peter Bellamy
Terrain Archaeology

Land south of The Paddock Garden, Old Market Place, Sherborne ST 63948 16793

Context One Heritage & Archaeology carried out archaeological monitoring and recording relating to the proposed construction of a new gallery and arts facility as part of the Paddock Project. The site lies within an area of recorded medieval activity relating to the spread of Newland medieval borough. Despite this potential, no features were identified during monitoring of pre-construction investigative works and only a few sherds of residual medieval pottery were recovered from modern made ground. Instead, the results appear to corroborate the conclusions from a previous evaluation that encompassed part of the site, confirming evidence of extensive ground disturbance from the 18th century and/ or modern landscaping and terracing, resulting in the deposition of deep soil accumulations.

Cheryl Green
Context One Heritage & Archaeology

Church of the Holy Rood, Shillingstone ST 82457 11453

In August 2020, a watching brief was maintained by Wessex Archaeology during excavations for a new gas supply at this Grade I listed building. As might be expected in an historic churchyard, disarticulated human remains were found within the graveyard soil, along with a sherd of medieval pottery, a fragment of late-medieval to early-post-medieval roof tile and an undiagnostic piece of brick. The human remains were expeditiously reburied following a small ceremony held by the rector. No archaeological features were identified.

Finn Cresswell and Ashley Tuck
Wessex Archaeology

South Perrott Reservoir, South Perrott ST 47717 06293

In October 2020, Wessex Archaeology monitored geotechnical test pits carried out in advance of improvement works at the reservoir. Historic Ordnance Survey mapping indicates that test pits 8 and 9 were located at the northern tip of a fishpond adjacent to its embayment wall. The deposits encountered within these test pits provided tentative evidence for *in situ* pond sediments, overlain by a later deliberate infill episode. The remaining test pits were archaeological sterile save for a single sherd of post-medieval pottery recovered from topsoil.

Finn Cresswell and Ashley Tuck
Wessex Archaeology

Land East of Elm Close, Sturminster Newton ST 79288 14196

In March 2020, Wessex Archaeology excavated 23 trial trenches targeted on geophysical anomalies at a 7.9 ha parcel of land to the east of Elm Close. Scattered archaeological features were recorded. One of three postholes contained a charcoal-rich fill from which a very small fragment of burnt bone and a small assemblage of burnt flint and a single unburnt flint flake were recovered. An undated ditch probably represented a field boundary pre-dating an 1845 tithe map. There were two further shallow gully terminals.

Finn Cresswell and Ashley Tuck
Wessex Archaeology

Figure 1 Excavation underway on the Cerne Abbas Giant.

Cerne Abbas Giant Four excavation trenches and interim report of OSL dating

In March 2020, four small trenches were excavated across the upper elbow lines and lower foot lines of the Cerne Abbas Giant. Each was 2m long and 0.6m wide. They were excavated to extract soil samples to carry out molluscan and soil analysis but principally to provide Optically Stimulated Luminescence (OSL) dates to determine the age of the chalk figure.

Each excavation revealed the same sequence of events and the locations were chosen because heavy rain on the steep slope of the hill (Fig. 5) causes chalk run-off from the exposed white lines of the figure. This process creates the accumulation of silts against the horizontal parts of the outline; that is, in locations like the soles of the Giant's feet and the elbows of his outstretched left arm and club-bearing right arm. At these points, the various re-chalkings of the Giant have gradually become buried over time, accumulating deposits up to 0.8m deep below the current chalk-line surface of the figure.

At least ten episodes of chalk figure construction could be seen in the excavation sections and each had a different quality. At the lowest level was the initial 0.15m deep and 0.65m wide curving hollowed scoop into the chalk bedrock which had become filled with colluvium. This was later cut through by a 0.35m wide trench filled with chalk rubble up to 0.35m deep. Above this a soft chalk paste up to 0.05m deep; above this a soft pea-grit chalk 0.05m deep, then another but smaller chalk rubble layer up to 0.3m deep; above this two episodes of kibbled chalk dating from the 1950s and 1970s, together up to 0.3m deep, and then three episodes of rammed compacted chalk, together 0.3m deep. This dated

from the 1990s to 2019 when the last re-chalking was carried out by National Trust.

In 2020, the modern 0.5m wide line of the figure was found to have shifted up to 0.3m downslope compared with the position of the lowest 0.35m wide chalk rubble layer.

In three of the trenches, remains of timber paling stakes were found rammed into the outer edge of the chalk outline. Two were truncated at the upper rubble chalk layer but the one in the right foot of the Giant was 0.55m long and survived from the upper kibbled chalk layer to the bottom of the lower chalk rubble layer. It suggests that the whole figure was marked out by wooden stakes at some time probably in the late 19th or early 20th century.

Mike Allen has examined molluscan samples from the lowest colluvium which filled the initial scrape into the bedrock and his initial assessment is that there are species present which were only introduced in the medieval period.

