

CORFE CASTLE, DORSET

From an original water colour painting (10 $\frac{3}{4}$ in. x 8 $\frac{1}{4}$)

C. 1810 by Samuel Prout, Signed.

DORSET NATURAL HISTORY
& ARCHAEOLOGICAL SOCIETY

PROCEEDINGS FOR 1972

VOLUME 94

Published in June, 1973

Edited by J. STEVENS COX, F.S.A.



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Obituary

JOHN BERNARD CALKIN, M.A., F.S.A.

JOHN BERNARD CALKIN was born at Hampstead on 28th April 1892, the eldest of the four sons and three daughters of Harry Bernard Calkin of Hampstead, an underwriter of Lloyds and descendant of a line of London musicians and artists. He died, an adopted son of Dorset, at Swanage Hospital, on 20th April 1972 a few days before his 80th birthday. He was educated at Belsize School, Hampstead, and at Westminster, where he started the school orchestra, with a family friend, the celebrated organist, Dr Harold Darke, late of St Michael's, Cornhill, as visiting conductor, and as a King's Scholar joined in the acclamation *Vivat*, in the Abbey, at the coronation of King George V. He developed there the interests he retained in music and the violin, and in carpentry and handicrafts. From Westminster he was awarded an Exhibition at Jesus College, Cambridge, proceeding to 1st class Honours in the Theological Tripos. During his residence he gained the University Hebrew Prize and the Keller Prize.

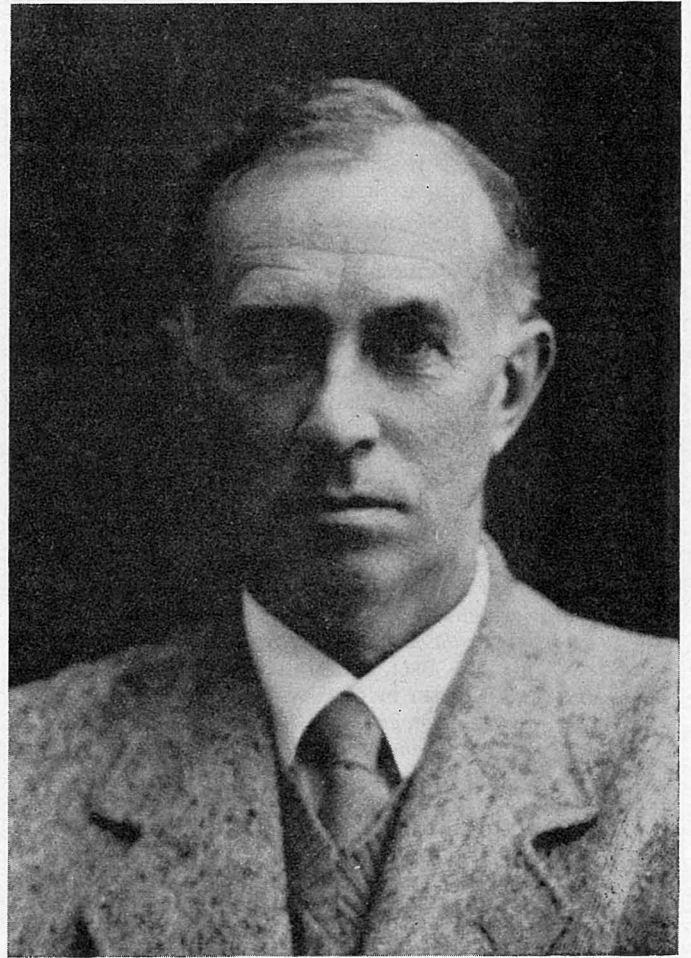
After taking his degree, and being rejected as unfit for military service and for the Red Cross, he joined the staff of Warren Hill Preparatory School, Eastbourne in 1915, and discovered that teaching was his vocation. He left in 1919 to take up a Maclean Scholarship in New York, and in September 1920, after taking a further M.A. degree at Teachers' College, Columbia University, he returned to England to continue a study of educational methods as practised at a number of prominent co-educational schools. Deciding in favour of orthodoxy, he spent three years from 1921—3 at Rottingdean Preparatory School near Brighton, travelling abroad occasionally in the holidays as a private tutor as he had done while at Warren Hill, and always eager to share with parties of pupils his own delight in the Abbey and other notable London monuments.

After a brief period in 1923 at Bembridge School in the Isle of Wight, he went as an assistant master to Wychwood School, Bournemouth, with the Rev. W. Yorke Batley, early in 1924, and in the following year accepted the position of joint Headmaster. The association continued happily until Mr Batley became Rector of Corfe Castle in 1938, and with his successor, Mr Howard Thomas, although by now he was seeking the opportunity to retire from teaching. It was here that in 1933 he married Eileen M. T. Frost, sister of a former pupil, and his two sons Robin and David were born in 1934 and 1936. His role at Wychwood was an organizing one; the time-table, the running of the school sports, measured and marked out with smoothness and precision. He was intensely shy and when the time came for speech-making he was otherwise engaged. Teaching was his main interest, and his relationship with the boys completely easy and natural. Numerous letters of sympathy to his widow testify to his influence during these years. As one of them put it, "Whilst inculcating the eternal values, he also made the contemporary fascinating. Who else could make an algebra lesson into a thrilling game, yet also patent a less serious game based on the Loch Ness Monster? And those wonderful plus-fours. . . ." The large-scale geological model of the Isle of Purbeck now at Leeson House, Langton Matravers, was made under his direction by Wychwood boys; in such ways general principles pertaining to the whole became plain in the study of the more familiar and accessible parts.

Retirement in 1939 was interrupted in 1941 when, having moved to Langton Matravers where he was to spend the remaining 33 years of his life, he joined the Old Malthouse Preparatory School, serving as an assistant master, for classics and mathematics, under Mr W. E. V. Haggard, until the return of staff from active service in 1945. Here boys made their first acquaintance with history and geology out of doors under his expert guidance; an account in the school chronicle of the excavation of

an early Roman site at Wilkswood on the hill-slopes below the school, and an informative museum cabinet based on the geology and archaeology of the district, remain as a testimonial to the extra-curricular activities of these years.

He never, of course, 'retired' except in a conventional sense, even from school. At the instigation of the Rev. R. M. Chadwick, school lecturing, through the length and breadth of southern England, became an important activity, and between 1948 and his death he had lectured more than 2000 times on geology and ancient man, his talk on Roman Britain being given on more than 600 occasions. He had an excellent delivery and somewhat impish wit. With a commanding figure, slightly over 6 feet tall, although never robust, he remained active and alert until his



John Bernard Calkin
1892-1972

last few weeks, when with characteristic method he made arrangements for the disposal of his books, notebooks and personal papers, including an almost complete collection of offprints of his own archaeological articles.

Principally, however, retirement enabled him to devote more time to archaeology; this indeed was its purpose. Although interested from boyhood, active participation began at Rottingdean when he collected Mesolithic implements at Peacehaven, given to the Brighton Museum and the subject of his first paper. Although his next major paper was deferred for nearly ten years and was concerned with a Bronze Age urnfield on the outskirts of Bournemouth, his activities in Dorset began as early as 1927, as he remarked in a letter to the present writer in 1959, ' . . . and incidentally at Corfe Mullen, when I got palaeoliths and from

1929 on, Romano-British pottery from the railway ballast pit'. His contribution to the study of stone artifacts remains unique amongst resident Dorset archaeologists, and was reflected not only in his early study of the palaeoliths in the Druitt and Marsden collections at Christchurch and Dorchester, but also, much later, of the flint industries of the Iron Age and Romano-British shale-workers of Purbeck. Although his involvement in the archaeology of the Bournemouth region, begun at Wychwood, became a permanent commitment and bore fruit in a series of papers that in essentials was not complete until 1965, it was rivalled by his devotion to Purbeck where from 1939 his direct participation in fresh discovery was naturally concentrated. Here he was always on hand to carry out a minor rescue operation or to give help and guidance to those less knowledgeable and experienced than himself, maintaining a tradition of local field observation that has distinguished Purbeck above most other regions in Dorset since the middle of the last century, and to which acknowledgement of his share was made by the Royal Commission on Historical Monuments in the introduction to Volume II of the Dorset *Inventary*.

His contribution was nevertheless one of record and analysis rather than of discovery in the field; he was not primarily an excavator or a student of earthworks or structural remains. From his first days at Wychwood he was impressed by the need to record and make sense of the artifacts being recovered almost daily in the development of Bournemouth and which were dispersed in more than two dozen museums and private collections. By far the largest collection consisted of material recovered from workmen and local residents, and by occasional excavation, by Herbert Druitt of Christchurch, whose invaluable and largely unsupported efforts between 1906 and his death in 1943 did not extend to publication. Some impression of the immense task of coping with the Druitt collection is given by Calkin in our Society's *Proceedings* for 1951, and in his booklet *Discovering Prehistoric Bournemouth and Christchurch* (1966) expanding an earlier pamphlet of 1960, a work of popularization in which he always strongly believed; there were some 28 foolscap accession diaries, maintained as long as Druitt was able to keep pace, 2450 boxes of largely unsorted pottery and flints sometimes with faded or half-consumed labels, three separate buildings in which the main collection was housed together with furniture, pictures, and other objects often piled to the ceilings.

One of these buildings, thanks largely to his sister, Miss Charlotte Druitt, became the Red House Museum, only recently transferred from the status of a private museum under trusteeship to the custody of the Hampshire County Council, so at last bringing to an end the period of official unconcern in the region's ancient past against which Druitt had campaigned. Calkin was Honorary Adviser in Archaeology to the Museum, and when it was opened to the public in 1951 the organization and exhibition of the archaeological material was largely his work. He made it as far as possible a display overriding county boundaries to illustrate the early history of a natural region of Tertiary sands, gravels and clays, from Christchurch to Poole Harbour, although his allegiance to the museum involved some accession of objects from areas of other, more specially Purbeckian horizons. This should not be allowed to obscure his substantial contribution to the collections of the Dorset County Museum, and his advice and active assistance with the organization of material in the reserve collections there, notably of the shale objects; nor the British Museum's accessions, known as the Calkin Collection and comprising well over 1000 items, mainly Palaeolithic flints and Romano-British sherds from the Bournemouth area (1940, 7—1), but including similar flints from raised beaches in Sussex (1935, 5—6) and Romano-British pottery from the Corfe Mullen kilns (1934, 1—17, and 1935, 1—10).

It is not easy to assess in which direction lay his principle contribution to scholarship; that it reached what would now be called professional standards is unquestioned. The exposition of Neolithic and Early Bronze Age finds in the Bournemouth region, published in the *Proceedings* of our Society for 1951, displayed his flair for lucid distribution maps and the highly competent drawing and analysis of pottery types. These could be matched elsewhere, but the discrimination shown in deducing

how much of the distribution was due to the activity of collectors and how much to genuine concentration, and the ingenuity displayed in interpreting the evidence in the light of an intimate knowledge of local topography, to reconstruct the inland routes of the period, remain a model. The main succeeding paper, carrying the story into the Middle and Late Bronze Age, was published in a national journal in 1964 at a time when a number of basic concepts were in the melting pot, and it is not surprising that, as an archaeologist working on a disordered mass of regional material much of which had never achieved primary publication, and largely deprived of the facilities and the daily contacts with professional colleagues that fall to archaeologists based upon the universities and national museums, he needed and generously acknowledged the help of Professor Hawkes in adapting what he had written to accord with the new historical framework.

For the Early Iron Age and the Roman period his principal work was in Purbeck, although here the material for synthesis was largely of his own provenance; some of the sites, like Kimmeridge, where he began excavating somewhat precariously at the cliff edge in 1939 while recuperating from a nervous breakdown, had been known and dug into unsystematically since the 18th century, and such of the finds as had found their way into museums or had survived identifiably in private collections were not overlooked. Here again was regional archaeology at its best. His catholic approach, which enabled him latterly to collaborate in a light-hearted survey of Swanage's curious 19th-century inheritance of fragments of London architecture, did not permit him to concentrate exclusively upon a single period. He was fully occupied in laying foundations for his successors to build upon, and it remains for them, for instance, to establish the extent in Roman Britain of the trade in Purbeck marble, and in articles of Kimmeridge shale. His elucidation of the methods employed in the Iron Age and in the Roman period in the production of firstly hand-cut and eventually of lathe-turned 'armlets' was both his main and, as will be seen elsewhere in the pages of the present volume, his culminating achievement in Purbeck archaeology. Here his disciplined intellect and his manual aptitude (he was known as 'Gadget' at Wychwood) combined to demonstrate, ingeniously and convincingly, both from a close study of the artifacts and resultant waste products and from practical experiment in company with his son David, exactly how 'armlets' could be turned on the lathe either singly or in a range of standard sizes from a single prepared disc, and at the same time demonstrate the superiority for the purpose of flint over iron tools. It was more than a hundred years since William Barnes and John Sydenham had first suspected the true significance of "Kimmeridge coal-money".

The photograph is an excellent likeness of John Calkin at the age of 62 in March 1954; he was not markedly different in 1972 and there seemed no reason why he should not continue indefinitely as a Purbeck institution. He was a good and kind man, generous in mind towards others and never heard to make a derogatory remark. He did his best by his example as an archaeologist and as a man to ensure that he will one day be replaced.

R. A. H. FARRAR

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*The list was largely compiled by J. B. Calkin himself, and the dates in the margin remain as he gave them, of the years for which volumes were published, usually one or two years in advance of the date of publication. The dates of papers referred to in the text are those of publication. The following abbreviations are used: *PDNHAS*, *Proceedings of the Dorset Natural History and Archaeological Society*; *PBNSS*, *Proceedings of the Bournemouth Natural Science Society*.

Dorset Rainfall, 1972

By Reverend D. J. Paxman, M.A.

STATISTICS

The general rainfall over Dorset in 1972 amounted to 39.97 inches, which is nine per cent above the average.

Monthly summary:

	Rainfall 1972	Average 1935-59
January	5.3	3.9
February	4.7	2.7
March	4.1	2.5
April	3.1	1.9
May	3.2	2.4
June	2.9	2.1
July	1.5	2.6
August	1.8	2.9
September	1.2	3.2
October	1.8	3.7
November	4.6	4.6
December	5.8	4.2

For the fourth successive year Minterne was the wettest station with 53.92 inches, a total no station has reached since 1960 and which has been exceeded only some half dozen times in the past fifty years. Swanage was the driest station with 30.34 inches.

GENERAL REPORT

The first six months of 1972 were all wetter than usual but the balance was almost restored in the four months from July to October which had less than their usual rainfall. During these months there were periods of drought, the most notable being the thirty days from August 8th to September 6th.

There was little in the way of snowfall. On two occasions there was a snow cover of up to two inches but this did not persist.

HEAVY FALLS OF RAIN

There were singularly few heavy falls of rain during the year. In most years at least one Dorset station experiences a fall of over two inches in a single day. The heaviest daily fall recorded in 1972 was a mere 1.60 inches at Minterne on December 1st. One has to go back to 1936 to find a year so devoid of notable individual falls of rain, and none of the particular situations merits description.

STATION	OBSERVER	Greatest fall in 24 hours		Days with 1 in. or more	Days with .01 in. or more	DEPTH OF RAINFALL IN INCHES												Total for Year
		Depth	Date			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Abbotsbury (Rodden Row)	Miss A. M. Hutchings	1.17	9/10	1	181	5.25	4.93	2.95	2.85	2.37	2.73	1.58	2.03	1.05	1.74	4.36	4.02	35.86
Beaminstor (East Street)	W. A. Stiby	1.48	6/3	5	178	6.20	6.17	5.35	3.96	3.54	3.56	1.72	2.77	1.33	2.55	4.99	6.51	48.65
Blandford (King's Road)	Mrs. P. M. Blanchard	1.14	10/10	4	—	5.34	4.51	4.88	2.55	2.91	3.00	1.95	1.29	1.31	1.92	4.35	6.53	40.54
" (Bryanston)	Miss A. M. Jaques	1.17	4/3	5	175	5.78	4.84	4.38	2.52	2.88	2.85	1.84	1.52	1.35	2.14	4.78	6.59	41.47
Bloxworth Heath (Research Nursery)	L. A. Howe	1.13	4/3	3	180	4.50	4.00	4.35	2.82	3.06	3.17	1.28	1.29	1.09	1.83	4.29	5.66	37.34
Bournemouth (Alderney Reservoir)	B'mouth & Dist. Water Works	1.15	4/3	2	178	4.02	4.41	3.68	2.59	3.30	2.59	1.40	.97	1.19	1.36	3.87	5.33	34.71
Branksome (Bourne Valley)	R. J. O. Crew	1.12	4/3	3	175	4.50	4.17	3.99	3.23	4.00	2.48	1.45	.87	1.14	1.10	3.57	5.53	36.03
Bridport (East Road)	E. J. Hine	1.14	7/1	2	158	5.65	5.40	3.32	2.50	2.32	2.98	1.23	1.43	1.08	1.88	4.38	4.04	36.21
" (North Chideock)	H. J. F. Smith	—	—	—	—	5.72	4.89	2.74	3.10	2.57	3.11	1.69	1.75	1.04	1.88	4.42	4.45	37.36
Cattistock	Capt. J. Creswell	1.29	6/3	6	163	7.90	6.03	5.31	3.79	3.90	3.20	2.18	2.71	1.16	2.43	5.49	7.10	51.20
Charminster (Forston Pumping Station)	C. H. Carter	1.33	6/8	4	187	6.50	5.22	4.36	3.47	3.76	3.09	1.26	2.52	1.28	2.33	5.33	6.78	45.90
Corfe Castle (Waterworks)	Dorset Water Board	.93	9/10	0	182	4.61	5.16	4.38	3.29	2.98	2.76	1.26	1.29	1.11	1.55	4.83	5.64	38.86
Dorchester (Alfred Road)	J. R. Oliver	1.44	9/10	4	181	6.30	4.88	4.44	3.85	4.04	3.25	1.43	2.46	1.38	2.25	5.85	6.35	46.48
" (Queen's Avenue)	Miss A. Yeatman	1.36	9/10	4	—	5.63	4.61	4.29	3.67	3.82	3.11	1.21	2.37	1.20	2.03	5.67	5.75	43.36
" (Higher Kingston)	H. F. Middleton	1.28	9/10	4	174	6.04	4.56	4.50	3.24	3.53	2.99	1.25	2.39	1.15	2.03	5.62	5.82	43.12
" (Martinstown)	Mrs. E. S. Symonds	1.25	7/1	6	180	7.10	4.93	4.03	3.89	3.47	3.08	1.68	3.03	1.11	2.04	5.50	5.64	45.50
Evershot (Melbury House)	W. H. Wright	1.47	5/12	9	184	6.77	5.60	4.07	4.33	4.07	3.41	2.21	2.78	1.28	2.72	5.31	8.23	50.78
Forde Abbey	G. D. Roper	1.57	5/12	5	173	6.51	5.96	5.53	2.91	3.22	3.74	.92	1.72	1.37	2.41	4.75	6.93	45.97
Maiden Newton (Lower Wraxall)	Mrs. K. Aldridge	1.20	6/8	6	174	6.62	5.92	4.76	3.39	3.50	3.35	2.99	2.89	1.28	2.31	4.53	6.99	48.53
Mapperton	V. Montagu	1.13	6/3	2	154	6.23	5.42	4.66	3.41	3.54	3.35	1.83	2.39	1.23	2.18	4.19	5.76	44.19
Marnhull (Great Down Lane)	Mrs. E. M. Payne	1.00	3/2	1	209	4.16	4.18	2.86	2.64	2.47	2.88	1.94	1.30	1.04	1.46	3.68	4.95	33.56
Minterne	The Lord Digby	1.60	1/12	10	202	7.34	6.07	5.33	3.85	4.38	3.73	2.04	2.12	1.31	2.46	6.39	8.90	53.92
Netherbury (The Garden House)	J. K. Newsom Davis	1.35	9/10	4	172	5.53	5.32	4.78	3.52	3.00	3.64	1.59	2.34	1.41	2.34	4.81	5.65	43.93
Okeford Fitzpaine (Pumping Station)	Dorset Water Board	1.41	4/3	5	161	5.86	5.05	5.02	2.41	2.89	2.73	1.67	1.52	1.38	1.73	4.29	6.36	40.91
Owermoigne (The Mill House)	J. Whatmoor	1.10	9/10	2	193	4.94	4.09	3.53	3.45	3.14	2.41	1.62	1.76	1.00	1.90	4.62	5.25	37.71
Poole (Pitwine's Gasworks)	R. J. O. Crew	1.30	6/12	2	160	3.75	4.50	3.57	2.56	3.06	2.68	1.26	.97	1.08	1.11	3.82	5.43	33.79
Shillingstone (Green Hills)	E. Nimmo	1.34	9/10	6	171	6.11	4.87	4.96	2.42	2.94	2.81	1.57	1.74	1.51	2.32	4.05	5.97	41.27
Stour Provost (Diamond Farm)	Mrs. E. H. Trechmann	.87	31/7	0	178	4.07	4.31	3.03	2.31	2.01	2.88	2.02	1.06	.81	1.31	3.67	4.65	32.13
Swanage	E. B. Dunning	.82	6/12	0	165	3.56	3.62	3.11	2.50	2.66	2.21	.88	1.19	.94	1.08	4.18	4.41	30.34
Wareham (East Stoke, River Lab.)	J. Morgan	1.13	6/12	3	167	4.47	3.99	4.15	3.17	2.58	2.67	1.06	1.36	1.07	1.59	4.57	5.41	36.09
" (Furzebrook Research Station)	D. C. P. Malt	1.16	6/12	2	—	5.13	4.32	3.32	3.33	3.07	2.78	1.41	1.09	1.31	1.47	4.73	6.04	38.00
" (Trigon)	D. Sturdy	1.03	6/12	1	186	4.30	3.90	3.87	3.06	2.62	2.76	1.15	1.28	1.08	1.57	4.18	5.54	35.31
Weymouth (Westham)	G. B. Smith	1.02	10/10	1	175	4.86	3.72	2.57	2.67	2.54	1.62	.93	2.39	.95	1.59	4.56	4.67	33.07
Wimborne (Clevedon Lodge)	Dr. E. H. Markby	—	—	—	195	4.82	4.71	4.15	2.77	3.96	2.76	1.41	1.14	1.28	1.41	4.54	6.09	39.04
" (Corfe Mullen, Central Avenue)	A. H. Dunn	.98	4/3	0	214	4.46	4.56	3.66	2.54	3.94	2.87	1.41	1.23	1.24	1.82	4.92	6.15	38.80
" (Corfe Mullen Pumping Station)	Dorset Water Board	1.17	4/3	1	170	4.20	4.04	3.82	2.35	3.07	2.46	1.19	1.06	1.02	1.55	4.13	5.41	34.30
" (Stanbridge Mill Pumping Stn.)	B'mouth & Dist. Waterworks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.69
" (Walsford Bridge Pumping Stn.)	B'mouth & Dist. Waterworks	1.06	4/3	1	187	4.40	4.40	3.80	2.46	2.96	2.44	1.36	1.02	1.21	1.43	4.10	5.29	34.87
Winfrith (Atomic Energy Establishment)	D. C. Fraser	1.32	4/3	3	166	4.86	4.09	4.64	3.29	2.69	2.96	1.25	1.51	1.09	1.82	4.93	5.31	38.44
AVERAGE FOR THE COUNTY				3	178	5.34	4.74	4.05	3.07	3.19	2.88	1.54	1.77	1.16	1.84	4.64	5.76	39.97

Geology

By John C. W. Cope

The last year has been relatively unproductive of new or temporary exposures in the county. Exposures of the Purbeck Beds were noted in the trenches for the Worth Matravers sewerage scheme, but yielded little of note. With several road improvement schemes shortly to be implemented, it is to be expected that future years will yield a great deal more in the way of temporary sections. Several major research projects in the area are known to be approaching the publication stage and these will add materially to our knowledge of the local Jurassic rocks.

Mr. C. P. Palmer of the Department of Palaeontology, British Museum (Natural History), seeks information on a bivalve from the Inferior Oolite. He writes: "A collection of fossils, made by Adam White from the Inferior Oolite of Stony Head Quarry near Bridport, was presented to the British Museum ((Natural History), by his father E. I. White. It contained several internal

moulds of a heterodont bivalve mollusc described by d'Orbigny, from the Bajocian of France, as *Cardium cryptum*. To the best of my belief this bivalve has not been recorded from Britain, or anywhere else, since d'Orbigny described it. It is therefore a matter of great interest, and I appeal to anyone owning a collection of fossils from this quarry to search for internal moulds of an inflated, ovate bivalve with striations radiating from the umbo". Mr. Palmer reports that he found one example of the species last October in the new road cutting east of Bridport. It occurred in the Upper Inferior Oolite there. Mr. Palmer emphasises that the name "*Cardium*" may not be a correct generic attribution for this species; there is no evidence that it is even one of the Cardiidae. Anyone having such a bivalve, with length of around 30 mm. should contact Mr. Palmer at the Museum in Cromwell Road, London, S.W.7.

Botany

By Professor R. D'O. Good

The late spring and summer of 1972 were, for the most part, more propitious for wild plants than for botanists and this may explain why, for the first time for many years, nothing of outstanding novelty has been reported to me.

Several common plants seemed to be more in evidence than usual, among them the corn poppy (*Papaver rhoeas*); the ox-eye daisy (*Chrysanthemum leucanthemum*) which continued flowering strongly well into August; the ragwort (*Senecio jacobaea*); the common cat's ear (*Hypochaeris radicata*) which flowered quite remarkably, at least in the south-east of the county; and the foxglove (*Digitalis purpurea*). The common daisy (*Bellis perennis*) also had one of its good flowering years, and in one fallow field on the chalk what at first sight were thought to be wide exposures of the subsoil turned out on closer inspection to be drifts of daisies in full flower.

Another interesting observation concerning the Compositae was the occurrence of small but noticeable patches, in hedgebanks on the chalk round Dorchester, of the corn marigold

(*Chrysanthemum segetum*), one of our most calcifuge species. It eventually became clear that these patches were in places where the old hedgebank had been restored, presumably with spoil from an alien source, after natural gas mains had been laid.

A plant of the knapweed (*Centaurea nigra*) in which the disc-florets were normal purple but the ray-florets pure white, was reported from Powerstock (H. S. Morrison): and a wholly white-flowered plant of the great knapweed (*Centaurea scabiosa*) was recorded near Portesham (Mrs. Bygrave). White-flowered specimens of *Gentiana pneumonanthe* were again reported from South Haven Peninsula (C. Searle). A single small patch of the Dorset heath (*Erica ciliaris*) was noted a little west of the Admiralty materials laboratory at Holton Heath (D. J. Godfrey): and the following orchids from within the boundaries of this establishment (D. J. Godfrey and R. G.)—*Orchis fuchsii*, in quantity; *Orchis ericetorum*, few; *Orchis praetermissa*, in some numbers; *Orchis latifolia* var. *pulchella*, few; and *Orchis morio*, also in small numbers.

Marine Invertebrates

By J. B. Hawthorne

MARINE conservation has been under discussion at a variety of levels during 1972. The need for national marine reserves has been considered by an N.E.R.C. working party which was due to report early in 1973, and it is hoped that the reconstituted Nature Conservancy will have responsibilities below low water mark. The Dorset Naturalists' Trust has been considering the need for conservation of the county's shores and near-shore waters since early in 1972 and will be formulating its policy during 1973. The survey work conducted by members of the Trust has yielded a good quantity of information on the status of many species in Dorset. A selection of the year's records is noted below.

Bunodactis verrucosa. Brandy Bay, 10.8.72. Very small, but contained young.

Procerodes ulvae. Numerous in the course of the stream at Osmington Mills, 12.7.72 and in a similar habitat at Hobarrow Bay, 10.8.72.

Lineus longissimus. A full-length bootlace worm was found under a stone at Broad Ledge, Lyme Regis, 25.6.72.

Elminius modestus. This Australian barnacle accounts for 10% of the barnacle cover at the boundary between *Balanus balanoides* and *Chthamalus stellatus* on rocks at Osmington Mills, 12.7.72.

Lepas sp. Goose barnacles were found on driftwood on Brownsea Island and kindly reported by Mr. Bromby, 18.12.72.

Sacculina carcini. A shore crab (*Carcinus maenas*) parasitised by this animal showed its lack of condition by carrying spirorbid tube worms on its surface. Found at the Nothe, Weymouth by Mr. J. Oakshatt, 15.3.72.

Portunus puber. This crab disappeared from Dorset shores after the cold weather early in 1963 but was found in good numbers at Brandy Bay, 10.8.72 and at Lyme Regis, 25.6.72.

Buccinum undatum. A specimen with lithothamnium on its shell was found in a rock pool at Brandy Bay. It appeared to be living intertidally, 14.4.72.

Psammechinus miliaris. Several at Brandy Bay, 10.8.72 and at Lyme Regis, 25.6.72.

Perophora listeri. Among other small sea-squirts, sponges and coelenterates on seaweed, Osmington Mills, 12.7.72.

As was made clear in these notes last year, regular recording is as necessary for conservation work as for other scientific purposes. Mr. J. Lamerton of the Nature Conservancy has produced an experimental recording scheme for use under water. Any member who would like to try using the scheme should

apply to me c/o the County Museum, Dorchester, or direct to Mr. Lamerton at Taunton.

Mr. Dennis Seaward has been very helpful with the identification of littoral molluscs. He is marine recorder for most of Dorset for the Conchological Society. I shall be glad to forward any recently collected dead shells to him for identification if details of date and place of collection are included.

Thanks are due to Mr. Coetzee and Mr. and Mrs. Buckner for help during the year.

Land Arthropods other than Lepidoptera

By A. J. Brown, F.R.E.S.

1972 was not a very good year for insects. It started off well, but the poor weather in May and June had a very adverse effect on emerging creatures, and numbers of both species and specimens were well down on previous years.

Most of the information recorded below comes from either E. F. Coetzee or C. Searle, to whom my thanks, or from my own collecting.

INSECTA

ORTHOPTERA

Tettigonia viridissima, Lodmoor 3 ix 72 (E.F.C.); Stoborough Heath viii 72 (A.J.B.). *Platycleis denticulata*, Durlston Head 15 viii 72; Chapmans Pool 15 viii 72 (A.J.B.). *Concephalis dorsalis*, Lodmoor 23 vii 72 (E.F.C.); Studland 16 viii 72, an extremely long-winged variety (A.J.B.). *C. discolor*, South Dorset coast 15 viii 72 (A.J.B.). *Mecconema thalassinum*, West Moors 1 xi 72, found indoors by Mrs. J. Kennedy. *Stenobothrus lineatus*, Maiden Castle 10 viii 72; Hod Hill, 14 viii 72 (A.J.B.); Durlston Head, 15 viii 72 (C.S.). *Chorthippus albomarginatus*, Lodmoor 23 vii 72 (E.F.C.); Dudsbury, 1 ix 72 (C.S.). *Ectobius lapponicus*, Durlston Head 15 viii 72 (A.J.B.). *E. pallidus*, Stoborough Heath 16 ix 72 (A.J.B.).

ODONATA

Ischnura elegans, Lodmoor 6 vii 72; E.F.C. reports that this

species was almost completely absent this year. whereas it is usually numerous. *Sympetrum striolatum*, Lodmoor 3 ix 72 (E.F.C.).

HYMENOPTERA

Pemphredon lugubris, Lodmoor 23 vii 72 (E.F.C.). *Lissonota setosa*, Lodmoor 3 ix 72 (E.F.C.). *Sirex gigas*, Corfe Mullen 20 ix 72 (A.J.B.).

DIPTERA

Physocephala nigra, Studland 15 v 72 (J. Breeds). *Sicus ferrugineus*, Holt Heath 19 vii 72 (A.J.B.). *Pipiza fenestrata*, Holme-wood 9 vi 72 (C.S.), the first Dorset record for this species.

COLEOPTERA

The following reports, both from G. L. Frewin, reached me too late for inclusion in last year's *Proceedings*:

Pediacus dermestoides, Turnworth iv 71. *Octhebius metallescens*, Kimmeridge 24 iv 71.

ARACHNIDA

ARANEAE

Argiope bruennichi, Lodmoor 23 vii 72; E.F.C. reports that the main food of this spider is the grasshopper *Chorthippus parallelus*

Lepidoptera

By Alan T. Bromby

This has proved, on the whole, a disappointing season, particularly in respect of the migratory species. A number of listed species are moths taken at light at Furzebrook and Stoborough. The more interesting of which are included in this Report.

The nomenclature arrangements of the species follows the 1964 edition of I. R. P. Heslop's revised edition of the Check List for the British Lepidoptera.

Records were received from the following field workers:— M. A. J. Brown, E.F. C. Coetzee, A. H. Dunn, Dr. J. K. Hasler, R. M. Kitchingman, D. C. Malt, Milton Abbey School Natural History Society, C. Nimmo, W. G. Teagle, Sir David Trench, A. St. G. Walton, Dr. N. R. Webb, The Baron C. de Worms.

Anthocharis cardamines L. Orange-tip White. Corfe Mullen 15.4., 2 on 26.4 (A.H.D.); Blandford 4.4. (D.T.).

Limnitis camilla L. White Admiral. Moreton 20.7.; Puddletown 25.7. (J.K.H.).

Vanessa atalanta L. Red Admiral. Scarce this year only 18 being recorded. Earliest 9.3. (E.F.C.C.) 2 in July with remainder in September and October.

Vanessa cardui L. Painted Lady. Not a good year for this species either. 11 being reported late July and 5 in early October, but 20 flying inland at Chideock on 11.8. (R.M.K.).

Polygonia c-album L. Comma. Corfe Mullen 15.3. (A.H.D.); Swanage 18.3. (W.G.T.); Thorncombe Wood 18.3. and

Weymouth 10.8. (E.F.C.C.); Dorchester area 2 on 19.8. and 1 on 14.10; Weymouth 19.10. (J.K.H.); Chideock 19.3. (R.M.K.); Blandford 19.3. (D.T.).

Argynnis paphia L. Silver-washed Fritillary. Arne 31.7. (A.H.D.); Came Wood 3 on 19.8. and Puddletown 3 on 1.9. (J.K.H.); Chideock 11.8. and 18.8. (R.M.K.).

Argynnis aglaia L. Dark Green Fritillary. Blagdon Gap 12+ on 29.7. (A.H.D.).

Clossiana euphrosyne L. Large Pearl-bordered Fritillary. Corfe Mullen 4.7. (A.H.D.).

Thecla quercus L. Purple Hairstreak. Numerous at a location in the Sherborne area, have no date (A.St.G.W.).

Strymonidia w-album Knoch. White-letter Hairstreak. Four reported in Sherborne area (A.St.G.W.).

Lysandra bellargus Rott. Adonis Blue. Blandford area 14.5., Hod Hill numerous on 28.7. and 11.8. (D.T.).

Celastrina argiolus L. Holly Blue. Corfe Mullen 18.4. and 14.8. (A.H.D.); Swanage 26.4. and 14.8. (W.G.T.); Dorchester 28.4., Weymouth 14.5. (E.F.C.C.); Chideock 17.4. and 26.8. (R.M.K.).

Hyloicus pinastri L. Pine. Furzebrook 4.5., 23.6., 26.6., 2.7., 5.7., 16 between 15.7. and 4.9. (D.C.M. & N.R.W.).

- Deilephila elpenor* L. Large Elephant Hawk. Stoborough 7 between 8.7. and 31.7. (N.R.W.); Milton Abbas 6 in June (M.A.S.N.H.S.); Swanage 27.7. (W.G.T.); Shillingstone 4.8. (C.N.).
- Macroglossum stellatarum* L. Humming-bird Hawk. Weymouth 7.7., 29.9. and 7.10. (E.F.C.C.).
- Harpyia bifida* Brahm. Popular Kitten. Stoborough 21.5. (N.R.W.).
- Drymonia dodonaea* Schiff. Light Marbled Brown. Furzebrook 14.6., 15.6., 4.7., 6.7., 16.7. and 18.7. (D.C.M. & N.R.W.).
- Chaonia ruficornis* Hufn. Lunar Marbled Brown. Furzebrook 11 between 13.4. and 4.5. (D.C.M. & N.R.W.).
- Notodonta trepida* Esp. Great Prominent. Stoborough 31.5. and 4.6. (N.R.W.); Furzebrook 24 between 1.5. and 11.6. (D.C.M. & N.R.W.).
- Odontotia carmelita* Esp. Scarce Prominent. Furzebrook 2.5. and 3.5. (D.C.M. & N.R.W.).
- Clostera curtula* L. Large Chocolate-tip. Furzebrook 9.5. and 20.8. (D.C.M. & N.R.W.).
- Habrosyne pyritoides* Hufn. Buff Arches. Stoborough 17.7., 18.7., 22.7., 24.7., 4.8. and 12.8. (N.R.W.); Swanage 30.7. and 10.8. (W.G.T.).
- Thyatira batis* L. Peach Blossom. Furzebrook 15.6. and 6.7., 13 between 17.7. and 20.7. (D.C.M. & N.R.W.); Swanage 19.7. (W.G.T.).
- Polyploca ridens* F. Frosted Green Lutestring. Furzebrook 8 between 12.4. and 22.4. (D.C.M. & N.R.W.).
- Dasychira fascelina* L. Dark Tussock. Stoborough 29.7., 31.7., 1.8. and 7.8. (N.R.W.); Furzebrook 33 between 14.7. and 18.8., 1.9. (D.C.M. & N.R.W.).
- Lasiocampa trifolii* Schiff. Grass Eggjar. Furzebrook 2.9. (D.C.M. & N.R.W.).
- Gastropacha quercifolia* L. Common Lappet. Furzebrook 4 on 16.7.; 1 on 31.7. (D.C.M. & N.R.W.).
- Saturnia pavonia* L. Empress. Furzebrook 1.5. (D.C.M. & N.R.W.).
- Drepana binaria* Hufn. Oak Hook-tip. Furzebrook 27.8. (D.C.M. & N.R.W.).
- Drepana falcataria* L. Pebble Hook-tip. Stoborough 20.7., 24.7. and 3.8. (N.R.W.); Furzebrook 2.5., 21.5., 25.6., 2.7., 5.7. and then 27 between 13.7. and 29.8. (D.C.M. & N.R.W.).
- Drepana lacertinaria* L. Scalloped Hook-tip. Stoborough 7.6. and 12.8. (N.R.W.); Furzebrook 13.4. and 4.5. (D.C.M. & N.R.W.).
- Cilix glaucata* Scop. Chinese Character. Stoborough 17.8. (N.R.W.); Furzebrook 27.5. (D.C.M. & N.R.W.).
- Atolmia rubricollis* L. Red-necked Footman. Furzebrook 2 on 17.6. (D.C.M. & N.R.W.).
- Phragmatobia fuliginosa* L. Ruby Tiger. Stoborough 1.8., 3.8., 7.8 and 19.8. (N.R.W.); Furzebrook 8 between 14.8. and 27.8. (D.C.M. & N.R.W.).
- Aegeria tipuliformis* Clerck. Currant Clearwing. Weymouth 5.7. (E.F.C.C.).
- Euxoa nigricans* L. Garden Dart. Furzebrook 15 between 12.8. and 7.10. (D.C.M. & N.R.W.).
- Euxoa tritici* L. White-line Dart. Stoborough 8.8. (N.R.W.); Furzebrook 16.8., 2 on 3.9., 5.9. (D.C.M. & N.R.W.).
- Agrotis vestigialis* Hufn. Archer Dart. Stoborough 31.7. (N.R.W.); Furzebrook 16.8., 19.8. and 31.8. (D.C.M. & N.R.W.).
- Agrotis clavis* Hufn. Heart and Club. Stoborough 18.7. and 7.8. (N.R.W.).
- Agrotis denticulatus* Haw. Light Feathered Rustic. Furzebrook 3.5. (D.C.M. & N.R.W.).
- Agrotis ipsilon* Hufn. Dark Dart. Very scarce this season. Swanage 28.6 and 29.6. (W.G.T.); Furzebrook 13.8. and then 24 between 18.9 and 7.11. (D.C.M. & N.R.W.).
- Amathes agathina* Dup. Heath Rustic. Furzebrook 25 between 13.9. and 1.10. (D.C.M. & N.R.W.).
- Amathes castanea* Esp. Grey Rustic. Stoborough 21.9. and 22.9. (N.R.W.); Furzebrook 42 between 22.8. and 12.10;. (D.C.M. & N.R.W.).
- Amathes baja* Schiff. Dotted Clay. Furzebrook 10 between 13.8. and 4.9. (D.C.M. & N.R.W.).
- Amathes triangulum* Hufn. Double Square-spot. Stoborough 69 between 26.6 and 19.8 (N.R.W.); Furzebrook 130 between 13.7. and 8.9. (D.C.M. & N.R.W.).
- Anaplectoides prasina* Schiff. Green Arches. Furzebrook 13.6., 28.6., 2 on 2.7., 3.7., 16.7. (D.C.M. & N.R.W.).
- Euschesis janthina* Schiff. Lesser-Bordered Yellow-underwing. Stoborough 14 between 4.8. and 20.8. (N.R.W.).
- Lampra fimbriata* Schreber. Broad-bordered Yellow-underwing. Furzebrook 33 between 2.8. and 19.9. (D.C.M. & N.R.W.).
- Pyrrhia umbra* Hufn. Bordered Orange. Furzebrook 13.9. (D.C.M. & N.R.W.).
- Hadena bicolorata* Hufn. Broad-barred White Gothic. Swanage 13.7. and 20.7. (W.G.T.).
- Cerapteryx graminis* L. Antler. Stoborough 17.7 (N.R.W.); Furzebrook 6.8. (D.C.M. & N.R.W.).
- Orthosia gracilis* Schiff. Powdered Quaker. Furzebrook 13.4. and 26 on 7.5. (D.C.M. & N.R.W.).
- Panolis flammea* Schiff. Pine Beau. Furzebrook 18.3., 21.3., 12 between 5.4. and 4.5 (D.C.M. & N.R.W.).
- Leucania l-album* L. White L Wainscot. Swanage 6.7. and 14.7. (W.G.T.); Furzebrook 9 between 1.10. and 3.11. (D.C.M. & N.R.W.); Portland 7.10. and 8.10. (C.D.W.).
- Arenostola pygmina* Haw. Small Wainscot. Stoborough 6 between 4.10. and 15.10. (N.R.W.); Furzebrook 16.8., 26.8. and 14 between 15.9. and 31.10. (D.C.M. & N.R.W.).
- Caradrina alsines* Brahm. Uncertain. Stoborough 151 between 30.6. and 14.8. (N.R.W.).
- Caradrina blanda* Schiff. Smooth Rustic. Stoborough 20 between 3.6. and 8.7. (N.R.W.); Furzebrook 74 between 9.6. and 16.7. (D.C.M. & N.R.W.).
- Caradrina ambigua* Schiff. Vine's Rustic. Stoborough 8 between 28.9. and 2.10. (N.R.W.); Furzebrook 198 between 28.8. and 6.11. (D.C.M. & N.R.W.).
- Caradrina claviplapis* Scop. Pale Mottled Willow. Stoborough 18.7., 30.7., 13.8., 17.8. (N.R.W.); Furzebrook 20.7., 6 between 17.9. and 16.10. (D.C.M. & N.R.W.).
- Dypterygia scabriuscula* L. Bird's-wing. Stoborough 4 between 18.7 and 25.7. (N.R.W.); Furzebrook 15.6., 26.6., 33 between 11.7. and 29.7., 5.8. and 14.8. (D.C.M. & N.R.W.).
- Apamea lithoxylaea* Schiff. Common Light Arches. Stoborough 6.7. and 19.7. (N.R.W.).
- Apamea subilistris* Esp. Reddish Light Arches. Swanage 10.7. (W.G.T.).
- Gortyna micacea* Esp. Rosy Ear. Stoborough 6 between 14.8. and 19.8. and 24 between 22.9. and 8.10. (N.R.W.).
- Gortynai flavago* Schiff. Orange Ear. Stoborough 25.9., 8.10. and 24.10. (N.R.W.).
- Cosmia pyralina* Schiff. Lunar-spotted Pinion. Furzebrook 13.8. (D.C.M. & N.R.W.).
- Zenobia retusa* L. Double Kidney. Furzebrook 2.8. and 29.8. (D.C.M. & N.R.W.).
- Apatele leporina* L. Miller. Stoborough 5.8. (N.R.W.); Furzebrook 17.6., 24.6., 2 on 14.8., 25.8. and 29.8. (D.C.M. & N.R.W.).
- Apatele alni* L. Alder Dagger. Furzebrook 15.6., 25.6., 2.7., 4.7., 17.7. (D.C.M. & N.R.W.).
- Craniophora ligustri* Schiff. Crown. Stoborough 14.8. and 15.8. (N.R.W.); Furzebrook 2.8., 4.8. and 2 on 14.8. (D.C.M. & N.R.W.).
- Cucullia umbratica* L. Common Shark. Stoborough 19.7. and 21.7. (N.R.W.); Weymouth 15.7. (E.F.C.C.).
- Lithophane leautieri* Boisd. Blair's Pinion. Stoborough 4.11. and 5.11. (N.R.W.); Furzebrook 38 between 8.10. and 15.11. (D.C.M. & N.R.W.).
- Lithophane ornitopus* Hufn. Grey Shoulder-knot. Furzebrook 22.1., 7 between 20.3. and 22.3., 3 between 14.11. and 16.11. (D.C.M. & N.R.W.).
- Leucochlaena hispida* Gey. Beautiful Goth. Swanage 31.8. and 3.9. (W.G.T.); Portland 7.10. and 8.10. (C.d.W.).
- Aporophyla lunula* Stroem. Black Rustic. Stoborough 7 between 2.10. and 5.11. (N.R.W.); Furzebrook 336 between 13.9. and 29.11. (D.C.M. & N.R.W.); Portland numerous 7.10. and 8.10. (C.d.W.).

- Griposia aprilina* L. Common Merveille-du-jour. Furzebrook 5 between 12.10. and 31.10. (D.C.M. & N.R.W.).
- Eumichtis lichenea* Hubn. Feathered Ranuncule. Swanage 5.10., 6.10. and 7.10. (W.G.T.); Portland 7.10. and 8.10. (C.d.W.); Stoborough 8.10. (N.R.W.).
- Dryobotodes eremita* F. Brindled Green Mottle. Furzebrook 19.9. 21.9., 24.10. 2 on 25.10., 2.11. (D.C.M. & N.R.W.).
- Dasypolia templi* Thunb. Brindled Ochre. Furzebrook 31.10. (D.C.M. & N.R.W.).
- Eupsilia transversa* Hufn. Satellite. Furzebrook 7 between 9.3. and 17.4., 3 between 19.10. and 21.10. (D.C.M. & N.R.W.).
- Dasycampa rubiginea* Schiff. Dotted Chestnut. Furzebrook 5 between 15.3. and 20.3., 16.4. (D.C.M. & N.R.W.).
- Aethmia xerampelina* Esp. Centre-barred Sallow. Stoborough 24.9. (N.R.W.); Furzebrook 24 between 4.9. and 5.10. (D.C.M. & N.R.W.).
- Conistra vaccinii* L. Common Chestnut. Stoborough 14.3. and 4.11. (N.R.W.).
- Conistra ligula* Esp. Dark Chestnut. Stoborough 5.10. (N.R.W.).
- Bena prasinana* L. Green Silver-lines. Furzebrook 2 on 1.8., 4.8. (D.C.M. & N.R.W.).
- Lithacodia fasciana* L. White-spot Marbled. Furzebrook 17.6. and 25.7. (D.C.M. & N.R.W.).
- Catocala nupta* L. Red Underwing. Furzebrook 27.10. (D.C.M. & N.R.W.).
- Plusia chrysitis* L. Common Burnished Brass. Stoborough 25 between 1.7. and 9.8. (N.R.W.).
- Plusia jota* L. Plain Golden Y. Furzebrook 11 between 19.7. and 2.8. (D.C.M. & N.R.W.).
- Plusia gamma* L. Common Silver Y. Stoborough 24.6., 18.7., 18.8., 19.8., 3.10., 8.10., 3 on 12.10., 15 on 25.10 and 5.11. (N.R.W.); Swanage 14.8., 30.9. and 6.10. (W.G.T.); Weymouth 7.10. (E.F.C.C.); Several observers commented on the scarcity of this species.
- Unca triplasia* L. Dark Spectacle. Stoborough 31.5., 12.6., 23.6., 27.7., 30.7., 2 on 31.7. (N.R.W.); Furzebrook 21.5., 2.6., 15.6., 16.6., 1.7., 15.7., 16 between 20.7. and 14.9. (D.C.M. & N.R.W.); Swanage 25.7. (W.G.T.).
- Lygephila pastinum* Treits. Plain Blackneck. Stoborough 24.7. (N.R.W.).
- Rivula sericealis* Scop. Straw Point. Stoborough 8.7., 18.7., 23.9., 7.10., 2 on 8.10. (N.R.W.); Furzebrook 79 between 16.6. and 8.10. (D.C.M. & N.R.W.).
- Zanclognatha tarsipennalis* Treits. Brown Fanfoot. Stoborough 17.7. (N.R.W.); Furzebrook 7 between 19.7. and 12.8. (D.C.M. & N.R.W.).
- Zanclognatha nemoralis* F. Small Fanfoot. Stoborough 19.7. (N.R.W.); Furzebrook 12 between 19.7. and 29.8. (D.C.M. & N.R.W.); Swanage 14.7. (W.G.T.).
- Laspeyria flexula* Schiff. Beautiful Hook-wing. Stoborough 22.7. and 5.8. (N.R.W.); Furzebrook 7 between 20.7. and 2.8. (D.C.M. & N.R.W.).
- Calothysanis amata* L. Large Blood-vein. Stoborough 10.6., 11.6., 7.7. and 21.7. (N.R.W.).
- Cosymbia albipunctata* Hufn. Birch Mocha. Furzebrook 2 on 4.5. (D.C.M. & N.R.W.).
- Perizoma flavofasciata* Thunb. Sandy Carpet. Furzebrook 23.6. and 24.7. (D.C.M. & N.R.W.).
- Mesotype virgata* Hufn. Oblique-striped. Stoborough 25.6., 6.7., 9.7., 15.7. and 2 on 19.7. (N.R.W.).
- Hydriomena furcata* Thunb. July Highflyer. Stoborough 21.7. and 7.8. (N.R.W.); Furzebrook 31 between 14.7. and 12.9. (D.C.M. & N.R.W.).
- Anaitis plagiata* L. Slender Treble-bar. Stoborough 21.5. (N.R.W.); Furzebrook 24.7. and 6 between 5.9. and 16.9. (D.C.M. & N.R.W.).
- Horisme tersata* Schiff. Fern Carpet. Furzebrook 7 between 10.8. and 18.9. (D.C.M. & N.R.W.); Swanage 9.8. and 10.8. (W.G.T.).
- Larentia clavaria* Haw. Mallow Carpet. Stoborough 1.10. and 2 on 7.10. (N.R.W.).
- Eupithecia absinthiata* Clerck. Wormwood Pug. Weymouth 5.7. (E.F.C.C.).
- Selenia tetralunaria* Hufn. Purple Thorn. Stoborough 17 between 5.8. and 19.8. (N.R.W.); Furzebrook 18.4. and 39 between 4.8. and 17.9. (D.C.M. & N.R.W.).
- Epione repandaria* Hufn. Common Bordered-beauty. Furzebrook 21.10. (D.C.M. & N.R.W.); Corfe Mullen 17.11. (found dead) (A.H.D.).
- Cleorodes lichenaria* Hufn. Brussels Lace. Furzebrook 3 between 24.7. and 26.7. (D.C.M. & N.R.W.).
- Dyscia fagaria* Thunb. Grey Scalloped Bar. Furzebrook 29.5., 3.6., 23.6. and 26.6. (D.C.M. & N.R.W.).
- Palpita unionalis* Hufn. Scarce Olive-tree Pearl. Portland 7.10. (C.d.W.).
- Herculia glaucinalis* L. Double-striped Tabby. Swanage 17.7. (W.G.T.).

Correction to 1971 Report.

Please delete the record of *Cyaniris semiaragus*

Vertebrates

Fish

By M. Ladle

I wish to thank D. Moody, S. J. Bailey and H. A. Marshall for reports during 1972.

MARINE

- Scylliorhinus canicula* Lesser Spotted Dogfish. June, Swanage Bay.
- S. stellaris* (L 1758) Bull Huss. November. Durdle Door Beach. Weight-10 lb. food-1 x 5" Dragonet.
- Raja montagui* Spotted Ray. August, Swanage.
- R. clavata* Thornback Ray. May, Swanage.
- R. microocellata* Painted Ray. May-October including specimens of 14 lb. 7 oz. and 13 lb. 10 oz. off Durlston Head. Food *Portunus* spp.
- R. brachyura* Blonde Ray. October. Swanage Bay. Weight 16 lbs. Food 8 x 5" sand eels.

- Conger conger* Conger Eel. All months. Specimen of 36 lb. 6 oz. from Swanage Bay 9.6.72.
- Trisopterus luscus* Bib.
- T. minutus* Poor Cod.
- Pollachius pollachius* Pollack.
- Gadus morrhua* Cod.
- Gaidropsarus vulgaris* Three Bearded Rockling. June. Swanage.
- Ciliata mustela* Five Bearded Rockling. January-April. Poole and Swanage.
- Dicentrarchus labrax* Bass. May-October. Swanage-Weymouth. 58 specimens examined up to 7 lb. 12 oz. A fish of 15 lbs. and 33.5 inches in length was reported from the Chesil Beach 13.1.72.

Spondyliosoma cantharus Black Bream. 34 specimens were examined from a catch made in Swanage Bay on 9.6.72. a 2 lb. 2 oz. specimen was a ♂ of 12 years of age.
Cepolarubescens (L 1766) Red Band Fish. A specimen of this deep water fish was taken from Kimmeridge by Mr. H. A. Marshall 9.3.72.
Crenilabrus melops Corkwing Wrasse.
Labrus bergylta Ballan Wrasse.
Scomber sombrus Mackerel.
Gobius niger Black Goby. Poole and Swanage.
Crenimugil labrosus Thick Lipped Mullet. Aug.-Sept. Kimmeridge. Food—*Coelopa pupae*.
Eutrigla gurnardus (L 1758) Grey Gurnard. Taken by S. J. Bailey from Weymouth Pier. Weight 15 oz.
Platichthys flesus Flounder.
Solea solea Common Sole.

FRESH WATER

Thymallus thymallus Grayling.
Salmo salar Salmon. 12 fish noted on Redds. R. Frome, East Stoke 10.1.72.
S. trutta Trout. R. Frome.
S. gairdneri Rainbow Trout. R. Frome 20.1.72.
Esox lucius Pike. 26 fish examined. A fish of 18 lb. 7 oz. was found dead in the R. Stour at Kings Mill 13.3.72.
Alburnus alburnus Bleak. R. Stour.
R. rutilus Roach.
Leuciscus leuciscus Dace.
Anguilla anguilla Eel.
Perca fluviatilis Perch.

Amphibians

By Robert V. Skinner

Palmate Newt *Triturus helveticus* Razoumowsky

Still reasonably common in flood water ponds at Crossways Gravel Pits (SY778881) (D. A. Dolphin).

Crested Newt *Triturus cristatus* Laurenti

One seen in West Bexington reserve on 12th April, 1972, where water protrudes into the beach (D. A. Dolphin).

Common Frog *Rana temporaria* L.

Two tadpoles caught in Came Valley stream (SY696885) in the Spring. Identified by colour and shape. Both released in a garden

pond. One adult found in a sewer, at Weymouth Pumping Station (SY658858) in August, 1972. Both these adults were released at Portland Observatory Pond (D. A. Dolphin).

Common Toad *Bufo bufo* L.

One seen during late evening of 12th October, 1972 in a garden at Compton Valance 595932 (J. D. Powne). One entered a neighbour's home on 13th August, 1972 by the back door, and was reluctant to leave (A. H. Dunn). A specimen about 1½ in. was seen on the Dorchester Road, Weymouth (SY673815) on 16th April, 1972 (E. F. C. Coetzee).

Reptiles

By Robert V. Skinner

Slow Worm *Anguis fragilis* L.

Two seen on the Dorchester Road, Weymouth (SY676810) on 23rd June, 1972. One seen at Radipole Halt, Weymouth (SY674812) on 31st August, 1972. Another observed on Lodmoor (SY683818) on 15th October, 1972 (E. F. C. Coetzee). Frequently seen at Compton Valance during the summer of 1972, especially in gardens and the churchyard. 595932 (J. D. Powne). One found in Milton Abbey stream on 4th May, 1972, another found in Abbey grounds on 6th June, 1972. A dead specimen observed on the Blandford Road on 16th September, and another dead specimen on the drive at the Keeper's cottage. Three found at Winspit Bay, under a limestone slab. (Milton Abbey School N.H.S.).

Sand Lizard *Lacerta agilis* L.

Two seen in a garden at Broadstone on 21st April, 1972, One seen on the heathland at Corfe Mullen on 29th June, 1972, and another on the old railway line, Corfe Mullen on 25th August, 1972 (A. H. Dunn).

Grass Snake *Natrix natrix helvetica* lacepede

One small specimen which 'froze' on being sighted (unusual) on 29th June, 1972 on heathland at Corfe Mullen (A. H. Dunn).

A dead specimen observed off Water Lane, Weymouth (SY666838) on 19th April, 1972 (D. A. Dolphin). A two foot specimen observed on a path at Sherborne Lake on 30th November, 1972. This is a late record but it was a warm day (D. Murdoch).

Adder *Vipera berus* L.

Earliest record was from Kimmeridge on 2nd April, 1972. One seen in Delcombe Woods on 19th June, 1972. Numerous again this year in Milton Woods on 24th September, 1972 (Milton Abbey School N.H.S.).

One grey male seen on the heathland at Corfe Mullen on 22nd March, 1972. One reddish specimen seen on a footpath on Broadstone Golf Links on 17th July, 1972. A large dark brown female seen at Queen's Copse, Horton on 28th August, 1972 (A. H. Dunn).

Mammals

By Mrs. E. M. Keats, B.Sc., F.G.S., A.M.A.

I am grateful for the records which members have submitted, some of which are printed here. All records will be filed and any observations which fill gaps in the 10 Kilometre Survey Squares of the national scheme will be passed on.

The following have submitted reports:— F. C. Coetzee, Mrs. A. Dannatt, B. G. Dodd, J. Fowles, W. M. Grange, C. E. G. Maltby, Milton Abbey School Natural History Society, D. Murdoch, Mrs. K. B. Parkyn, H. Popplestone, J. D. Powne, Mrs. A. Rainey, M. F. Robertson, R. E. Stebbings, Mr. & Mrs. W. G. Teagle, J. Tinegate, Mr. & Mrs. A. St. G. Walton.

The check list numbers and scientific names are as listed in *The Identification of British Mammals*, by G. B. Corbett, British Museum (Natural History) 1964. In addition to the records of species listed the following species were also reported:—

1. Hedgehog, *Erinaceus europaeus*. 4. Pygmy Shrew, *Sorex minutus*. 19. Pipistrelle, *Pipistrellus pipistrellus*. 27. Stoat, *Mustela erminea*. 31. Badger, *Meles meles*. 43. Sika Deer, *Cervus nippon*. 44. Fallow Deer, *Dama dama*. 45. Roe-deer, *Capreolus capreolus*. 53. Brown Hare, *Lepus capensis*. 57. Grey Squirrel, *Sciurus carolinensis*. 61. Harvest-Mouse, *Micromys minutus*. 62. Wood-Mouse, or Long-tailed Field-Mouse, *Apodemus sylvaticus*. 68. Water-Vole, *Arvicola terrestris*. 70. Short-tailed or Field Vole, *Microtus agrestis*.
2. Mole, *Talpa europaea*. Several records have been submitted of mole hills, indicating mole activity of varying degrees of intensity and also of dead moles. The National Mapping Survey shows no reports of moles in the 10 km. grid square SY67 which includes Wyke Regis and much of Portland; are they absent from this area or have they simply not been reported?
3. Common Shrew, *Sorex araneus*. This species has been reported from Lodmoor, Charminster, Kingston Russell and Beaulieu Wood. The National Survey map is blank for the 10 km. square ST60 Cerne Abbas and Mintarne Magna, squares in N.W. and N.E. Dorset and ST71 Sturminster Newton. Can anyone fill in records for these gaps?
8. Greater Horseshoe Bat, *Rhinolophus ferrumequinum*. One ringed by R. E. Stebbings on 11.12.71 near Langton Matravers and seen again nearby by him on 13.12.71, ring no. E5511 was seen by a visitor to Kingston Church on 13.4.72, and was found to be dead there on 29.5.72 by W. G. Teagle.
11. Whiskered Bat, *Myotis mystacinus*. A male about 3 years old was found at the foot of a pear tree at Abbotsbury by Mr. Tinegate in June. He hung it on a wall in the dark but on 19th June it was found to be dead. This is a new record for the Abbotsbury 10 km. grid square. Most bats can only be identified in the hand, so if specimens are found I should welcome the chance to examine them. Mr. Stebbings reports that another species similar to the whiskered bat has been found in Britain. It was recognised in Europe in 1970 and so far has been found in Devon, Wiltshire and Suffolk. Is it present in Dorset? Any specimens will need to be examined very carefully to separate this species *Myotis brandtii* from *M. mystacinus*. Mr. Stebbings is doing detailed work on bats.
12. Natterer's Bat, *Myotis nattereri*. Mrs. Rainey found an adult male in her swimming pool near Tincleton on 23rd June. It was identified by Mr. Stebbings and provides a new record for this 10 km. square.
21. Common Long-eared Bat, *Plecotus auritus*. The identification of an adult male found dead on a lawn at Crossways by Mr. Popplestone on 28th March was confirmed by Mr. Stebbings and provides a new record for this square. Another specimen thought to be *P. auritus* was seen swimming in a small channel of the River Frome, north of Dorchester, by Mr. Coetzee on 14th June. It became stuck under a small bridge, was pulled out and hung on a tree branch in the sun. After about 5 minutes it flew off apparently none the worse for its adventure. Mr. Stebbings comments that records of swimming bats are not uncommon but it is never clear whether they get into water by accident or whether they 'chose' to land on it. Bats drink on the wing and pick insects off the surface of the water. This report also provides a new record for the Dorchester square.
24. Fox, *Vulpes vulpes*. Reports of foxes have been received from a number of areas. Mr. Maltby records a cub on 26th July following a hare and jumping above corn, which was 18 in.—24 in. high, to try and see the hare. The hare crossed the Roman road above Kinston Russell but not the fox.
28. Weasel, *Mustela nivalis*. One was seen hunting and killing a vole on the road in Delcombe Valley. Other reports have been received from Kingston Russell, Maiden Newton and Merley.
30. American Mink, *Mustela vison*. Mink were recorded for the first time on Milton Abbey lake in February, March and November and one was shot on Madjeston Farm, Gillingham on 20th September. A report of an animal thought to be a polecat, from White Nothe, was more likely to have been a mink but further observations from here would be welcome.
47. Reeve's Muntjac, *Muntiacus reevesi*. Mr. Dodd saw a small deer crossing the Poole-Wimborne road from east to west straight into the undergrowth of Delph Woods in August, in daylight. He thought it was a Muntjac, however there have been no further observations of this species here. I should be grateful if observers would make full notes of any sightings and keep a careful watch for this secretive species particularly in woods where single observations have been made in the past.
55. Rabbit, *Oryctolagus cuniculus*. 5 young rabbits not more than 4 days old were found in a primitive fur lined nest in the apex of 2 straw bales lying in a V shape on the edge of a harvest field at Compton Valence. Mr. Powne reports this is the first direct evidence he has seen of above ground breeding.
56. Red Squirrel, *Sciurus vulgaris*. Numbers seen in 1972 and recorded by Mrs. K. B. Parkyn were well up on 1971, being 132 from January to 29th October. This increase does not seem to be linked with large numbers seen on beech mast but may be an indication of the number of human families staying at Rose Cottage who have noted their observations. 9 squirrels were seen in Middle Street on 25th August and 4 near Rocket Corner on the same date. 5 groups of 3 have been seen, in 2 instances, 2 of the 3 were young individuals.
59. Dormouse, *Muscardinus avellanarius*. One dead specimen found at Corfe Castle was brought to the Museum in October. One was found in a tit nest box in the north-west of the county in July. Mr. Fowles reports a dormouse colony in his garden above the Cobb at Lyme Regis. All but 2 of the nests are in the leaf choked bases of stems of bamboos at ground level. The other 2 nests are about 6 ft. off the ground bound between bamboo stems by bamboo leaves. Dead sycamore leaves had also been bound into the nest in one instance and they were lined mainly with dried grass.
66. Brown Rat, *Rattus norvegicus*. Mr. Maltby saw one behind the Chesil Beach at Abbotsbury on 13th October and this fills in one of the two blank 10 km. squares for Dorset. Are there really no brown rats in ST60, the Cerne Abbas, Mintarne square?
89. Bottle-nosed Dolphin, *Tursiops truncatus*. A small bottle-nosed Dolphin was stranded in Weymouth Bay on 20th January. It was towed out to sea and released.

Owing to serious personal bereavements it has been quite impossible for the Editor of the Bird Report to produce this report in time for publication in Volume 94. In consequence it will be published separately this year.

The Local Society Under Fire

By W. Stuart Best

Presidential Address, 1972

THE few thoughts I wish to share with you in my last Presidential Address were sparked off by another such, but of course much more exalted, the Presidential Address of Professor Stuart Piggott to the Council for British Archaeology in 1970. This was a most stimulating and entertaining paper, written with verve and humour, and it included sections with which I am in lively disagreement.

Professor Piggott expresses one of the main points in his address where he writes: "From every point of view, if we as a Council are to carry any weight at all among those who wish us well or ill, we must do so as the British representatives of something more than a sentimental pottering about in the irrelevant nostalgia of a dead past.

"Do not think that such a view is absurd," he goes on. "*The Illustrated London News* in its current advertisement offers its readers the topics of arts, affluence, photonews, comments and leisure; and under the last we read enticingly, 'Whether you like motoring, gardening, chess, archaeology, antiques, travel . . .'".

At first glance it is, apparently, derogatory to archaeologists to rank them with chess masters, racing motor drivers, gardeners, travellers or specialists in antiques. In fact, of course, we are not invited to take such a view; quite the contrary. What is wrong with gardening, chess, motoring, travel or antiques is that human beings can take pleasure in them! I suppose it would be acceptable, and meet and proper to number archaeologists with H.M. Inspectors of Taxes, with the staffs of prisons, or with the inspectors of slaughterhouses — all most admirable people, but compelled, I must believe, to find their pleasures outside their profession! Later, however, it will appear that chess, gardening, motoring, antiques and travel commit a still deadlier sin — they can cover activities carried out by amateurs, and not exclusively by professionals! This is why we are invited to look down our noses at them.

Nearly everyone, nowadays, has a social conscience, and this is a very good development. As a result, however, people are anxious to persuade themselves and others that whatever their particular job it is one which is of particular value to the community. This is sometimes difficult for those pursuing, for example, recondite academic disciplines; and so another emphasis is to claim at least "professionalism" in whatever speciality is being pursued.

Incidentally, I am not a disciple of Lord Rothschild, and have been brought up to have a healthy respect for pure research, the practical application of which may not be apparent; but I must confess that the theses now accepted in academic courses and often at least indirectly paid for by you and me, *sometimes, occasionally*, strike one as trifling to the point of, I was going to say, frivolity, except that that is the last word one would use in relation to the style and treatment generally adopted! Not to mention the inordinate length to which some of these exercises are extended.

Professionalism is a splendid thing — how we all depend upon it *every day*, in a myriad contexts — but I do confess to you

that I get rather tired of the constant repetition of the word, in the news media, as *the* word of praise.

The Paper I am discussing is entitled "British Archaeology and the Enemy", and among the principal enemies exposed are "the unconscious enemies: well-meaning, almost certainly holding to a sentimental view of ('yes, you have guessed it'), a *dead* past, but unaware of the difficulties, the complexity, the very nature of the subject with which they believe themselves to be sympathetic". Professor Piggott then refers to "a uselessly wasteful proliferation of local and sometimes ephemeral publications, where publication is achieved at all". I pause here to interpolate that "local" can never be a dirty word to a society such as ours, and that I cannot bring myself to any very ringing condemnation of the ephemeral: formidable indeed the man whose every work is expected to reach to a distant posterity!

I pause also to note that pleasing touch "where publication is achieved at all": though "uselessly wasteful material" in the first place, it is yet a further disgrace if it never gets published at all! Professor Piggott goes on to complain: "I once reckoned that I ought to keep an eye on a total of 120-130 journals of old world pre-history in which I am concerned, and nearly half of these dealt with provincial British Archaeology". "As we all know, these publications vary in merit — a few really good, a lot pretty dim, and some pretty awful — and they are the heritage of the 19th century county and local archaeological societies. Today the preservation of this archaic pattern of provincialism in a scientific subject is pathetic and obscurantist. The societies themselves (though not *all* have admitted it) are at a crisis: economically and intellectually they cannot for long continue as viable bodies of serious intent". Ladies and gentlemen, I am not sure whether I want to belong to a "viable body of serious intent"! But if we freely translate "a vigorous society for worthwhile pursuits" the D.N.H. & A.S. is, and I believe will long continue to be, just that.

However, I must confess that if the "preservation of this archaic pattern" has the result of forcing conscientious and high-powered professors to keep an eye on 120-130 journals a *year*, it is indeed a fearful thing!

Now, to take a more constructive line, let me quote the membership form of the British Archaeological Association. It says: "The membership has always included professional archaeologists and historians as well as amateurs, and it is from the spirit of friendly co-operation developed between them that the Association derives its success".

In a slightly different way, on a more modest scale, that applies to societies like our own. People with an intelligent, general interest in ornithology or archaeology or history or geology or one, or more, of many other subjects meet here with amateur *specialist* students, and these (and indeed both) in turn have recurrent opportunities to meet and learn from the professionals. It follows from this, in my opinion, that the annual *Proceedings* of such a set-up should cater for these various interests. They should contain some highly specialised papers

from experts, and should also contain papers, accurate and scholarly but intended for the ordinary educated, reading public. These journals should have variety: variety of subject, and variety of treatment. The view which I challenge is that the subject-matter of respectable societies should be narrowly circumscribed and, indeed, directed to the specialist. My view is that the *Proceedings* of a Society with very wide interests should reflect those interests, that articles which, while maintaining a scholarly level, are designed for the interested, but not the expert, reader, should be encouraged. I also hold that, with apologies to overworked professors, there should be a mixture of specialist, including professional, with non-specialist contributions.

To conclude: a County Society like our own ought, I suggest, to be a club, if you like, where the professional, the expert, the interested student of any age can feel at home, and also able to pursue worth-while activities. The name of our Society of course shows that it is not a one-subject centre; and indeed its ambit is a very wide one: natural history in a comprehensive sense: geology, ornithology, entomology — that does not exhaust it: archaeology, history, local history; literature, especially with a county orientation, Thomas Hardy, of course, first, and then Barnes and other Dorset Worthies. In addition the actual museum, which is the centre of these activities, casts its net even

more widely still; one thinks of dresses, toys, clocks, the 'by-gones', and so on and so on. One may well ask how can one human being be the knowledgeable Curator of all this? I don't know, but I know that one can and is! And much the same goes for the Assistant Curator.

If the archaeologist or the natural historian considers this amalgam to be amateurish and sentimental, what does he think of a body which, on top of all this, encourages and provides a sophisticated setting for varied exhibitions of the arts and sciences, and for varied performances of music? I dare not imagine.

Courage, my friends. There is a healthy future (as there is a healthy present) in store for our Society in its many activities whilst our young archaeologists continue professional and human, as they are; while our natural historians are acute observers who can also talk clearly and easily about their specialities, as they do: whilst the criterion of the editor of our *Proceedings* is quality, whether amateur or professional, specialist or wide-ranging, as it is; while we continue to be led by a Curator who is immensely professional and intensely human; and whilst our members retain their wide-ranging, intelligent and humane interests. As Tiny Tim — or someone else — said, "Here's to us".

A Short History of the Discovery of Reptilian Footprints in the Purbeck Beds of Dorset, with notes on their Stratigraphical Distribution.

By J. B. Delair and A. B. Lander

Introduction

Impressions and natural casts of footprints made by the larger land-living reptiles of the Mesozoic are undoubtedly among the most interesting and popular of museum exhibits. It is particularly relevant here to note that the majority of such footprints in British museums came originally from the Purbeck beds of Dorset, which, especially during the last decade, have been unusually productive of these trace fossils. Almost without exception, the specimens were discovered in quarries worked near Swanage and Durlston Bay, and at Herston, Worth Matravers, and Langton Matravers, while, collectively, they have given rise to a not inconsiderable literature.

Until some twelve years ago it was usual for all footprints obtained from the Dorset Purbecks to be ascribed to the large herbivorous dinosaur *Iguanodon*, or to some closely related animal. Numerous discoveries made since then, however, have shown that, in addition to typical *Iguanodont* footprints, the Dorset Purbeck beds also contain at least three further kinds of footprints, two of them unquestionably of dinosaurian origin and another of more problematical affinities. These same discoveries have also demonstrated that, while isolated footprints are fairly widely scattered throughout the Purbeck series, the majority are confined to only a few specific horizons. A review of the history of these discoveries and stratigraphic occurrence of the specimens may not, therefore, be inappropriate at this juncture. Several details, mostly concerning the stratigraphic distribution of footprints noticed over a period of many years by the junior author, are recorded here for the first time.

Historical

The first writer to record reptilian footprints from the Dorset Purbecks was Mansel-Pleydell, who, in 1896, figured two tridactyle specimens from the *Corbula* beds of the Middle Purbeck series at Swanage (¹²: pl. opp. p.115). These examples were ascribed to *Iguanodon*, and similar specimens were said to have been found in the Upper and Lower Purbeck series on other occasions (*op. cit.*, p.122). The whereabouts of these latter

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specimens has never been ascertained, although the two figured specimens are in the County Museum, Dorchester.

In 1933, Calkin described and figured a group of *Iguanodont* footprints — apparently sections of tracks — from the "pink" bed at the base of the "roach" stone (Middle Purbeck) of a

quarry at Herston.⁽²⁾ These particular footprints were important inasmuch that they constituted the first definite evidence of trackways in the Purbeck formation of Dorset. It is thus greatly regretted that they were destroyed by a high explosive shell during the last world war (⁽³⁾: p.4).

No further references to footprints in the Dorset Purbecks appeared until 1957, when an unidentified writer in the *Swanage Times* for 31st July mentioned some then recently discovered examples under the heading "Monster Finds in Purbeck". This article subsequently aroused considerable local interest in the subject of fossil footprints and trackways, and, in particular, the attention of Ernest F. Oppé. Indeed, it was Oppé, perhaps more than any other single individual, who was instrumental in engineering the preservation of the several important reptilian trackways that were to come to light in Purbeck quarries during the next decade.

Among the many isolated footprints found about 1957, were variously-sized tridactyle examples in the "roach" stone of Cobb's quarry in the Acton district of Langton Matravers, and at Spyways quarry nearby. The existence of these and many similar tridactyle footprints from other local Purbeck exposures were noticed in some detail by the present senior writer in 1959 (⁽⁷⁾: pp.79-80). At the time all these specimens were ascribed to *Iguanodon* or a related form.

The same paper also recorded, for the first time, the occurrence of pentadactyle footprints in the "pink" bed of the "roach" stone in a long disused quarry (Chinchen's) at Acton (*ib.*). A much fuller account of these unique five-toed footprints was furnished by the same writer three years later, when they were figured under the new name *Purbeckopus pentadactylus* (⁽⁸⁾: pp.92-4, figs. 1-3, 5, 6). The affinities of these footprints, which are owned by W. J. Haysom, Esq., of Langton Matravers, still

remain uncertain, although Macfadyen has suggested a possible crocodylian origin for them (⁽¹¹⁾: p.143).

In 1963 the senior author also described another new form of tridactyle footprint under the name *Taupezia landeri*, and this, again, came from the "roach" stone. It was found in Burt's quarry, Worth Matravers, and was identified as having probably been made by a small carnivorous dinosaur (⁽⁸⁾: pp.94-8, fig. 4). It is now in the Hunterian Museum, Glasgow. The same paper also recorded additional Iguanodont footprints, mostly from the "roach" stone, of various Purbeck quarries, and the existence of a further undescribed four-toed form — very indifferently preserved — then owned by Mr. Oppé (*op. cit.*, pp.98-100). This latter specimen, which is now in Paisley Museum, together with the rest of the Oppé collection of Purbeck ichnites, also came from the same horizon.

During the summer of 1963, an important series of tridactyle footprints, first encountered two years earlier, was excavated by the British Museum (Natural History) from the "pink" bed of the "roach" stone exposed in Messrs. J. & E. W. Suttle's quarry, Herston. A preliminary account of this discovery had been published in May, 1962 by Charig and Newman (⁽⁵⁾: pp.234-5), who advanced excellent reasons why these footprints — occurring as three tracks — should be regarded as having been made by carnivorous dinosaurs, such as the well-known *Megalosaurus*; and further details were published in 1965 (⁽⁹⁾ pp.62-4). These important specimens are now in the National collection, but although Oppé (⁽¹³⁾: p.17, pl. iv) and others have figured portions of the tracks, in their original *in situ* condition, and Charig and Newman published a diagram of a part of the series⁽⁵⁾, no record of the entire series of footprints, and their relation one to another, has yet appeared. Since it is fitting that these *Proceedings* should contain a proper pictorial record of these important and

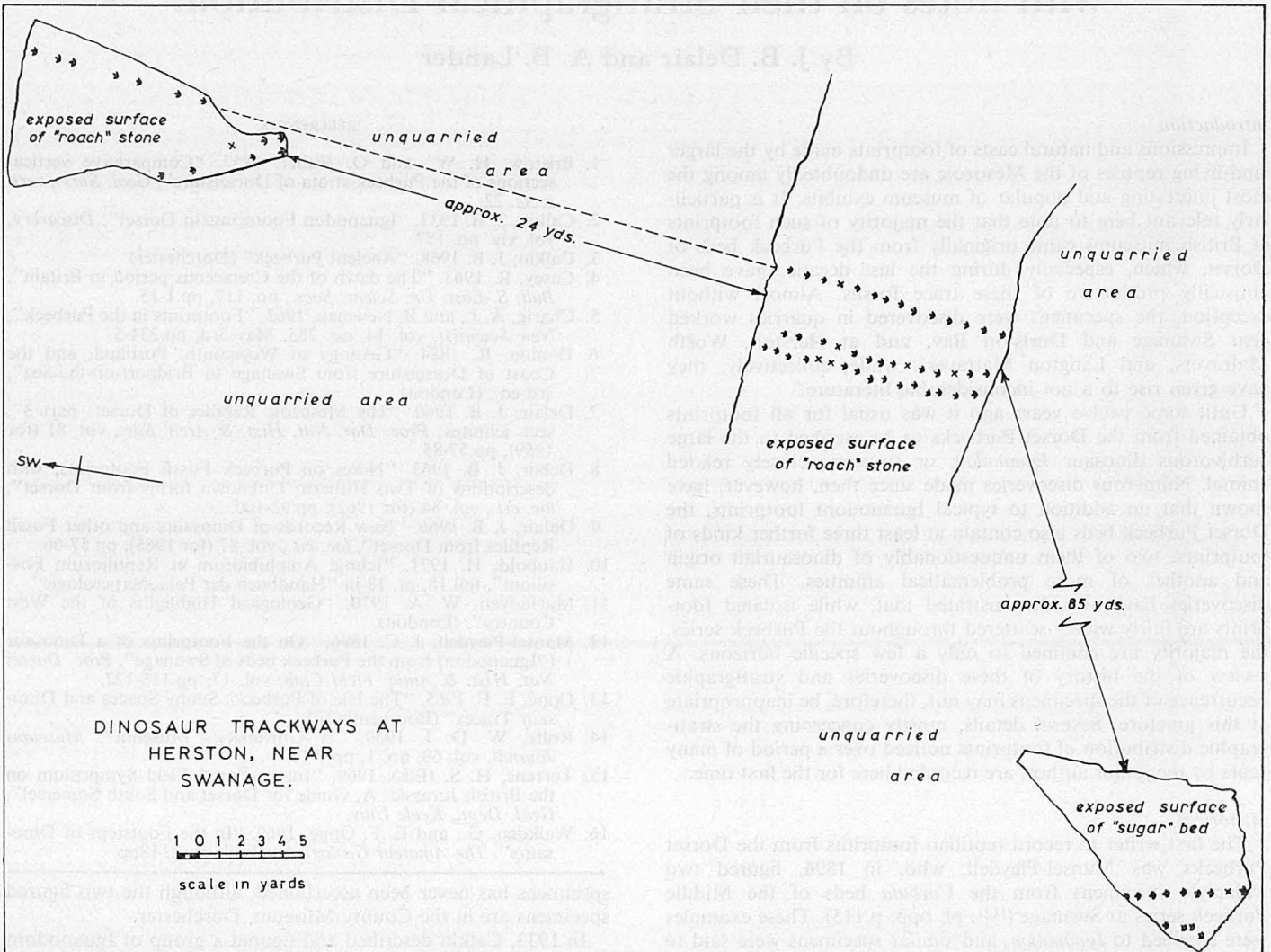


FIG. 1. Plan of Suttles Quarry trackways

FIGURE 2

PURBECK FOOTPRINTS

BED NO. IN BRISTOW'S SEQUENCE	LOCAL NAMES OF FOOTPRINT-BEARING BEDS	LOCALITIES UNNOTED	DOWNSHAY LANE QUARRY	GALLOW'S GORE QUARRY	COBB'S QUARRY	SUTTLE'S QUARRY	SPYWAYS QUARRY	BOWYER'S QUARRY	HAYWARD'S QUARRY	LOCK'S QUARRY	REYNOLD'S QUARRY	HARDEN'S QUARRY	NORMAN'S QUARRY	HERSTON (Calkin, 1933)	BURT'S QUARRY (Eastington Road)	CHINCHEN'S QUARRY	SOUTH BARN QUARRY	KINGSTON	NR. GALLOW'S GORE
78	Soft Burr	?I																	
77																			
76																			
75																			
74																			
73																			
72																			
71																			
70	} Corbula Beds	Ia																	
69																			
68																			
67																			
66																			
65																			
64																			
63																			
62																			
61																			
60																			
59																			
58																			
57	} Leaning or Laning Vein	Me																	
56																			
55																			
54																			
53																			
52																			
51																			
50	Freestone Vein:—																		
	(i) Top Shingle																		
	(h) Shingle																		
	(g) Under Picking																		
	(f) Lower Shingle																		
	(e) Crab or Grub																		
	(d) Roach Stone (inc. the "Pink" bed)	*																	
	(c) Sugar (Thornback)																		
	(b) Freestone Bed																		
	(a) Blue Bed																		
49																			
48																			
47																			
46	Downs Vein or Laper																		?I
45																			
44	} Cinder Bed																		
43																			
42																			
41																			
40																			
39																			
38																			
37																			
36																			
35																			
34	New Vein												Ie						Ie

* Undescribed 4-toed form (poorly preserved)

I = Iguanodont
M = Megalosaurian

P = Purbeckopus
T = Taupezia

a = average preservation
e = excellent preservation
p = poor preservation

spectacular trackways, text-fig. 1, based upon measurements taken in May, 1962 by the present senior author in company with Messrs. Charig, Oppé, and J. Suttle, remedies this deficiency. This diagram also reveals that a further single track, composed of typical Iguanodont footprints, occurred in the "sugar" bed underlying the "roach" stone in that quarry. In due course, this latter track was broken up and disposed of piecemeal, and is thus no longer available for study.