In March 2021 the OSL report was received which provided 4 dates from the 5 samples which were analysed. The sample from the 0.05m wide silty chalk layer had insufficient quartz samples to provide a date. A sample from the downslope side of the figure and 10cm from chalk bedrock provided a date of AD 1110–1560 with a midpoint date of 1250; a sample upslope and 5cm from chalk bedrock was dated to AD 1080–1400 with midpoint 1240; a sample from 5cm above the bottom of the bottom chalk rubble layer, 5cm from chalk bedrock, gave a date of AD 650–1310 with a midpoint date of AD 980; the lowest sample and oldest stratigraphically was from the colluvial material filling the initial scoop into chalk bedrock and this yielded a date of AD700–1110 with a midpoint date of AD 905. Prof Phil Toms' report concluded that the Giant could not be older than AD 700 and there was a one sigma (66%) probability that he had been constructed in the early medieval period.

These new dates centre around the Saxon occupation of Cerne and revitalise the ideas surrounding the Saxon god Helith (favoured by William Stukely in 1764) a little before the foundation of Cerne Abbey in AD 987. If these dates are correct then the Abbey sanctioned the continued exposure of the image of the Giant on the hill, just a few hundred metres from its cloisters.

However, the dates are still curious because there are no mentions of the Giant in any of the monastic documents and writings which survive from Cerne Abbey and still no historic reference describing the chalk figure before the Church Wardens account repair bill of November 1694. John Norden's survey of the estate in 1617 mentions Trendle Hill but not the Giant. The section drawings and soil accumulation needs careful examination as the initial scrape into chalk bedrock was allowed to become covered in 10–20cm of colluvial deposits before the being cut into by the 0.35m deep trench which penetrated the natural chalk and was filled with the lower chalk rubble deposit.

Many thanks to Mike Allen who carried out the sampling and soil analysis work, Phil Toms of Gloucestershire University who analysed the samples and provided the OSL dates. To Fay Pendell, Carol Lewis, Peter Moore and Beth Darlington who carried out the excavation supervised by Nancy Grace.

Martin Papworth,
National Trust

DORSET RAINFALL 2020

JOHN OLIVER

Rainfall totals in 2020 across Dorset as a whole were 23% above the 1981–2010 average. February was the fourth wettest in 165 years with measurable rain recorded on 24 days. The total for August was also double the average as the result of three very heavy rainfall events that occurred within a nine-day period. The spring was remarkably dry and sunny and offered some very welcome cheer during an otherwise bleak time with the UK in lockdown due to a global Coronavirus pandemic. Most stations reported no rain between 19th March and 5th April and between 6th May and 2nd June. Only two rain-days were generally noted between 6th–26th April. May was the driest for more than 120 years.

The wettest station in 2020 was Cerne Abbas with 1534.2mm measured and the driest was Portland Bill with 646.8mm. The highest daily rainfall total was 55.0mm recorded at Wareham on 1st October. There was virtually no lying snow during the year but many observers reported sleet or 'wet' snow showers in late January and at times in February and during the last few days of December. At Shaftesbury snow settled for a few hours to a depth of 1cm on 28th January and 0.5cm on 28th December. Snow also settled during the early hours of 31st December at Weymouth.

Table 1 Monthly Rainfall and Thunder Days in 2020

	Rain Days		Rainfall (mm)			Thunder Days	
Month	**>0.2mm**	**Av.***	**Total**	**Av.***	**% Av.***	**Total**	**Av.****
January	21	18	111.2	97.2	114	1	2
February	24	15	171.0	71.3	240	2	1
March	14	16	67.4	72.2	93	1	1
April	7	13	54.9	62.3	88	1	3
May	4	13	4.0	57.6	7	1	4
June	14	11	76.0	52.7	144	8	3
July	11	11	36.9	51.8	71	2	4
August	15	12	129.4	62.8	206	5	5
September	8	13	45.9	71.3	64	0	3
October	22	17	185.2	109.2	170	1	3
November	18	17	85.0	109.3	78	1	2
Year	**181**	**174**	**1133.5**	**924.9**	**123**	**24**	**32**

Av.* refers to the period 1981–2010. Av.** refers to the period 1986–2015.

HIGH 24-HOUR RAINFALL EVENTS IN 2020

Rainfall data obtained from more than 50 stations showed falls of more than 25mm were recorded somewhere across the county on 26 days in 2020 compared to 21 days in the previous year. On eight days, at least 20 stations registered in excess of 25mm and the most widespread of these events are described below.

14 January

This was the mildest and windiest day of the month with persistent frontal rain that continued through the evening by which time the south-west wind had strengthened further to produce inland gusts of 50mph. Most parts of the county received at least 20mm of rain with the highest totals recorded across central areas.

(Milton Abbas 50.0mm; Owermoigne 42.7mm; Witchampton 41.3mm; Winterbourne Zelstone 40.0mm)

18 June

A shallow low-pressure system (1009mb) centred over central Wales at 1800hrs GMT brought rain across the whole area by late morning and this persisted through the rest of the day and well into the night. Rainfall was not particularly heavy but its longevity allowed totals to reach 20mm across much of south Dorset and this increased to more than 30mm further north and especially over the hills.