Another track not preserved, was the one figured by Oppé in

1965 (¹³): pp.18-20, pls. v-vii) from the "roach" stone at Hayward's quarry in the Queensground district of Langton Matravers. This track showed footprints of Megalosaurian type and was afterwards briefly described and refigured by the present senior author the same year (⁹): pp.64-5, fig. i); when, also, notice was given of the then very recent discovery of another track composed of large, typical Iguanodont footprints in the "freestone" bed exposed in Messrs. W. J. & K. W. Norman's quarry number nine at Queensground (*op. cit.*, pp.65-6, fig. 2).

The entire track was subsequently excavated and purchased by the Hunterian Museum, Glasgow, where it now forms a major exhibit (⁽¹⁴⁾: p.9, fig. 8).

In the summer of 1967, two partially overlapping tracks consisting of over twenty-four footprints of Megalosaurian type were encountered in the "roach" stone of Lock's quarry, Acton. Although both tracks were measured in detail whilst still *in situ*, and Walkden and Oppé have published a photograph of them (⁽¹⁶⁾: pl. i), they have yet to be described. They were acquired by the Royal Scottish Museum, Edinburgh, in the autumn of 1967, and are scheduled for eventual display in the Hall of Evolution currently in preparation at that museum.

Shortly after the discovery of the twin tracks in Lock's quarry, another single Megalosaurian track, regrettably not preserved, was met with, again in the "roach" stone, in Reynolds' quarry, Acton. Although only briefly mentioned by Walkden and Oppé (*op. cit.*, pp.5, 9), the track was figured more or less in its entirety by Calkin in 1968 (⁽³⁾: p.3, fig. 3c), the evidence showing its obvious close resemblance to the two tracks found shortly before in Lock's quarry.

No additional footprints or trackways have been recorded in the literature since Walkden and Oppé's review of 1969, although Macfadyen has noted the occurrence of the aforementioned three- and five-toed forms (⁽¹¹⁾: pp.143-5), and Haubold has refigured *Purbeckopus* and *Taupezia* (⁽¹⁰⁾: p.103, fig. 63a, nos. 3 and 4).

During the period since the discovery of the Megalosaurian trackway in Reynolds' quarry, various isolated footprints of both Iguanodont and Megalosaurian type have continued to come to light in many Purbeck quarries, particularly those located in the Acton district of Langton Matravers; and a limited section of an obviously much longer track composed of typical Iguanodont footprints was encountered in the "roach" stone of Harden's quarry, near Worth Matravers, in the summer of 1970. Although it was not possible to preserve this track in its entirety, or at least that portion of it that was exposed, groups of footprints from it were collected and subsequently purchased by museums in Leicester and Worcester. This track was unusually interesting inasmuch that matching natural casts and impressions of each footprint were preserved in nearly every instance, and these may now be seen on exhibition in the two museums just mentioned.

Stratigraphical Distribution

The Purbeck series of Dorset has excited the attention of geologists and palaeontologists for at least the past 150 years, and several descriptions of the many constituent beds have been attempted. Of these, the earliest was that published by Middleton

(1812), and the most recent the more detailed descriptions produced by various authors in Torrens.⁽¹⁵⁾ The standard account, which the present authors have found to be the most useful — particularly for the inland quarry exposures — was that prepared in 1857 by Bristow.⁽¹⁾ This account, which recognized 93 separate beds (many of which were subdivided into subsidiary beds), was republished by Damon in 1884 (⁽⁶⁾: pp.201ff), and is the one upon which the distribution table given below has been based.

In 1963, however, Casey showed that the Purbeck series straddles the Jurassic-Cretaceous boundary, and, from abundant palaeontological evidence, argued that the celebrated "Cinder Bed" (beds 43 and 44 in Bristow's sequence) be henceforth regarded as the basal bed of the Cretaceous, so far as the Purbeck series was concerned.⁽⁴⁾ The following table incorporates Casey's use of this "Cinder Bed" datum-line, and shows that by far the greater number of known Purbeck footprints occur in beds which should now be placed near the base of the Cretaceous (text-fig. 2).

The concentration of footprints, of all kinds, in the Freestone Vein (bed 50 of Bristow's sequence) is immediately noticeable, while the admittedly intermarine character of the nine beds comprising this "vein" (beds 50a-50i in Bristow's sequence) is particularly significant when it is noted that fossils found in these beds, such as *Myrene*, *Liostrea* and *Protocardia*, have modern analogues which thrive near river mouths. The absence in these beds of cephalopods, brachiopods, and corals also supports the conclusion that there was dilution of salt (sea) water here by freshwater; the occurrence of typical marine fossils, such as *Hemicidaris* and *Laevtrigonia*, nonetheless indicates that salt water bodies were not far distant (⁽¹¹⁾: pp.139-140). From these facts it may be deduced that all the footprints and trackways discovered in the Freestone Vein — and presumably those at other horizons in the Purbeck series — were made by animals roaming across intertidal flats located near one or more river estuaries. The fact that these and several other Purbeck horizons have yielded fossils of chelonians (turtles) and crocodiles, many of which, even today, frequent estuarine regions, lends additional support to this general conclusion.

Acknowledgements

The senior author wishes to record here his best thanks to all those quarrymen and museum curators who, over several years, have allowed him access to particular exposures or to museum specimens of footprints; and both writers wish to express their indebtedness to the late E. F. Oppé, who, on several occasions, put his copious field notes and personal knowledge of specific discoveries of these fossil footprints at their disposal.



Some Aspects of the Evolution of Parts of the Dorset Coast

By Brian Mottram

INTRODUCTION

THOUGH probably more has been written about the Dorset coast by geologists and others, than about any other comparable stretch of British coastline, this does not mean that the last word has yet been stated. Much remains undescribed and unexplained. This study is no more than a further contribution to discussion of an area that will continue to attract study for years to come. Attention here is concentrated on parts of the harder rock coasts in the Isle of Purbeck and near Lulworth for reasons that are given in the main part of the paper. Reference to the small tidal range along this part of the English Channel coast is thought to have some bearing on the evolution of some shingle beaches, especially the Chesil Beach.

Along most of the coast considered east of White Nothe, the solid formations range from the hard Portland Stone to the Upper Chalk. All have been folded by the Purbeck Anticline. In the Isle of Purbeck, the formations lie almost flat on the crest of the fold, here pitching east, but the Lulworth coast shows the faulted northern limb of the anticline, where dips range from 30° north to inversion in the hardened Upper Chalk for short distances. Along these stretches there is a great variety of differing coast features, some of which remain undescribed, despite the thorough treatment contained in the *Survey Memoir* (Arkell, 1947).

While Dr. Arkell was preparing the memoir in the late 1930s this writer had raised questions with him about erosion features and physical features displayed across the solid formations. But many remained unanswered at the time of his untimely death in 1958. However, work elsewhere has now enabled the subject to be tackled afresh. It has been J. A. Steers who has written fully on some of the implications of frequent land and sea level changes, associated with the Glacial periods of the Quaternary, for the present features of the British coasts. Both the Purbeck and Lulworth coasts display features which fit in with those described by Steers elsewhere. Dr. Arkell's suggestion made to me in the 1930s that, for instance, the upper slopes of the Purbeck cliffs, west of Durlstone Head represent the northern side of a former east draining valley still seems inadequate today, particularly in view of work done by Steers and others elsewhere on coast evolution in Britain.

Steers (1954)⁽¹⁾ considers that in any assessment of the development of the present cliffs and bays, changes in level have to be considered, whatever the scale of the resultant feature, though for smaller bays there is probably no need to

go back so far in time.⁽²⁾ For example, modern breaching of the Portland Stone barrier at Lulworth, or the Chalk, between Swanage and the Isle of Wight, is insufficient by itself. Steers gives abundant evidence from the harder rock coasts in Devon and Cornwall that the modern coast cliffs closely follow an older line. In Cardigan Bay, modern erosion is uncovering boulder clay plastered cliffs so the coast there is partly interglacial in age (Steers, 1969).⁽³⁾ When comparing the Dorset coast with Devon to the west and the Hampshire Basin to the east, the Dorset coast is intermediate in character, as well as in position. From the Permian at Paignton eastwards to Portland Bill, the whole of Lyme Bay has been eroded in generally soft Triassic and Jurassic rocks. All traces of an older coastline have been swept away since the last sea level rise, till there remains only the raised beach at Portland Bill. The preservation of Portland Island is certainly an unsolved puzzle, now that we know there is a sea floor continuation of Portland Stone, planed off during some previous marine epoch between Portland and Purbeck (Donovan and Stride, 1961).⁽⁴⁾ Portland Island must have stood up as an island hill, on some inter-glacial marine platform, much as Highdown Hill (of Chalk) stands above the Sussex coastal plain today.

Steers comments that the post glacial sea level changes were quick enough for fragile peat to be preserved on the Dogger Bank (Steers, 1945),⁽⁵⁾ so it seems probable that the hard Portland Stone would preserve traces of an older cliff line, possibly of more than one age and one level, along the Dorset coast. In view of all the above and the writer's previous visits both to Gower and the Newquay area of Cornwall, a re-examination of parts of the Dorset coast, known since the 1930s, has been made during 1968 and 1969. Also the study was extended to describe and consider the higher level bevelling of the up-ended Chalk, north of the present Durdle coast, west of Hambury Tout. The next section gives some of the findings, presents some deductions and leaves much for others to unravel.

For the work, an abney level was used to supplement Survey levels from the six inch maps' bench marks and contours where necessary additional heights were needed. The abney level was also used to determine extra dip readings where needed.

1. J. A. Steers 1954: *The Sea Coast*, Collins.
2. J. A. Steers *op cit.* 1954 p.260.
3. J. A. Steers 1969: *Coasts and Beaches*, Oliver and Boyd.
4. D. T. Donovan and A. H. Stride 1961 . . . Survey of the Sea Floor south of Dorset . . . Phil Trans. R. Soc. 244B. 299-330.
5. J. A. Steers 1954 *op cit.*

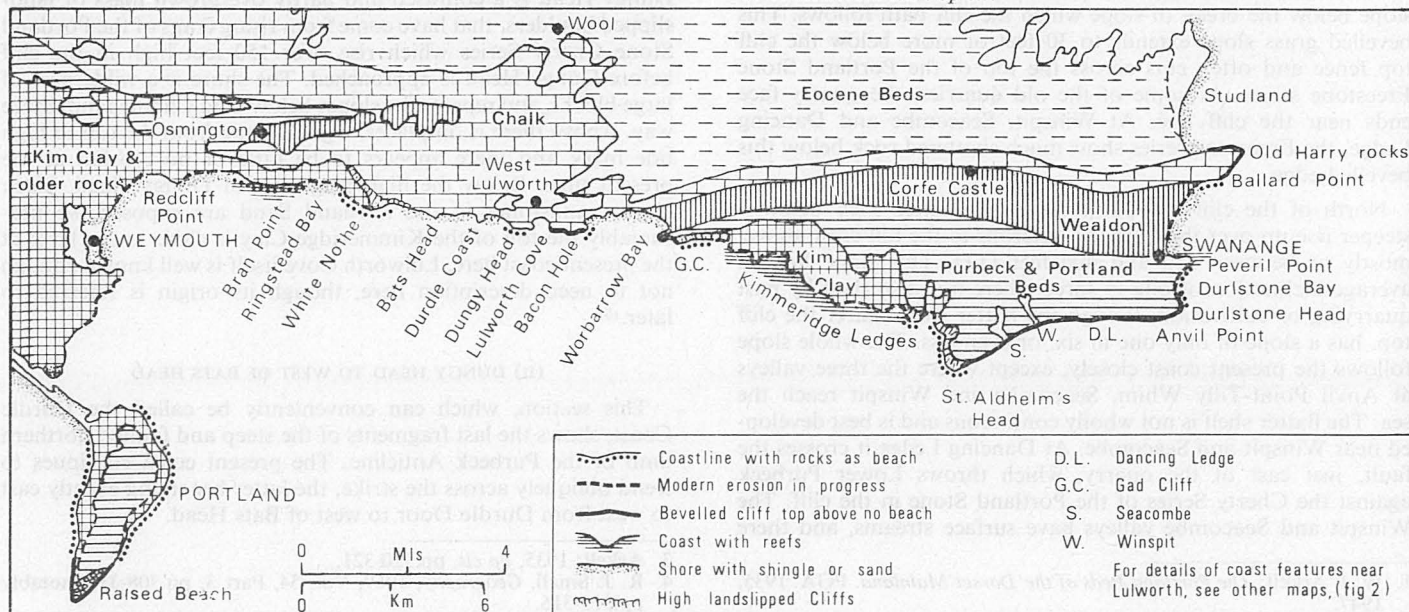


FIG. 1. Isle of Purbeck

THE ISLE OF PURBECK

DURLSTONE HEAD TO ST. ALDHELM'S HEAD

This stretch of coast is almost 5 miles long. For nearly 4½ miles of it there are nearly continuous vertical cliffs of Portland Stone. The cliffs are between 100 and 130 feet high and this is practically the thickness of the Portland Stone. The Portland Stone is thicker in Purbeck than on Portland Island (Arkell, *Survey Memoir*, 1947) and is between 115 and 120 feet thick. It forms the greater part of the cliff face, with a thin, discontinuous capping of Lower Purbeck above. The strata are up-faulted from below sea level, round the corner from Durlstone Head at the south end of Durlstone Bay, which shows the start of the northerly dip of the Purbeck fold. West of Durlstone Head the Portland Stone rises westwards up dip, at about 3° to 4°, in the cliff face, but the true dip is just east of south on the gently dipping southern limb of the Purbeck Anticline. In addition there are 11 faults, which downthrow west, with throws ranging from around 10 to 15 feet, up to one of 80 feet, just east of Dancing Ledge. The result is to keep the Portland Stone at about the same level all the way for the 4½ miles from Durlstone Head to the fault downthrowing 55 feet east at GR 967/754, south-east of St. Aldhelm's Head. West of this fault, the Portland Sand is up-faulted westwards and rises above sea level. The cliff character changes to one of crags towering over landslipped boulders and talus, and hiding rising Kimmeridge Clay beneath. Attention in this study is mostly confined to the coast between the fault south-east of St. Aldhelm's Head and that at Durlstone Head, which drops the Portland Stone below sea level north of it.

The modern cliff height usually corresponds to the thickness of the Portland Stone, except where transverse valleys break across the coast line, or where basal Lower Purbeck cap the cliff top. The result is that the Freestone Building stones form the upper part of the cliff and the Cherty Series the lower part (Arkell, 1935⁽¹⁾ and 1947⁽²⁾). Along the whole of this stretch of coast there is no beach, apart from a few partly submerged boulders, where the base of the Cherty Series approaches sea level. Otherwise there is an almost vertical drop into deep water. Generally the cliff face is controlled by vertical jointing, but the whole formation appears to be more tightly jointed than on Portland Island. There are not many of the deep fissures running far into the cliffs that exist on Portland. In earlier days, the Portland Stone for building could be shipped away by sea in ships that could be moored to the cliffs in calm weather. Only at Dancing Ledge is there a "beach", upon which waves break, but it is of solid stone. Yet beyond low tide level there is a drop into deep water and diving straight into the sea from this seaward edge is no hazard to a strong swimmer.

Above the vertical cliff face there is frequently a steep grass slope below the break of slope which the cliff path follows. This bevelled grass slope extends to 30 feet or more below the cliff top fence and often cuts across the top of the Portland Stone Freestone series. At some of the old quarries, the quarry face ends near the cliff line. At Winspit, Seacombe and Dancing Ledge, the Freestone series show much shattered rock below this bevelled edge.

North of the cliff top path, there is a flatter shelf below a steeper rise up over the Purbeck outcrops to the hill crest above, mostly at between 350 and 400 feet O.D. This slope has an average inclination of one in three where not disturbed by past quarrying or cultivation, though the flatter shelf nearer the cliff top, has a slope of only one in six, or even less. The whole slope follows the present coast closely, except where the three valleys at Anvil Point-Tilly Whim, Seacombe and Winspit reach the sea. The flatter shelf is not wholly continuous and is best developed near Winspit and Seacombe. At Dancing Ledge it crosses the fault, just east of the quarry, which throws Lower Purbeck against the Cherty Series of the Portland Stone in the cliff. The Winspit and Seacombe valleys have surface streams, and there

are several more springs, sending runnels over the cliff edge between them, though they hardly make any surface feature apart from wet ground.

THE LULWORTH COAST

(I) MUPE ROCKS TO DUNGY HEAD

Where the Portland Stone fronts the sea, the present cliffs are mostly between 120 and 100 feet. East of Lulworth Cove, the Portland Stone forms the lower part of the cliffs, but rather more than half of the cliff is made up of Lower Purbeck beds. The Portland Stone is thinner here (the building stones are little over half their thickness in Purbeck)⁽³⁾ and both formations dip northwards at about 30° to 35° in the cliff face. Only towards Bacon Hole do the Portland Stone Cherty Series rise above sea level. Because of the north dip, the cliff face is not vertical, but slopes back at nearly 60°.

Despite these differences of thickness and structure, there is a marked similarity with the Purbeck cliffs already described, in that the height is about the same and there is also the bevelled, grassy slope above the present rock face. There is also the direct drop into deep water below the cliff foot, with no beach or fallen blocks of any kind. In addition, the Jurassic rocks south of Bindon Hill form no strike ridge like that east of Gad Cliff, east of Worbarrow Bay. There is only a rising slope, bevelled across the Purbeck and Wealden outcrops, as far as the Quartz Grit ridge, south of the Albian base below Bindon Hill.

The Fossil Forest, in the basal Lower Purbeck beds, is found in a long ledge about halfway down the present cliffs and this ledge extends to about halfway between Lulworth Cove and Bacon Hole. Only very rarely does storm spray appear to reach this ledge, which lies at about 35 to 50 feet above present sea level. The lower parts of the ledge are practically bare of vegetation, whereas the steeper slopes above are more than half vegetated now. The eastern end of this stretch of cliffs is at Bacon Hole, cut in Purbeck Beds, known as Mupe Rocks. The old Smugglers' Cave at the west end of Bacon Hole, has been cut in the Broken Beds of Lower Purbeck and there is a similar cave on the west side of Lulworth Cove, cut in the same beds.

West of Lulworth Cove there are several complications, between the Cove and Dungy Head. The actual site of Stair Hole, which has been cited as a "Lulworth Cove in the making", must have originated rather differently, from holes being eroded through the Portland Stone (Small, 1969).⁽⁴⁾ There is also further strike faulting in the steep northern dip of the fold between the Purbecks and the Chalk. The seaward side of Stair Hole and the cliffs either side of it, display Portland Stone with Lower Purbeck above, fronting the sea, as to the east of the Cove. But present coast line trends slightly obliquely to the strike of the Portland Stone. Much of the coast between Stair Hole and Dungy Head is a confused and partly overgrown mass of landslipped boulders, that have come from rising crags of the Portland Stone Cherty Series which rise over 150 feet high in the cliff before Dungy Head is approached. The shore is a wilderness of large blocks, and repeats the slopes below Gad Cliff in a miniature way. Above there is, in places, a grass slope from the top to high tide mark and there appears to be little or no erosion at the present time. Below the high crag, east of Dungy Head, black clayey sandstones in the Portland Sand are exposed, so presumably the top of the Kimmeridge Clay is close to sea level at the present coast here. Lulworth Cove itself is well known enough not to need description here, though its origin is referred to later.⁽⁵⁾

(II) DUNGY HEAD TO WEST OF BATS HEAD

This section, which can conveniently be called the Durdle Coast, shows the last fragments of the steep and faulted northern limb of the Purbeck Anticline. The present coast continues to trend obliquely across the strike, the latter becoming exactly east to west from Durdle Door to west of Bats Head.

1. W. J. Arkell: *The Portland Beds of the Dorset Mainland*. PGA. 1935, 1947.

2. W. J. Arkell: *Survey Memoir*, pp.97-108.

3. Arkell: 1935, *op cit.* pp.320-321.

4. R. J. Small, *Geography*, 1969, Vol. 54, Part 3, pp.308-318, notably pp.315-316.

5. Small *op cit.* 1969 p.316.

and the valley floors have the following heights, at the cliff edge:—

Scratchy Bottom, east of Swyre Head	72 feet
Bats Bottom, east of Bats Head	67 feet
Middle Bottom, west of Bats Head	76 feet

All have Coombe Rock exposed in the modern cliff line below their cliff edge lips; reaching beach level at Scratchy Bottom, 25 feet above the beach below Bats Bottom, and to about 50 feet at Middle Bottom. The similarity of the height of the floors of these cross valleys, at present coast, is striking enough to evoke further comment later.

Inland there are several interesting surface features. As has already been remarked the steep southern slope of the Newlands Warren Hill, north of Durdle Door, is cut in vertical dipping Chalk. The top of the hill, west of the Caravan Site, rises to about 380 feet, but it slopes north and crosses from Chalk onto basal Eocene, across the Purbeck foresyncline. The hill is structurally synclinal. The ridge crest that ends in Swyre Head rises from 305 feet at the cliff edge to a marked flat at 315 to 317 feet, 700 feet inland. The flat itself is this length and there is a rise to a second flat at 370 feet. The lower flat lies across the foresyncline, but at a higher level than the vertically tilted Chalk exposed in the face of Swyre Head. The higher flat is smaller, but is bevelled into an outlier of southward-dipping basal Eocene. This small outlier of presumed Reading Beds lies on the slope, south from the top track to White Nothe. North of this second higher flat, the ground rises again to the main crest of the ridge lying on Chalk at 430 feet or above. North-west of Bats Head, the col north of the Axis Cliff lies about 20 feet below the cliff top. Rowe⁽¹⁾ recorded finding rabbit hole evidence for the Mucronata Zone Chalk being preserved in the Purbeck foresyncline here. Therefore Eocene must have once lain not far above the present land surface here. Recently this col has been ploughed and the abundant chalk rubble should enable those interested to map the Chalk zones more accurately.

The accompanying diagrams summarise the above, with the strata thicknesses adjusted to those met in the Lulworth No. 2 borehole in 1948.

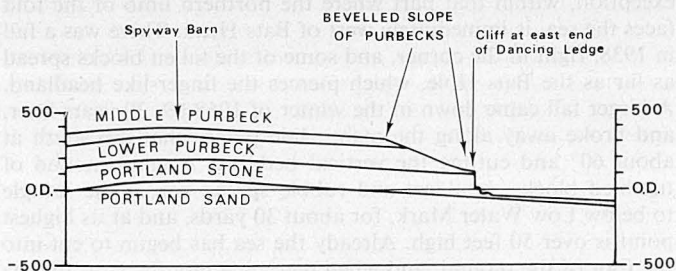


FIG. 3. East of Dancing Ledge.

INTERPRETATIONS OF THE DESCRIPTIVE EVIDENCE

These fall into two parts: (1) The present coast line, and past influences upon it, in Purbeck, and in the Lulworth area; (2) The bevels described above and associated land forms, from Hambury Tout to west of Bats Head, (south of the top track from White Nothe to Newlands Warren Farm).

For reasons given below, the second will be taken first.

Landforms from Hambury Tout to Bats Head

No full Geomorphological study has yet been made of Purbeck, though Sparks has described the evolution of the Weymouth Lowland (Sparks, 1952)⁽²⁾, extending his study as far east as White Nothe. His work provides a starting point for considering the evolution of the land forms along the present coast further east. Older features are still preserved which may also exist in Purbeck. Sparks describes bevels, of presumed marine origin, at various levels from above 450 feet, down to above 50 feet near Weymouth. He puts these as extending in time from within the Pliocene into the Glacials and Interglacials as far down

as the 240-foot stage. He infers sea level oscillations below this level, during later Glacials and Interglacials. This means that the bevelling of the Weymouth Lowland was spread over periods of varying sea levels and during varying climatic regimes. It follows that the neighbouring areas were being similarly affected, but the surface expression is different on different rocks. Sparks remarks that several bevels, from the 480-foot stage down to the 240-foot stage are often telescoped south of the Chalk, north of Weymouth, where no harder rock outcrops are preserved at these levels. This applies to the Portland Stone ridge west of Upwey (Sparks, p.25).⁽³⁾

On the Chalk country west of Hambury Tout and south of the top track to White Nothe, the great character of the country is produced by the deep short coombes leading down to the modern cliffs. Areas for the preservation of bevels are few, and the only marked flats occur at 380 feet, 315 feet and 280 feet. The first is on Newlands Warren Hill, and though it slopes north, it crosses from tilted Chalk onto basal Eocene. The second is possibly shown by the 370-foot flat north of Swyre Head. The more prominent 315-foot bevel of Swyre Head on folded Chalk has no exact counterpart elsewhere at this level, unless it is a subsequently lowered part of the 330-foot platform preserved in the Weymouth Lowland (Sparks, p.22)⁽⁴⁾. The 280-foot summit west of Bats Head, at the Axis Cliff, could be a representative of the 290-foot platform, but the prominent 240-foot bench of the Weymouth Lowland has not been found between White Nothe and the Lulworth area in this study.

The fall of the ground south of the top track suggests that it marks a prolonged former coastline, persisting from the 480-foot stage down to the 280-foot stage. Everywhere there is a drop from the highest Chalk levels to the ground close to the present cliffs of between 150 and 250 feet. The former higher seas must have swept across the vertically tilted Chalk and onto the softer Eocene infill behind, much as the present sea has swept away the Portland and Purbeck outcrops in St. Oswald's Bay and attacked the Chalk. It also seems clear from the preservation of the Eocene Outlier at Newlands Warren Caravan Site and north of Swyre Head, that the present Chalk surface is polygenetic in origin. Part is sub-Eocene, and modified by later marine planation, but the planing of the vertically tilted Chalk from Durdle Door to west of Bats Head, must have been much later, occurring in much the same period as the bevelling of the Weymouth Lowland above the 240-foot stage.

The lower bevels at Durdle Door and on the Purbeck/Portland outcrops, south of Bindon Hill, range from 125 feet at Durdle Door down to around 100 feet. These could be related to the well-developed Slindon 130-foot level, also seen in the Weymouth Lowland (Sparks *op cit.* p.23). The present cliff top level in Purbeck, east of St. Aldhelm's Head, already described could also be related to the Slindon 130-foot bevel.

The nearly coincidental levels of the dry valleys west of Durdle Door at heights from 67 to 76 feet, remain a puzzle. They cannot be related to the 80-foot platform in the Weymouth Lowland, because during peri-glacial times, the deep Coombe rock infill shows clearly that they were cut down to a far lower level, than their valley floors are now. These Coombe rock-filled valleys suggest that they were cut during tundra conditions at a time of low sea level. At that time they extended out across the wave platform, which could have been covered with a spread of sludge chalk waste, burying the solid formations, like the various deposits which cover the Chalk on the Sussex coast plain today. The originals of these valleys could have been cut into former marine benches at various levels below the 280-foot level and could have first come into existence during the 240-foot stage, subsequently being incised as the drop of sea level continued. The final sea level rise has brought the sea back to a former line and destroyed the earlier seaward extension of these valleys.

While it is tempting to relate the Red Holes in the cliff of Hambury Tout to marine action, possibly related to the Portland Raised Beach, further study of these is needed. This should

1. Rowe. 1901. PGA, p.2. Zones of the White Chalk of England (Dorset).

2. B. Sparks. 1952. Stages in the Physical Evolution of the Weymouth Lowland. Institute of British Geographers, Transactions, No. 18, pp.17-20.

3. B. W. Sparks, *op cit.* 1952.

4. B. W. Sparks, *op cit.* 1952.

decide if the Red Holes are Pliocene solution holes, or Eocene, or much later marine blow-holes and subsequently talus infilled. There are several possibilities and the subject remains wide open.

1. *The Transverse Lulworth Cove Valley*

This valley has been later modified at its seaward end to make the present Lulworth Cove. This valley, cutting across the strike, must have been initiated on a south-sloping, presumably marine bevel, eroded across the tilted Chalk and older rocks. Later, following the last sea level rise, the flooded seaward end has been widened out into the present almost circular cove. The upper parts of this valley were cut into the deep Eocene infill, behind the northern limb of the Purbeck fold, but it may be much older than those west of Durdle Door, for Hambury Tout summit rises to 457 feet, and Bindon Hill to 551 feet. It seems that the Lulworth cross valley could have begun any time since the 430-foot platform, preserved on the Chalk, west of White Nothe (Sparks, 1952, p.22).

As the sea levels fell, so the valley entrenched itself along its present course and during periglacial periods, kept its southward flowing drainage across the north dipping rocks.

2. *The Deep Water Cliff Coast in Purbeck and near Lulworth*

Given sea level oscillations before and during the glacials, and the rapid post-glacial sea level rise we can help to account for the following:

(a) The drop into deep water below the Portland Stone cliffs in Purbeck and near Lulworth indicates that the present cliffs are the undrowned upper parts of cliffs cut back during periods of lower sea level, known to have occurred during the glacials. During the low sea level periods, the Portland Sand (and possibly the Kimmeridge Clay also, as under Dungy Head), would have been exposed to both sea and sub-aerial attack. A large talus of frost wedged boulders and sludge would have collected below the crags of Portland Stone. The appearance then would have been much like that today, where the Portland Stone rises up the dip west of St. Aldhelm's Head and below Gad Cliff. The older lower cliff top east of St. Aldhelm's Head, not then being attacked by the sea would have wasted back into a frost-shattered and bevelled slope. Above, the Purbeck outcrops would have been thinly covered with a veneer of frost-weathered sludge. However, this upper slope may well be in part far older, and could mark a prolonged shore line position at various levels since the 430- and the 380-foot levels. Here, as Sparks suggests for the Weymouth Lowland, there could have been a telescoping of shore lines, in almost the same position, as the sea levels fell. Since the last sea level rise, the sea has returned to a former line and freshened up much of an older line, but as some cliff top bevels still remain, it implies that not all of an older coast line has been obliterated since the ice sheets last waned.

(b) The seaward ends of the valleys draining south to the present coast would have deepened the lowered seaward ends of their gaps cut through the Jurassic bevelled ridges, south of the Chalk (and also the Chalk at Arish Mell). The sea chart of Lulworth Cove gives a depth of 18 feet at low spring tides in the entrance to the Cove. In the same way, the gaps cut by the streams that breached the bevelled Jurassic ridge between Gad Cliff and Mupe Rocks were deepened and widened by slope retreat. Post-glacial sea level rise has drowned these gaps, and the sea since widened them into the form now seen.

It seems worthwhile here to comment that the Arish Mell breach in the Purbeck Hills ridge is like a larger version of that at Lulworth Cove. But the question is: was the gap here originally northward draining like that at Corfe, and was the drainage reversed southwards, at the 190-foot platform stage? The present col at East Lulworth Village stands at around 180 feet. There are bevels in the Weymouth Lowlands at both the 190-foot and the 160-foot levels. Further work on the terraces of the Frome Valley on Egdon Heath would go a long way to answer this question.

Modern Coast Features, with reference to the tidal range

The Purbeck, Lulworth and Durdle Coasts rarely show a prominent wave cut platform, common on some coasts. In particular, the Dorset Chalk cliffs have no broad wave cut

platform, nor a rapid retreat from cliff falls, like those in Sussex or Kent. Almost all the Dorset Chalk cliffs are cut in steeply dipping and hardened Chalk tilted by the Purbeck fold. The only exceptions to this are found north of the Ballard Down Fault, where the cliffs drop into deep water as far as the Foreland, with its well-known stacks of the Old Harry Rocks. The other exception is below Middle Bottom, west of Bats Head, where, in the foresyncline of the Purbeck anticline, there is a shingle beach fronting the cliffs cut in horizontal Quadratus Chalk (Rowe, 1901)⁽¹⁾. The only places where so-called wave cut platforms can be considered to have developed are where there are nearly horizontal bedded ledges made by the hard rock bands in the Kimmeridge Clay of Purbeck, the Corallian, east of Osmington Mills, and the Lias, east of Lyme Regis. It should be noted that along the Chalk Durdle coast, west of Durdle Door, a shingle beach fronts the cliffs all the way to well west of Middle Bottom. Chalk erosion is slow, though the sea frequently reaches the cliff foot and has undercut it in many places.

Another peculiarity of the Dorset coast is the small tidal range, especially from Bridport right round to Poole Harbour. This is true even at Springs, and nautical men talk of "double tides" near Weymouth and Poole Harbour. The Spring Tide range rarely exceeds eight feet, and is more normally between six and seven. At Neap Tides the range is usually under three feet. (This is about half that occurring at either end of the Channel.) In addition there are usually prolonged still-stands, just after low water and around high water, of over two hours, even at Springs. At Neap Tides, the still-stands are up to four or five hours or even longer.⁽²⁾ This means that for some hours at a stretch the waves are breaking at roughly the same level and at the same place. Constructive waves can thus build up substantial beaches within a few days along the Ringstead Beach. During Neap Tides there is usually more beach material on that beach and elsewhere, between Weymouth and Lulworth, than at Springs. Conversely, if prolonged gales occur during Neap Tides, the waves can comb down the beach, drive up to the cliff foot, and the softer cliffs suffer severe, prolonged erosion where there is insufficient beach material to protect them. As has been stated by Arkell (1947), from Weymouth to about White Nothe, the strongest waves come from east of south and drive the largest shingle westwards. East of the beach west of Bats Head, (which this writer calls "The Lone Beach", because of its normal inaccessibility from either end), the larger waves drive the larger shingle from west of south towards the eastern ends of beaches in bays.

It is interesting to note that the great Chesil Beach is found along that part of the Channel coast where the tidal range is smallest. Bird (in Steers, 1969, p.32), states that such bar beaches (like the Chesil Beach) can best develop where tidal ranges are small. (See also Steers, 1964, on the Chesil Beach.) Even if the small tidal range explains the position of the Chesil Beach, the grading of its pebbles is no nearer a solution.

- (c) The east Dorset beaches can be divided into these types:—
- (i) Shingle beaches (either purely modern or partly 'fossil' beaches).
 - (ii) Boulder shores (either from modern or older erosion).
 - (iii) No beaches (cliffs drop into deep water).
 - (iv) Sand beaches (in east-facing bays only).
 - (v) Reef shores (usually with loose boulders under cliffs above).

The map of the coast, east of Weymouth, shows the distribution of these beach types. It should be noted that the varied geological formation fronting the sea is little guide as to what type of beach develops. Arkell (1947) in the *Survey Memoir*, rightly stresses the importance of beach drifting, and the small tidal range assists beach growth, where there is sufficient flint material.

Concluding Summary with reference to other areas

In view of what Steers states about the Gower, Cardigan, and the hard rock coasts of Devon and Cornwall being composite

1. A. W. Rowe: 1901, *op cit.*

2. Information from personal observations at Ringstead Bay and from Admiralty Charts and the Harbour Authorities at Weymouth.

in age, it is reasonable to infer the same is true of the hard rock coast in Dorset. The Portland Stone, at the present sea level is hard enough to preserve remnants of an older coast line. Steers infers that parts of the Devon, Cornwall and some coasts in south-west and west Wales are at least inter-glacial in age, from the evidence of the "Patella Beach", named thus from the Patella limpet shells found beneath later glacial "head" or solifluxion sludges, that have partly buried it, from over old cliff lines. Thus in Dorset too, in Purbeck and near Lulworth, the present cliffs mark the line of an older coast. The bevelled upper slopes, above 100 feet, are strikingly similar to those seen in Gower and the area around Newquay, on Carboniferous and Devonian rocks respectively. It is suggested therefore that the present Portland Stone cliffs already described are composite in time origin, and mark the position of the coast through more than one oscillation of sea level.

The upper bevels, at various levels from 125 feet to above 300, appear to be related to bevels in the Weymouth Lowland and elsewhere. These could have been marine, the lower bevels being associated with the removal of the Portland/Purbeck strike ridge west of Gad Cliff in Purbeck. Any undoubted Pliocene bevel, so clearly seen in south-west England, Brittany, and also Algarve (Cape St. Vincent) at about 250/270 feet, does not appear to have been preserved so far up Channel as far east as Dorset. Sparks has not recorded flats at this level in the Weymouth Lowland. Whether any such levels remain to be found is an open question for future workers in this part of Southern England.

The writer wishes to thank Dr. R. J. Small, who encouraged the author's decision to write this paper, and for his help in subsequent amendments and in having the drawings prepared while the writer was in East Africa.

The maps were drawn by the Cartographic Unit, University of Southampton.

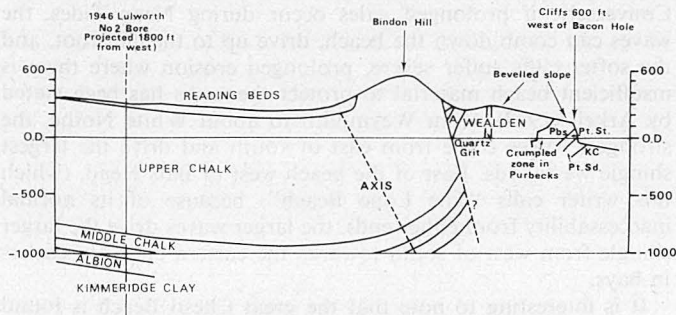
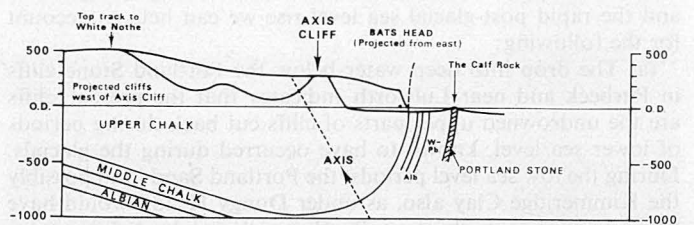
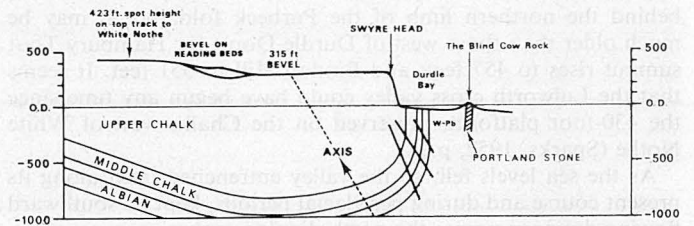
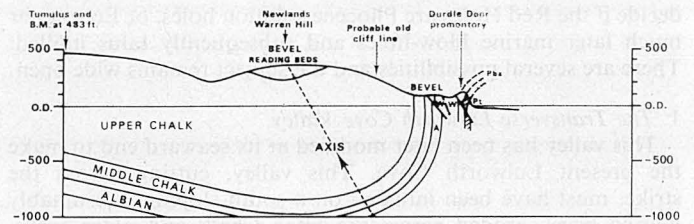


FIG. 4. East of Lulworth Cove.



FIGS. 5, 6 and 7 show older, higher bevels on the chalk at Durdle Door, Swyre Head and the Axis Cliff, west of Bats Head, west of Lulworth Cove.

Vertical and Horizontal Scales are equal.

The thicknesses of the geological formations are based on the Weymouth and Swanage Memoir by Arkell (1947) with modifications resulting from the Lulworth Bore and the Albion unconformity at Lulworth and Durdle Door.

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Mass Movements and Hillside Evolution in South West Dorset

By W. J. Brown, B.Sc., Ph.D.