(Cerne Abbas 48.9mm; Toller Down 47.2mm; Rampisham 43.1mm; Forde Abbey 40.8mm)

18–19 August

Very heavy rain and a gusty southerly wind associated with Storm Ellen affected all parts of the county for about nine hours from 0300hrs GMT on the 19th. Rainfall figures quoted below are for the calendar day, in reality the total was split across two rain-days at the site observation hour that can vary between 0600 and 0900hrs GMT. Rainfall totals amounted to 35–45mm across most of the county except for the extreme north and parts of the coastal fringe where measurements were closer to 25mm. Some central areas recorded more than 50mm of rain.

(Forde Abbey 54.0mm; Stratton 50.4mm; Milton Abbas 50.0mm; Dorchester 49.3mm)

27 August

Low pressure centres close to southern Ireland and Cornwall led to a cloudy and cool day with rain at times. Much of the rain was light and patchy during the morning but it turned heavier as the associated cold front arrived from the west during the early afternoon. Embedded in the front was a well-defined thunder squall line that crossed the whole of Dorset and produced about 20 minutes of intense rain. Many places recorded falls of 25–35mm of rain within a 45-minute period and that resulted in widespread flash flooding across the county. It was reported that a particularly violent squall or possible tornado damaged roofs and brought down trees in Hamworthy.

(Shaftesbury 44.3mm; Dorchester 41.9mm; Winterbourne Steepleton 39.8mm; Bradford Peverell 38.5mm)

30 September–3 October

This was an exceptionally wet period with a few stations reporting the very rare occurrence of more than 25mm being recorded on four successive days. Frontal rain associated with a low-pressure system crossing Scotland, set in during the afternoon of the 30th and continued into the early evening. The rain was quite heavy at times and produced totals of 20–30mm across much of west Dorset with 49.8mm measured at Melbury Sampford and 45.0mm at Toller Down.

The 1st was the wettest day of the four generally although the daylight hours were mostly dry and bright. Heavy rain spread from the west during the evening and continued until about 0900hrs (2nd) accompanied by a strengthening breeze. Most places received more than 20mm of rain with the highest totals (credited to the 1st) recorded at Wareham (55.0mm), Wool (54.6mm) and East Stoke (53.8mm). The early hours of the 2nd apart from being very wet, were also very windy, in association with a deep low (969mb) over Brittany, named by Meteo France as Storm Alex for its impact there. Wind gusts measured at Dorchester reached 45mph at 0200hrs GMT. After

a few hours dry and bright, rain returned during the evening and night. The highest rainfall totals credited to the 2nd were from Shaftesbury (37.4mm), Rampisham (35.3mm) and Cerne Abbas (32.0mm).

The rain continued throughout the 3rd and was again heavy at times finally petering out around midnight. Totals were again high in places with Cerne Abbas recording 35.1mm, Thornford 35.0mm and Rampisham 33.4mm. The Met Office reported that October 3rd 2020 was the wettest day across the UK as a whole since records began in 1891 with an estimated average fall of 31mm. Most of central Dorset from Beaminster and Bridport eastwards to Hazelbury Bryan and Milton Abbas and then north-east through Iwerne Minster to Shaftesbury, received more than 100mm of rain over the four-day period. A small area around Winfrith, Wool and Wareham also collected more than 100mm. Most places away from the heaviest rainfall zones reported an event total of 80–95mm but at Weymouth just 51mm was recorded. The highest totals reported were 140.2mm at Rampisham and 136.8mm at Toller Down.

THUNDERSTORMS

Thunder was reported as heard on 24 days in 2020 compared with 21 days in the previous year and an average of 32 days (See Table 1). As usual much of the thunder was associated with localised passing showers that produced just one or two 'flashes and bangs.' The first widespread thunder of the year, in the form of showers, affected mainly but not exclusively the western half of the county soon after dawn and during the early afternoon on 30th April. Some of the showers were very heavy and prolonged with hail. At Weymouth the total rainfall for the day was 35.3mm with 28.2mm and 28.0mm recorded at Preston and Broadmayne respectively.

The 13th August was hot and humid with a gentle south-easterly airflow and inland early afternoon temperatures of around 27C. This soon triggered thundery activity lasting an hour or two in many places. At Hazelbury Bryan 29.6mm of rain was registered with 25.6mm recorded by a tipping-bucket auto gauge at Minterne Magna. All of Dorset was within earshot of thunder on 27th August as an active cold front tracked east across the area. Details of the storm is described in the Heavy Rainfall section above. Several thunder showers were reported across the county on 28th August in a cool and unstable westerly airflow. Pea-sized hail accompanied the thunder in Weymouth during one of the showers in the late afternoon. The last widespread thunder of the year occurred in a showery westerly airstream on 15th November and principally affected the south and east of the county.

GENERAL WEATHER SUMMARY 2020

The mean temperature across the county in 2020 was the second highest on record (after 2014) and about 1.0C above the 1981–2010 average.

January (The mildest since 2008)

The first two weeks of January were unsettled with large amounts of cloud and rain at times. During this period temperatures were mostly close to, or a little above the average. A deep area of low pressure brought persistent and sometimes heavy rain on the 14th and within its warm sector 12C was reached late in the day accompanied by inland wind gusts of 50mph. More than a week of quieter weather followed with a gradual change to drier, colder and sunnier conditions with overnight frost. Mean sea level pressure reached 1050mb at Mumbles on the 20th – the highest recorded in the UK since 1957. Across Dorset 1049mb was recorded.

Temperatures returned to near normal values from the 22nd and it remained largely dry until the 25th. The last few days were generally milder as the north-east wind backed into the west but unsettled with rain or heavy showers and any noteworthy sunshine was limited to the 29th. It was just cold enough for early morning snow showers to produce the first transient covering of the season (1cm) at Shaftesbury on the 28th.

(HiMax 13.1C Hurn 9th; LoMax 2.0C Thornford 21st; HiMin 10.0C Dorchester 8th; LoMin -4.9C Hurn 21st;

HiRain 50.0mm Milton Abbas 14th; Sun 53hrs 85% Hurn)

DORSET RAINFALL 2020

Stations marked * are sites incorporating tipping-bucket auto gauges and have not been included in the compilation of the county averages.

STATION		OBSERVER	Greatest 24hr fall Depth (mm)	Date	Days with rain 0.2mm	25mm	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR (mm)
STOUR BASIN																			
Blandford St Mary		Mr D Vincent	35.8	27/8	198	4	121.2	153.7	62.5	60.3	1.6	65.4	28.3	125.2	38.5	173.5	84.2	149.2	1063.6
Compton Abbas		Environ Agency	30.6	18/6	206	6	106.8	162.6	66.0	56.2	3.4	88.8	38.6	121.8	36.6	159.8	75.6	152.0	1068.2
*		Mr R Brown	24.7	27/8	189	0	81.7	140.1	54.1	58.6	2.5	76.4	36.8	110.5	51.0	146.6	75.8	111.2	945.3
East Stour		Mrs J Westgate	32.1	18/6	197	6	92.7	151.5	62.5	57.2	4.4	81.5	37.5	115.7	55.4	171.4	78.7	145.6	1054.1
Fontmell Magna		Mr T Yorke	33.1	18/6	217	7	100.2	195.5	69.8	65.6	4.4	101.1	58.1	137.7	66.5	189.9	106.5	152.6	1247.9
Gillingham		Mr R Benfield	37.9	15/2	183	9	117.3	180.0	71.3	52.9	1.5	82.1	37.8	139.1	60.0	192.3	91.3	166.6	1192.2
Iwerne Minster		Environ Agency	32.2	15/2	213	4	98.0	177.0	56.0	49.8	3.6	92.4	31.4	124.2	62.4	166.8	89.0	141.0	1091.6
King Stag	*	Mr M Yorke	44.3	27/8	214	8	95.8	167.5	78.1	71.1	8.6	94.7	57.5	146.1	64.1	200.2	86.3	153.2	1223.2
Shaftesbury (Hilltop)		Environ Agency	34.3	27/8	174	7	122.3	175.7	55.9	51.5	2.1	57.8	31.5	121.9	39.9	170.9	85.2	162.5	1077.2
Stourpaine		Mr M Rowley	32.8	1/10	174	5	115.8	134.5	64.2	50.6	0.9	66.2	33.6	112.3	25.2	187.7	67.2	140.6	998.8
West Moors		Mr B Bush	37.9	14/1	188	8	141.4	164.0	64.0	51.8	1.4	75.3	36.6	111.1	34.5	202.3	85.4	171.0	1138.8
Wimborne (Merley)		Miss B Hooper	41.5	1/10	165	7	128.8	155.4	70.0	55.9	2.4	77.9	32.6	125.1	40.4	192.2	89.6	169.8	1140.1
Winterborne Zelstone		Mr A Mitchell	41.3	14/1	155	8	119.5	155.5	58.1	61.8	0.6	68.0	33.3	121.5	24.7	169.9	92.3	161.8	1067.0
Witchampton																			
PARRETT BASIN																			
Melbury Sampford		Mr G Jones	49.8	30/9	188	15	117.4	221.0	75.9	58.3	5.9	106.5	40.5	139.6	74.1	184.6	131.5	212.7	1368.0
Stalbridge		Mrs M Paul	33.1	15/2	188	2	73.3	152.7	54.8	44.3	3.1	79.2	26.1	113.0	46.6	163.8	73.3	124.0	954.2
Thornford		Mrs W Morris	38.8	18/6	174	6	83.4	180.8	62.8	41.5	5.8	94.3	33.7	99.2	62.4	166.8	87.8	137.5	1056.0
FROME BASIN																			
Bere Regis		Environ Agency	43.2	1/10	180	4	117.1	142.6	58.7	48.6	1.1	71.2	30.1	120.7	38.2	177.1	83.6	142.4	1031.4
Bradford Peverell		Mr D Oliver	38.5	27/8	188	6	117.8	176.5	77.0	49.0	6.2	69.5	41.3	152.5	50.7	195.9	91.3	192.6	1220.3
Broadmayne		Mr M Ching	37.0	19/8	161	5	109.5	179.0	61.0	65.0	4.5	65.0	41.5	125.5	39.0	198.0	84.0	204.0	1176.0
Cerne Abbas		Mr P Spray	48.9	18/6	194	13	131.0	242.8	93.6	62.0	5.1	122.6	43.5	179.1	69.2	251.6	107.4	226.3	1534.2
Charminster		Mr G Eveleigh	36.9	27/8	173	8	137.2	202.2	81.2	47.9	7.2	67.3	41.6	160.5	53.5	200.1	87.6	177.8	1264.1
Dewlish (Parsonage Farm)		Mr C Britton	34.4	14/1	54	10	128.1	187.5	74.6	56.0	4.1	76.0	56.1	129.4	45.5	184.9	78.1	173.0	1193.3
Dorchester	1	Mr J Oliver	40.7	27/8	189	5	111.5	170.0	70.7	55.1	5.3	53.4	37.6	150.8	41.0	186.2	71.3	183.6	1136.5