INTRODUCTION

LITTLE has been written about the morphology and development of hillsides in south-west Dorset, yet much is known about the underlying rocks. Within this corner of the county, encircled by an impressive girdle of steep hills that attain the stature of broad tablelands in east Devon and the Dorset Downs, is a lowland area in which almost all the Jurassic formations outcrop. The lithological diversity of south-west Dorset proved attractive for a detailed study of the topographic effects of different rocks, and a geomorphological mapping survey was undertaken as part of a doctoral dissertation (W. J. Brown, 1965). This survey, incorporating most of the drainage basins of the Char and Brit and intervening coastal streams, revealed a variety of features, some recent, others relict, that afford evidence of hillside evolution.

HILLSLOPE PROCESSES AND EFFECTS

The ramparts of Pilsdon Pen and Eggardon Hill forts and the staircases of lynchets in valleys near Bridport are impressive parts of the record of man's intervention in the natural sequences of land surface evolution in south-west Dorset. Equally dramatic are the effects of certain geomorphological processes, apparently unaided by man, that have operated on hillsides in the past and which may have been the "normal" mode of slope evolution on escarpments and valley sides in these localities. Specifically, large bedrock masses possessing highly distinctive morphologies occur on the lower slopes of some hills. These masses cannot conceivably have been transported downslope by a mobile agent, such as running water. Their movement was by gravitative transfer, following displacement under conditions of slope instability. Such processes of transfer constitute part of a large group of mass movement activities that ranges in character from ubiquitous and imperceptibly slow soil creep to highly localized rapid landslipping and instantaneous rockfall. Hillslopes also display a variety of erosional effects of running water. In particular, rill development, spring sapping and gullying are important contemporary processes modifying Dorset hillsides. A third group of activities results in the *in situ* preparation, by mechanical and chemical means, of weathered material for removal by mass movement or erosion. The following account is restricted to a consideration of the larger hillside features produced essentially by mass movements.

THE NATURE AND DISTRIBUTION OF SLUMPS AND FLOWS

1. Introduction

The Dorset coast is well-known for its landslips, the most famous of which occurred near Rousdon on Christmas Day in 1839. M. A. Arber (1941) has described the impressive slumps that characterize the cliffed west Dorset coast and, more recently, mudflows and associated mass movements near Charmouth have been well-documented by W. D. Lang (1953) and D. Brunnsden (1969). By contrast, inland landslips and related phenomena in south-west Dorset have received scant attention, although in neighbouring Devon very early reference, by H. T. De la Beche (1839), was made to the "washing out" of hillside sands to effect landslipping. However, M. A. Arber (1946) commented on similar effects in valleys dissecting the Upper Greensand upland around Lyme Regis. Landslips in the Chalk valleys of the North Dorset Downs were mentioned by A. J. Jukes-Browne (1895). The only useful, although brief, description of the nature and occurrence of large mass movements in the

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western Dorset lowlands is that of F. B. A. Welch in the Geological Survey memoir for Bridport and Yeovil (V. Wilson, F. B. A. Welch, J. A. Robbie and G. W. Green, 1958).

The current study presents some detailed information about the character of large mass movements, notably slumps and flow phenomena, and their distribution on hillslopes in the Char, Brit and intervening basins. Knowledge of these features was acquired as systematic mapping of land form was implemented. Using six inches to one mile Ordnance Survey sheets as base maps, all but the smallest landforms were recorded, true to scale, in terms of their constituent slope units. Fundamentally, the resultant field maps resemble the morphological map produced by J. C. Doornkamp (1964) for part of the Weymouth lowland. In the south-west Dorset survey, however, some important microrelief forms were classified according to geomorphological origin and then symbolized on the maps. Thus

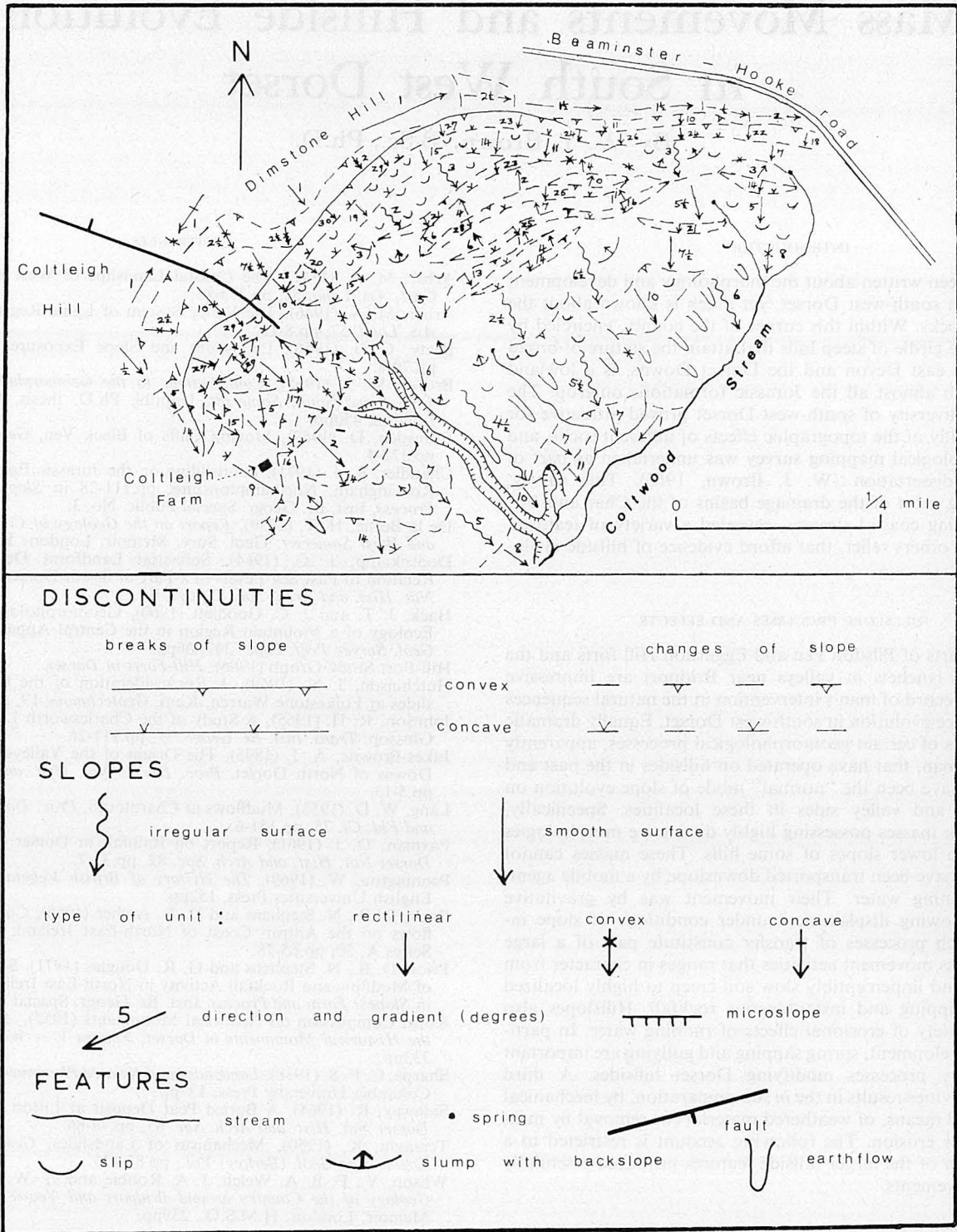


FIG. 1. Geomorphological map of the Dimstone — Coltleigh hillside.

landslip scars, small slumps, and earthflow tongues are mapped as genetic entities by symbols (fig. 1).

2. Dimstone Hill and Coltleigh Hill

Figure 1 is the Dimstone Hill portion of the large geomorphological map produced in the field survey. The slope from Dimstone Hill, 515004, to Coltleigh Stream, 520997, typifies many of those south-west Dorset sections of the Upper Cretaceous-Middle Jurassic escarpment that possess large slumps and mass flow features. Despite local complexities, it is possible to identify a general succession of morphological features from the crest of the Dimstone Hill-Coltleigh Hill interfluvial downslope to Coltleigh Stream (fig. 2).

On Dimstone Hill a smooth convex slope (fig. 2, profile unit A), developed on Lower Chalk overlain by thin clay-with-flints, terminates abruptly at a break of slope. Along much of

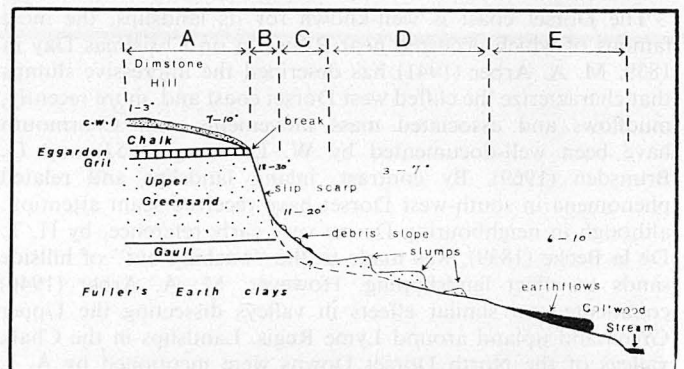


FIG. 2. Generalized profile of the morphological succession on Dimstone Hill.

the hillside this break approximates with the junction of the soft limestone and the underlying resistant Eggardon Grit. However, it continues toward Coltleigh Hill where, according to the Geological Survey, southwest of a presumed fault the gently convex summit and upper slopes are developed solely on Upper Greensand. There is no significant change in the morphology of the upper part of the hillside as the fault is crossed, yet, surprisingly, on the Chalk outcrop alone the convexity becomes broader and steeper alongslope.

Along the entire hillside, the convexity is succeeded downslope by an undissected feature that is consistently rectilinear (i.e. straight) in profile (fig. 2, unit B), and whose overall gradient varies laterally from 18 degrees near the Hooke-Beamminster road to 30 degrees further west. Although this unit is essentially rectilinear, its highest part periodically steepens to 35 to 38 degrees where Eggardon Grit outcrops as a small and discontinuous cliff-like free face. In contrast to the grass cover of the upper convexity, this rectilinear unit has a mantle of bushes and shrubs, punctuated by sporadic small, arcuate landslip scars that expose thin sandy and flinty regolith. The whole hillside leading down to Coltwood Stream is slightly concave in plan, but the 18 to 30 degrees unit consists of several straight or gently-embayed sections. Everywhere, it is developed on Upper Greensand.

Downslope, another rectilinear unit occurs. This has gradients of 11 to 20 degrees (fig. 2, unit C). Characteristically, it displays abundant small vegetated masses of sandy debris. A few masses are directly below landslip scars. Others have sites of origin not readily identifiable. Portions of the slope support angular blocks of Eggardon Grit that have come to rest after rockfall from the local free face. Most of the blocks have weathered surfaces and are implanted in debris. Similarly, most landslipped masses do not appear to be recent, for they are rather degraded and completely vegetated.

Beyond the base of the 11 to 20 degrees slope is a broad zone (fig. 2, unit D), typically 3 to 7 degrees and comprised of parallel chains of asymmetrical ridges. The zone is widest on central Dimstone Hill. Most of the ridges are slightly crescentic and resemble steps. Each consists of a narrow, steep slope (the front-slope, resembling a riser) facing downhill, and a broad, gently inclined top surface (the topslope, resembling a tread) which may decline in height toward the hillside, in which case it is termed a backslope. Within the area depicted in figure 1, front-slope gradients range from 13 to 28 degrees, but little lateral variation exists on individual ones. Generally, ridges furthest downhill tend to possess gentler front-slopes. Some front-slopes display small fresh scars of sands accompanied by aprons of sandy debris below. Topslopes dip gently valleyward or possess reversed gradients up to about 5 degrees. Conspicuous lateral variations in gradient are not uncommon on longer ridges. The lowest part of each backslope tends to be ill-drained but a few of the topslopes have been cultivated.

Apart from localized basal steepening of slopes by Coltwood Stream, the lowest zone of the hillside is a broad unit (fig. 2, unit E) of irregular ground, dissected by gullies that have eroded the Fuller's Earth clays. Within this zone several large morphological units have been identified, but none are delimited by breaks of slope. Two diagnostic features are, firstly, recurrent small rounded mounds of sandy debris, whose shapes often resemble the asymmetrical ridges upslope, and secondly, long, tongue-shaped masses. The morphology of these tongues suggests viscous flowage. Many tongues are no wider than 15 to 20 feet, but vary from 30 to 100 yards in length. Each is oriented in the direction of maximum gradient of the supporting slope. Its lower end, convex in plan and profile, is usually steep in spite of its modest height. Tongue sides have convex profiles, and sometimes exhibit incipient dissection. Sandy material occurs on some upper surfaces. Recent ditch digging in one locality, 520001, has exposed a thin cover of flints and glauconitic sands overlying clay. The tongues do not occupy linear depressions. On the contrary, small intervening gullies complement their spatial pattern. C. F. S. Sharpe (1938) has described the salient differences between earthflows and mudflows, the latter having less

well-defined forms, greater mobility and a restriction to pre-existing channels. The tongues on Dimstone Hill appear to be earthflows. In a few cases the latter are spatially related to asymmetrical ridges upslope.

The morphological and site characteristics of the small debris masses and larger asymmetrical ridges on the Dimstone-Coltleigh hillside are consonant with many published descriptions of slumps. Back-slopes can be attributed to the rotational slipping of masses of rock across curved slip surfaces. Excluding post-slip surface modifications, the inclination of a backslope is ideally a function of the curvature and steepness of the slip surface and of the distance travelled by the slump from the point of its displacement. The steepest major unit (fig. 2, unit B) in the Dimstone hillside profile most probably represents the unconcealed upper parts, the slip scarps, of contiguous slip surfaces. The gradual accumulation of debris by small rockfalls, slides and minor slumping has led to the production of a rectilinear constructional slope (unit C) concealing the lower part of each initial slip scarp. The impressive size of the debris slope, which extends along most of the hillside, signifies that either a long time has elapsed since the slip scarps were created, or that accumulation was much more rapid than it is now. Moreover, the lower gradient of the east end of the slip scarp may indicate a longer period of slope stability and resulting degradation than at central Dimstone Hill. This is corroborated by the fact that the hillside has receded furthest at central Dimstone Hill, which is where the zone of large slumps is broadest. Also, this is the only portion of the whole hillside where a gentle crest convexity is not succeeded downslope by a steeper convex unit before the slip scarp is reached. Slumping has consumed all but the original hill crest. Although it is impossible to reconstruct the pre-slip profile of the hillside, it is a reasonable assumption that its gradient was at least as great as the steepest parts (c. 11 degrees) of the convexities to east and west. The relationship of the slumps' topslopes to the original hillslope morphology is also impossible to ascertain. No exposures of slump structures occur, and time limitation prevented augering or the creation of sections. Eggardon Grit is exposed, apparently *in situ*, near the top of a front-slope of one of the larger masses; the respective backslope is therefore developed on gritstone or Lower Chalk. None of the topslopes reveal calcareous material, but Upper Greensand is exposed in burrows and at small scars on many front-slopes. The rounded crests of some slumps might indicate detachment of large portions of bedrock from the convex upper hillside, but in many cases such convexities result from progressive modification of form with age. At Dimstone Hill the rank of major slumps nearest to the slip scarp is locally unique in that its topslopes are consistently inclined valleyward. Lower chains of major slumps typically possess backslopes, an anticipated characteristic by virtue of their positions on the gentler outer parts of presumably curved slip surfaces.

The relative age relationships of the ranks of large slumps may now be considered. There appear to be at least three alternatives (fig. 3). One possibility was described by F. B. A. Welch (Wilson *et al* 1958, p.201) as follows:—

"It is probable that the majority of the great inland slips occurred at the end of the glacial period, when the land-surface was cracked by frosts and the cracks filled with ice. On melting, the whole surface, clay and greensand alike, slid on a curved slip plane whose lower edge coincided with the valley bottom. Moreover, the great volume of melt waters probably overdeepened the valleys so that secondary and later slips split up the first foundered mass".

On Dimstone and Coltleigh Hills the lower ranks of slumps are as large and degraded as the higher ones, and it seems quite unlikely that they were derived by subsequent foundering of an initial single mass (fig. 3a), unless the latter process took place relatively soon after the first slope failure. There is, though, ample evidence of subsequent minor slumping on the steep front-slopes of some ridges. A second possibility is that all these lines of large slipped masses were created simultaneously, by movements along several contemporaneous deep-seated curved surfaces (fig. 3b). An equally plausible hypothesis is that the ranks of slumps are arranged in chronological sequence, the

oldest chain occurring furthest downslope (fig. 3c). In this case, the newest chain was produced only after several episodes of landslipping had created a multiphased, or intermittent retreat of the steep upper part of the hillside. By the same argument, the steepest slopes on Dimstone and Coltheigh hills should be the most recent of a succession of slip scarps, the earlier ones having been destroyed. The fact that the chains of slumps appear equally degraded, and therefore of comparable age, would appear to favour the hypothesis of simultaneity of production. Alternatively, this characteristic may be explained in terms of the chains having been formed within a relatively short time by intermittent major slumping, after which there was a long period of slope stability.

3. Other Hillides on Upper Cretaceous and Middle Jurassic Rocks

Most hillsides where Upper Cretaceous rocks outcrop directly above Fuller's Earth clays morphologically resemble Dimstone Hill. Ranks of elongated slumps and more randomly distributed smaller masses rest on gentle slopes developed in clay and are overshadowed by steep, arcuate slip scarps. Convexities typify the highest parts of the hillsides. Usually a smooth gentle summit convexity is followed downslope by a steeper convex unit, below which the maximum slope gradient is found. The latter, typically within the range 26 to 31 degrees, is often a slip scarp in Upper Greensand and Lower Chalk. Below the slip scarps are sometimes narrow 11 to 20 degrees slopes supporting many small slipped masses. Such slopes may be post-slip constructional features growing at the expense of the slip scarps from which their debris is derived. Slump zones below have characteristically gentle overall gradients. Ranks of elongated slumps occur more frequently on the higher parts of these zones. Earthflows are not apparent on many hillsides, but sporadically populate 6 to 10 degrees slopes below the slump zones.

The south side of Drakenorth Hill, 531983, possesses a slump zone that is as impressive as that on Dimstone Hill and Coltheigh Hill. Almost a half-mile in width, it has several long chains of elongated slumps. Upper Greensand is exposed in a pit in the frontslope of a large slump immediately below the western limit of Drakenorth slip scarp, and sands, cherts, and flints dot the grass- and bush-covered surface of many of the ridges. Sandy regolith is apparent in small slips at the distal margin of the slump zone. A very high proportion of the slumps have reversed gradients, some exceeding 7 degrees. The backslopes in any single chain tend to conform in steepness, although there are notable exceptions. The continuity of the ranks and the morphological similarity of their constituent slumps strongly suggest that each chain was a product of more or less simultaneous landsliding along the entire upper part of the hillside. There is no discernible downhill progression in backslope gradients from the slip scarp to the lowest rank of slumps. At least two ranks have gentle topslopes, whereas their neighbours possess pronounced backslopes. Hence it is improbable that the ranks were created by a solitary gigantic slope failure along a single curvilinear slip surface. As on other hillsides, the lower part of the slump zone displays a mélange of smaller slipped masses, derived from the front-slopes of the lowest chain. The upper part has ranks of elongated slumps which do not exhibit a systematic downslope change in dimensions, and it is unlikely that they were created by subsequent failure of the front-slopes of immense primary masses. Additional facts support this assertion. First, some of the lower slumps cover larger areas than those in the rank nearest the slip scarp. Secondly, many of the slumps in the lower ranks are quite rounded and appear more degraded and therefore older (as they are all Upper Greensand masses) than their counterparts upslope. The two tallest and 'freshest' slumps flank the base of the slip scarp; the larger mass has the steepest slopes in the whole slump zone. Although apparently stable today, with a continuous mantle of coniferous woodland in the east and bushes further west, the 30 to 33 degrees slip scarp may be recent compared with those on some hillsides, for here at Drakenorth Hill it is not encroached upon by a sizeable basal debris unit, nor has there been time for the destruction of the angular break of slope that delimits the flat summit. Summarily, the evidence on this

hillside favours a hypothesis of intermittent landslipping and accompanying slip scarp recession.

Eggardon Hill, 540948, affords another spectacular example of large-scale mass movement effects. The prehistoric hill-fort commands the broadest part of the Eggardon Hill spur crest, but the latter tapers westwards until it becomes an angular spine. Northern ramparts of the earthwork are intact and do not extend beyond the upper hillside convexity. The southern ramparts are more precariously sited on a broad 10 to 16 degrees convex slope, and this resulted in one major local dislocation. The latter has been referred to (Hill-fort Study Group, 1966) as an Iron Age landslip, post-dating the construction of the ramparts. With this one exception, earthworking has not induced slope failure comparable in magnitude with the major landslipping that affected the whole spur in earlier times and which has left a rich legacy of slip scarps and slumps. The north-facing hillside has a long, 60- to 90-foot-high slip scarp, varying laterally from 22 to 36 degrees, that is developed in Lower Chalk and, at its western end, also in Upper Greensand. Small recent slip scars occur sporadically on the terraced grassy slope. A broad slump zone below has a more diverse morphology than that on Drakenorth Hill. The tallest slump, approximately 35 feet high, is at 538952, near the slip scarp; its height and width decline distally, and its backslope gradient decreases accordingly from a maximum of 28 degrees. Near the top of its front-slope, Chalk beds are exposed with joint planes that appear to dip valleyward at roughly 35 degrees. Fifteen feet below this exposure is a horizontal outcrop of Eggardon Grit beds, but the dip of the latter is not ascertainable. Immediately downslope are two large terraces, with cultivated topslopes. The 30 to 32 degrees front-slope of the higher terrace has Chalk fragments at the top and gritstone 10 feet below, apparently *in situ* in the mass. Downslope are several narrow, parallel undulations following the contours. They appear to be shallow slip movements, resembling the contour ridges described on a landslipped Northamptonshire hillside by R. J. Chandler (1971). Elsewhere on the slump zone the larger masses resemble the asymmetrical ridges of Dimstone Hill. The lower part of the zone has narrow, convex-sided hummocks of sand that are oriented downslope, in a beaded fashion in some cases, giving the impression of degraded flows rather than secondary slips. As at Dimstone Hill, the sandy surface may be the expression of a superficial deposit on argillaceous earth-flows. Near the hill foot, a crenulate micro-escarpment, 4 to 6 feet high, appears to be the lower margin of a large sheet of debris. Such an earthflow mantle, with incorporated minor slips, may have been created by the simultaneous production of many large slumps on a single curved slip surface extending toward Whetley stream. However, there is no progressive downhill change in topslope gradients, such as one might expect resulting from a single massive failure. The steepest front-slopes are those of slumps near to the slip scarp, and it is these masses which appear least degraded. Consequently, intermittent large-scale landslipping appears to have been operative here, as at Drakenorth Hill and Dimstone Hill.

Several other hillsides have slump zones and slip scarps that resemble those previously described. On Barrowland Hill, 545955, facing the north side of Eggardon Hill spur, a broad convexity is adjoined by a maximum slope increasing from 26 degrees on Lower Chalk at its southern end to more than 40 degrees on Eggardon Grit and the subjacent sands near its northern limit. A gentler unit flanks parts of this bush-covered slip scarp and supports fallen angular blocks of gritstone and small greensand slips. The most prominent reversed slump occurs below the steepest section of the slip scarp, where the latter is devoid of a basal debris slope. Lower major slumps have broad gentle topslopes and abrupt front-slopes, thereby creating a terraced appearance. The south-west side of Hackthorn Hill, 507007, has arcuate slip scarps in Lower Chalk and Eggardon Grit in the north and in Upper Greensand to the south of the Coltheigh Fault. A gently-sloping zone of slumped masses abuts against the slip scarps and, south of Marsh Farm, 503004, small tongues of clayey material, covered by sandy wash, indicate outflowage of Fuller's Earth. By contrast, Langdon hillside, 505015, exhibits similar slip scarps, but these are accompanied by small

debris slopes and some reversed slumps. Slumps further down-slope generally have gentler frontslopes, are quite rounded and appear degraded. The lower margin of the slump zone is a conspicuous minor scarp, which itself has undergone slope failure at two locations. Across the Beaminster basin, at Horn Park Hill, 461027, a high southwest-facing 20 to 30 degrees slope in Upper Greensand towers above a haphazardly distributed set of slumps of various sizes. There is only one well-defined chain, with reversed slumps. At the western end of the hill a slip scarp developed exclusively in the Fuller's Earth is flanked by an elongated rotational clay slump.

At least three hillsides on which Upper Cretaceous rocks succeed Fuller's Earth clays present a stepped slump zone morphology. On the south-west side of Eggardon Hill spur, a broad slump zone extends to the base of a major slip scarp, distinguished by the Bell Stone, a narrow but prominent free face of Eggardon Grit. This zone has discontinuous ranks of elongated masses, many of whose front slopes rival the 28-36 degrees slip scarp for steepness. Nearest to the latter, the slumps are obviously rotational. Their steep backslopes are covered with chalky debris, whereas exposures of gritstone occur on their frontslopes. Downhill, however, especially near North Eggardon Farm, 534942, there are wide gently-sloping terraces, separated by short, steep frontslopes along which gritstone outcrops. As F. B. A. Welch found (Wilson *et al* 1958, p.158),

"large masses of the upper hard beds of the Greensand have frequently slipped so gently that, apart from the abnormally high dips, they appear to represent outcrops *in situ*".

The slump zone on the north-facing side of Chilcombe Hill, 530924, displays sub-parallel elongated benches whose narrowness and profile angularity resemble lynchets, except that the diagnostic regularity of the latter is missing. A similar terrace morphology is evident on Shipton Hill, 508921, where Welch has postulated (Wilson *et al* 1958, pp.159, 202) that successive slips have encroached upon the central portion of the hill until only a narrow undisturbed core remains.

Not all hillsides where Fuller's Earth is the highest Jurassic formation possess large-scale effects of landslipping. The hillside behind South Eggardon Farm, 536937, has a steep maximum slope, cut largely in Chalk, but its slump zone possesses only small slips. However, the basal proximity of South Eggardon stream suggests that earlier, and perhaps larger slumps may have been removed by undercutting of the supporting slope. Similarly, there is an absence of large slips on the south side of Horn Hill, 468030, where the maximum slope is in Upper Greensand, not Chalk.

Within the Brit drainage basin, the only locality where Forest Marble outcrops immediately below Upper Cretaceous strata is north of Beaminster. At Buckham Down, 477033, below a steep slope in Upper Greensand, there are two slumps, the higher resting on Gault and the lower on Forest Marble. Farther east, at Higher Meerhay Farm, 489031, a solitary rotational Upper Greensand slump occurs at the base of a modest scarp in the same formation. This slope failure may be related to the inherent weakness along the Higher Meerhay Fault, which juxtaposes Gault clay and Upper Greensand near the foot of the frontslope. South-east of the gritstone spur of White Sheet Hill, 495022, a broad zone of irregular ground extends down to the River Brit. Several large slumps are arranged *en echelon* along the contours, but there are no systematic downhill changes in their dimensions, the gradients of their component slopes, or their degrees of degradation. Most of these greensand masses are supported by Fuller's Earth clays, for at this site Gault almost oversteps the Forest Marble. One might expect this fact to account for the relative abundance of landslips at White Sheet Hill compared with Buckham Down and Higher Meerhay. However, around Stonecombe Farm, a short distance west of the slump zone, smooth slopes on Fuller's Earth clays occur below the Gault outcrop. The large-scale slumping south-east of White Sheet Hill may, therefore, reflect instability induced by the basal steepening of the hillside as the Brit cut down through weak clays.

The overall impression in the Brit basin is one of modest landslipping of Upper Cretaceous rocks where the latter are superjacent to the Forest Marble, compared with impressive multiple

slumping where the Gault succeeds Fuller's Earth strata. This distinction is not unexpected, for one of the conditions believed most conducive to landslipping is the presence of a permeable formation directly above thick incompetent clays. The alternation of limestones and clays in the Forest Marble formation provides, apparently, limited scope for landslipping. Yet a different conclusion would be arrived at in the upper Bride basin, outside the study area. Here, from Tenants Hill, 577880, to Abbotsbury Castle, 556866, below commanding arcuate Upper Greensand slip scarps, there are staircases of broad, terrace-like slips, products of slope failure on gently northward-dipping Forest Marble beds. Fuller's Earth does not outcrop, even in the adjacent Ashley and Look valley bottoms. The scale of landslipping in this area poses a special problem for future research.

4. Hillsides on Upper Cretaceous and Lower Jurassic Rocks

In Marshwood Vale and the adjacent coastal basins, the outcropping Lower Jurassic rocks consist of clays and marls of the Lower and Middle Lias, below the thin marker Starfish Bed, overlain by soft Middle Lias Sands. The latter are succeeded by thin Junction Bed limestones, above which are the thick permeable Bridport Sands, with their intercalated hard sandstones.

Within the area surveyed, extending only as far west as Lambert's Castle Hill crest and Charmouth, the sole outstanding example of prominent earthflowage and slumping is the north-west side of Stonebarrow Hill, 380935 (fig. 4). Here, Upper Cretaceous strata rest on argillaceous rocks, whose lower members are least permeable. Stonebarrow Hill crest has a veneer of head, presumably derived from the higher summit of contiguous Chardown Hill, 396938. Adjacent to the crest is a 2 degrees unit (fig. 5, unit A), the dip-slope of the resistant Chert Beds. At the seaward end of Stonebarrow Hill, a 10 to 14 degrees convexity, on Chert Beds and the subjacent Foxmould Sands, follows. Further east, in lieu of the convexity, there is a 22½ to 24 degrees rectilinear slope. Each of these slopes, simply indicated on the profile (fig. 5) as unit B, has been consumed below by the creation of 26 to 37 degrees maximum units. These bush- and tree-covered steeper slopes are completely stable. Downslope, a broad concavity (unit D) occurs. At its base there is a well-defined zone (unit E) of large asymmetrical ridges, constituting a single interrupted chain parallel to the maximum slopes. The eastern part of this chain consists of three equidimensional slumps, each with a marshy slip hollow. Burrows in the slumps reveal glauconitic sands. The western segment also possesses three slumps, one of which is reversed. All six greensand masses vary little in their state of preservation, and it is reasonable to assume that they are contemporaneous products of slumping over curved slip surfaces whose upper parts remain exposed as the 26 to 37 degrees slip scarps. Below the latter, the broad concavity has few signs of debris on its surface. These facts suggest that unit D is not an accumulation feature post-dating the major slope failure, but an erosional derivative of the lower parts of the slip scarps, developed in Gault and Middle Lias Marls.

Downhill from the slump chain is a belt of haphazardly distributed smaller slips on a gentle supporting slope of marls (unit F). Some slips may be derived from frontslopes. The remainder occur either between the two parts of the chain or at the foot of a 13½ to 15 degrees scarp towards Cain's Folly. This scarp has signs of cherty fragments over clays, and is the eroded edge of the Belemnite Marls, veneered with head. The lower part of Stonebarrow hillside (units G and H) is a belt of earthflows and minor slips on Lower Lias clays. The longer flows, up to 20 yards wide, occur near Stonebarrow Farm, 373934, and east of the Whitchurch road — A35 junction. At this farm, the tongues have rounded toes, averaging 12 degrees, and gentler lateral gradients. Their slightly concave crests are less steep than the supporting slope. These flows are not demonstrably related to small slumps above. By contrast, the eastern group of earthflow tongues does reveal at least two integrated slump-flow structures. At 382940, a gently-inclined tongue emanates from a low arcuate scarp in Belemnite Marls. A basal slope (unit H) has been produced by incision of the Char. It possesses sporadic tongues with subsidiary lobes, products of the outflowage of the highly impermeable Black Ven Marls. In a few places, there are

terrace-like debris slips derived from the mantle of head upslope.

There are three other landslipped hillsides where rather impermeable Lower Jurassic rocks underlie Upper Cretaceous ones. They are the eastern sides of Lambert's Castle Hill, Coney's Castle Hill and Payne's Down. Each has a small crest convexity in Chert Beds, and on Lambert's Castle Hill there is a succeeding broader convex element, which is steepest where the rampart of the hill-fort occurs. Downslope, in each case, is a tall maximum unit, typically within the range 20 to 23 degrees and developed in Upper Greensand. On the Coney's Castle — Lambert's Castle hillside this maximum segment overlooks another large, smooth slope, developed mainly in Foxmould Sands. Along virtually the whole hillside this is flanked by a 6 to 9 degrees "flat", on which the Gault and fine sands of the Middle Lias outcrop. Below, a wide 11 to 14 degrees slope forms the principal outcrop of the Middle Lias beds. Here and there the lower part of this unit has been replaced by steeper crescentic slopes, and there are sizeable slumps below. Thus, the original Middle Lias slope has suffered intermittent failure. On Coney's Castle hillside an elongated $1\frac{1}{2}$ to $5\frac{1}{2}$ degrees bench, 200 yards long, at Gummershay Farm, 375980, appears to be the topslope of a large rotational slump of Middle Lias beds over less permeable Green Ammonite Beds. To the north, a broad zone on Middle Lias and Green Ammonite strata displays sporadic large slumps, for instance, below White House, 373984, and north of Nash Farm, 376989. The lower part of this hillside is dissected by gullies cutting into Lower Lias clays, and many minor slips of head diversify its surface.

As mentioned above, the eastern side of Payne's Down is a steep and high Upper Greensand slope. At its base, a 10 to 14 degrees concavity, developed in Upper Greensand at Birdsmoorgate, 392009, but mainly in Middle Lias sands to the south, is spasmodically interrupted by steeper segments, below which are bench-like or spur-flat features, identifiable as slipped masses. In the south these sandy slips occur beyond the Upper Cretaceous outcrop, and clearly are products of failure of the original Middle Lias slope. Hence, on each of these last three hillsides, the large rotational slumps are due to landslipping of Middle Lias beds over thick clays and not to the failure of Upper Greensand slopes.

Two additional hillsides are worthy of note because of the presence of medium-sized Upper Greensand masses, even though Lower Jurassic *sands* are subjacent to the Upper Cretaceous rocks. On the east side of Langdon Hill, Chideock, 413927, a high afforested 20 to 22 degrees scarp in Upper Greensand is paralleled by a broad 11 to $12\frac{1}{2}$ degrees slopes on Gault and the upper Middle Lias Sands. In the vicinity of Knell Coppice, at the southern end of the hillside, two sandy slumps rest on a Middle Lias Sands slope, although a potential cause of failure is the fault near their frontslopes. The 11 to $12\frac{1}{2}$ degrees slope is continuous and uniform in character, but there are no slips north of Knell Coppice. The origin of this slope unit is problematic, but it may be a derivative of the lower part of the initial slip scarp.

The subdued traces of ramparts on the summit of Lewesdon Hill (Royal Commission on Historical Monuments, 1952) indicate that hill-fort construction had no major effect on the evolution of its slopes. On the south-facing hillside a wooded rectilinear 38 to 40 degrees slope, cut in Upper Greensand with a Chert Beds capping, is gently concave in plan. At its foot a broad zone, averaging 5 degrees, is developed in basal greensand and Gault clay and supports several small slumps. Below this zone is a sequence of smooth slopes on Bridport Sands. Burstock Down, at the western extremity of Lewesdon Hill, also displays a south-facing arcuate slip scarp, of commensurate steepness, and a long reversed slump on Gault clay. On Lewesdon Hill, despite the fact that highly permeable Bridport Sands underlie the Gault, landslipping appears to have been an important mode of hillside evolution.

5. Hillsides on Lower Jurassic Rocks

The northern and eastern margins of Marshwood Vale are mainly dissected Lower Jurassic escarpments. Almost without exception, landslipped hillsides have involved the collapse of

Middle Lias Sands over the underlying clayey Middle Lias Marls. Generally, the hillside morphology consists of a gentle upper convexity, with a steeper rectilinear unit below. The latter has locally been partly or completely replaced by slip scarps, concave in plan, steep, and fashioned in Middle Lias rocks. The Starfish Bed, with its pronounced seepages, often occurs part way up the slip scarps, and the resultant slumps consist of sands and clays. These slipped masses rarely compare in magnitude with the greensand ones flanking the Dorset Downs. Nevertheless, their high frequency indicates the importance of this mode of hillside evolution on the Middle Lias escarpments.

The distribution of landslips on Middle Lias hillsides can be appreciated most readily by tracing their occurrence north-westward along the escarpment from Salway Ash to Marshwood. At Kingsland, 454977, evidence of early slope failure exists in the form of degraded slumps and a modified 14 to 16 degrees slip scarp cut in Middle Lias Sands. More impressive features occur across the valley, on the east side of Pomice spur, but here the slip scarp is in Middle Lias Marls and Green Ammonite Beds, and the associated elongated slump rests on the latter formation. Between Filford, 441974, and South Bowood, 443986, there is a continuous 21 to 30 degrees unit on Middle Lias Sands and Marls. Seepages are conspicuous along most of the slope. This slip scarp is paralleled by a chain of sandy slumps. At south Bowood a narrow slipped mass of sands has a 22 degree frontslope and a topslope of 10 degrees which mirror in steepness the slip scarp above and the broad unit upslope from it. The slipped mass has the appearance of a block slide rather than a rotational slump. The uppermost part of the Simene Valley near Glitney Farm, 435990, has been markedly affected by landslipping. The west-facing valley side has a long concave slip scarp and irregular ground below. The opposite valley side possesses an impressive landslide morphology, with the appearance of relative recency. A continuously vegetated 26 to 28 degrees maximum slope leads down to a somewhat gentler, but broad concavity on which the Starfish Bed outcrops. Downslope, a prominent chain of five rotational slumps is reminiscent of the ranks of Upper Greensand slumps on Stonebarrow and Drakenorth hillsides. The masses at Glitney Farm are on a wide slope whose lower part is dotted with small debris slumps. The slope is scored with gullies, some of which now drain slip hollows.

Near Lob Gate, 414009, on the south side of Pilsdon Pen, the top of the Middle Lias Sands and the superjacent Junction Bed have been involved in slumping. Locally there are two slip scarps at the horizon of the Junction Bed. One has a reversed slump at its base. Its western neighbour is flanked by a larger mass with a 32 degrees frontslope; the latter, with a fine exposure of the Junction Bed, is a newer slip scarp produced by subsequent failure of the initial foundered mass. East of Lob Gate similar slipping of these beds has occurred at several locations.

At Tor, 407007, on a south-facing hillside, a half-mile-long, arcuate 30 to 38 degrees unit in Middle Lias Sands towers over a broad zone of slumped sandy masses, the largest of which forms an elongated sloping bench. The lower part of the zone exhibits several substantial slumps, all with gentle topslopes and steep frontslopes. Although oriented alongslope, these masses occur at different elevations, but they are all supported by clay slopes. Nearby Sliding Hill, 404006, exhibits a taller and locally steeper slip scarp than Tor's. The Sliding Hill scarp has been fashioned in the lower part of the Middle Lias Sands, and is evidently a result of failure of the original 16 to 24 degrees slope, parts of which remain alongslope. At the base of the relatively gentle concavity below the slip scarp, there are several major rotational slumps. As at Tor, the supporting slope is on clays. On the crenulate hillside immediately west of Sliding Hill, gentler and possibly more degraded slip scarps are bordered by a distinctive zone of long hogback ridges with inclined crests. The backslopes of these slumps appear to have been steepened by gullying along the initial slip hollows.

Finally, on the south-facing hillside at Marshwood, 383995, landslipping has displaced the lowest Middle Lias Beds and, mainly, the Green Ammonite Beds. The essentially rectilinear 12 to $17\frac{1}{2}$ degrees upper part of the hillside is punctuated by small crescentic steep scarps. Downslope, irregularly distributed

masses of diverse sizes occur on Lower Lias clays. The larger slumps are reversed. Just south-east of Marshwood church, there is striking evidence of contemporary slope instability. Behind the top of a long, arcuate 30 degrees slip scarp are several parallel fractures at 2 to 5 feet intervals, exposing sands above clays. In the bowl-shaped hollow below the scarp, there is a morass of bush-covered sandy and clay hummocks. This association of scarp, fractures, and irregular masses in an amphitheatrical depression below resembles the bowl slides recently described in Antrim (D. B. Prior, N. Stephens and D. R. Archer, 1968).

Middle Lias rocks on the north and east sides of Marshwood Vale have been subject to repeated displacement by intermittent slumping. More modest landslipping has affected the same formations on the sides of Conegar Hill, 379954, and Catherston Hill, 373945. At 415953, on the south-west of Coppet Hill, a steep, bush-covered slope on Middle Lias Sands is flanked by an inclined but undissected bench, which could be the degraded product of an early failure. Alternatively, the 7½ to 9 degrees bench (a topslope) may express the modest amount of rotation that has occurred on the slip surface beneath the initial 8 to 15 degrees slope. Around Coppet Hill, seepages at the Starfish Bed approximate in height the base of the bush-covered slip scarp. There are no other noteworthy instances of bedrock slumping on hillsides in either Marshwood Vale, the coastal drainage basins, or the valleys in the Middle Lias plateau between Bridport and Netherbury.

In sharp contrast to the Middle Lias rocks, the Bridport Sands formation outcrops on innumerable steep-sided hills and valleys devoid of large mass movement phenomena. Similarly, the subdued hillsides developed solely in Lower Lias clays also lack slumps and flows.