DORSET RAINFALL 2020

Dorchester 2	Mr S Oliver	41.9	27/8	184	8	114.0	204.5	75.3	55.1	4.8	56.3	50.1	166.1	49.5	216.7	87.7	198.3	1278.4
Evershot *	Environ Agency	40.2	30/9	224	9	110.0	205.2	75.4	61.6	7.0	101.4	39.8	134.0	63.8	213.0	110.0	192.0	1313.2
Milborne St Andrew (Coles Farm)	Mr A Maitland	33.6	14/11	192	9	131.4	193.6	66.4	56.4	2.1	81.2	47.5	149.1	38.7	182.0	84.1	181.3	1213.8
Minterne Magna *	Environ Agency	33.4	24/8	229	9	116.2	212.2	73.2	49.6	4.4	101.0	40.8	161.0	59.0	213.8	98.4	182.4	1312.0
Milton Abbas	Mr K Battrick	50.0	14/1	163	11	166.5	211.0	72.0	58.0	1.5	97.5	47.5	187.5	51.5	236.0	94.5	181.5	1405.0
Owermoigne	Mr A Hodge	48.0	1/10	184	3	138.5	168.4	63.2	56.9	3.8	55.3	35.5	113.4	27.1	186.9	75.4	179.4	1103.8
Puddletown (Bardolf Manor)	Mr H Wood-Homer	33.5	27/8	175	8	121.0	168.2	72.7	57.9	3.6	78.4	38.5	132.7	41.4	185.7	74.3	177.8	1152.2
Rampisham	Mrs C Parry	44.4	30/9	183	10	109.6	213.8	70.6	61.9	6.2	111.4	38.7	130.6	67.1	234.5	111.7	201.2	1357.3
Stratton	Mr A Keep	48.2	19/8	159	10	110.9	161.7	78.8	56.1	6.8	83.0	41.9	157.4	54.2	199.2	97.0	197.2	1244.2
Sydling St Nicholas	Mr C Legg	38.0	18/6	182	9	107.8	220.1	78.2	59.3	6.0	94.8	30.5	125.9	59.7	232.4	87.7	186.7	1289.1
Wareham (Trigon)	Mr R Sturdy	55.0	1/10	157	5	100.5	107.7	74.9	41.8	1.8	50.2	25.2	116.2	34.3	201.7	80.8	155.6	990.7
AXE BASIN																		
Forde Abbey	Mr M Roper	42.9	19/8	184	7	93.2	205.5	72.9	43.7	7.7	102.7	26.4	120.7	32.2	169.5	101.4	209.7	1185.6
COASTAL STREAMS																		
Bothenhampton	Environ Agency	37.1	30/9	167	3	56.8	134.7	55.3	47.9	6.6	70.7	29.3	104.7	57.8	133.8	77.8	132.7	908.1
Friar Waddon *	Environ Agency	37.0	1/10	207	2	89.4	143.6	65.6	44.0	4.6	56.4	34.0	121.0	41.6	172.8	65.8	144.4	983.2
Portland Bill (Old Higher Light)	Mrs F Lockyer	41.0	1/10	172	1	66.8	81.6	36.6	39.0	4.4	30.4	21.0	68.0	23.4	131.0	46.6	98.0	646.8
Preston	Environ Agency	32.6	1/10	183	4	106.6	145.3	54.8	60.8	2.2	46.2	23.2	101.4	23.7	143.6	57.3	131.6	896.7
Swanage *	Environ Agency	29.6	4/12	185	6	96.6	141.2	52.8	41.8	0.8	33.6	32.0	75.0	41.4	178.2	67.0	152.4	912.8
Swyre *	Environ Agency	33.6	27/8	202	2	56.6	122.2	49.2	36.0	6.0	58.0	30.2	111.0	54.4	149.0	75.6	137.8	886.0
Weymouth	Mr R Poots	35.3	30/4	172	4	106.4	140.6	66.9	61.9	3.3	51.8	19.6	118.7	26.8	123.8	59.7	142.8	922.3
COUNTY AVERAGES				**181**		**111.2**	**171.0**	**67.4**	**54.9**	**4.0**	**76.0**	**36.9**	**129.4**	**45.9**	**185.2**	**85.0**	**166.6**	**1133.5**

February (The wettest since 2014 and mildest since 2002)

The month was very unsettled and windy with rain or showers on most days. Temperatures were close to, or above the average throughout the month with only two or three slight air frosts registered. Storm Ciara brought very strong winds on the 9th and 10th with gusts in Dorchester measured at 53mph on both dates. A week later Storm Dennis brought heavy rain and strong winds with gusts of 50mph during the early hours of the 16th. Many major roads across the county were blocked for a time by flooding or felled trees and some consumers lost their electricity supplies for a few hours.

(HiMax 14.4C Hurn 23rd; LoMax 7.1C Blandford 11th; HiMin 10.3C Wimborne 16th; LoMin -2.8C Hurn 6th;

HiRain 37.9mm Iwerne Minster 15th; Sun 69hrs 88% Hurn)

March (Sunniest since 2012 and driest since 2015)

The mild and unsettled theme continued through the first half of the month with rain or showers on most days, interspersed with some sunny intervals. The 4th was notably wet with falls of 10–20mm widely across the county. Pressure rose substantially on the 16th and brought dry and settled conditions and this was maintained for the rest of the month. The period from 21st to 28th produced abundant sunshine with some pleasantly warm days after the early morning frosts. The temperature reached 16C in places between 24th–26th before tapering off in the last three days of the month.

(HiMax 16.3C Thornford 24th; LoMax 5.6C East Stour 5th; HiMin 10.2C Wimborne 18th;

LoMin -3.5C Dorchester 26th; HiRain 34.5mm Nottington 4th; Sun 158hrs 141%)

April (Sunniest for more than 50 years and warmest since 2011)

This was an exceptionally sunny, generally dry and rather warm month. Apart from a few showers early in the month and a few hours of steady rain on the morning of the 17th most places were dry until the 27th. Temperatures climbed into the 20's Celsius between the 8th and 12th and again 21st–23rd. A few rural frosts were recorded in the first half of the month. The last three days were unsettled with periods of rain and much lower daytime temperatures.

(HiMax 26.4C Thornford 11th; LoMax 10.0C East Stour 1st; HiMin 11.1C Wimborne 6th;

LoMin -3.3C Hurn 1st; HiRain 35.3mm Weymouth 30th; Sun 250hrs 148% Hurn)

May (Driest since records commenced in 1856 and sunniest for more than 50 years)

The first five days were rather cloudy with showers in many places and temperatures about average. A marked rise in pressure on the 6th heralded the onset of a dry, sunny and generally warm period that was to last up to and beyond the end of the month. Temperatures climbed into the low to mid-20's Celsius between the 8th and 10th but the passage of a cold front late on the 10th brought a drop in maxima of about 10C on the 11th compared to the previous day. After a cooler week with even a touch of rural frost on the 12th and 15th, some warmth returned in the second half of the month. The last seven days were virtually cloudless with just a gentle easterly breeze.

(HiMax 29.3C Thornford 27th; LoMax 12.9C Dorchester 11th; HiMin 14.7C Wimborne 22nd;

LoMin -0.5C Hurn 15th; HiRain 5.2mm Stratton 5th; Sun 339hrs 175% Hurn)

June

The first two days were hot and sunny before a cold front brought a 10C drop in temperature on the 3rd accompanied by a little rain. The 6th was particularly cool with the temperature struggling to reach 14C in many places. The weather became briefly warmer mid-month with temperatures a little above average. Heavy and persistent rain affected all parts on the 18th and it then remained unsettled until the start of a three-day very hot and sunny spell that peaked and came to an end on the 25th. Continental air was replaced by that of Atlantic origin overnight and the

26th was at least 12C cooler than the day before. The last few days of the month were rather cool and breezy with some rain at times.

(HiMax 34.3C Wimborne 25th; LoMax 13.8C Blandford St Mary 6th; HiMin 18.4C Thornford 26th;

LoMin 4.2C Hurn 7th; HiRain 48.9mm Cerne Abbas 18th; Sun 213hrs 106% Hurn)

July

The first ten days were generally rather cloudy with a little rain at times and temperatures a little below the mid-summer average. The period from the 11th to 24th was mainly dry, sunnier and warmer with temperatures into the mid-20's Celsius. The 25th was overcast and cool and the wettest day of the month with the heaviest rainfall during the afternoon period. The month ended with a very warm south-easterly airflow off the near continent and inland temperatures surpassed 30C.

(HiMax 32.7C Thornford 31st; LoMax 17.6C Dorchester 25th; HiMin 17.2C Wimborne 25th;

LoMin 5.4C Hurn 11th; HiRain 27.6mm Stratton 25th; Sun 210hrs 103% Hurn)

August (Wettest since 2015)

The first half of the month was warm and quite sunny with inland temperatures as high as 35C in the second week. The morning of the 13th was very warm and humid, starting from a base of 19C, with a few sunny intervals. Early afternoon showers soon turned heavy and thundery and at Hazelbury Bryan and Minterne Magna 29.6mm and 25.6mm of rain was recorded respectively. Again, temperatures never fell below 19C into the 14th to produce the warmest nights in many places, of any month, for 17 years. The second half of the month was cooler and much more disturbed with frequent heavy rain including three widespread events that each produced more than 25mm. The maximum temperature on the 27th–29th was just 17C.