6. Hillsides on Jurassic Rocks

There are no very lengthy escarpments in exclusively Middle Jurassic rocks in the Brit basin. The Forest Marble escarpment at North Hill, 485904, and Wych Ridge, 473912, is devoid of

landslip and flow features, but the half-mile-long western side of Knowle Hill 525945, near Nettlecombe, is an imposing example of large-scale slumping along an outcrop of the Fuller's Earth. This 200-foot-high hillside reflects the local importance of the thin permeable marls and nodular limestones comprising the *wattonensis* Beds that cap thick Fuller's Earth clays. The *wattonensis* Beds occur at the top of the wooded 14 to 29 degrees maximum slope on the hillside. Below this composite slip scarp, a broad basically concave slope supports remarkably continuous chains of bedrock slumps. These terrace-like features have short, steep front slopes, occasionally indicating the *wattonensis* Beds, and very wide topslopes, whose gradients vary laterally from 0 to about 6 degrees. Significantly, below the steepest parts of the maximum unit, the closest slumps are reversed and particularly near to their slip scarps. This condition may reflect the relative recency of parts of the maximum slope, in which case Knowle Hill has undergone intermittent failure, with the creation of new elongated slumps and concomitant localized retreat of the upper hillside. The somewhat more degraded condition of slumps in the lower chains tends to corroborate the hypothesis of intermittent landslipping as against those of a single massive failure or the subsequent foundering of a huge initial slip (fig. 3). Earthflow tongues do not occur beyond the slumps, but subdued surface irregularities downslope could be manifestations of a sheet-like outflow of plastic clays. Unlike almost all other escarpments in south-west Dorset, the permeable rock in which landslipping was induced is thin and rather soft, and yet the bedrock slumps are amongst the most impressive examples recorded!

THE ORIGIN OF LARGE-SCALE MASS MOVEMENTS IN SOUTH-WEST DORSET

Evidently, from the foregoing descriptions, large-scale mass movements are a common feature in south-west Dorset. Earthflows and, particularly landslips, are highly characteristic elements of some escarpments and valley sides, and yet many tracts of hilly land are devoid of them.

The nature and distribution of landslips and earthflows within the survey area provide salient clues to their origins. Most of the large slumps have gentle topslopes, or even backslopes toward shallow slip hollows, and appear to be detached portions of bedrock which have undergone different amounts of rotation over curved slip surfaces. Topslope inclinations do not necessarily provide a reliable measure of the amount of rotation, for they may be infilled slip hollows. Nevertheless, terrace-like slipped masses at Eggardon Hill and elsewhere possess beds that have moderate or high dips toward slip scarps, although the latter expose the same strata *in situ* with almost no inclination. A profusion of minor slips occurs in some slump zones, especially downhill from large slumps. Many are products of front slope failure. Sometimes small slips occur within or beyond the mantles of head on upper hillsides, and have obviously originated in these solifluction deposits. Disregarding the solifluction spreads, most evidence of mass flowage is in the form of sporadic tongues of earth rather than amorphous sheets. Occasionally these are demonstrably related to slips above, and resemble the integrated earthflow-slump structures described by Sharpe (1938). The stabilized tongues are obviously relict features. Their morphology contrasts markedly with the flow track and toe forms constituting the lower parts of composite mudflows in Antrim (D. B. Prior, N. Stephens and G. R. Douglas, 1971). The clay tongues in south-west Dorset are products of more viscous flowage than that which produced the Liassic shales mudflows in Antrim, and are most appropriately regarded as earthflows.

Causes of slope failure are diverse and complex, as is apparent from comprehensive landslip classifications such as those of K. Terzaghi (1950) and Sharpe. Most of the large slumps in south-west Dorset are detachments of Upper Greensand, especially where the latter and the Gault overlies Lias clays or the Fuller's Earth. Others are composed of Middle Lias Sands or, less frequently, the Chalk, *wattonensis* Beds, Junction Bed, and Middle Lias Marls. All but the last of these formations are

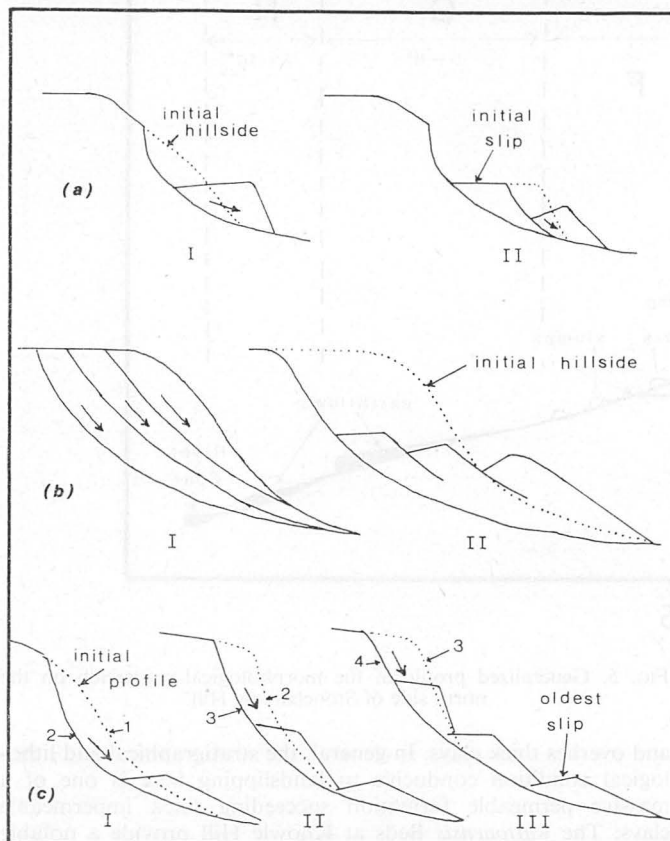


FIG. 3. Hypotheses of formation of ranks of slumps. Roman numerals refer to stages of formation.

- (a) Secondary failure from an initial slump rank.
- (b) Simultaneous production of slump ranks.
- (c) Chronological sequence of ranks, the oldest being furthest from the present slip scarp. Sequence of hillside profiles indicated as 1 to 4.

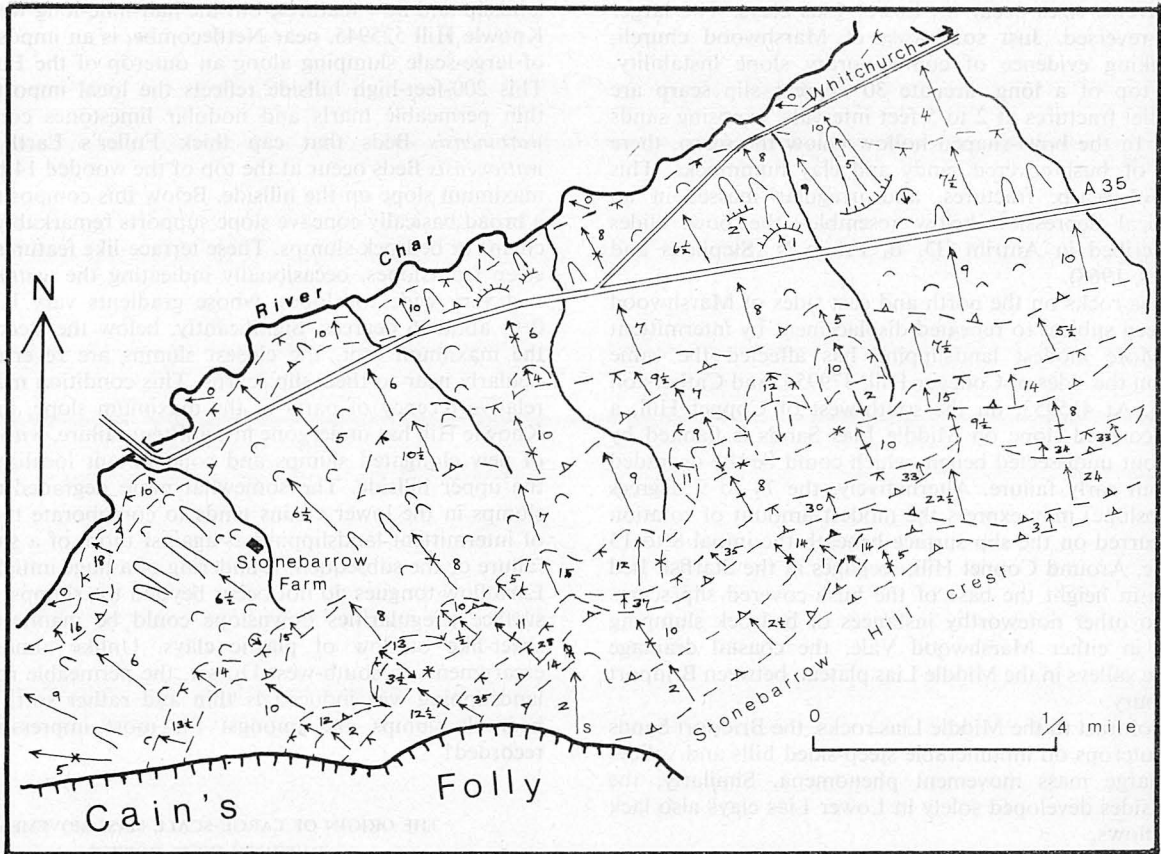


Fig 4

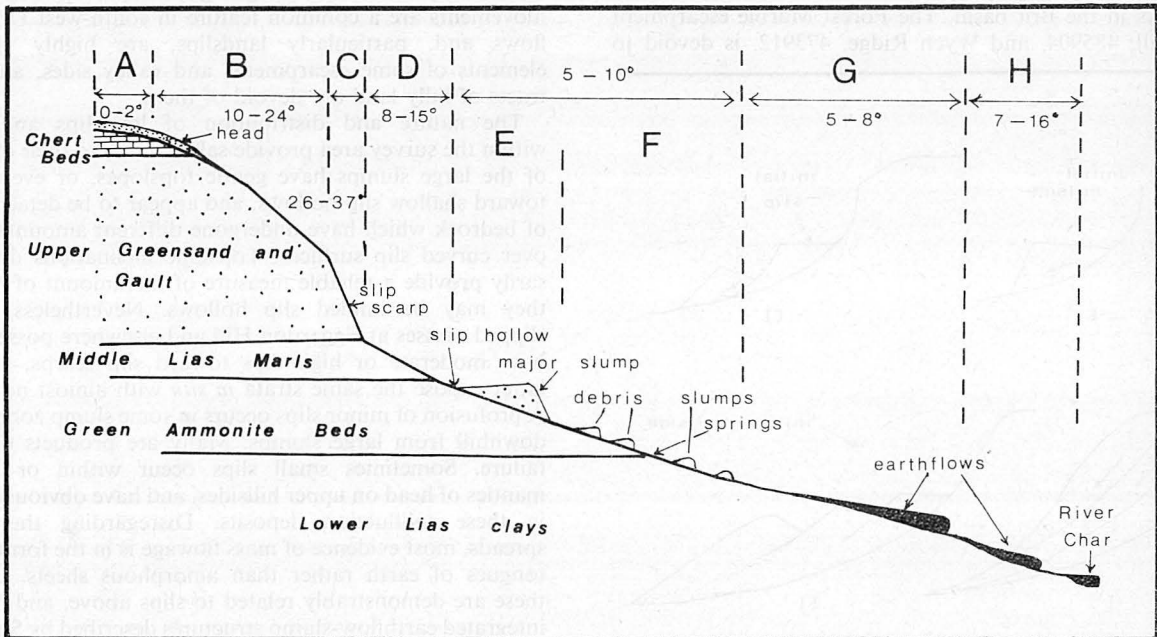


Fig. 5

FIG. 4. Geomorphological map of the north side of Stonebarrow Hill. Symbols used are as in Fig. 1.

FIG. 5. Generalized profile of the morphological succession on the north side of Stonebarrow Hill.

very permeable and, apart from the limestones, tend to be soft. Furthermore, each formation is, lithologically, essentially homogeneous. Where subject to slope failure, each permeable rock is almost invariably underlain by an impermeable lithology. On some hillsides the lithological discontinuity is betrayed by strong seepages, and, for example, along the Middle Lias escarpment slumping was widely initiated by softening and undermining of the sands as a consequence of spring sapping at the Starfish Bed. Springs and seepages at the base of the Upper Greensand are very numerous, especially where this aquifer is Chalk-capped

and overlies thick clays. In general, the stratigraphical and lithological condition conducive to landslipping here is one of a massive permeable formation succeeding thick impermeable clays. The *wattonensis* Beds at Knowle Hill provide a notable exception. The significance of this general condition favouring landslipping is highlighted by the fact that the highly permeable Bridport Sands formation, which gives rise to numerous steep hills, has not experienced large mass movements, even where the subjacent Junction Bed and Middle Lias Sands outcrop.

Although the stratigraphical and lithological determinants of

landslipping are identifiable, their actual roles in inducing slope failure can only be surmised. Terzaghi has emphasized that many landslips have primarily internal causes, the latter resulting in a decrease in the shearing resistance of the material that fails. Most frequently, this decline in the strength to withstand shearing of the rock is brought about by a rise in the water table which produces, *ipso facto*, an increase in the pore-water pressure. Consequently, circumstances which effect an appreciable rise in the water table will favour landslipping. R. H. Johnson (1965) identified the development of high pore-water pressures as the most important determinant of the landslips at Charlesworth, in the Pennines, but cautioned that slope failure had occurred only after a protracted slow reduction of the cohesion of the massive sandstones overlying the weak rocks. Similarly, J. N. Hutchinson (1969), in a study of the famous coastal landslips at Folkestone Warren, asserted that fluctuations of pore-water pressures on potential slip surfaces have been a particularly important factor. He found that exceptionally high seasonal pore-water pressures in the slipped masses led to renewals of movement on pre-existing slip surfaces. Present-day inland landslipped areas in south-west Dorset appear to be stable, except for occasional bowl slides, as on Marshwood hillside, and debris slips. Normal seasonal fluctuations in the water table have little effect, and even the exceptional hydrological conditions of late 1960 were insufficient to induce any large-scale landslipping. That year was the wettest in Dorset since continuous weather records began in 1856. D. J. Paxman (1961) observed that July, 1960 was the start of a prolonged wet spell that became progressively wetter until October, when exceptionally heavy and protracted rainfalls resulted in nearly three times the average amount of rain for that month. Presumably very different hydrological and associated conditions from modern ones must have existed in order to permit the massive slope failures whose effects are visible on hillsides today.

Geological structures may facilitate landslipping by aiding water penetration of aquifers or concentrating water at seepage lines. Where there is a rapid succession of dissimilar lithologies, non-rotational slipping is favoured by strata dipping appreciably downslope; in such cases, bedding planes may be potential slip surfaces. In south-west Dorset most landslipped areas have gently hillward-dipping strata. Two notable exceptions are Eggardon Hill spur, which coincides with the Eggardon Hill Anticline axis, and the north side of Stonebarrow Hill, where Jurassic rocks dip gently downslope on the north-west limb of Stonebarrow Anticline. At both places there are impressive rotational slumps, but several other hillsides have masses of comparable magnitude and frequency.

Topography must have been important in creating the conditions of slope instability that led to the initiation of landslipping. Mention has been made of the peculiar distribution of slumps on the south side of White Sheet Hill, Beaminster, and it has been suggested that stream incision may have been decisive in initiating movement. The landslipped steep northern margins of Marshwood Vale contrast with the smooth, undissected gentler hillslopes eroded in the same formations on the southern side. This dichotomy springs from the basal oversteepening of northern hillsides that were being dissected by ramifying systems of rapidly corraded streams once the latter attained the weak Lias clays. Slope steepening by undercutting or vertical corrasion has been cited as an external cause of landslipping in other areas. Johnson observed that stream incision created inherently favourable conditions at Charlesworth, and Hutchinson stressed the importance of wave erosion at the toes of slipped masses as a factor at Folkestone Warren. In south-west Dorset many valley sides and some escarpments were kept steep by basal erosion and intermittent landslipping. The latter may also have been effected by the removal of support of the permeable strata due to outflowage of subjacent clays. However, the creation of earthflows on Stonebarrow, Dimstone and other hills might be a cause or an effect of rotational slumping.

Lastly, it is believed that aspect has been an important determinant of the scale of landslipping and earthflowage in south-west Dorset. The topographical expression of the east-southeast pitching Marshwood Pericline is that of several separate

escarpments in Jurassic and Cretaceous rocks on the east side of the West Dorset lowlands and of a single composite escarpment at the opposite limit. Consequently, most landslip sites, associated with several distinct stratigraphical levels, tend to be on hillsides that have an aspect with a westerly component. Nevertheless, analysis of landslip frequencies reveals that west-facing and south-facing hillsides have, compared with their relative areal importance, a disproportionately large number of slumps. The significance of aspect is apparent where hillsides fashioned in the same rocks and in almost identical structural and topographical situations display on their north- or east-facing slopes a paucity of landslips but on their opposite ones an abundance of these features. This preferential mass movement on slopes with a westerly or southerly aspect can only be speculated upon here. Aspect may have been important through its effects on local climate and, in turn, the latter would directly influence types and rates of weathering and mass movement. As virtually all the slopes are stable now, the major slumps and flows must be relics, produced most likely under a different morphogenetic regime from Dorset's today. In Northern Hemisphere mid-latitudes south- and southwest-facing slopes tend to experience warmer conditions than others, owing to differences in the intensity of insolation received at the ground and in air temperatures with the diurnal passage of the sun. Such microclimatic differences are reflected in the regolith on slopes. As shown in other parts of the world, for instance in the Appalachians of the U.S.A. (J. T. Hack and J. C. Goodlett, 1960), aspect is an important determinant of exposure and may locally control the character of the vegetation mantle, soil moisture, and erosion processes. C. B. Beaty (1956) found that in central California rapid superficial mass movements are mainly on north- or east-facing slopes, where the latter favour winter landslipping because they retain a higher soil moisture content after rains.

Past differential climatic effects of aspect may have been considerable in south-west Dorset. Distinctions were probably greatest in periods of periglaciation, when much of the rest of Britain was covered by ice-sheets. During such times permafrost (permanently frozen ground) was widespread. Summer surface thaw of the soil would tend to result in superficial mass movements over the permafrost, perhaps permitting shallow landslipping as well as solifluction. Compared with other slopes, south- and southwest-facing ones, because of their greater heating, would have experienced the deepest seasonal ground thaw, and this would have encouraged larger-scale mass movements, either as waterlogged solifluction sheets or as earthflow tongues. Clay outflowage would in turn reduce the support of the overlying more coherent rocks, and rotational slumping would ensue.

HILLSIDE EVOLUTION IN SOUTH-WEST DORSET

The multiplicity of slumps bears witness to the important role that landslipping has played in the evolution of many south-west Dorset hillsides. Many large slumps occur in parallel chains. Others tend to be solitary and randomly distributed within their slump zones. Discussion of the relative ages of slump ranks has been given earlier. It appears that, usually, the occurrence of several parallel chains indicates a multiphased origin, rather than simultaneity of production or large-scale secondary (i.e. frontslope) slumping. Dating of the slips has not been attempted in the present work. The large slumps described in this article are morphologically very distinct and occur below well-defined slip scarps on steep hillsides. Modest evidence of much earlier landslipping is available in at least three places. The isolated summits of Knowle Hill, south of Nettlecombe, and Conegar Hill, Wootton Fitzpaine, are outcrops of Upper Greensand that are at abnormally low altitudes for their respective localities and which have been proven not to be *in situ* (Wilson *et al* 1958, 153 and 202). As ancient slipped masses, they must pre-date the dissection and excavation which left their supporting ground as isolated hill tops, and they are *ipso facto* products of earlier slope failures than those that created the slumps on their peripheral hillsides. An analogous argument is applicable in terms of the long Upper Greensand slip that constitutes the

narrow interfluvial crest from Lambert's Castle Hill to Marshwood rectory and the well-defined Middle Lias slumps on the adjacent south-facing hillside. Consequently, at least two widely-separated times of landslipping can be identified in these localities. Products of intermediate episodes of landslipping may have been removed by stream erosion and dissection. For example, the cumulative volume of all sandy slips on the Coltleigh-Dimstone hillside does not compare with the immense mass of Upper Greensand that has been removed since the time when Coltwood Stream first cut down into the underlying Gault and afforded the opportunity for large-scale slope failure over clays.

It has been suggested (Wilson *et al* 1958) that the inland slips in Dorset date mainly from the end of the glacial period. Renewal of movements along existing slip surfaces may have occurred from time to time in addition to the creation of new slope failures. R. Sidaway (1964) ascertained that the earliest of two buried peat beds in a slip hollow deposit at Litton Cheney reveals a pollen sequence of Zone VI to Zone VII b; thus the landslide is, at the latest, Boreal in age. The younger peat, produced some time after renewed landslipping, has been identified as post-Roman. Sidaway accords with the idea of Late Glacial initiation of landslipping. The age of the earlier peat coincides with the late Boreal commencement of infilling of slip hollows in the Pennines (Johnson, 1965), which may have been shortly after their slumps had been created. Chandler (1971) has claimed that the earliest decipherable phase of landslipping on the Jurassic escarpment near Rockingham is Zone III (Post-Allerd) as being a cold phase, in which there was a type of tundra vegetation and intense solifluction in southern England. The end of this zone was heralded by a rapid rise in temperatures and a cessation of periglaciation. It would seem that this was a particularly opportune time for large-scale landslipping, as the disappearance of permafrost and the concomitant rise in ground-water levels would effect a marked reduction in the shearing resistance of rocks. Slope failure, no doubt, was most common prior to the establishment of a dense forest cover, which would have stabilized the landslipped areas. The extent to which Neolithic deforestation of the Chalk and Upper Greensand escarpments and subsequent climatic deterioration were capable of effecting a repetition of landslipping cannot be assessed, but Iron Age slope failures have been described in several places.

The most recent extensive and prominent landslipping and earthflowage in south-west Dorset may have been at the close of Zone III, when pronounced ground thawing would have reduced the coherence of permeable strata and raised their pore-water pressures. Less pronounced, but similar effects were probably felt during the seasonal thaws in the periglacial phase. Earlier periglaciations and post-periglacial thaws presumably achieved similar effects. Quite likely, therefore, those formations that can be seen to have undergone landslipping would have experienced, at their eroding edges — escarpments and valley sides — several phases of large-scale mass movement related to these hydrologically favourable episodes.

Sculpturing of the hillsides of south-west Dorset by landslipping and earthflowage has been the most spectacular, and perhaps the principal mode of their evolution, for it effected intermittent, but rapid hillslope recession. However, these processes were not ubiquitous in the area, for there is no sign of their effects on hillsides of Bridport Sands or the Lower Lias clays. Yet the cold and seasonally wet conditions which may have favoured these types of slope failure undoubtedly produced a major legacy in the form of solifluction deposits masking the lower slopes of most hillsides. The composition of the head indicates its essentially local origin as a type of superficial mass

flow down hillslopes, and the aprons of sandy material at the mouths of dry, steep-sided coombes in the Bridport Sands tract furnish a measure of the efficacy of this former mode of escarpment evolution.

What of the present-day processes that play a role in the evolution of hillsides in this area? Steep slopes, particularly on permeable formations, exhibit sporadic minor slip scars and debris slides where the otherwise continuous vegetation mantle has been ruptured. Where grass-covered, they also tend to display the micro-bench features termed terracettes, often regarded as small-scale slips that may be induced or maintained by animal treading. Although subtle in its effects, soil creep is a universal process on slopes. The importance of two present-day erosional processes modifying hillsides was emphasized during the excessively wet spell in 1960. Gully deepening was observed to have taken place on many steep clay hillsides between September and November that year, and incipient gullies, one to two feet deep, were produced on the sides of at least Drake-north Hill and Eggardon Hill during the torrentially heavy rains of October, when 11.3 inches of rain fell at nearby Beaminster (Paxman, 1961). Suffice to add that flooding was serious in the river valleys and at Bridport! This was also a period of greatly accelerated rates of sheet erosion of soils. The latter effect was strongly manifest on a 23 degree hillslope in Bridport Sands at Stoke Abbott, where a field had been ploughed in the early summer of 1960 and then left fallow. By November the slope had acquired a substantial deposit of sandy hill-wash at its base, and strong rilling had developed upslope. Clearly, man's modification of the ecosystem through agricultural practices such as ploughing has augmented the potency of some processes by which hillsides evolve.

A detailed study of the evolution of south-west Dorset's physique (Brown, 1965) revealed that the predecessors of most of the longer streams in the lowland area were initiated during the emergence of the floor of an Early Pleistocene sea whose level attained 700 feet O.D. Over the Marshwood Pericline the solid geology of this sea-floor consisted of Bridport Sands and Inferior Oolite limestones in the west and Fuller's Earth and Upper Greensand further east. The initial south-flowing rivers eroded valleys and enlarged their drainage basins in these rocks, and subsequently cut down into progressively older and weaker Jurassic strata. Differential denudation converted each newly-exposed feather-edge of a permeable formation into an escarpment whose amplitude increased with its gradual down-dip recession. Where escarpments and intervening valleysides exposed permeable rocks above weak clays, hillside retreat tended to be by intermittent landslipping. Slower hillside evolution characterized those slopes where only permeable rocks outcropped. Nevertheless, even these hillsides evolved more rapidly during periglacial phases, thanks to the role of solifluction. Erosion is undeniably important today as it has been in the past, but the palimpsest of features on the slopes of south-west Dorset signifies the vital role of mass movements in its hillside evolution.

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The Excavation of a Bell Barrow at Winterborne Kingston, Dorset

By D. A. White

INTRODUCTION

The barrow discussed in this report was one of two excavated in the spring of 1968 for the Inspectorate of Ancient Monuments of the then Ministry of Public Building and Works. It has been numbered by Grinsell (1960) as Winterborne Kingston 14, situated at National Grid Reference SY 840983, on the top of a ridge of chalk downland commanding an extensive view southwards. When visited by Grinsell, the barrow lay in the centre of a derelict trackway running approximately east-west. Its mound was reported as being about five feet high with a hollow in its centre suggesting that it had been previously robbed. After Grinsell's visit the farmer decided to enlarge his field by bulldozing the derelict trackway and its southern hedge. This resulted in the complete destruction of the southern half of the barrow and the mound was left crumbling away. When the writer visited the site, it bore sorry testimony to modern day vandalism. The southern half of the barrow had been stripped down to the bedrock leaving a nearly vertical section of the mound. The primary burial could well have been destroyed by the bulldozer although on careful measurement of the mound it appeared that the centre of the barrow lay about two to three feet behind the vertical face. There was a danger that the central area might soon be destroyed by erosion so it was decided to examine the damaged southern half of the barrow and carefully cut back the mound about five feet until it was stable.

In many respects the excavation of this site proved to be unusual. The barrow itself was well preserved and gave evidence of several construction phases of funerary ritual. It had been built over a central cremation pyre and had never contained a primary burial. Furthermore the site was situated on an unusual

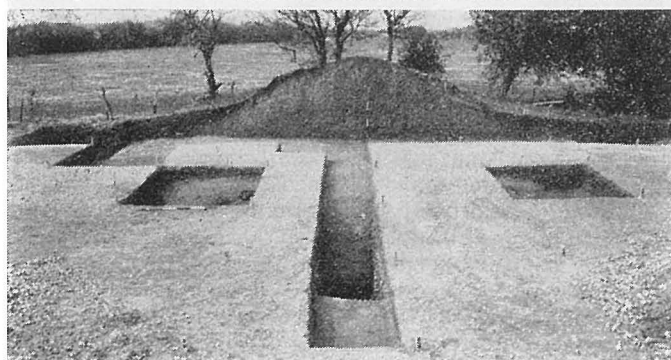


PLATE 1. General photograph of site.

periglacial deposit. The subsoil consisted of a mixture of clay-with-flints and glacial gravel. This type of deposit is found in patches on the upper parts of the chalk downland (Evans, 1969) so its occurrence on the ridge at Winterborne Kingston is not unusual; except for the fact that the latest geological information gave the bedrock as chalk. The subsoil at Winterborne Kingston was thus an undiscovered lens of a periglacial deposit which suggests that these deposits may be more common in this part of England than the Geological Survey maps indicate.

The subsoil was thus mildly acidic compared with the alkaline chalk soils. The soil pH was around 5.5 which was too low for mollusca to be preserved in buried soils and too high for pollen and insect remains. The site, therefore, produced no evidence of environmental archaeological interest which is unfortunate considering the unusual type of subsoil found. However, the ambient levels of acidity were sufficient to discourage earthworms and accounted for the excellent preservation of individual strata within the barrow mound itself.

THE EXCAVATION

After the loose soil had been stripped it became apparent that the barrow was a bell barrow with a berm about nine feet wide. Sections were cut across the ring ditch in its eastern, southern and western sectors. The ditch was about nine feet wide and flat bottomed. Its depth, however, varied considerably. In the southern sector it was over six feet deep and in the eastern and western portions the bottom sloped up so that the depth of the ditch was only three and a half feet. In the shallower parts of the ring ditch the silting (Fig. 2, layer 2) had been slow without any tip lines. This was because the mound was some distance from the inner edge of the ditch so could not have been a source of rapid silt. In the southern portion the slow fill (Fig. 2, layer 21) was preceded by a rapid gravelly fill (Fig. 2, layer 22). As water had doubtless drained down here, soil wash from the gravelly berm had collected in this part of the ditch. In the rapid fill (Fig. 2, layer 22) charcoal and coarse pottery fragments of typical Bronze Age ware were found. These occurred in the southern sector only and were probably washed down from other parts of the barrow berm or ditch. The minuteness of the potsherds and the possible contaminated nature of the charcoal made these finds of little use as dating evidence.

The mound itself was of a complex nature containing seven distinct layers. The lowest (Fig. 2, layer 9) was a slightly yellow clay which merged into the bedrock and predated the construction of the barrow. A coarse struck flint flake was found in it (Fig. 2, No. 10). Although the layer petered out towards the extremity of the mound its upper surface was clear, distinct and almost flat. Just to the south-west of the mound three archaeological features were found in the upper part of this layer (Fig. 1, A, C and G). Feature A is shown in Fig. 4 and was a small stakehole-like charcoal concentration set four inches into the layer. G was similar but far less well preserved, and C was an oval-shaped patch which had been baked by heating to a reddish colour. After the layer above had been trowelled away the upper surface of the baked patch was revealed as a flat, reddish half-oval (the other half having been removed by the bulldozer) with a smooth upper surface containing devoid charcoal. Thus the fire that had caused the baking of patch C must have been scraped away before the barrow was built. This indicated that Fig. 2, layer 9 was not the whole of the prebarrow soil but only the lower parts from which the topsoil had been stripped.

Over this prebarrow stratum a grey, fine clayey deposit with a hollow centre was found (Fig. 2, layer 7) formed, most probably, by scraping up the soil surrounding the barrow into the centre. This layer contained more humus than the one below it and may thus have contained some of the prebarrow topsoil mixed with strata from lower levels. This hypothesis was further substantiated by the discovery of beaker fragments, early Bronze Age potsherds and charcoal fragments. The hollow in its centre was about nine feet in diameter and two feet deep with four stakeholes set into the hollow (Fig. 1, I, J, M and N). These were about four inches in diameter and one foot deep and were filled with charcoal with ash and cremated bone in the upper parts. Their sectional profiles are shown in Fig. 3 and the fire-hardened tips had been driven into the prebarrow soil (Fig. 2, layer 9) through the layer above. Stakehole I is shown in Plate 3.

The stakes were set at the corners of a square area whose sides were about three feet six inches in length. This square was formed around an area of charcoal and cremated bone about two inches thick derived from the cremation pyre that had been supported on the four stakes. This charcoal layer is shown in

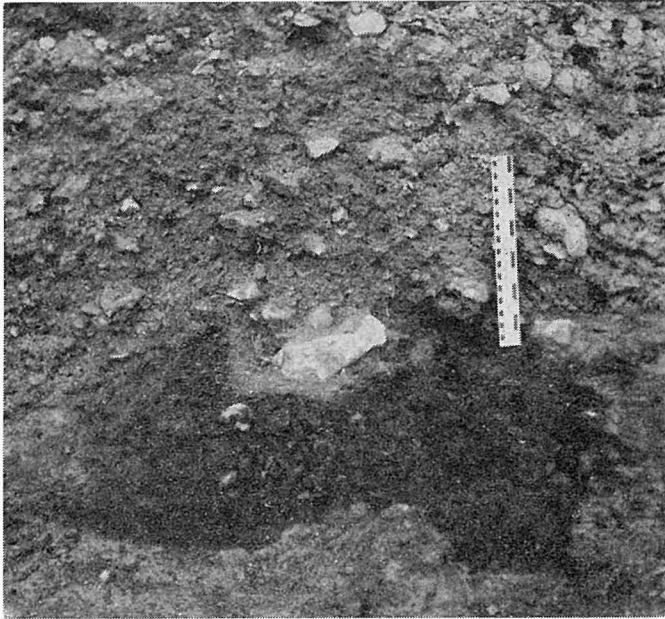


PLATE 2. Close up of the central charcoal deposit

plain view in Figure 1 (Feature H) and in sectional view (Fig. 2, layer 8) and can be seen in sectional profile in the centre of the mound in the general photograph of the site (Plate 1). The charcoal layer was very black and contained much admixed white cremated bone fragments and pinkish bone ash. The central portion of these remains had been scooped out. The hollow is shown clearly in plan view (Plate 2) and in the main section (Fig. 2, No. 14). After some of the bones and ash had been removed, presumably for burial elsewhere, the hollow had been filled with soil and capped with a flint slab.

The final construction of the mound was represented by four different layers (Fig. 2, layers 3, 4, 5 and 6). Layers three and five were relatively stone-free, layer four was gravelly and layer six loose stony with some clay. All were of a medium grey colour but despite being almost indistinguishable on colour basis alone, they could be differentiated by their texture and by use of

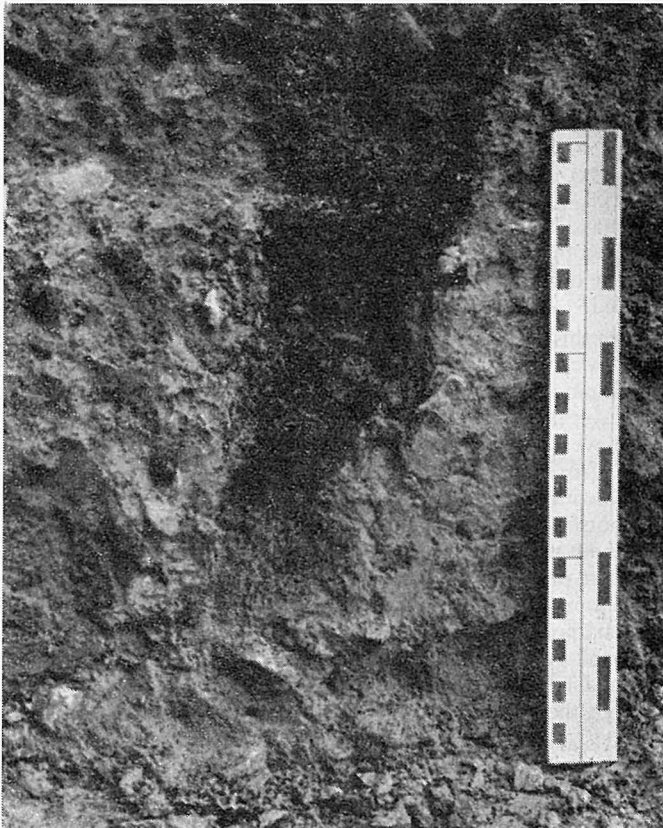


PLATE 3. Section of stakehole I

differential drying. When the section was wetted the stony levels (numbers four and six) dried out more quickly and the slope of layer four could easily be seen. These upper strata can be interpreted to give a picture of how large barrow mounds were constructed. After backfilling the hollow in the centre of the mound with the soil of layer six, the next stratum had been placed on the mound from spoil gathered in the western area of the site whilst the easterly (i.e. the right-hand side of the main section) part of the mound was being smoothed off to its final shape. Gravelly soil (Fig. 2, No. 4) had then been placed on the mound and the angle suggests that a ramp had been built sloping upward from the west to facilitate carrying spoil up on to the mound. Finally the mound had been completed by shovelling the lower end of the ramp on to the mound, smoothing the berm at the same time. This hypothesis was strengthened by the discovery of a small but distinct lip cut into the bedrock on the western side (Fig. 2, No. 15). Despite Roman disturbances this lip is apparently absent from the eastern side.

There were two secondary Bronze Age cremation burials found dug into the inside edge of the ring ditch in its south-western sector (Fig. 1, K and I). The first (Fig. 1, K) was

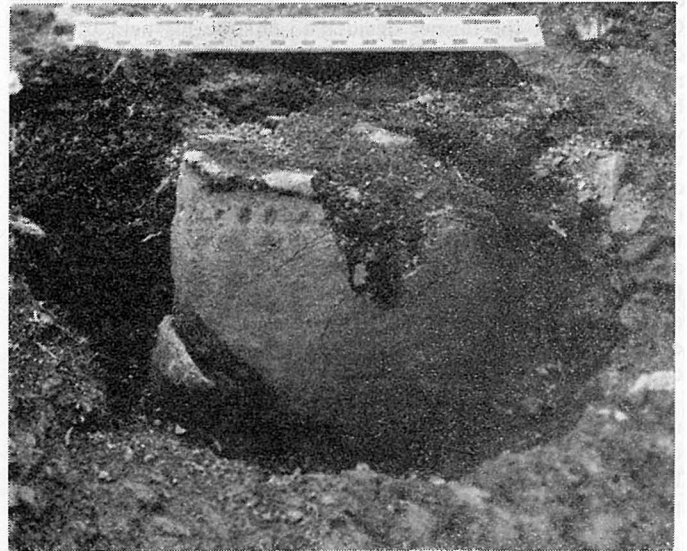


PLATE 4. Secondary Burial K.

contained in a bulbous bucket urn, buried upright in a pit whose diameter was only two inches larger than that of the urn and had been carefully cut into the gravel bedrock. A fragmentary accessory vessel was found in fragments inside the urn and jammed into the narrow space between the urn and the pit side. The urn and associated vessel fragments are illustrated in Plate 4. The other cremation (Fig. 1, L) had been placed nearby in a very shallow pit. All that remained of it was its heavily gritted base about six inches in diameter. Adhering to this were a few powdery scraps of cremated bone. It is likely that this pot had been destroyed in antiquity as evidence of Roman Occupation of the site was found. This consisted of a small ditch with a V-shaped profile (Fig. 1, B). It is shown in sectional view in Figure 2 (No. 11) spoil having been thrown on to the barrow berm (Fig. 2, layer 12). A secondary recutting of the barrow ditch in its southern sector (Fig. 2, No. 19) also belonged to the Roman Period. Roman-British pottery was found in both the recut and the "V" ditch.

CONCLUSIONS

Excavation of the barrow has proved that there were several phases in its construction. Firstly a preliminary fire and stripping of topsoil were followed by the building of a platform with a hollow in the centre in which a cremation pyre supported on four stakes was built. After the pyre had been burned some of the bones and ash were removed for burial elsewhere and then the barrow was completed. The bell barrow at Winterborne Kingston is thus an example of cremation barrows found rarely in Southern England (Grinsell, 1941). It is also of some interest to note that this particular tumulus is an example of the "fancy" type

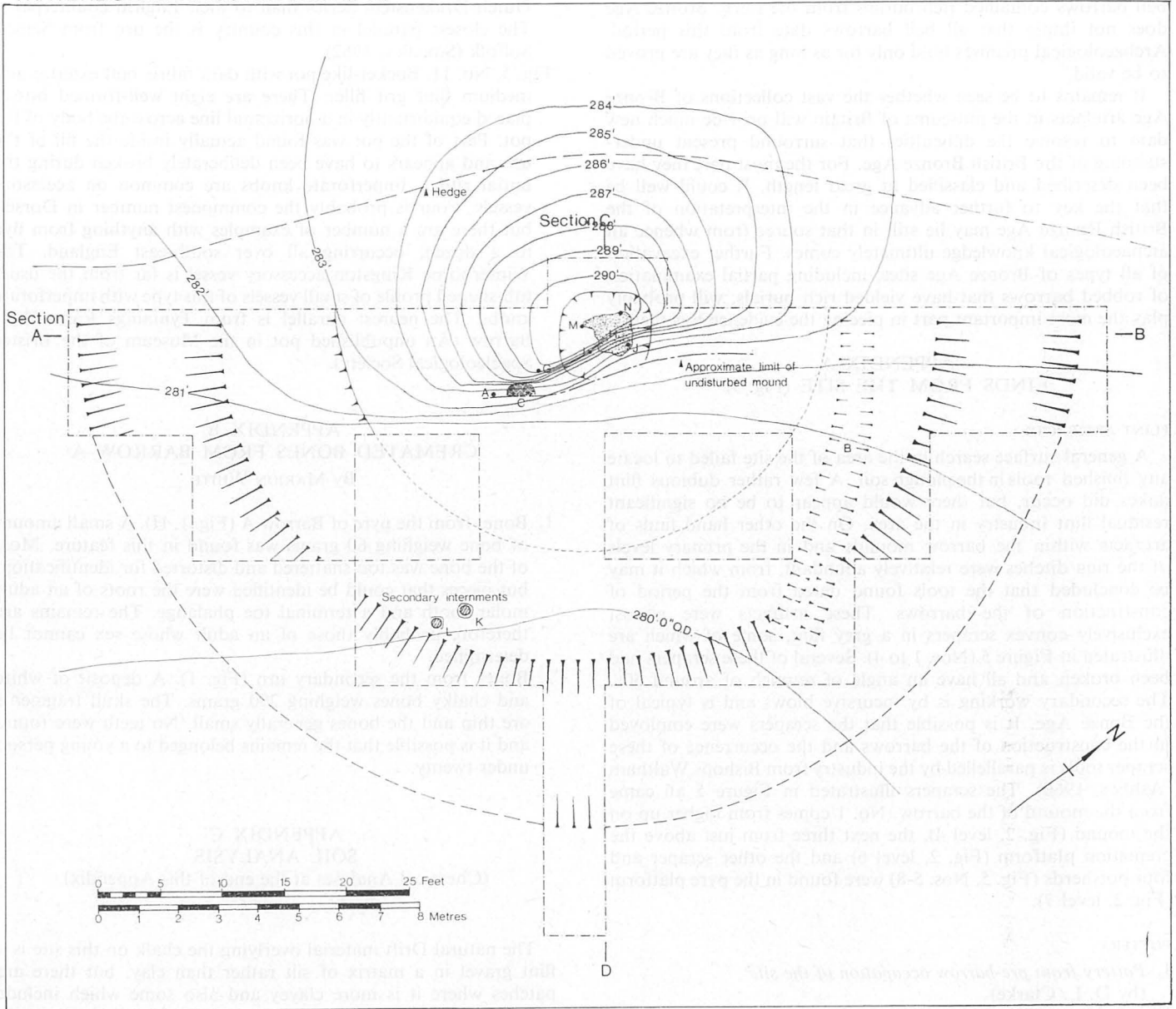


FIG. 1. Plan of the barrow.

ascribed in traditional typological schemes to the Wessex Culture.