(HiMax 35.0C Wimborne 12th; LoMax 16.6C East Stour 27th; HiMin 19.1C Thornford 13th;

LoMin 6.4C Hurn 31st; HiRain 48.2mm Stratton 19th; Sun 173hrs 91% Hurn)

September

This was a very dry month overall with rainfall up to the 29th generally only 20–30% of the average. Heavy rain during the afternoon and evening totalled well over 25mm over much of the west of the county. Temperatures were near average during the first week but from the 12th–21st sunny skies and mainly light breezes raised the mercury above 21C every day. The peak came between the 14th and 16th with maxima in the high 20's Celsius. The last nine days were much cooler, notably the 24th with a general 'high' of just 12–14C. At dawn on the 28th the temperature dropped low enough in some rural areas for a brief ground frost.

(HiMax 28.9C Wimborne 14th; LoMax 11.7C Dorchester 24th; HiMin 16.2C Blandford St Mary 3rd;

LoMin 0.3C Hurn 28th; HiRain 49.8mm Melbury Sampford 30th; Sun 165hrs 115% Hurn)

October (Wettest since 1976)

This was a very wet and dull month with just one or two brief dry periods in most places between the 9th and 18th. The mean sea level pressure was the lowest for October since 2003. Rain was particularly heavy during the first four days and on the 24th. With generally cloudy skies and winds predominately from the west temperatures were quite uniform throughout the month, being slightly below average by day and above average by night.

(HiMax 18.6C Hurn 8th; LoMax 11.1C Thornford 4th; HiMin 14.4C Wimborne 21st; LoMin 1.5C Hurn 10th;

HiMin 14.4C Wimborne 21st; HiRain 55.0mm Wareham 1st; Sun 73hrs 69% Hurn)

November

A generally mild and unsettled month with periods of rain or showers although daily totals were quite small after mid-month. The heaviest rain fell on the calendar day of the 14th but commencing around

0600hrs, the total was split across two rain-days. Temperatures were mostly a little above average although it was rather cold between the 3rd and 6th and in the last few days. Air frost was quite widespread between the 4th and 6th, away from town centres.

(HiMax 16.4C Hurn 1st; LoMax 5.8C Thornford 26th; HiMin 12.7C Wimborne 2nd; LoMin -2.6C Hurn 5th;

HiRain 45.3mm Charminster 14th; Sun 67hrs 90% Hurn)

December

The first and last eight days of the month were the coldest across the county in December since 2010. Overnight rain on the 2nd persisted for much of the 3rd and showers on the 4th and 5th produced a wintry mix over the highest ground but it was frost and freezing fog that caused travel issues at lower levels on the 7th. Temperatures recovered on the 9th and the next two weeks were mostly very mild with periods of rain. The wind veered to the north on the 24th with a marked fall in temperature but plenty of sunshine and this continued on Christmas Day. Boxing Day started frosty but soon clouded up and the wind steadily increased as Storm Bella approached. The wind gusts reached 56mph at Dorchester at 0300hrs on the 27th, accompanied by heavy rain. The MSL pressure dropped to 970mb early on the 28th and in the wake of 'Bella' the wind veered to the north-west, ushering in polar air and the month ended very cold with wintry showers and night frosts.

(HiMax 13.6C Hurn 23rd; LoMax 2.0C Wimborne 7th; HiMin 11.0C Dorchester/Wimborne 23rd;

LoMin -5.4C Hurn 31st; HiRain 40.4mm Witchampton 4th; Sun 60hrs 105% Hurn)

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OBITUARIES

MERELINA SYMONDS ROSS — MERRY ROSS

Merry was born in Lancashire in 1921 and was the middle of five children. She boarded at Cheltenham Ladies College while her parents were away in Africa. In 1939, she joined the army and met her future husband, a doctor from Edinburgh, in 1940 while she was driving an ambulance. They became engaged later that year and almost immediately he was posted to North Africa as a surgeon at a front line casualty clearing station. She wrote to him every day he was away and finished her own army career as a lieutenant. Merry and her husband next saw each other in 1945 marrying in Edinburgh in December of that year. Their son Nicholas was born in 1947 and they moved to Surrey where her husband was in general medical practice. While acting as her husband's medical secretary she studied history of art and was an accomplished gardener and wild flower expert.

Merry's husband retired in 1977 and they moved to Kington Magna in Dorset. She was a doting grandmother with two grandchildren in North Yorkshire who visited her frequently. She joined the DNHAS, became involved with the Dorset County Museum, and studied local archaeology, carrying out her own projects. Beautifully drawn plans and

elevations of the church at Kington Magna are now part of the archaeological archives within the Dorset Museum collection.

Her dedication to the museum and society was such that she would drive into Dorchester two or three days a week to carry out a variety of roles, and after her husband died in 1982, she moved to Dorchester to be closer to the Museum and made many friends while continuing to walk the fields and writing up her results. It was a rare volume of the *Proceedings* from the 1980s and 1990s which did not contain one of her site reports. Her interests were wide, and no period of archaeology missed out; publications ranged from a Neolithic axe from Gillingham (Ross 1989a), through a Roman site at West Stour (1984), via medieval floor tile (1991) to brickmaking (1992). Her home territory around Kington Magna featured more than once and a selection of her publications is provided below.