Many of the features found in the Winterborne Kingston Bell Barrow have been recorded from other Bronze Age Burial Sites in England. Fires laid on prebarrow surfaces, for instance, are known from sites excavated in Yorkshire (Ashbee, 1956) and in the Southern Counties (Thomas, 1956, Rhatz, 1962). The southern examples were found lying slightly off the centre of the barrow as was found at Winterborne Kingston. Cremation pyres set on four stakes have been found elsewhere in Wessex, at Bulford (Hawley, 1909) and Roundwood (Crawford, 1920). Pyre stakes filled with reddish ash have been recorded from the Thames Valley (Harden, 1945). On the latter river valley site the pyre kindling was mainly hazel and alder, which contrasts with oak from the downland site described here.

Samples of the charcoal from the stakes of the cremation pyre were submitted for radiocarbon dating and a date of 2970 ± 95 B.P. was obtained (NPL 237). This date of about 1000 B.C. is very much at variance with accepted dates for the Wessex culture but since the interpretation of this culture has obviously to be revised (Renfrew, 1970), this date should not be rejected out of hand. The sample submitted from the Winterborne Kingston barrow was a large one composed of well preserved charcoal that had been buried under a large mound. Contamination of the sample would thus seem unlikely. In addition a parallel for this late date has been obtained in the Netherlands.

Tumulus eight of the Eight Beatitudes cemetery contained a central four-post structure and was dated to around 1000 B.C. (Glasbergen, 1951). Relations between Britain and the Low Countries in the middle phases of the Bronze Age have been well attested by recent publications and it is of interest to note that one of the secondary urns found in the barrow berm at Winterborne Kingston has a bulbous profile typical of the Drakenstein urns from the Netherlands.

At the present time the study of Bronze Age Cultures in Britain is in a considerable state of flux. Many tacit assumptions about this period of British Prehistory are now in doubt. The Wessex-Mycenae link has been broken and the whole basis of the Wessex Culture questioned. Other links with Continental Europe must clearly be re-examined especially insofar as this might affect the dating of bronze artefacts and the whole nature of the late Bronze Age in Britain. Where these new lines of enquiry will lead can only be guessed at today and it will clearly be some years before many of the problems can be resolved. However, radio-carbon dating and modern excavations have provided the evidence that has questioned the old established beliefs about the British Bronze Age and it has been suggested by other authors that radiocarbon dates may provide the ultimate key to resolving these difficulties (Burgess, 1969). In this context a late C14 date for barrow construction in Yorkshire at about 600 B.C. is of some considerable interest (Wainwright, 1970). Such evidence shows that the late date from Winterborne

Kingston may yet be reasonable. After all, the fact that some bell barrows contained rich burials from the Early Bronze Age does not imply that all bell barrows date from this period. Archaeological premises hold only for as long as they are proved to be valid.

It remains to be seen whether the vast collections of Bronze Age artefacts in the museums of Britain will provide much new data to resolve the difficulties that surround present understanding of the British Bronze Age. For the most part they have been described and classified at great length. It could well be that the key to further advance in the interpretation of the British Bronze Age may lie still in that source from whence all archaeological knowledge ultimately comes. Further excavation of all types of Bronze Age sites, including partial examination of robbed barrows that have yielded rich burials, will probably play the most important part in piecing the evidence together.

APPENDIX A FINDS FROM THE SITE (Fig. 5)

FLINT ARTIFACTS

A general surface search in the area of the site failed to locate any finished tools in the plough soil. A few rather dubious flint flakes did occur, but there would appear to be no significant residual flint industry in the area. On the other hand finds of artifacts within the barrow mounds and in the primary levels of the ring ditches were relatively abundant, from which it may be concluded that the tools found dated from the period of construction of the barrows. These artifacts were almost exclusively convex scrapers in a grey flint, some of which are illustrated in Figure 5 (Nos. 1 to 4). Several of these scrapers had been broken and all have an angle of retouch of around 50°. The secondary working is by incursive blows and is typical of the Bronze Age. It is possible that the scrapers were employed in the construction of the barrows and the occurrence of these scraper tools is paralleled by the industry from Bishops Waltham (Ashbee, 1960). The scrapers illustrated in Figure 5 all came from the mound of the barrow. No. 1 comes from higher up on the mound (Fig. 2, level 4), the next three from just above the cremation platform (Fig. 2, level 6) and the other scraper and four potsherds (Fig. 5, Nos. 5-8) were found in the pyre platform (Fig. 2, level 7).

POTTERY

1. Pottery from pre-barrow occupation of the site (by D. L. Clarke)

Fig. 5, No. 6 Ware, black with a chocolate surface. Probably rim of a European Bell Beaker with all-over groove incision. Group 'E', c. 1900 B.C.

Fig. 5, No. 7. Rim of a small thick-walled dish/bowl introduced by E and AOC (all-over cord) beaker groups around 2000 B.C. and also adopted by local Mortlake Ware groups. There is a horizontal impressed cord line inside the rim of the bowl and considerable internal blackening. This is usual in these dishes which probably served as wick oil lamps.

Fig. 5, No. 8. Black, slightly gritty ware, brick-red surface. Rim of biconical food vessel or a small collared urn, c. 1650 B.C. or later.

Fig. 5, No. 9. Rim with brown fabric and light brown surface. Definitely beaker domestic ware with fingernail impressions. This technique is long-lived and sherd could be equally well from European Bell Beaker group 'E', c. 1900 B.C. or from the Southern British beaker group, c. 1600-1500 B.C.

2. Pottery from the secondary burial of Barrow A (Fig. 1, K) (by Mrs. G. Watling)

Fig. 5, No. 10. Bulbous urn in dark fabric with fine flint grit filler browner on the outside. There is a small interior bevel on the rim just below which occurs a irregular approximately horizontal line of small oval impressions. The urn can be related to the biconical series of the later Bronze Age tradition, many pots so classified have a very rounded profile (Calkin, 1962). The lack of handles or other embellishment probably indicates that the pot is late in the biconical series and its

almost bulbous profile seems in general to be closer to the Dutch Drakenstein Series than to their English counterparts. The closest parallel in this country is the urn from Semer, Suffolk (Smedley, 1962).

Fig. 5, No. 11. Bucket-like pot with dark fabric buff exterior and medium flint grit filler. There are eight well-formed bosses placed equidistantly in a horizontal line across the body of the pot. Part of the pot was found actually inside the fill of the urn and appears to have been deliberately broken during the burial ritual. Imperforate knobs are common on accessory vessels. Four is probably the commonest number in Dorset, but there are a number of examples with anything from five to a dozen, occurring all over south-east England. The Winterborne Kingston accessory vessel is far from the usual tub-shaped profile of small vessels of this type with imperforate knobs. The nearest parallel is from Tynnings Farm West Barrow (An unpublished pot in the Museum of the Bristol Spaeological Society).

APPENDIX B CREMATED BONES FROM BARROW A

By MARION WHITE

1. Bones from the pyre of Barrow A (Fig. 1, H). A small amount of bone weighing 60 grams was found in this feature. Most of the bone was too shattered and distorted for identification, but pieces that could be identified were the roots of an adult molar tooth and a terminal toe phalange. The remains are therefore probably those of an adult whose sex cannot be determined.
2. Bones from the secondary urn (Fig. 1). A deposit of white and chalky bones weighing 290 grams. The skull fragments are thin and the bones generally small. No teeth were found and it is possible that the remains belonged to a young person under twenty.

APPENDIX C SOIL ANALYSIS (Chemical Analyses at the end of this Appendix)

By MARGERET COLLINS

The natural Drift material overlying the chalk on this site is a flint gravel in a matrix of silt rather than clay, but there are patches where it is more clayey and also some which include lumps of chalk. The flint is of two types. One includes many large pieces with the surface and irregular form of flint that has come straight from the chalk, and sometimes has a black coating on it which is possibly derived from manganese staining. The other type consists mostly of small pieces of river- or beach-battered pebbles. So the subsoil would appear to have a complex genesis. In the excavated ditches, and also in the pits dug to expose the present soil profile, the two types of flint are seen to be typical of the lower and upper horizons respectively, but overlap to a considerable extent. Two pits were dug into the subsoil for comparison with the excavated sections. One was in a hedge where the topsoil, like that on the barrow top, was untouched and was high in humus and low in pH. The other was in the hayfield north of the barrows, and here the humus content was similar to that of the modern plough-soil overlying the ditches, but the pH was high. As there is no sign of chalk in the section, this high pH is presumably due to liming. In all the sections investigated, pH generally is low, and has apparently been low enough to discourage earth-worm activity ever since the barrows were built, as the stratigraphy is still clearly visible.

The samples from Barrow A were all tested for pH and organic content in order to find any evidence for a period of soil formation, and hence of an interruption, during the construction of the barrow or during the silting of the ditches. As might be expected, there is no sign of interruption during the barrow building. The rise in humus content half a metre down in the ditch of Barrow A (soil section B) suggests the remains of an ancient soil, and can presumably be linked with the period of

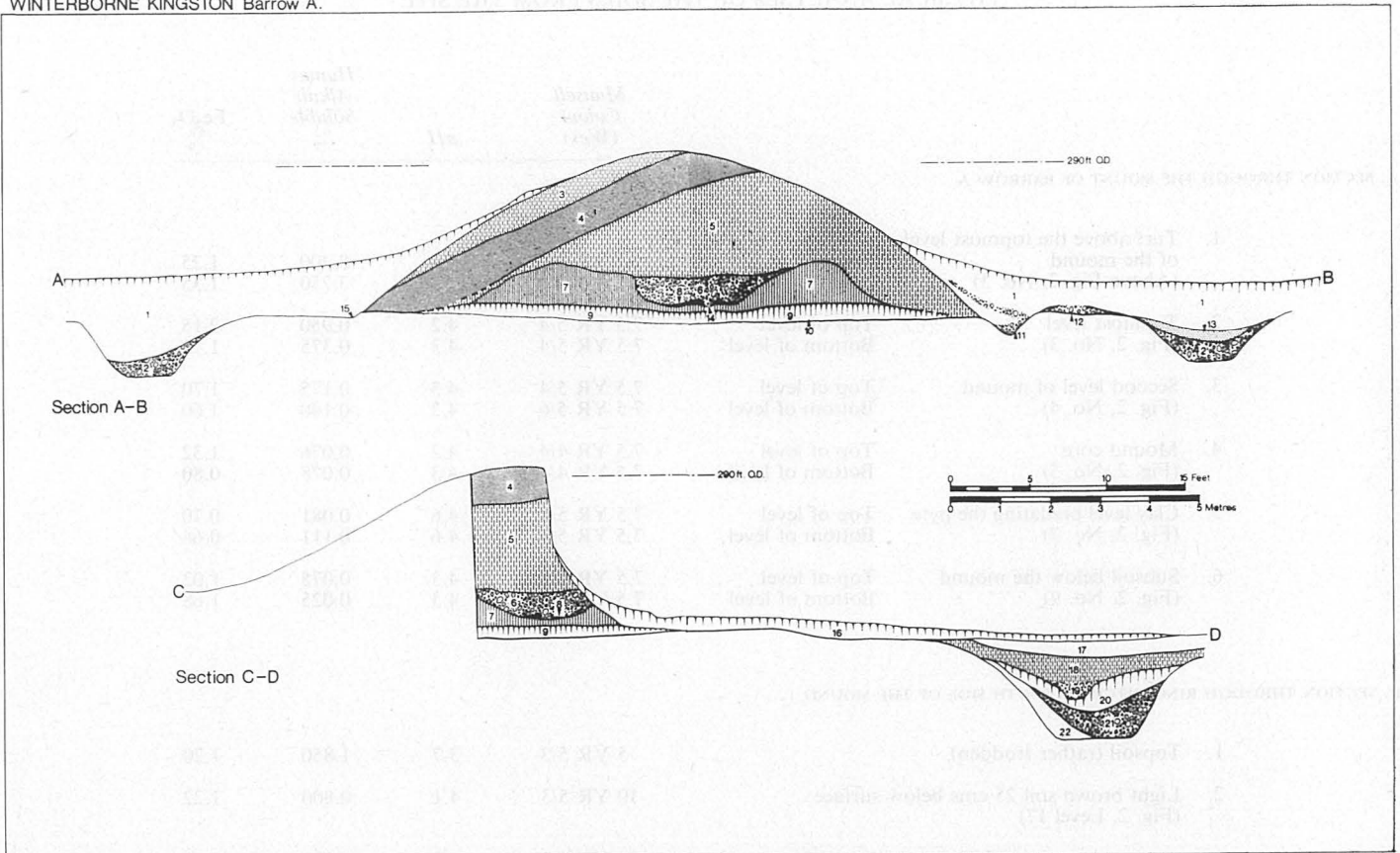


FIG. 2. Sections of the barrow.

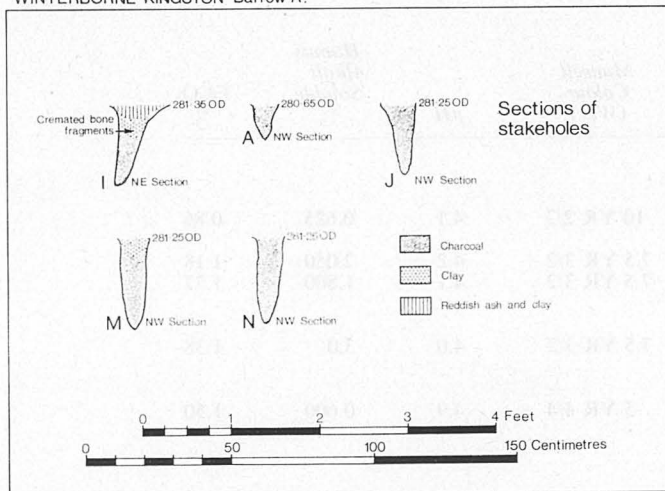


FIG. 3. Sections of Stakeholes

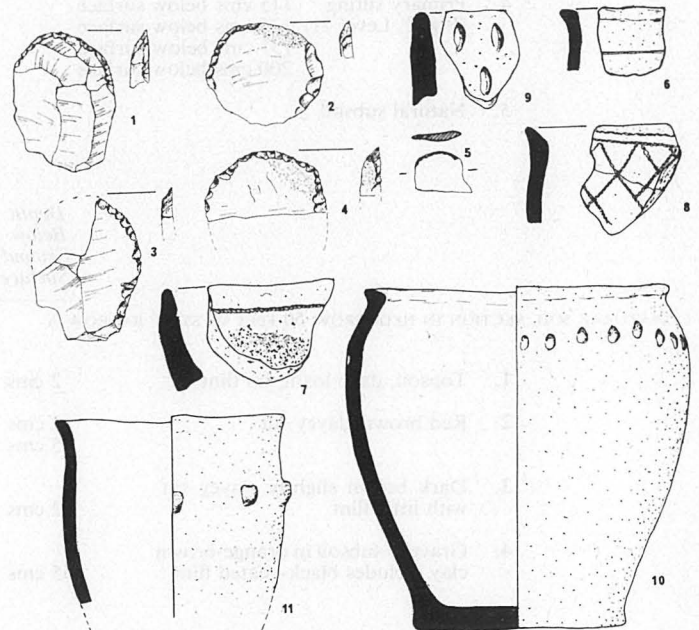


FIG. 5. Finds from the site
Nos. 1-9 $\frac{1}{4}$ nat. Nos. 10-11 $\frac{1}{8}$ nat.

Roman occupation mentioned in the main report. There is not much flint at this horizon and the humus content is low in comparison with the present soil, even when the latter is cropped and ploughed. This suggests a shallow-ploughed soil. It may be interesting, and is certainly unnerving to soil analysts, to note that this level (Section B, No. 3) is the only point in the ditch of Barrow A where the chemical analyses give any support to the stratigraphy which stands out so clearly in the excavated sections.

The second question on which the soil analysis throws some

light concerns the preparation of the site before the barrows were built. The low humus of the gravel subsoil below Barrow A (Section A, No. 6) shows that any topsoil, or indeed any plough-soil, that was there at the time was scraped away before the barrow was built; at the present time it would be necessary to remove about a foot of soil in order to reach a horizon with an equally low organic content.

The small burnt area eccentrically placed below the mound (Fig. 1, C) was therefore caused by a fire which was laid, not on the topsoil of the time, but on the gravel exposed after that soil

PHYSICAL ANALYSES OF THE SOILS FROM THE SITE

A. SECTION THROUGH THE MOUND OF BARROW A

		Munsell Colour (Wet)	pH	Humus Alkali Soluble %	Fe ₂ O ₃ %
1. Turf above the topmost level of the mound (Above Fig. 2, No. 3)	Top	5 YR 2/2	3.4	8.400	1.25
	Bottom	5 YR 3/4	3.7	3.750	1.35
2. Topmost level (Fig. 2, No. 3)	Top of level	7.5 YR 5/4	4.2	0.950	2.15
	Bottom of level	7.5 YR 5/4	4.3	0.375	1.70
3. Second level of mound (Fig. 2, No. 4)	Top of level	7.5 YR 5/4	4.3	0.175	1.70
	Bottom of level	7.5 YR 5/6	4.2	0.140	1.60
4. Mound core (Fig. 2, No. 5)	Top of level	7.5 YR 4/4	4.2	0.076	1.32
	Bottom of level	7.5 YR 4/4	4.3	0.078	0.80
5. Clay level predating the pyre (Fig. 2, No. 7)	Top of level	7.5 YR 5/4	4.6	0.081	0.70
	Bottom of level	7.5 YR 5/4	4.6	0.111	0.66
6. Subsoil below the mound (Fig. 2, No. 9)	Top of level	7.5 YR 4/4	4.3	0.075	1.02
	Bottom of level	7.5 YR 4/4	4.3	0.025	1.68

B. SECTION THROUGH RING DITCH ON SOUTH SIDE OF THE MOUND

1. Topsoil (rather trodden)		5 YR 5/3	3.7	1.850	1.20
2. Light brown soil 25 cms below surface (Fig. 2, Level 17)		10 YR 5/3	4.1	0.800	1.22
3. Ancient plough level 50 cms below surface (Fig. 2, Level 18) with large stone 90 cms below surface (Fig. 2, Level 19)		10 YR 4/3	4.3	1.050	1.12
		10 YR 4/3	4.15	0.740	1.26
4. Primary silting (Fig. 2, Level 21)	115 cms below surface	7.5 YR 4/4	4.2	0.268	1.24
	125 cms below surface	7.5 YR 4/4	4.3	0.112	1.40
	155 cms below surface	7.5 YR 4/4	4.35	0.084	1.38
	200 cms below surface	7.5 YR 4/4	4.55	0.075	1.86
5. Natural subsoil		5 YR 5/4	4.2	0.150	1.64

C. NATURAL SOIL SECTION IN HEDGEROW 50 FEET WEST OF BARROW A

	Depth Below Ground Surface	Munsell Colour (Wet)	pH	Humus Alkali Soluble %	Fe ₂ O ₃ %
1. Topsoil, dark loam, no flint	2 cms	10 YR 2/2	4.1	0.625	0.86
2. Red brown clayey silt	12 cms	7.5 YR 3/2	4.2	2.050	1.18
	25 cms	7.5 YR 3/2	4.1	1.800	1.32
3. Dark brown slightly clayey silt with little flint	32 cms	7.5 YR 3/2	4.0	3.0	1.38
4. Gravelly subsoil in orange-brown clay includes black-coated flint	55 cms	5 YR 4/4	4.9	0.600	1.50

D. NATURAL SECTION DUG IN THE HAYFIELD NORTH OF THE BARROWS

1. Topsoil, dark brown silty clay, no flint	5 cms	10 YR 3/2	6.1	1.770	1.10
2. Topsoil, dark brown silty clay, no flint	10 cms	10 YR 3/2	6.1	1.740	1.18
3. Slightly lighter with large flint	15 cms	7.5 YR 3/2	6.0	1.160	1.18
4. Slightly lighter with large flint	20 cms	7.5 YR 3/2	6.1	0.806	1.34
5. Subsoil as in (4) of Section C only the flint is not black-coated	28 cms	7.5 YR 4/4	5.8	0.560	1.52

had been removed. The loss of this former surface horizon also means that no evidence as to the climate of the time, nor concerning the previous vegetation or land-use, can be derived from the soil.

It has been suggested by Dr. White that the ancient pre-barrow topsoil is possibly represented by the natural section C dug fifty feet from the centre of Barrow A near the boundary hedge of the field. Here there is a level (Section C, No. 3) of comparatively high humus content about thirty centimetres below the present ground surface which might be a buried soil covered by material scraped away from the barrow site before building commenced. However, since this level cannot be dated its actual status is uncertain, but its chemical content is more what is expected of a buried soil.

The iron figures for the mound of Barrow A (Section A) show that an iron-rich gravelly silt, originating from the site, was used on the top of the mound (Section A, No. 2, Fig. 2, No. 3). The next two horizons are also composed of material that could well be strictly local, and indeed the mound may have been dragged or scraped up in such a way as to present an inversion of the natural soil profile which can be seen from the decrease of Fe₂O₃ concentration with depth in the mound. The chemical analyses of the clay level (Section A, No. 5) on which the cremation pyre was built are not so easy to interpret. The humus figures are higher than the levels above and below it, yet are not

high enough to suggest that it is a buried topsoil. The iron figure compares quite well with that of the topsoil in natural Section C. The archaeological evidence suggests that the layer must have contained some ancient topsoil as fragments of Early Bronze Age Pottery were found in it. The low humus figure of (Section A, No. 5) can, therefore, be explained by leaching, burning and trampling as the level was scraped back to make the platform for the cremation pyre. It is the only level in the mound which could have contained soil from the ancient buried surface.

ACKNOWLEDGEMENTS

I am grateful to the Whatcombe Estate for permission to excavate and for a grant from the Inspectorate of Ancient Monuments of the Department of the Environment to carry out the work. Dr. D. L. Clarke, Mrs. G. Watling, Miss M. Collins and Mrs. M. White kindly contributed specialist reports. I acknowledge the help of Mr. M. Speight of the Institute of Archaeology who came out with a mobile laboratory to assess the value of the site for environmental archaeological purposes. Mr. F. Petersen and Mr. R. T. Schadla-Hall assisted me in supervising the work. Last, but by no means least, I wish to warmly thank the volunteers, who cheerfully worked away in all weathers (including snow!), for making the excavation possible.

The finds have been deposited in the County Museum at Dorchester.

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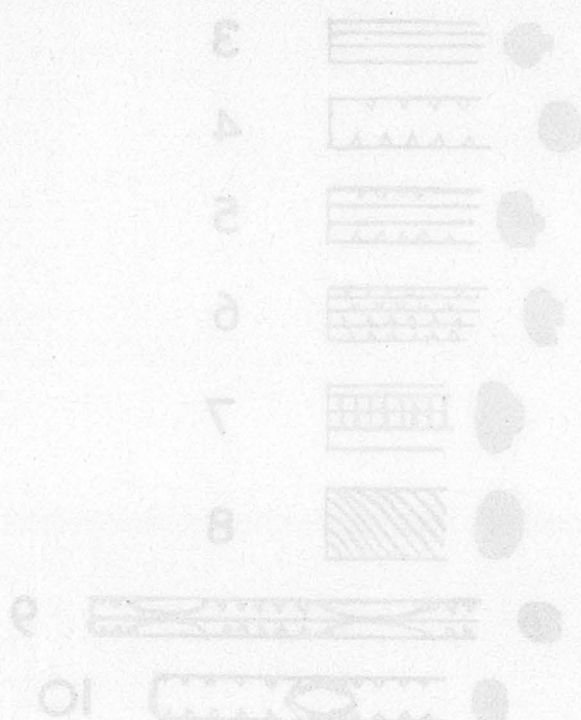


Fig. 1. Plans and sections of barrows.

Kimmeridge Shale Objects from Colliton Park, Dorchester

By J. Bernard Calkin

In anticipation of the building of the new County Hall in Colliton Park, emergency excavations were carried out by the Society in 1937 and 1938 under the joint direction of Lt.-Col. C. D. Drew, D.S.O., F.S.A. and Mr. K. C. Collingwood Selby, and two interim reports were duly published in the *Proceedings*, Vols. 59 and 60. The third season's work had barely started when the outbreak of war brought all excavation to a standstill. No final report has ever been published.

The present paper gives a summary of the shale objects found on the site. Kimmeridge shale is a greyish-black material resembling slate in its colour and its property of cleavage, but it is not so hard. It was used in the ancient world for making amulets, lucky beads, rings and bracelets, also for domestic articles such as bowls, and even for furniture. Again it served as a fuel, and was known locally as Kimmeridge coal. When its oily content has been removed by exposure to the weather for long periods, it generally becomes brittle, curls up and may readily break to pieces.

Fortunately the best objects found were sent to the British Museum for treatment, and though now lacking labels, they can generally be identified by reference to the excavators' notebooks of small objects. Untreated armlets and spindlewhorls were placed in envelopes marked with the serial number, date and site, whilst larger objects had labels attached with rubber bands or thread. After some 32 years in storage, the serial numbers of about 10% of the objects cannot now be identified, owing to separation from their labels.

The chief site excavated was a large house (Building I), with several later additions. A hasty examination was also made of Buildings II to VII, and of a few other sites. A pit below Building V contained 1st C. pottery, otherwise all the remains appeared to date from the late 2nd to 4th Cs.

INVENTORY

	Approximate original number	Missing
<i>Turned</i>		
Armlets	88	15
Armlet cores	5	3
Spindlewhorls	20	7
Flat dishes	18	
Bowls	7	
Handle of bowl or colander ..	1	
Jar	1	
Knob	1	
Cup	1	
<i>Engraved</i>		
Trencher	1	
<i>Carved</i>		
Table legs	4	
Pin	1	
<i>Unclassified</i>		
'Fragment of panel'	1	1
'Pedestal cup'	1	1
	<hr/> 150	<hr/> 27

No complete section of any of the turned objects has survived except in the case of spindlewhorls, cores and the small cup.

Unworked shale. About 15 scattered fragments were recorded, up to 80 mm in length, one with a small circular hole. A larger slab measured 200 x 150 x 30 mm. They may be relics from fuel

dumps, as some fine ash was thought to be residue from shale burning. There was no evidence of shale working on the site.

DESCRIPTION

ARMLETS

There are ten armlets of a larger and heavier type than the rest. Of these, five are decorated with grooves made in the turning process.

Of the main series about 43% are decorated, generally by grooving, and/or by nicking V-shaped cuts at right angles to the grooves. The nicks may be on the edges only, or on prominent ridges between the grooves. In four instances the cuts are longer, either on a slope to form a herringbone, or at right angles to make a grid. One armlet has a cable pattern, another, nearly complete, has a slight central groove and eight pairs of scoopings on each edge with nicks between. Yet another nicked specimen has a design in imitation of a gem of rhomboidal form.

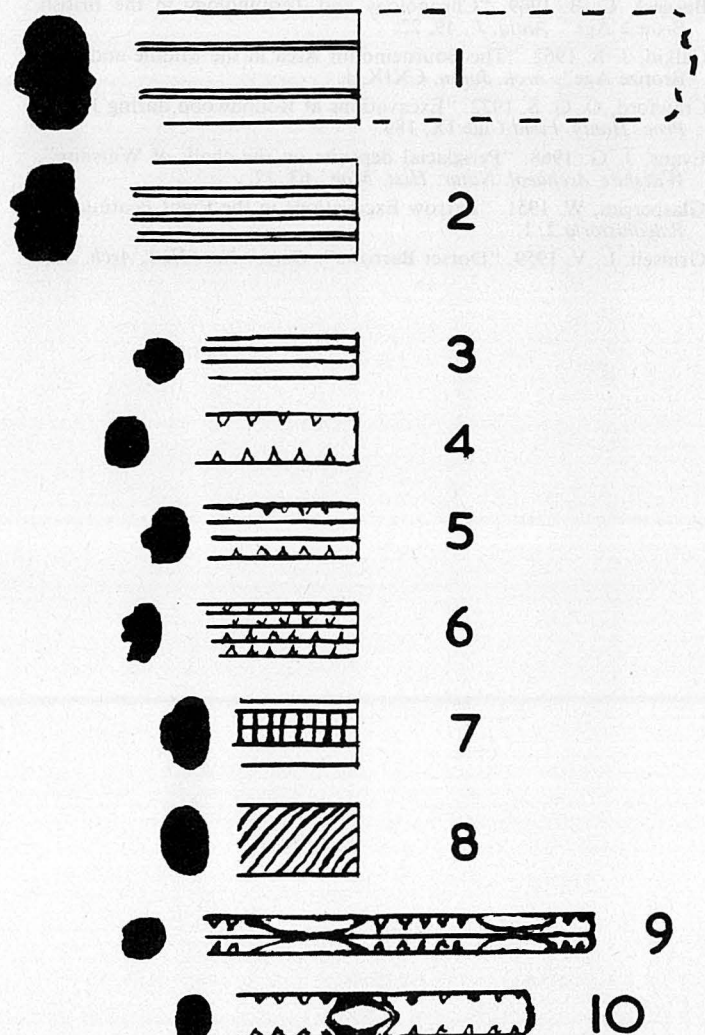


FIG. 1. Shale armlets from Colliton Park.
Scale $\frac{1}{1}$

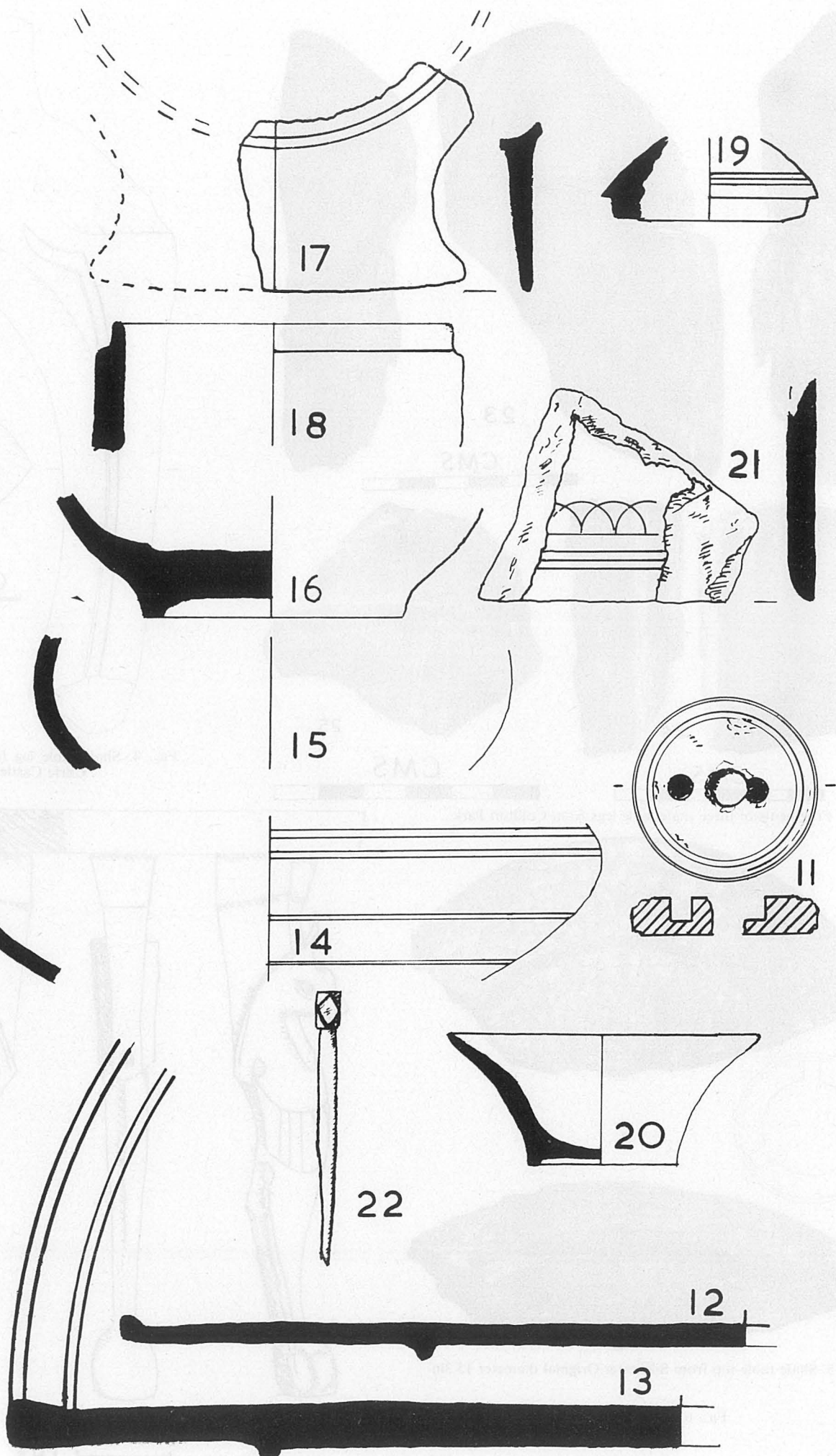


FIG. 2. Various shale objects from Colliton Park. Scale $\frac{1}{4}$.

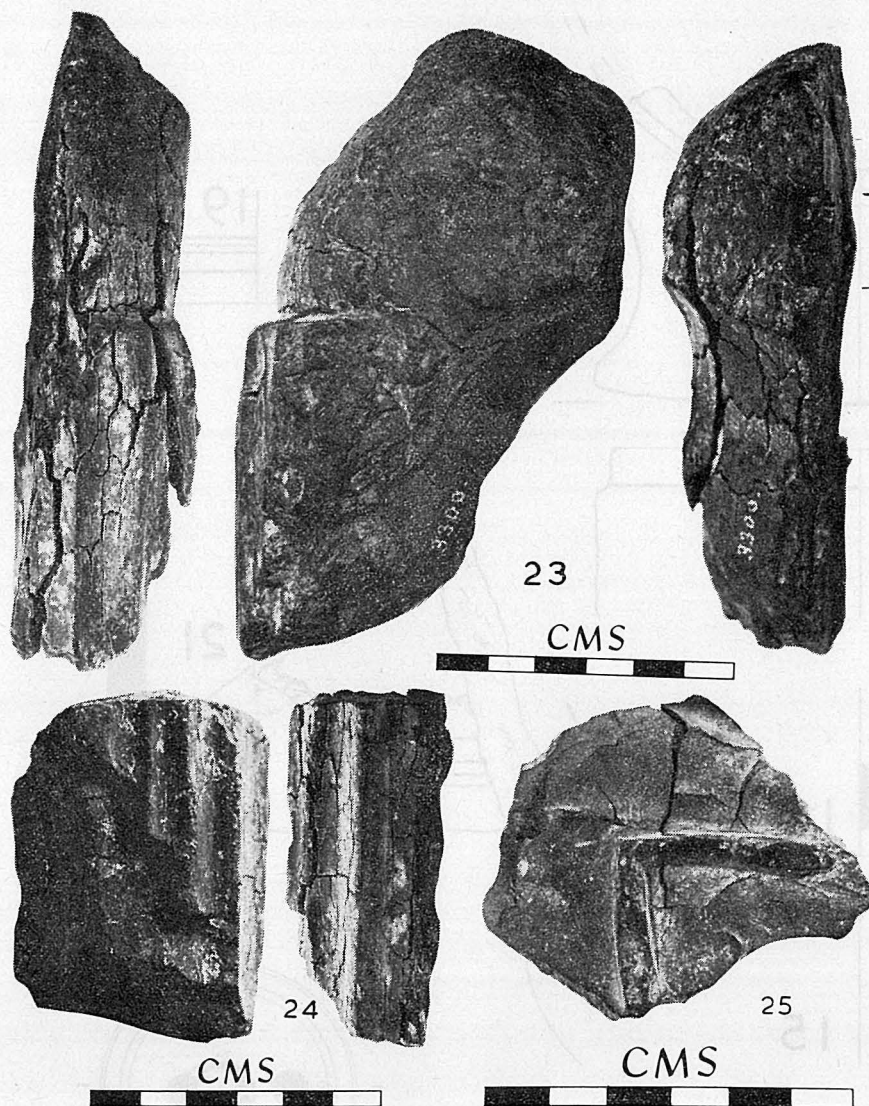


FIG. 3. Fragments of three shale table legs from Colliton Park.

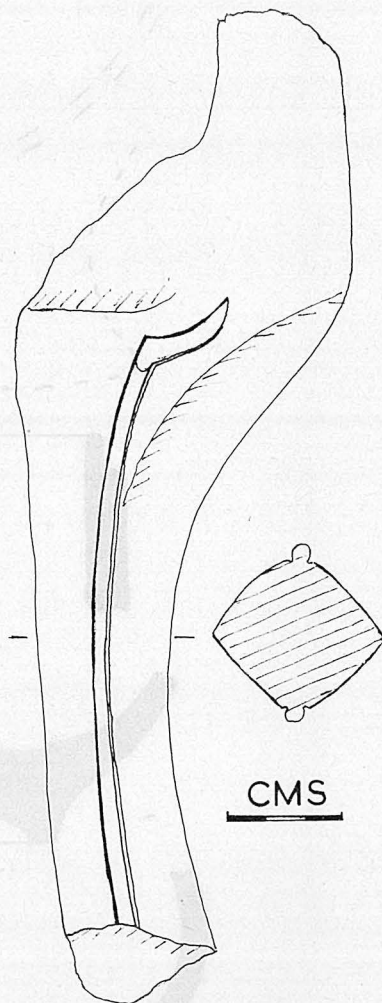


FIG. 4. Shale table leg from Nordon, Corfe Castle.

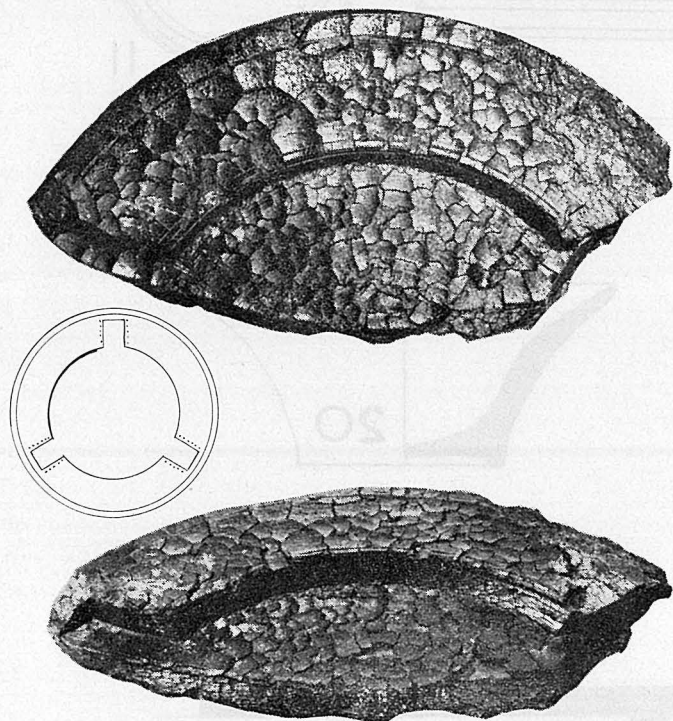


FIG. 5. Shale table top from Silchester. Original diameter 15.3in.