Merry was co-opted to the DNHAS Board in 1988, and formally elected in 1990. She went on to serve five three-year terms (this was before the rules were changed), only eventually retiring from the Board in 2005. She became a Vice-President of the Society in 2010, in which role she remained until the end of her life.

Merry was still involved in archaeological fieldwork into the 2000s, taking part in excavation at Norden, Corfe Castle and investigations following the discovery of the Chickerell Neck Rings. In the latter years of her volunteering at the museum, Merry was the lynchpin of the archaeology volunteers, organising the efforts in All Saints Church, and taking on the complex and substantial job of cataloguing and organising archaeological archives as they were accessioned. One colleague from that time recalls how she was always generous with her knowledge (she was a mine of information), and open in teaching and mentoring others. Another described her as an 'indefatigable lady, full of enthusiasm and energy, always cheerful and fond of a good story'. Her dedication to the museum was obvious to all.

She moved to North Yorkshire in 2013 to be near her son and his family and was always delighted and welcoming when she saw her four great grandchildren. Merry died peacefully in her 100th year after a life of much joy.

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Nicholas Ross and Clare Randall

ANTHONY JOHN THORROLD JAGGARD

Anthony Jaggard was born in Northampton in 1936. His father the Reverend Arthur William Percival Jaggard was a scholar of ancient languages and the architect Bruce Capell was his maternal grandfather. It was probably unsurprising that in childhood he developed a love of architecture and the arts. He cycled around Northamptonshire great houses visiting family friends and established a passion for visiting churches. He attended school at Bedford and then went on to study Architecture at Liverpool University in 1954. Attending the Liverpool School of Architecture brought him into contact with members

of the Bauhaus movement who had fled Germany and temporary resided at Liverpool before establishing themselves in the United States. Winning the School of Architecture's travelling scholarship he went to Portugal which encouraged a lifelong interest in ceramic tiles. At the same time, he joined the Cheshire Yeomanry, which generated a variety of anecdotes including the burning of the loo block at Lulworth Camp. The interest in churches however continued and on a visit to the one at Lulworth he met his future wife Janie.

Anthony Jaggard joined John Stark and Partners architects in Dorchester in 1965. He worked on both historic and new buildings all across England. Several in Dorset can be argued to represent his best work. Lulworth Castle House, was designed in a neo-Georgian style in 1975 for his brother-in-law Wilfrid Weld and it became his most well-known creation. Many local residents will be most familiar with St. Joseph's Roman Catholic Church at Wool which was built in a modernist style for his father-in-law, Sir Joseph Weld, in 1971. St Joseph's was made a Grade II listed building in 2013. In order to achieve an uninterrupted space it used a pioneering approach, utilising a triodetic space frame, visible from the exterior of the building, more usually used in industrial settings. Other triumphs included Bellamont House a new-build neo-gothic revival house which was nominated in 2002 as Country Life's House of the Year. Anthony was also responsible for the design of the Dorchester Roman Town House conservation project. It won the Dorset Archaeological Award and was shortlisted for the British Millennium Archaeological award in 2000.

One of Anthony's wider contributions was as a magistrate. He was a member of numerous organisations including the Society for the Preservation of Ancient Buildings, the Georgian Group, the Victorian Society, the British Archaeological Association, the Royal Archaeological Institute, the Dorset Council of St. John, and the Royal Society for the Encouragement of Arts, Manufactures and Commerce (FRSA). He was elected a Liveryman of the Worshipful Company of Painter Stainer's in 1975 and Fellow of the Society of Antiquaries of London (FSA) in 1990. He was also noteworthy as the only Roman Catholic member of the Anglican Salisbury Diocese Redundant Churches Committee. He sat on the Award Committee for the CLA Farm Building Award. His interests led him to support a range of artists in their early careers and he drove the fundraising for and commissioning of Elisabeth Frink's statue of the Dorset Martyrs. In 1971 Anthony joined what was then the Council of the Dorset Natural History and Archaeological Society. He contributed in a number of roles over the years and was President of the Society between 1994 and 1997. He continued to contribute as a Board member up until 2006, and was a Vice-President from 2001 until his death.

Anthony Jaggard was a person of principle. He had a gun on the Lulworth shoot and followed hunts in Northamptonshire, Cheshire and Dorset. He protested the banning of hunting and resigned as a Magistrate from the Wareham Bench as he refused to prosecute those who continued to hunt. He was possessed of a lively sense of humour, and was even handed in inflicting it upon all equally. Friends, family and colleagues remember his inclusiveness and supportive attitude. As a mentor he was enthusiastic and generous with his time. His joking however could not disguise a serious academic mind and an amazing visual recall. His propensity to correct inaccurate labelling of exhibits stretched from Cairo Museum to the Met in New York. He enjoyed viewing auctions at Duke's Auctions in Dorchester and rarely missed a private view. However if he felt an object had been mis-described he was quick to point out the error; frustratingly for Duke's staff, he was almost always right. His encyclopaedic knowledge of the genealogy of most of the landed families in the county only complimented his love for the history, archaeology and landscape of Dorset.