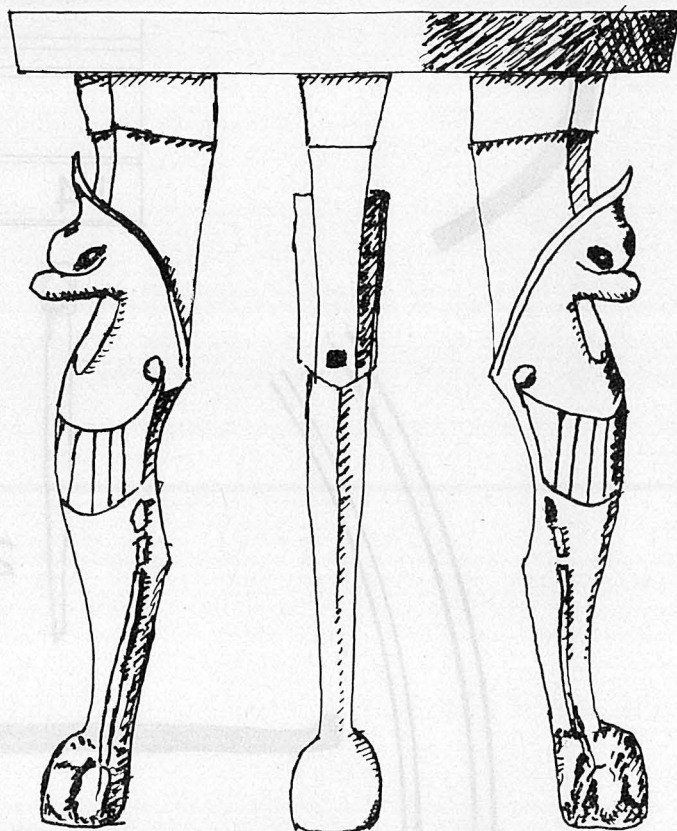


FIG. 6. Sketch of shale three-legged table. >

	Heavy type	Light type	Fig. 1
Plain	4	36	
Grooved	6	6	Nos. 1-3
Nicked		3	4
Grooved and nicked		11	5-6
Herringbone		1	
Grid		3	7
Cable		1	8
Scoop		1	9
Gem		1	10

ARMLET CORES

The armlet cores are all of Class C (1, 57) and one has been converted into a spindlewhorl (Fig. 2, no. 11).

SPINDLEWHORLS

These discoidal perforated objects formerly called amulets are more probably spindlewhorls, though there appears to be no conclusive evidence of this view.

FLAT DISHES

There are about 18 examples of flat dishes or plates with a raised bead-rim and a foot-ring below. They are all extremely fragmentary, and usually much warped. The diameters of six measurable examples range from 288 to 348 mm, and the external diameters of the foot rings from 120 to 240 mm. Since no full section has survived, the reconstruction of no. 12 is based on average dimensions. One dish (no. 13) is heavier and has a wider moulded rim. Some ten to 12 letters have been scratched on the back.

BOWLS

There are four body sherds of bowls up to 160 mm in width and three foot rings (nos. 14-16). No rims have survived.

TABLE LEGS

In addition to the table leg figured in the first interim report, and incidentally, the most perfect example known (2, pl.8), there are fragments of three others, all in a disintegrating condition (fig. 3). No. 23 shows the conventional fluting on the creature's chest, the hollow curve in the back and part of a mortice hole. Part of the hollow curve is also preserved in no. 24, which has flutings on the side increasing in length towards the front. No. 25 has two strips carefully cut in a low relief, the longer one widening and perhaps terminating a short distance before the fracture.

PIN

The pin is probably a local copy of a slightly larger jet pin with a similar head. Both have their points missing.

DISCUSSION

In the absence of a final report on the excavations, the new volume of the Royal Commission on S.E. Dorset, Part 3 (1970) 553, considers that all the permanent buildings found at Colliton Park belong to the 3rd and 4th C. Closer dating at present seems impossible.

ARMLETS. The 88 armlets form the largest Romano-British group known, even exceeding the Iron Age series of 81 from Meare Lake Village.

The heavier examples may be a survival of a 1st C. fashion as represented at Wilkswood, Langton Matravers (1, 52) and elsewhere. The general decoration is typically Roman in its standardization, with singularly few variants. The fanciful design on an armlet from Cold Kitchen Hill, Wilts. suggests Celtic influence (4, 124). Whilst these decorated armlets are distinctly rare, the Society's collection also contains the following:—

Kimmeridge	D.C.M.	1888.	2. 1	Nicked
Woodcuts	D.C.M.	1946.	2. 46	Nicked
Fordington	D.C.M.	1846.	2. 23	Grooved and nicked <i>also formerly</i>
Fifehead Neville		1896.	2. 23	Herringbone (missing).

Three grooved examples were found among shale workshop debris at Gallows Gore, Worth Matravers, and the cable occurs at Woodcuts, Maiden Castle and elsewhere. The gem design is found on an armlet in Devizes Museum, whilst a series of similar rhomboidal gems forms the motif on a late 4th C. bronze armlet from Maiden Castle (3, 287).

After omitting small fragments which cannot be measured on account of warping, the internal diameters of the armlets, if such they are, work out as follows:—

	Average
2 of very heavy type	87.5 mm
8 of heavy type	63 „
44 of light type	56 „

There is little direct evidence to show how these rings were worn. In the Maiden Castle war cemetery a heavy shale armlet of 67 mm diameter was found on the arm of a Belgic female adult (height 4 ft. 11½ ins.) above the right elbow, whilst a Belgic male (height 5 ft. 3¼ ins.) wore an oval iron armlet (65 x 46 mm) on the left wrist (3, 355). In the Romano-British cemetery at Fordington outside Dorchester a light shale armlet of 60 mm diameter was found on a woman's wrist (5, 182). Presumably the lighter type of armlet at Colliton Park was worn on the wrist, and perhaps some of the heavier ones above the elbow. The two very heavy rings might have been used as anklets, but such a practice would hardly have been approved except in the servants' quarters!

The armlets were made out of a disk with two or three round holes, which fitted on to corresponding pegs in the chuck. In the back of the disk there was a smaller central hole so that it could revolve on the point of the back-stop. The 44 measured examples of the lighter armlets were generally made in two standard sizes of about 60 and 47 mm. The turning of one of these armlets would reduce the original disk to a core of slightly less size than the armlet. Now on workshop sites where dumps of up to 100 or more waste cores may be found, examples of the larger cores are extremely rare. This circumstance shows that after making a large size armlet, the turner then made a second smaller armlet out of the same disk, thus saving much time and labour (1, 59).

Waste cores could be easily converted into spindlewhorls by making a hole in the middle (no. 11). They were, moreover, rather fascinating objects, which could serve for counters or just for children to play with, so that it is no proof of a local industry, if a few turn up on an occupation site. Only the presence of the highly specialized flint lathe-tools is evidence for local manufacture, and so far none of these has been recognised outside the Isle of Purbeck (1, 60). Early last century before the origin of the cores was understood, large quantities on workshop sites were interpreted as "hoards of coal money", but that is another story (1, 45).

There is abundant evidence both literary (8, 517) and archaeological (9, 20) for a popular belief, from Neolithic times onward, in the magical properties of jet, shale and lignite, which are all of very similar appearance. The close correspondence between the two standard sizes of armlet at Colliton Park (60 and 47 mm) with the standard sizes of today's bracelets (58 mm for adults and 51 mm for children) suggests that the shale armlets were worn on the wrist by women and children alike, whilst the wide popularity of such unattractive looking material points to some protective value which it was supposed to possess.

FLAT DISHES (nos. 12-13). These thin dishes are an example of the shale worker's skill. The rim was deliberately kept very shallow so as to minimize the amount of hollowing out that was required. A much smaller example with a diameter of 88 mm was found at Silchester. In 1948 Dr. G. C. Dunning, F.S.A. sent the writer a sketch of a turned shale bowl from the Roman villa at Brading, I.O.W. It resembles the present dishes in its raised bead rim and foot ring, their diameters being 380 and 218 mm respectively. The remarkable feature is that from the foot ring outwards, the wall, though only 5 mm thick, rises in a gentle curve to give a height of 58 mm at the top of the rim — a veritable *tour-de-force*. The heavier dish, no. 13, may be compared with a fragment from Norden, Corfe Castle (D.C.M.

SHALE TABLE LEGS

Find-place	Date found	Head, Leg, Foot	Period	Publication	Illustration	Present location
1 Colliton Park, Dorchester	1937	H L F	2nd-3rd C	2, p.9	2, pl.8	D.C.M. 1937. 70. 1268
2 Colliton Park, Dorchester	1938	L		Present paper	Fig. 3. No. 23	D.C.M. 1937. 70. 3306
3 Colliton Park, Dorchester	1937-38	L		Present paper	Fig. 3. No. 24	D.C.M. 1937
4 Colliton Park, Dorchester	1937-38	L		Present paper	Fig. 3. No. 25	D.C.M. 1937
5 South Street, Dorchester	Before 1886	H		7, p.39	7, pl.50	D.C.M. 1886. 9. 137
6 South Street, Dorchester	Before 1886	F		7, p.39	7, pl.53	D.C.M. 1886. 9. 138
7 South Street, Dorchester	Before 1886	F		7, p.39	7, pl.53	D.C.M. 1886. 9. 139
8 Princes Street, Dorchester	1958	L		<i>Ant. Jl.</i> 40 (1960) p.72	7, pl.22	D.C.M. 1958. 55
9 Norden, Corfe Castle, Dorset	1938	H (Horns)	<i>Ant. Jl.</i> 31 (1951) p.193	7, pls.57-58	D.C.M. 1939. 54. 1	
10 Norden, Corfe Castle, Dorset	1963	L	<i>Proc.</i> 86 (1964) p.116	Present paper, fig. 4	D.C.M. 1963. 45	
11 Blashenwell, Corfe Castle, Dorset	1968	L	<i>Proc.</i> 54 (1932) p.26	pl.3	D.C.M. 1968	
12 Preston, Weymouth, Dorset	1932	H L	7, p.46	10, app. p.277	D.C.M. 1932. 12. 10	
13 Frampton, Dorset	Before 1872	H L	4th C.	10, app. p.297	7, pl.48	D.C.M. 1902. 1. 55
14 Maiden Castle, Dorset	1936	F		3, p.319	3, fig. 111. 23	D.C.M. 1936. 1271
15 Silchester, Hants.		F				Reading Mu.
16 St. Alban's, Herts.	1955	L	Late 2nd C.			Verulamium Mu.
17 Foscott, Bucks.	1839	H		7, p.44	7, pl.49	Camb. Mu. Arch.
18 Rothley, Leics.	Before 1902	H	Prob. before 4th C.			Leicester Mu.
19 Langridge, Bath, Somerset	1949-50	F		7, p.39	11, pl.15	Taunton Mu.
20 Caerleon, Mon.		F		12, p.98	12, fig. 44	Caerleon Mu.

SHALE TABLE TOPS

1 Bagber, Milton Abbas, Dorset	1841	? (Lost)		10, app. p.298	10, app. p.277	D.C.M. 1885. 16. 103
2 Bagber, Milton Abbas, Dorset	Before 1896			<i>Proc.</i> 17 (1896) p.128		
3 Silchester, Hants.				15, p.162	7, pl.61	Reading Mu.
4 Caerwent, Mon.				13, p.314 and 7, p.47		Newport Mu.
5 Northgate Street, Gloucester	1958-59		250-350 A.D.	14, p.58	14, fig. 18	Gloucester Mu.

1919. 2. 10). The rim is similar, but it is split through horizontally so that its thickness and the presence of a foot ring are indeterminate.

HANDLE OF BOWL OR COLANDER (no. 17). Compare examples from South Street, Dorchester (*Proc.* 5, pl.2.3), Woodcuts (6, Vol. 1, pl.48) and Silchester.

JAR (no. 18). A flanged bowl was found at Compact Farm, Worth Matravers, whilst flanged joints were used on a pair of Belgic vases from Old Warden, Beds.

KNOB, CUP AND PIN (nos. 19, 20 and 22). There appear to be no known parallels.

TRENCHER (no. 21). The incised border pattern of straight lines and semi-circles is of the normal type (6, Vol. 2, p.175).

TABLE LEGS AND TOPS. It is probable that the carved relief on no. 25 represents the fore-limb and possibly the paw of a conventionalized climbing animal, similar to one on a table leg (fig. 4) from Norden, Corfe Castle (D.C.M. 1963. 45).

A few table legs have mortised holes in the back of the neck, presumably for three short stretchers or rails which would have fitted into a central disk in order to give the table greater stability. The top and bottom of the mortise hole in no. 23 is indicated at the side.

Few table tops have survived. Four examples show an average diameter of 40.7 cm and a thickness of about 4.3 cm. On the underside the thickness includes a flange about 2 cm deep and extending inwards from the edge for about 8 cm (fig. 5). Into the flange three equally spaced slots were cut radially and about 3 cm wide, being undercut so as to take the wedge-shaped (dovetailed) tops of the legs. When inserted the legs sloped outwards at an angle of about 10°. These several features may be clearly seen in Dr. Liversidge's plates, nos. 44, 45, 47, 52 and 61. The slots were naturally a place of weakness where breakages were liable to occur. Since these tables were marketed as far

afield as Leicester and South Wales, it is possible that the legs and other fittings were detachable, in order to facilitate transport. A sketch of the finished article is shown in fig. 6. Similar three-legged tables made in other materials are a common feature on Roman tombstones in the near East.

As the raw shale came from Kimmeridge, finds are naturally most concentrated in Dorset, with eight legs from Dorchester, and six more and a table top from other parts of the county.

A list of table legs and table tops is given in an Appendix, which generally follows the layout of Mr. Martin Biddle's list of shale trenchers. For further details the reader is referred to Dr. Joan Liversidge's extensive researches, which she has summarized in her book *Furniture in Roman Britain* (7).

ACKNOWLEDGEMENTS

I am much indebted to our Curator, Mr. R. N. R. Peers for allowing me free access to all the shale material in the museum, and to various other curators for supplying sundry information. My son, David, very kindly photographed the three fragments of table legs (fig. 3, nos. 23-25). The photographs in fig. 5 are reproduced with kind permission from the Duke of Wellington's Silchester Collection at Reading Museum.

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The Leaze, Wimborne

an excavation in a deserted medieval quarter of the town

By N. H. Field

This excavation took place between 1961 and 1964 under the auspices of the Wimborne Historical Society. Grateful acknowledgements are accorded to the following: Sir Henry Hanham, who gave permission for the dig, and Miss Hanham; Mr. G. H. Osborne, for initial organisation; Mr. D. Trehane, for assistance with equipment and refilling; the Carnegie United Kingdom Trust, for a grant towards gear; Mrs. S. Edwards, for help with classifying and drawing the pottery; the individual experts, whose opinions are mentioned below; the volunteers, mainly members of the above Society and of Poole Grammar School.

Summary

The earthworks in the Leaze, Wimborne, just S.W. of the Minster Church, comprise remains of a main street, together with lanes and houses, flanked on the W. by ancient fields. The excavation has established that the area was a planned extension of the town, carried out during the 12th century, probably by the church authority. Five periods were distinguished in the excavated site, the earliest being represented by a one-bay cottage and the latest by a two-bay house, possibly a craftsman's. This formed part of a terrace of dwellings developed about 1300 and lying end-on to the street. The abandonment of this quarter of medieval Wimborne occurred in the 14th century and may have been caused directly or indirectly by the Black Death.

The Earthworks in the Leaze⁽¹⁾ (Figs. 1, 2, 3)

These earthworks lie in a large field under permanent pasture to the W. of Deans Court (SZ 010997), which has been the residence of the Hanham family since the 16th century. To the N. is King St. and to the S. the edge of the low terrace of river-gravel overlooking the water-meadows of the Stour. To the N.E., only 120 yds. away, rise the towers of the Minster Church. The earthworks, now a scheduled ancient monument, cover some 17 acres. The western half of the area gives evidence of later narrow-rig cultivation overlying a medieval field-system, while the eastern half is occupied by the mounds and depressions of abandoned houses and thoroughfares, forming broadly a rectangle some 300 ft. by 700 ft. S.W. of these remains there is discernible the smaller rectangle of a well-preserved medieval field with its broad ridge and furrow.

The principal feature of the earthworks representing part of the medieval town is a long main street. This departs at its northern end from an open space containing a silted-up round pond and runs straight southwards for over 600 ft. as far as the edge of the river-terrace (here a modern field-boundary). Parallel with this street and 150 ft. E. and W. of it respectively there are two primary back-lanes. The western back-lane extends more than 100 ft. farther N. than its eastern counterpart and then turns sharply E. to join the access street running towards the open space from King St. Two further lanes or small streets extend from the western back-lane to the main street. The northerly one forms a junction with the main street S.W. of the round pond, while the southerly one forms a similar junction 150 ft. S. of the pond. Secondary back-lanes, which ground indications suggest are not original features of the lay-out, are perceptible in the rectangular block between main street and eastern back-lane. One of these later back-lanes starts 100 ft. E. of the pond and runs southwards for some 200 ft. before turning W. to join the main street. The other secondary back-lane lies just W. of the eastern primary back-lane. Streets and lanes alike are hollow-ways, sunken below the level of the blocks that they enclose. Along both sides of the main street and around the block S.W. of the pond, notches and ridges appear to represent

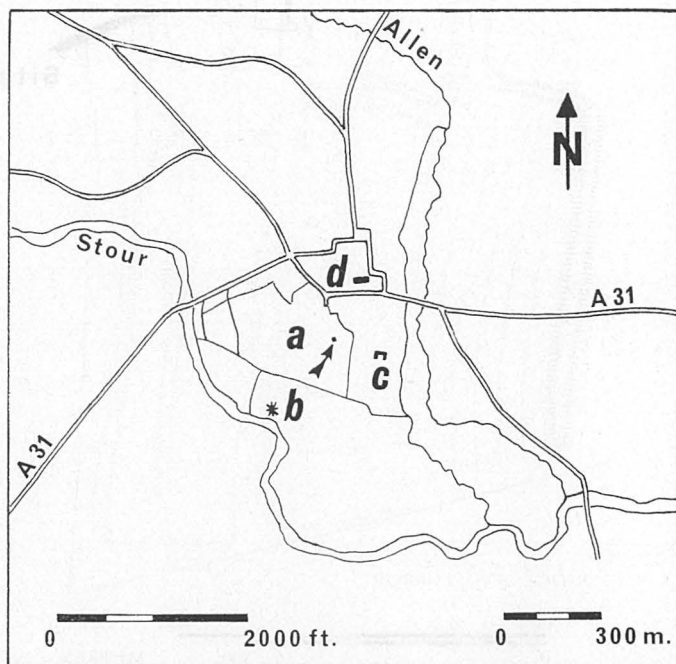


FIG. 1. The Leaze, Wimborne: location: (a) The Leaze; (b) mound; (c) Deans Court; (d) Minster Church.

details of the front of houses, either entrances or walls. Two features of the town-earthworks remain to be noted. One is the square shape of that part of the open space immediately W. of the pond. This may represent a pen for animals. A second is an access way from the fields on the W. into the western back-lane near its northern extremity.

The whole appearance of the earthworks is orderly and betokens a deliberate plan with a few later alterations. On visual, *prima-facie* evidence this should be an example of Norman town-planning, an urban plantation characteristic of a number of places in Wessex.⁽²⁾ The main street leading from an open space (here a stock-market?) to a river and with the back-lanes giving access to the fields is almost a hall-mark of the type.

Method of excavation

Initially the site actually excavated was chosen because, although not offering the most prominent visible features in the Leaze, it lay at the inner end of the major hollow-way and on the eastern side, that is, nearest where the centre of Wimborne was in the middle ages. The position seemed likely to produce a range of pottery, if not other finds, which could be a guide to dating the earthworks as a whole. The lip of the hollow-way within the chosen area possessed two of the clefts or notches that characterised both sides of this linear earthwork. Excavation might well be expected to throw light on the relationship between the clefts, any structures beneath, and the street.

A first trench was cut parallel to the hollow-way and some 30 ft. to the E. in an endeavour to pick up building foundations possibly lying at right angles to the street-line. When the tenuous eastern end of what proved to be House I was located, the whole of the space lying towards the street was cleared as an area

1. The Mound (NGR00649951) on the lower ground towards the river and slight surface features close by are omitted from this description, although probably connected with the medieval occupation.
2. Beresford, M. gives full information.

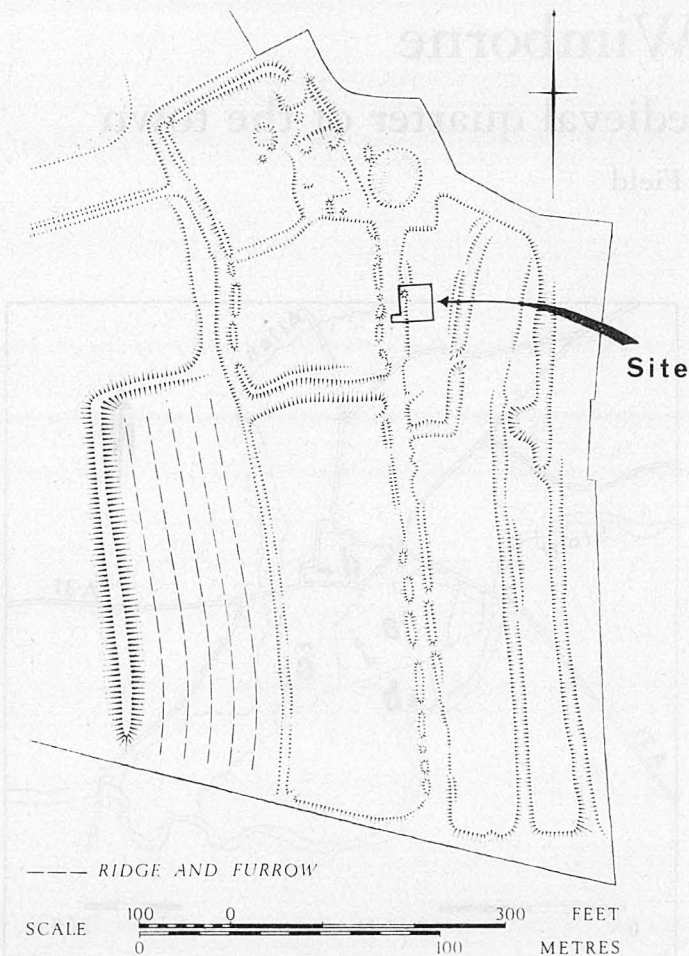


FIG. 2. The Earthworks in the Leaze, showing site of excavation (plan: R.C.H.M.).

excavation. Humble medieval sites are known to exhibit poor stratification and the opening trench gave the impression that there would be no point in leaving the confirmatory baulks usual on prolific and well-stratified excavations. The material remains of all the levels, especially the earlier, were difficult to trace and needed slow and painstaking trowelling to distinguish what was fallen or disturbed from what was *in situ*. Three factors placed a premium unfortunately on subjective approach and interpretation: a building material made of a gravelly cob, the re-levelling of the ground after each period and a dearth of finds in the early levels. If one did not accept that the structures had validity it was easy to pass to the view that "there was nothing here at all". Fortunately some features appeared, by contrast, crystal-clear, such as Pit A, Period 3 and Gully C, Period 2, and the street-section with its ditches. These in turn must be allowed to give credence to some of the less well-defined structural remains, such as the foundations of House VI and Outbuilding VII. Fortunately, too, there remains in the Leaze a considerable number of similar house-sites like those discussed in this paper and time will no doubt bring other excavations and new techniques to tackle the problems offered.

Structural discoveries (Figs. 4-7 and 10)

Period 1

The main structure of the first period was the rectangular House VI. It was aligned at right angles to the street with an overall length of some 21 ft. and a width of 17 ft. The gravelly footings of this period merged readily into the debris lying around them, which had resulted from subsequent levelling rather than the natural processes of erosion. House VI was indeed filled, at its E. end, within the wall-line and over the harder-packed "floor" of natural gravel, by loose stony soil to a depth of 8 ins. The N. wall of this small house had been destroyed by Pit A, Period 3, and the various rebuildings after Period 1. However, the southern half of the interior, the E. wall and the S.W. corner were better preserved by the stony debris over them. Soft patches in the gravel wall-footing indicated probable post-holes of rectangular shape and shallow depth (E,



FIG. 3. Air view of Wimborne Minster and the Leaze from north-west (photo: R.C.H.M.).

H and I). There is some confirmation of the roof-truss spanning the front of the building towards the street, since a line of post-holes, also for squared timber, extended across what would be the W. gable-end (O, K and I). Whether such a span was a cruck-truss or a frame-truss is discussed below. The building, then, may have consisted of a single bay with the rear span supported by post E. The bay would then have had a length of about 15 ft. (E to I) and a width of 16-17 ft. (from I to a post-hole destroyed near the N.W. corner Q). The S.W. sector of the interior was divided off by gravel walls to form a little square "room" with a floor area of some 36 sq. ft. opening out onto the street by a doorway with the closure of which the pair of posts K was associated. Two gullies leading from this small enclosed space into the street-gutter may throw light on its purpose within the dwelling. One (M) began at the threshold of the doorway and was probably earlier than the second (L), which ran from within the "room" and through the corner-wall to drain in the same way. It would be reasonable to associate them with the presence of a domestic animal and the limited space suggests a sow brought in for farrowing. Both gullies were barely a foot wide and rather less in depth. The only other definite features inside this house occurred against the S. wall, towards the S.E. corner. Here a gravel build-up bore traces of a square, shallow depression (side 1½ ft.) associated with a little charcoal and burnt stone (F), beside which there was a deeper hollow, a little larger and more irregular in shape (G). Feature F presumably represented a setting for a hearth. In size and construction it was similar to what were taken to be hearths in later buildings — Period 4-5, A, L and Q; Period 5, G. The hearth-stone proper and the backing-stone were, as in the case of all the later hearths, removed after abandonment. A backing-stone would have been a necessity in view of the closeness of post E. The existence of these stones is indicated by the precise outlines marked in the gravel-matrix in every case and by the discovery, in debris levels, of small broken fragments of squared heathstone, fired on one side. As for feature G, it may have served some purpose in connection with the preparation of food or storage of receptacles. Finally, human access into House VI was by a doorway marked by a gap in the W. wall and by a squared post (O), matching the animal-entry K.

To the E. of House VI lay the end of a building-structure VII, in almost the same E.-W. alignment. There seems to have been a small rectangular construction, about 9 ft. wide, with a gable-end truss (A, B.). A lean-to addition (post C) doubled the width of the building. The wall-footings of the original construction were thicker (2 ft.-2½ ft.) than usual and difficult to decipher in the general stony debris. Post A was squared but hardly formed a pair with B and the signs are these were re-used, odd timbers such as would be expected in a very humble outbuilding.

An important detail of Period 1 is that the street existed from the first, contemporaneously with House VI. Gullies M and L drained over the artificially-cut edge of the street into the shallow channel running alongside the central metalling (see section S1).

Period 2

The structures of Period 1 were abandoned and their remains roughly levelled. Centrally through the debris of House VI, there was cut a well-defined gully, later filled with a more or less stone-free soil that contrasted with the stony bed. This gully (C) ran for some 30 ft. to debouch into the street-gutter, widening at the same time from 1½ ft. to nearly 3 ft. at its street-end, where its depth was about 6 ins. The purpose of this gully is uncertain, but near the street, on the N. side, a small platformed mass of gravel and stones (D), with tenuous evidence of posts, overlay one edge of the gully. It is likely that the whole levelled area N. of the gully represented the floor of a dwelling (House IV) later destroyed in Period 3. In that case a cleft running down towards the street in the extreme N.W. of the excavation (E), which was associated again with a possible post (like those at D also unsquared), could indicate the far side of the front of this vanished building, giving it a width of some 16 ft. The gully might then be interpreted an eaves-drip and its length of 30 ft. would be that of the house. These dimensions accord with a two-bay dwelling like House I below.

To the S. of the gully were uncovered gravelly ridges of a building (V), rectilinear in form, but, so far as uncovered, lying with its length parallel to the street. This was the only example of such an alignment found during the excavation.⁽¹⁾ This house was 15-16 ft. wide and, if the entrance (B) was situated half-way along the street-side, possibly 24 ft. long. The indication of this entrance comprised the northern part of a semi-circular stepped feature that led down from the house. An outer gully departed from a post-hole on the N., was interrupted in one place and then swept round to a presumed second post opposite to, and S. of, the first. Within this the two gravel steps may have held flagstones, since removed.

Period 3

The only easily identifiable detail in this period was a pit (A) roughly quadrilateral in shape. Three sides were each about 7½ ft. long and the fourth, 1 ft. longer, on the N., was backed by a semi-circular depression, slight in depth but definite in outline. The pit itself was just over 2 ft. deep, with near-vertical faces, and the fill was composed of an even, dark-brown stony soil with occasional charcoal flecks and a few sherds. The nature of the soil suggests a refilling in one operation.

Alongside the street an irregular line (B—C) of the usual packed gravel and soil was associated with a couple of post-holes. The northern part might represent the frontage of a minor building.

Periods 4 and 5

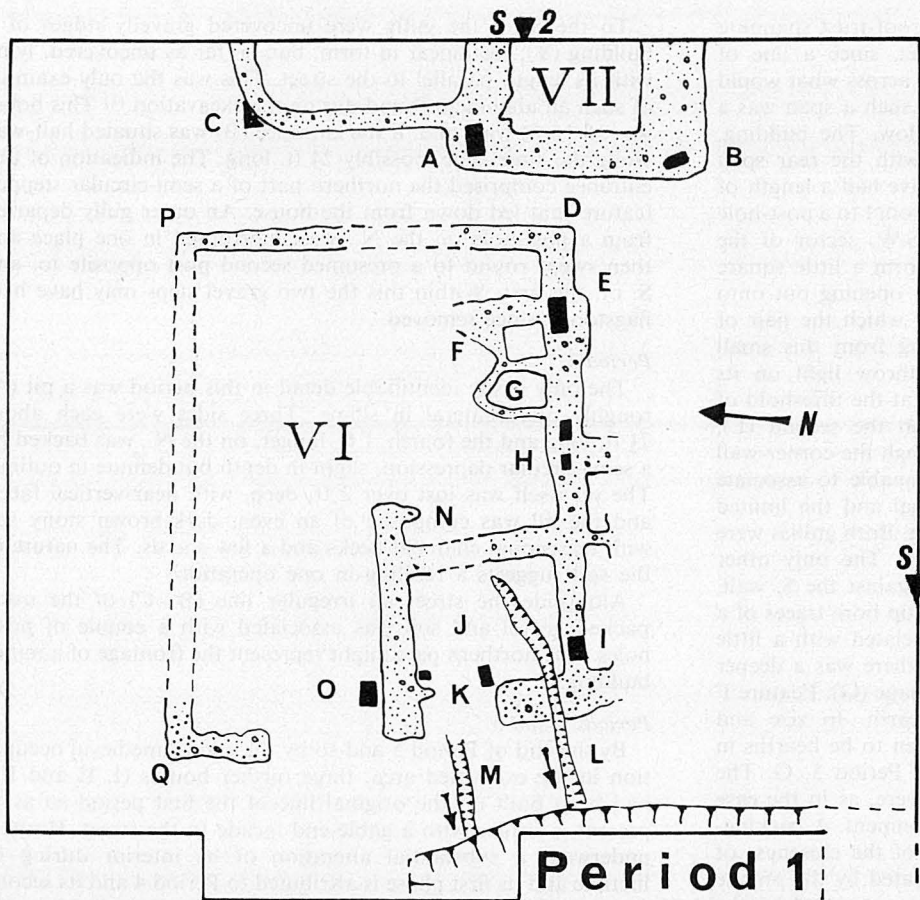
By the end of Period 5 and so by the end of medieval occupation in the excavated area, three further houses (I, II and III) had been built on the original line of the first period so as to present a terrace with a gable-end facade to the street. House I underwent a substantial alteration of its interior during its lifetime and its first phase is attributed to Period 4 and its second phase to Period 5. It is uncertain whether the three houses were erected simultaneously, but the time interval (discussed below) to allow for Periods 4 and 5 does not seem to have exceeded half a century and may have been less. Initial construction, therefore, was unlikely to have been delayed.

House I

This was a rectangular building consisting of two bays. It had overall a width of some 16 ft. and, in the first phase, a length of 28 ft., increased subsequently to about 30 ft., when the front part of the house was altered. The stony, scraped-up soil that composed the wall-foundations of this building as of the others preserved a number of soft patches of brown earth indicative of squared timbers. Most of these post-impressions, though by position mainly of principal posts, were shallow, never more than a few inches deep. It must be assumed that the verticals for the three trusses had originally been set in the upper walls of stony cob. Thus in Phase 2 the principal posts for the E. gable-end span were located at A and B with the middle truss supported at O and K and with the W. truss extending from a well-defined socket at X to an ill-defined one between Q and P. Throughout the two phases this double division of the interior based on the roof-construction was emphasised by a difference in floor levels. The floor of the W. or front bay lay slightly higher than that of the E. or rear bay. That this was deliberately planned seems proven by the fact that the houses on either side had their front half platformed in the same kind of way.

In Phase 1 (Period 4), the rear bay of House I possessed a shelved area of beaten soil (I), 2 to 3 ft. wide around the N. and E. sides, so that most of the central and S. interior of the bay was doubly lowered from the level of the front part. In one corner of this lowest level a charcoaly patch (D) indicated where a fire had been kindled intermittently (there was sign of a setting for a vanished hearth-slab). At the centre of the building, against the platformed edge of the front bay, lay a semi-circular consolidation of very stony gravel. This presumably supported a secondary post wedged in the line of the middle truss (F). It may have been connected with a partition. The central principal-post on the S. side (Phase 1, E) was later replaced since its

1. There were slight traces of a post-setting at A midway in the short wall, suggestive of a central ridge-line.



Key to Plans.






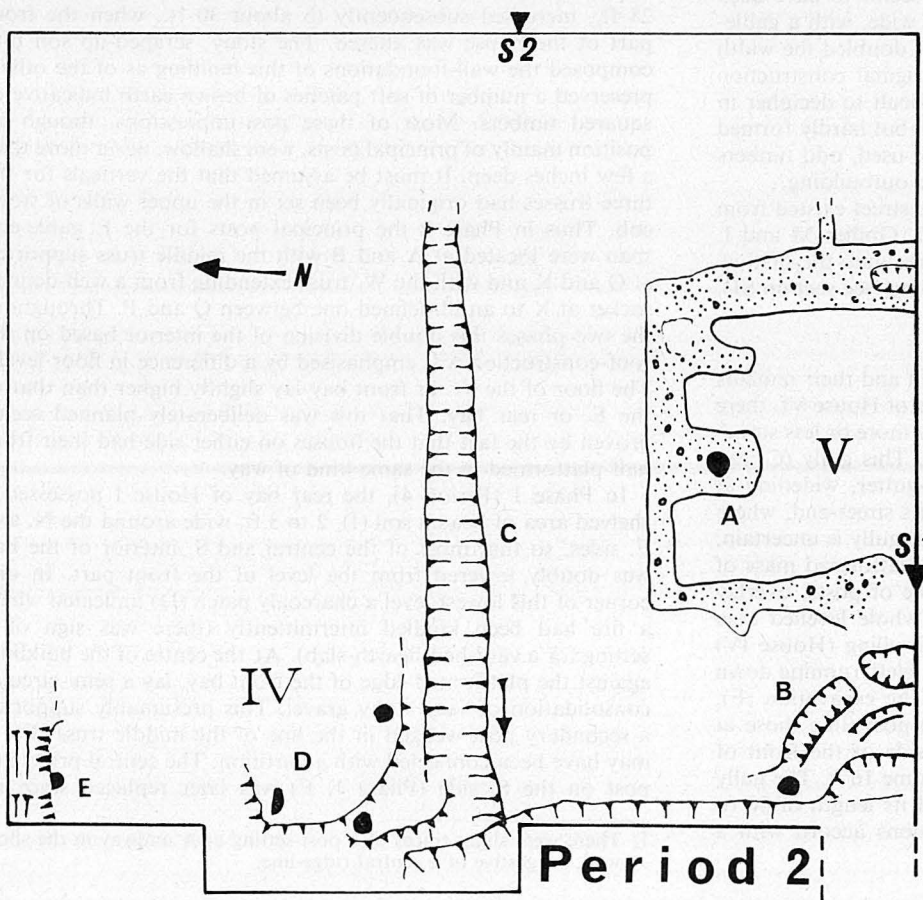
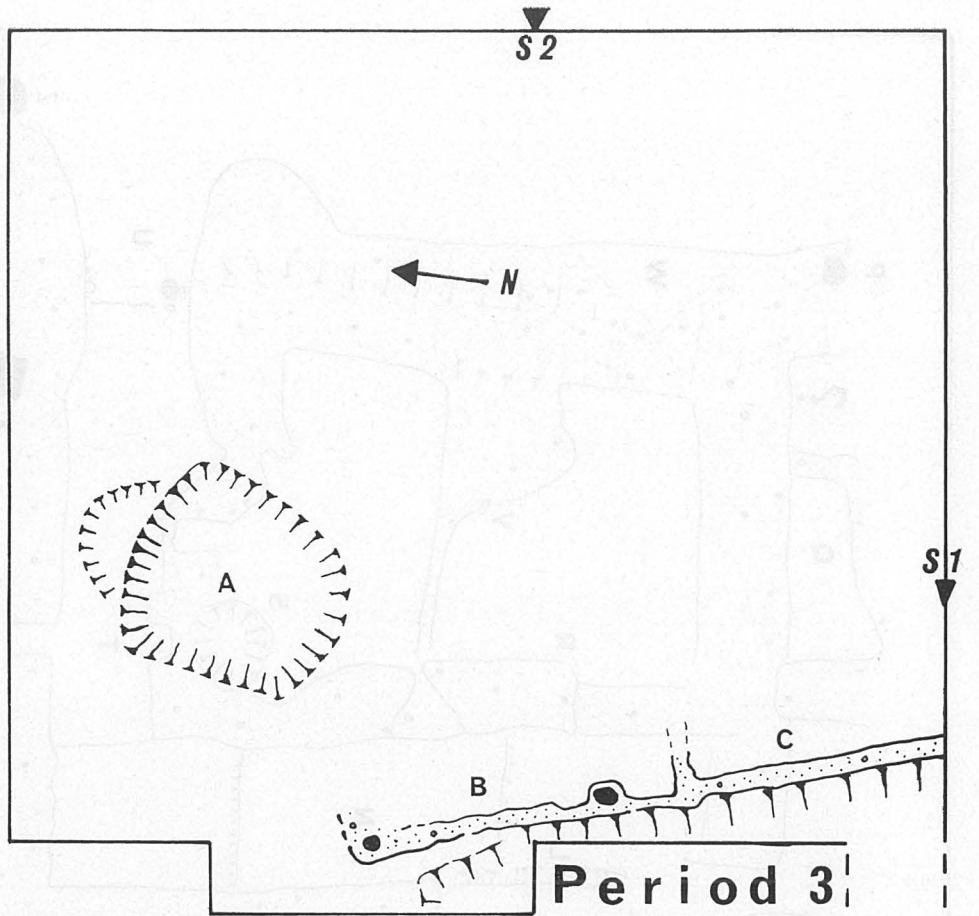
-  a-alignment of stone gravel and earth.
-  b-post-hole or post-setting
-  c-gully
-  d-slope or edge
-  e-hearth and/or charcoal traces

FIG. 4. The excavation: plan of Periods 1 and 2.

5 0 5 10 15 Feet

1 0 1 2 3 4 5 Metres





5 0 5 10 15 Feet

1 0 1 2 3 4 5 Metres

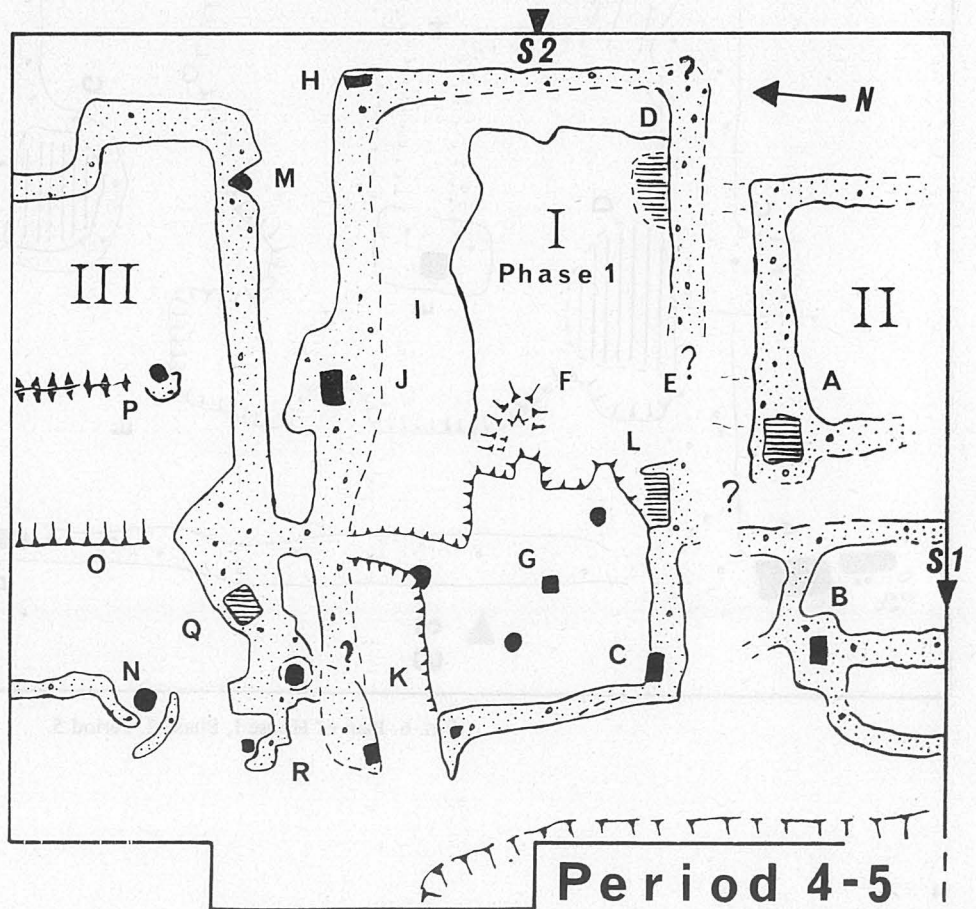
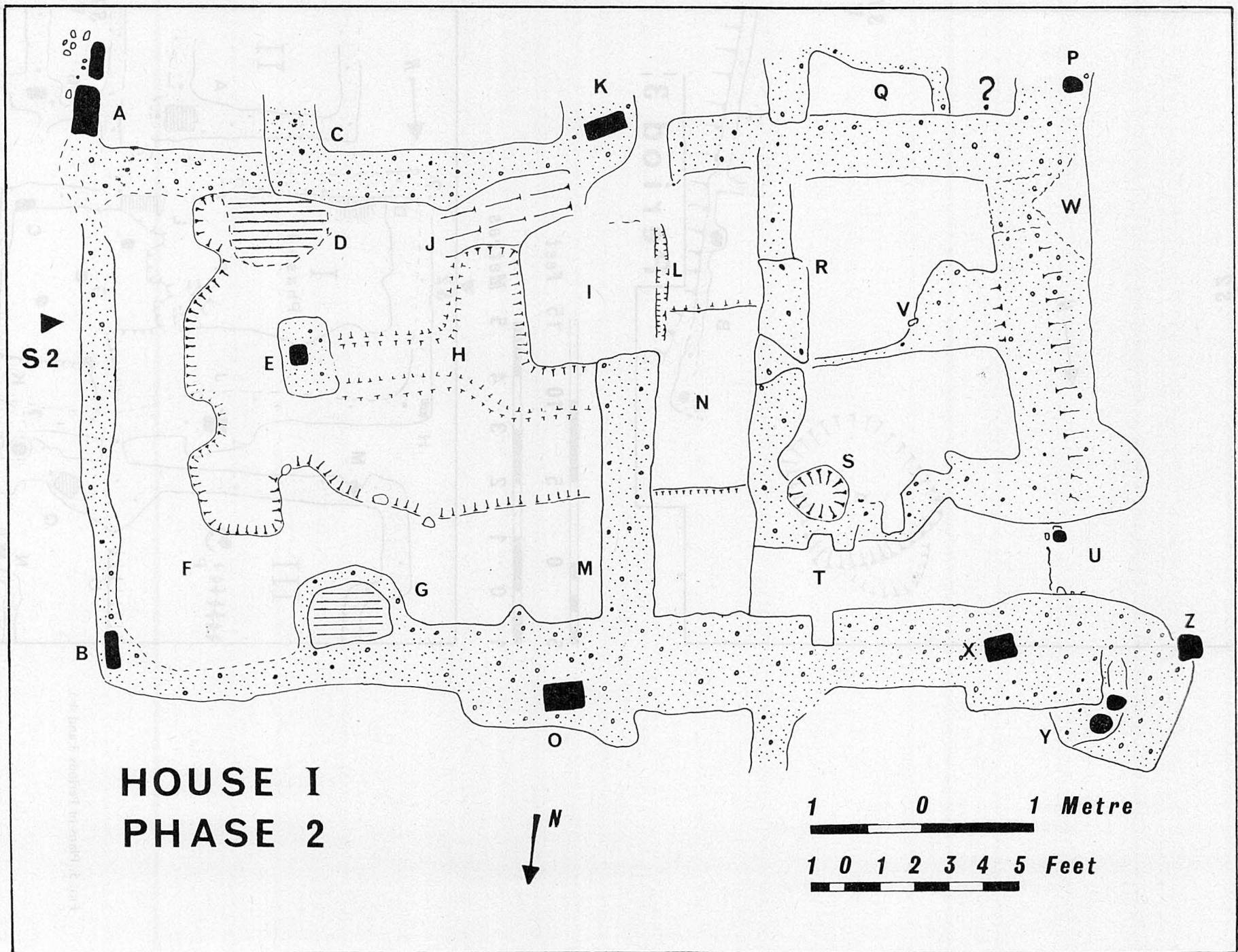
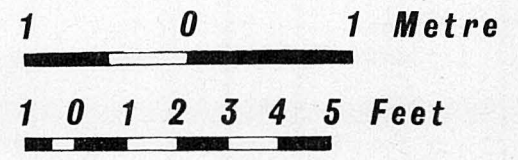


FIG. 5. Plans of Periods 3 and 4-5.

FIG. 6. Plan of House I, Phase 2, Period 5.



**HOUSE I
PHASE 2**



counterpart in Phase 2 (K) is out of alignment. There are signs, indeed, of a secondary build-up of the S. wall (Phase 2, C), which may be connected with such a replacement. If we turn to the W. or front bay, the main differences are the street-entrance (K) in the N.W. corner and a hearth-setting (L) in the S.E. corner. The entrance was flanked by post-traces and the well-trodden threshold within, being slightly lower than the rest of the front bay, may well have been screened from it. Three central post-holes (G) were not necessarily contemporary. They were secondary features and might be connected with a transverse joist for a loft over the front bay. A squared post-setting occurred in the S.W. angle (C) inside the gravel footings and must represent a primary principal-post of which the successor was not firmly located in Phase 2. It is difficult to ascribe functions to each of the bays of this first phase of House I, but the front "room" with its hearth seems to have been the main living area. A case could be argued for the rear bay having been a byre with a doorway later blocked at E. But an opposing doorway would be normal and there is no indication of one.¹ Indeed since the rear "room" had a greater area than the small front "room", it may be best to regard the former as additional living space, also acting as a store for whatever activity was carried out in the latter.

In Phase 2 (Period 5), a number of internal alterations inside House I point to a finally recognized distinction of function between the two rooms, as they may now be called without inverted commas. A cross-wall (M) was created to divide front and rear bays more purposefully than the earlier partition that has been suggested, with access provided by a built-up threshold (I). The hard-trodden earth of the latter feature possessed a pronounced groove (L) aligned with the cross-wall and it is tempting to see this as evidence for some kind of sliding door. In the back room, there were several notable changes. The provision of a proper hearth-setting (G) replaced that in the front bay and underlines the shift of family interest to the back room. The slope down from the threshold (J) was cut back possibly to take a step of stone or wood (H), since robbed. A secondary post (E), presumably secured to the roof-ridge, was centrally placed apparently to hold a screen running to the junction of cross-wall and threshold and indicated by gravelly ridges. As for the front bay, the whole of its interior was re-levelled and an independent front room was created along the N. and E. sides of which ran a passage (UTN) connecting street with back room. The floors of passage and front room were demarcated by gravel footings, indistinct where the passage ran out to the street, but more solid on the E. stretch, which gave some impression of having acted as a sill wall for a timber framework above. At R there was a stepped gap presumably for access to the front room. In the extreme N.E. corner of the limited space (9 ft. by 6 ft.) a wide shallow depression (S) may better be regarded as a hollow in which to place a receptacle rather than a disturbed post-setting. Close by, feature T, comprising two rectangular notches in the corridor wall-footings, could represent some timber structure, perhaps not intentionally aligned with S. It looks as though this might have been a sill of some kind and, if for a doorway between inner and outer passage, the other doorways (L and U) gave no evidence of similar construction. The floor space of the front room was roughly divided into two by a diffuse gravel ridge emanating from a broad, flat, stony build-up only an inch or two high (V). Finally in the S.W. corner there was noted a narrow but well-defined gap, 1½ ft. wide in the wall at the street-end. This gap was emphasised by an external display (W). The house-entrance in Phase 2 (U) possessed a post for a door, while further posts were located outside the corners at the street gable-end (P, Y and Z). The pair of posts at Y were associated with the remnants of what looked like a gravel outtress to shore up the building, but P and Z were deeper posts and set on the extreme edge, almost certainly beyond the street-wall line. Z may have supported a porch as there was a projection in the stony footings on the opposite side of the doorway, but no companion post could be traced there.

House I during its Phase 1 had a simple subdivision into two "rooms" or separate functional areas. This was achieved partly by platforming, partly by a partition (which may have been

L-shaped and cut off the front bay from the entrance corridor so created). In Phase 2 the intention was to give isolation to the rear room, while providing it with a proper hearth and maintaining access with the street, independently of the front room. The latter, with its plan emphasising such access with the street rather than with the rear bay, may now have served as a workshop or shop.

Houses II and III

These were partly exposed as a consequence of the area-clearance of House I. The length but not the width of both was established, with an indication of internal lateral divisions. Evidence for timber framing was scanty for House II in particular. Total clearance of both buildings would no doubt have helped. But it is certain that both these houses shared with House I a common frontage-line to the street, an intention that was reinforced by the pronounced platforming of the front floor-area of each of the three dwellings.

House III may be considered first as its details were a little more clear-cut. The long S. wall appears to have had unsquared timbers set in it near to its E. and W. ends (features M and W), some 21 ft. apart in the approximate 24 ft. overall length of the building. If these posts represented the gable-end trusses and this was a two-bay house, we might expect the bays to be 10½ ft. long. But there was no sign of any post-setting half-way along the S. wall. The relatively shallow traces of what were considered well-defined posts could explain how the evidence for others could be easily removed. It is possible that the centre truss lay along the line of the platformed edge (O) or of an internal partition (P), which would give two bays asymmetrical in the ratio of 3:2 or 2:3. Two details of the front platformed space recalled House I, Phase 1: the defined change of level (O) and the depression for a probable hearth (Q), set where the S. wall bulged to a thickness of 4 ft. The access to the street was by a doorway in the S.W. corner, adjacent to that in House I and denoted by a large post (N) and a smaller one (R). The configuration of this doorway hinted at the existence (as in the case of House I) of an external porch or wind-break on that quarter where it would have given best protection from the prevailing wind.

Insufficient of House II was exposed for any certainty of interpretation. At first sight, in plan its remains suggest the gable-end of a rectangular house lying N.—S., with some kind of construction parallel with it alongside the street, containing the only convincing post-hole (B). The platforming of the street-half of the remains, however, points to a house aligned like Houses I and III, but with some disturbance having removed information. The position of what appeared to be a hearth setting (B) just where a post might have been anticipated is another puzzle.

The Street (Figs. 8 and 9)

The main street, it has been seen, forms the central feature in the Leaze earthworks. Its relationship to the houses bordering it should determine the origin of the earthworks as a whole and their period of use. To this end a trench was cut across the street extending from the S.W. corner of the area-excavation. The S. face of this trench is shown in Section S2. Although the trench did not, as it proved, reach the full width of the original street, the information gained went some way towards answering the problems set. The sequence of events was as follows:

- (i) the first stage was the removal of topsoil and some underlying gravel to a depth of 1½ to 2½ ft. so that a level foundation for a road-surface was created about 16 ft. wide. Some stony material was used to build a central cambered strip 8 to 10 ft. wide. There were thus shallow depressions flanking the street on each side and serving as drains or gutters;
- (ii) As time passed, remetalling with gravel took place at intervals, the effect of which, coupled no doubt with scouring, was to deepen the gutters into definite ditches

1. The presumption of a byre-doorway at E would also imply some interval between the building of House I and of House II. There is no evidence for this.

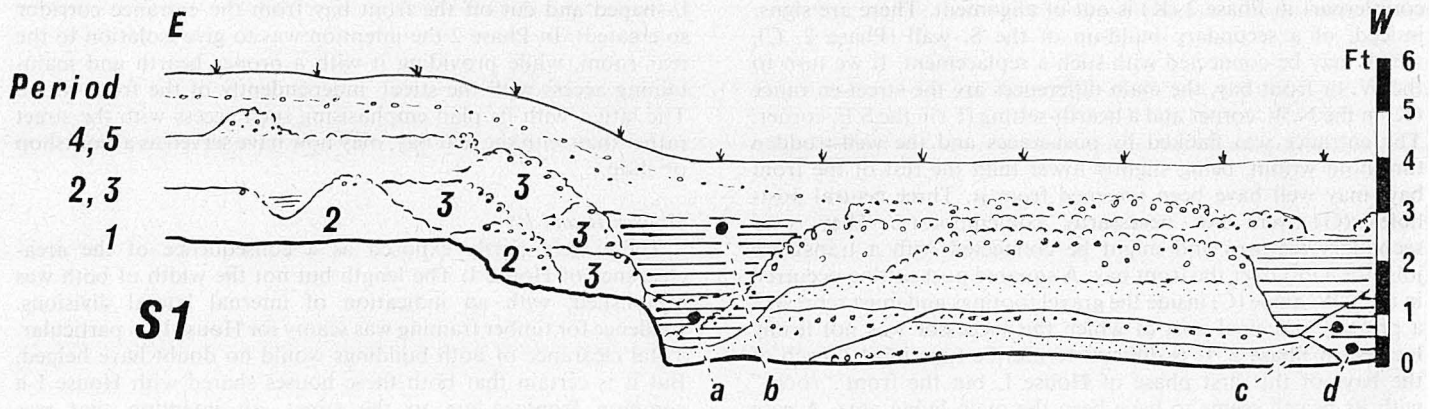


FIG. 7. Section S1.

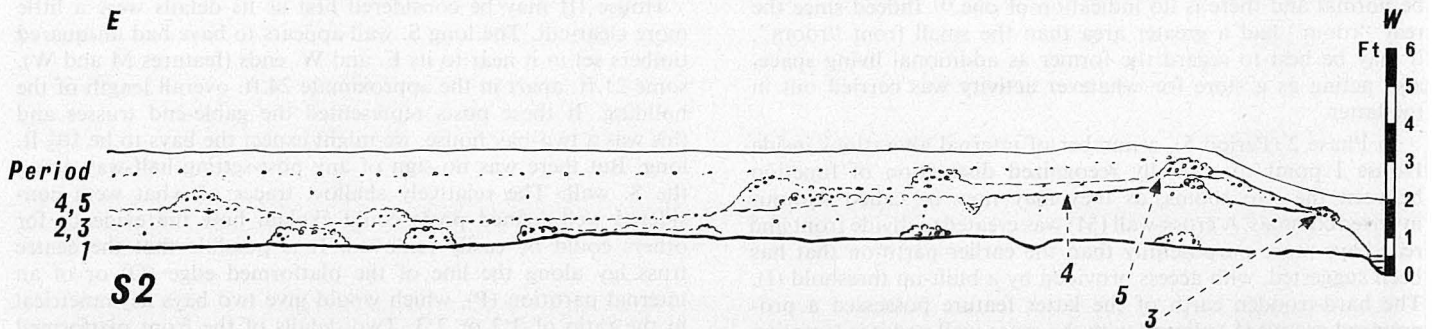


FIG. 8. Section S2: (a) pottery, no. 14; (b) sherd with rouletting (not illustrated); (c) tile fragment; (d) pottery, no. 13.



FIG. 9. View from north: House I, Phase 2, Period 5 (photo: S. P. James).

relative to the cambered track. This, by the time that the street fell into disuse, had reached a thickness of 3 ft. through at least half a dozen additions of gravel and stony soil. The W. flanking ditch was recut on at least one occasion and it was observable that this recutting was in part necessitated by the encroachment over the ditch of the road-surfacing material. Indeed, at the time of abandonment, only the E. flanking ditch was fully in service, at any rate at the point where the section-trench crossed the street.

The area-excavation of the houses showed that the W. ditch (or gutter in its initial form) ran N. as far as the causewayed-entrance to House VI and that this causeway continued in existence throughout the various periods. The ditch received deliberately contrived drainage (in the first two periods only) from Houses VI and IV.

Dating

(a) Structural discoveries

With a scarcity of small finds and a complete absence of coins, the dating of the house-sites is largely dependent on the pottery, discussed below. Much of this was unstratified, occurring in the abandonment debris, but an overall range seems to be evident from late in the 12th century until some time in the 14th. Period 1 produced almost no sherds (Fig. 14: 47 is the only notable specimen) and Period 2 only a few, one being a piece of scratch-mark ware, along with a fiddle-key horse-shoe nail from the porch (B) of House V. The most useful stratified sherds were provided by Pit A of Period 3, which pre-dated both Houses I and III. Thus the thumb base (Fig. 13: 46), ascribed to the end of the 13th century, lay on the top of the pit and was sealed by the later platforming of Periods 4 and 5, which on this score should be placed in the first half of the 14th century. The walls



FIG. 10. View from south-west: left to right, Period 4-5, House III; Period 3, Pit A and alignment C; Period 2, Gully C; Period 1, House VI and Building VII (photo: S. P. James).

of the later houses in Periods 4 and 5 contained a number of sherds, some of which might have been intrusive and others genuinely *in situ*, so predating the buildings. But their value is uncertain and they do not appear to alter the general dating. The most useful small finds are the lava quern, horse-shoe nails and the gilt-bronze handle (Fig. 15: 1, 3 and 7). All strengthen the view that the occupation had its heyday in the 13th century. Finally, by the time that early 16th century pottery (Fig. 14: 68, for example) was dropped in the house-ruins, it would appear that their abandonment had long been an accomplished fact.

(b) *The Street*

Four finds of typically early medieval date came to light from the street-ditches (Fig. 8, Section S2, a, b, c and d), of which the most significant was the 13th century rim (*ibid.* d and Fig. 11: 13). This occurred in the lowest fill of the W. ditch before it was last re-cut and this deposit was also earlier than the last two re-surfacings of the street. An early 13th century rim (*ibid.* a and Fig. 11: 14) was from a context in the E. ditch that is probably later, but the general inference is clear. The street was in heavy use during the 13th century, although there is no certain indication to the date of its abandonment.

Discussion

(a) *Building-construction*

During the century and a half of settlement in the Leaze, the small area excavated passed through five periods of building and reconstruction. Despite difficulties in identifying and

interpreting details, certain basic features emerge, common to all the houses. All were rectangular and divided into one or two bays, with cob-walls in which were set constructional timbers.

House I in its final phase seems to have possessed six basic roof-supports, four at the corners and two mid-way along the sides. The absence of a positive sign of a post at the S.W. corner may be explained by the possibility that when its predecessor (Phase 1, C) was replaced, the later post left such a shallow trace that this was easily removed subsequently. Since here, as in all the other cases, there was no question of even an attempt at making the posts earth-fast,¹ we have to consider that the house-structure depended either on a timber frame-work with subsidiary walls or on timber-trusses lodged in foundation walls. Certainly replacement of posts took place and was effected from without either by duplication (Phase 2, A) or by timber-cum-cob buttressing (Phase 2, Y and Z). All the timbers set in the walls were rectangular, except for post X, Phase 2. It is noticeable that those of the east gable-end were aligned with the short end-wall, while those of the mid-way position lay with their axis almost in the line of the long sides. There were, then, one assumes, three pairs of posts forming three trusses. But were they made of crucks or simple joined frames? The evidence is against crucks in that the main post-holes seemed in no way to suggest angled posts and were enclosed in the wall-fabric and not inside the wall-line. Could each pair of posts then have

1. Except for the posts flanking doorways of House VI, which were deeper set (c. 6 ins.) but hardly self-supported.

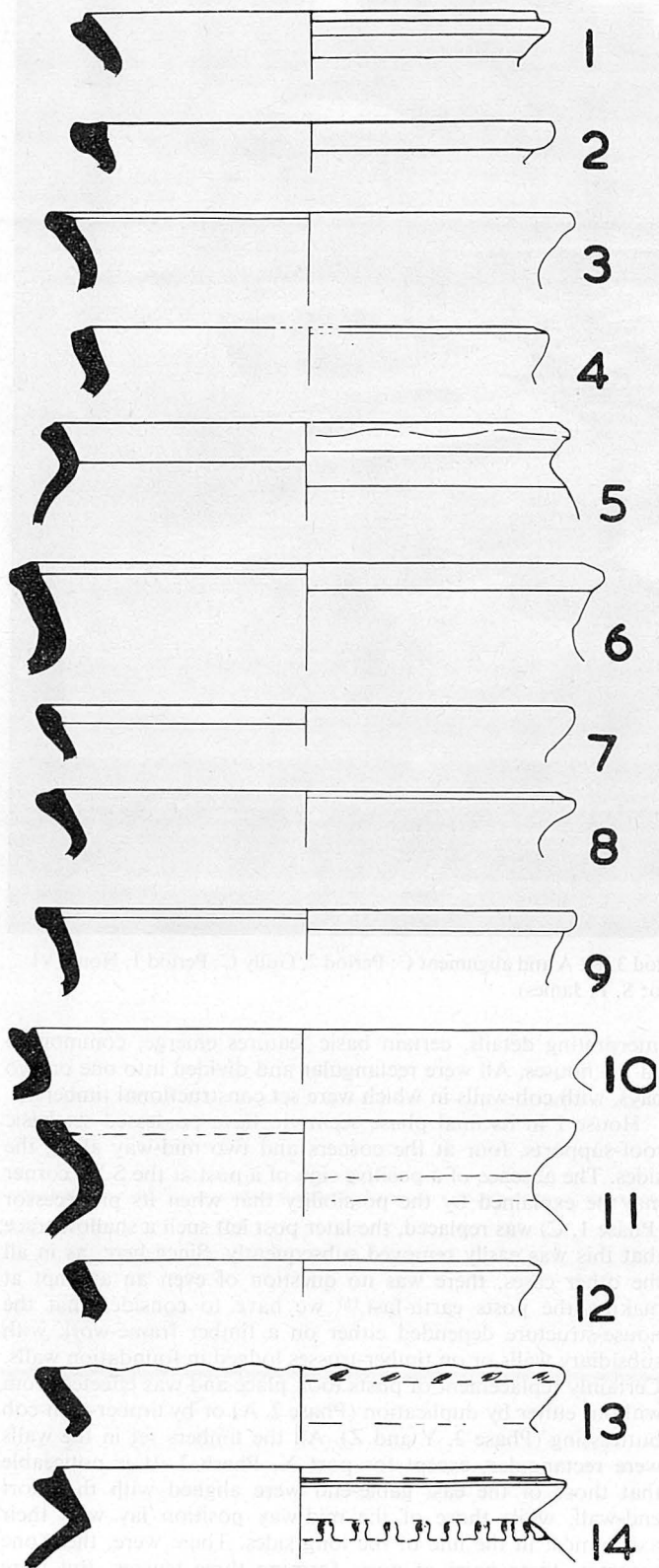


FIG. 11. Pottery, nos. 1-14. Scale $\frac{1}{2}$

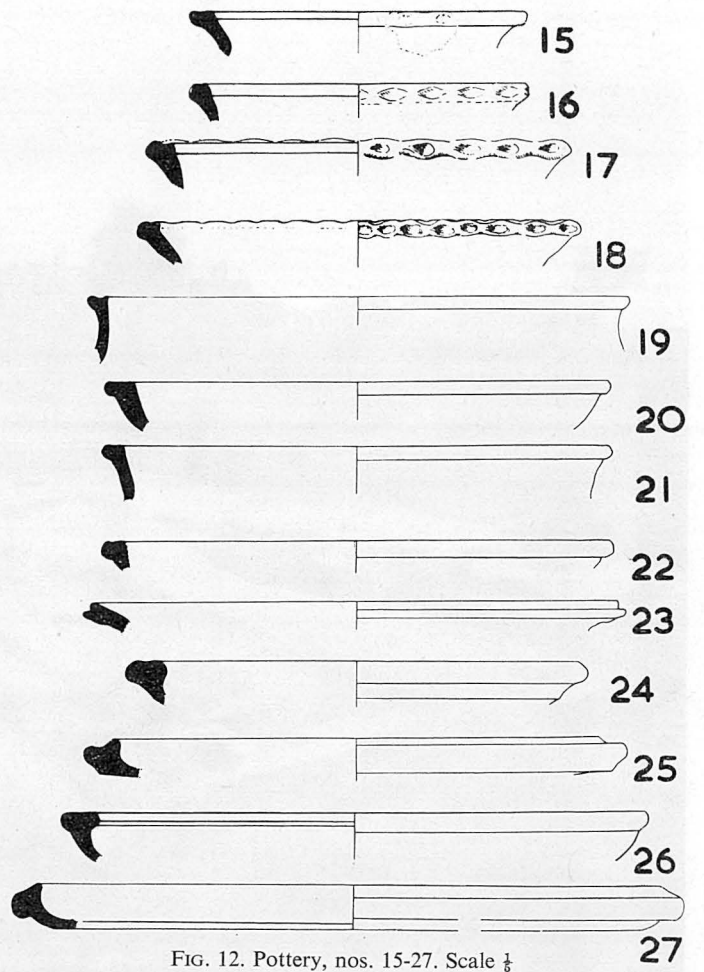


FIG. 12. Pottery, nos. 15-27. Scale $\frac{1}{2}$

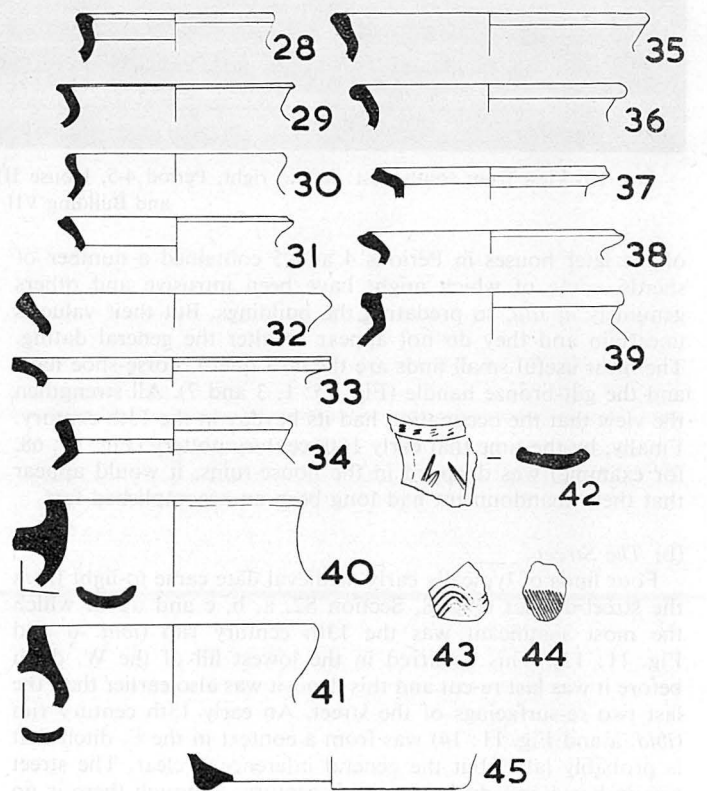


FIG. 13. Pottery, nos. 28-46. Scale $\frac{1}{2}$

supported a truss formed from two principal rafters held by a collar? The primitive cruck-truss⁽¹⁾ had a number of disadvantages. One was its limitation of span, which was not in the present case a handicap with a mere 16 ft. breadth. Another must have been the tendency to rot wherever the feet of the crucks were to any degree inserted into the ground. To raise them off the ground presupposes substantial walls. A third disadvantage arises from this, namely the difficulty of replacement of one cruck, should this be necessary, since temporary support was required from ground to ridge. This difficulty could have been eased by separating the vertical element, as far as the eaves, from the roof-support represented by the principal rafters. The evidence shows that this vertical element, the pair of principal posts, was embedded in the cob-wall and made no use of a ground sill. Reinforcement and even replacement of the principal posts could be effected by removal of that part of the cob wall in which they were set. Such, it has been seen, was the case with several of the main posts in House I. The bay lengths of some 13 ft. might suggest the need for wall-plates which would have borne the ordinary rafters and also braced the trusses at eaves level.

Of the other buildings identified, but investigated only in part, several certainly possessed in a similar way posts within the wall-material. House III employed unsquared posts, but it is not known whether it was a one-bay or two-bay dwelling. The earliest building, House VI, had squared timbers and here the alignment of four posts at the front (O, K, I) strongly suggests a tie or a collar. The principal posts at E and I seem unlikely as crucks for the reasons discussed already. The construction of House VI must resemble that of House I but in a one-bay form. Building VII, of auxiliary service to VI, also possessed timbers more or less squared, with the difference that the span was at the exact end of each wall-line. Of the other structures, only V yielded reasonable information on roof-construction from its limited excavation. It differed in three ways from the rest: firstly, it was aligned parallel to the street; secondly, the only traceable post pointed to a centrally supported ridge-piece; and lastly, access to the street was in the long side. This construction is discussed below.

(b) *Social and economic significance*

We have seen that at the end of the 12th century (Period 1) an inhabitant of Wimborne was living on a main street and yet sharing (with his family) a quarter of the interior of their small dwelling (House VI) with what seems to have been a sow and her litter. The fact that the animals had direct access to the street underlines the rural nature of the "town" and makes it certain that the primary concern of the occupant was with the land, the other structure in the group (VII) being simply a store or the like. Anglo-Saxon sources⁽²⁾ indicate that before the Conquest (and we may assume, for some time after) swine were a basic element in peasant life and the information from House VI seems entirely in character. Furthermore, the single-roomed house of one bay fits what is known of humble early medieval dwellings from lists of tax assessments. "Many householdings had no more than one room, . . . more than half of these had no household goods at all, but only the clothes they wore . . ." ⁽³⁾ The peasant who lived in such a house as this was, we may assume, the tenant of only a small allotment of land, held from his manorial landlord, presumably the Dean, as indicated below.

Only a century or so later, around 1300, the evidence from Periods 4 and 5 points to definite social and economic development. The dwellings were now closely set, terraced up to the street, while the two bays of House I are some indication of progress in house-room and status.⁽⁴⁾ It is true that the simple sub-division of that building in its first phase is otherwise not very informative as to how the interior was used. But in the

second phase the back-room clearly was the living room and the front one was relevelled and re-planned so as to take full advantage of street-access and create a workroom-cum-shop. The peasant, it would appear, was no longer mainly dependent on the soil for his livelihood, but had become an artisan or craftsman selling his product not only, we may presume, at market, but also directly to the passer-by. This development in medieval Wimborne may be compared with that discerned in a surviving terrace of houses at Tewkesbury⁽⁵⁾ built c. 1450, rather more than a century later. This was "a continuous terrace of twenty-four timber-framed dwellings . . . known as Abbey Cottages. Normally each unit occupied one bay and contained an open-fronted shop facing the street with a room of similar size at the rear that apparently served as a hall or workroom. This back room was open to the roof and access to the first-floor room (most of the houses were two-storied and two were three-storied) was by a framed stair in the corner of the hall". While there is no definite sign that House I at Wimborne had a second storey, it is possible that the platformed front part with its internal walls may at any rate have supported a loft or similar, which would make the comparison with the Tewkesbury cottages even closer. Into this picture of terraced craftsmen's dwellings we can readily fit Houses II and III, even if their internal details remain necessarily uncertain. But House VII, in the intermediate Period 2, so far as uncovered, did not resemble any of the others, since its axis was parallel with the street and it had some kind of porched entrance in a long side. It looks like part of a rural dwelling, not dissimilar in plan to House I at Fyfield Down⁽⁶⁾ even to the siting of an end ridge-post. This building would not have been out of place in the earlier part of the 13th century when the inhabitants of this quarter of Wimborne were still peasants rather than townsmen.

The Beginning and the End of the Medieval Occupation in the Leaze

The excavation has shown that, as far as the evidence goes, the main street in the Leaze was a deliberate creation around 1200. If we judge by the progressive use alongside it of one small plot over a period of a century and a half, this effort in town-planning was marked by success. Surface traces visible today leave little doubt that something like 30 to 40 dwellings lined both main street and side streets by the 14th century. Is it possible to shed any light on why this expansion took place in the first instance and why decay set in so suddenly?

The original Saxon monastic establishment, with its lay quarters, founded by St. Cuthburga in 720, is generally held to have been situated near the present Minster Church, the oldest part of which was rebuilt in the 12th century. The monastery seems to have suffered from the Danish raids at the end of Ethelred's reign and about the time of the Norman Conquest a change occurred when the Church was given a Collegiate foundation, becoming a house of canons with a dean and four prebendaries. This was the ecclesiastical body responsible for the Manor of the Deanery forming the bulk of the area within the medieval town. The Leaze lay in this manor and so the new development there should be ascribed to the Dean. A date close to 1200 would accord well with what is known of *novae villae*. The Bishop of Winchester, for example, inaugurated a number of new towns either as extensions to old ones or on entirely new sites, all this in the first few years of the 13th century.⁽⁷⁾ To the tenants, the chief advantage of such innovations was that money-rents replaced the more onerous feudal service and dues. The landlord benefited partly by receiving assured payments and partly by the establishment of a market centre or the enlargement of an existing one, which would bring in increased tolls. If this suggestion is right, then there was in the case of Wimborne an interesting outcome to the Dean's initiative. The northern part of the modern town-centre is known to have belonged to a different manor, the Borough Manor, presumably outside the circuit of the original Saxon walls, which enclosed the monastery

1. Sophisticated types of cruck like the ogee and the elbow may not display angled slots either, but regionally and culturally seem out of place here.

2. Robinson, A. J. *cf.* especially "Assignment of property to Thorney Abbey" and "Survey of the Manor of Tidenham, Gloucester" for references to swine.

3. Field, R. K. Quoted for Colchester at the end of the 13th century but no doubt true elsewhere and at an earlier date.

4. Field, R. K., for a discussion on the size of houses, measured in bays, as an index of social status.

5. Hurst, D. G. xii (1968), 197. The survey was made by S. R. Jones.

6. Hurst, D. G. v (1961), 330-1. The excavation was directed by P. J. Fowler.

7. Beresford, M. A most readable account of six such medieval foundations in Central Southern England.

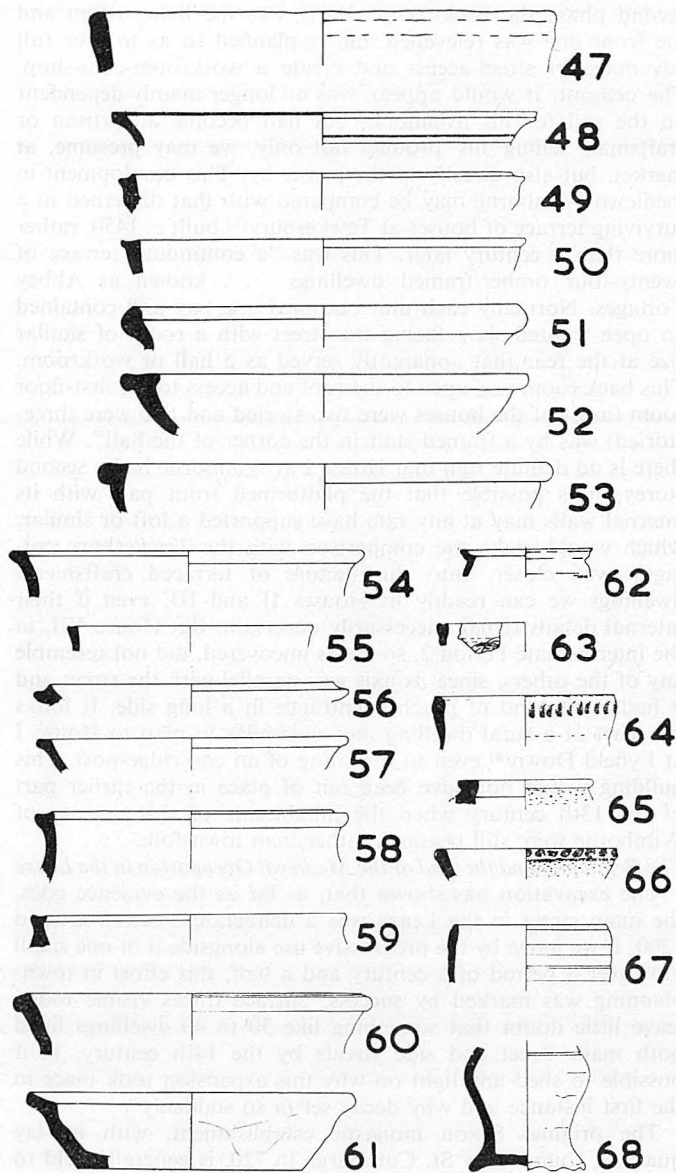


FIG. 14. Pottery, nos. 47-68. Scale $\frac{1}{4}$

and its settlement. It has been suggested⁽¹⁾ that the two main streets of this northern part, East Borough and West Borough, comprised a new development, similar to that in the Leaze, and probably dating from the first quarter of the 13th century. This extension appears to have been brought about by the lord of Kingston Lacy and the excavation in the Leaze may well throw light on why he took this action. For if the Dean's new venture with its "free market"⁽²⁾ promised success from the outset, it would not be surprising that, in his turn, the lord of Kingston Lacy should have imitated his example. Is this evidence then of improving economic conditions in the early 13th century and of rivalry between church authority and manorial lord to profit therefrom?

We have seen that the abandonment of the Leaze quarter of medieval Wimborne occurred by the mid-14th century. It is hard to resist the idea that the main cause was the Black Death (1349). This, it is true, has been in recent years an unfashionable explanation of depopulation at that time.⁽³⁾ Yet it is certain that the plague which entered England only three years after the battle of Crecy had an immediate and devastating effect. Weymouth was the port of entry. "Dorset and its adjoining counties suffered

terribly; Poole was so depopulated that it did not recover for more than a century".⁽⁴⁾ After the calamity there was a temptation for survivors in a depleted town or village to move to where higher wages could be won, despite emergency controls on employers and employees. Where land was suitable landlords were not loath to turn their former tenants' arable over to pasture as sheep-farming was profitable. In the case of the Leaze, for whatever reason the remaining tenants moved afterwards, whether voluntarily or by pressure from the Church, the Black Death must be regarded as the most likely primary cause of the desertion commemorated today in the earthworks. Finally, it may be noted that in the 16th century Leland wrote of Wimborne: "It hath bene a very large thing",⁽⁵⁾ a sign that the abandonment was recent enough to have left very obvious traces on the ground.

THE FINDS

The finds have been ascribed as follows:

- debris*: this was either general and so representative of the whole length of occupation and including some post-medieval material (attributed to Period 6) or, more rarely, attributed to an intermediate period or phase;
- occupation*: the thin blackish soil overlying the trodden floors provided material probably contemporary with a particular period or phase, but intrusion was always possible.
- wall, floor*: finds well buried in walls or platformed floors were more trustworthy in location;
- pit* (Period 3, A) and *street-ditches*: these held sealed deposits unfortunately not rich in finds, but nevertheless yielding valuable information;
- periods*: Period 1 — House VI, Building VII;
 Period 2 — House IV, House V;
 Period 3 — Pit (A);
 Period 4 — House I (Phase 1), House II, House III;
 Period 5 — House I (Phase 2), House II, House III;
 Period 6 — after abandonment.

(a) The Pottery (Figs. 11-14)

Since many sherds came from overlying debris or were poorly stratified, the illustrated pottery has been grouped according to form and profile. Fabric is also a less certain guide to dating, as coarse wares are now regarded as not necessarily earlier than fine ones. However, of the Leaze wares, the coarsest, Ware J, of which sherds were comparatively rare, was probably the earliest in the series, since an example (Fig. 14: 47) occurred in a Period 1 deposit otherwise virtually barren. This was a reddish-brown fabric with large fragments of flint exposed on the rough, pitted surface. Despite its resemblance to prehistoric material, Ware J can be paralleled by assured from South Hampshire.⁽⁶⁾ The remaining common wares from the Leaze are: Ware A, less coarse than J, still somewhat gritted and the colour is commonly buff-brown; Ware B, similar, but with finer grit, though surface is still pimply — colour blackish-grey; Ware C, the finest, with the smallness of the flint particles emphasising the smoothness of the exterior, which otherwise resembles B in colour.

Of scratched-mark ware, a notable Wessex type in early medieval times, only one certain sherd (not illustrated) was found in debris of Period 3 sealed under House I.

Glazed fragments were not prolific nor was their quality high. Nevertheless, 9% of the sherds found were glazed, contrasted, for example, with 5% from Holworth,⁽⁷⁾ a fact to be explained no doubt by the greater relative prosperity of the Minister town as against a remote village.

If we turn to the dating of the pottery, Dr. G. Dunning's view is that the material runs from the 12th century onwards with heavy occupation in the 13th century and with little if any pre-Conquest. Mr. J. Musty agrees while feeling that the 12th century component is minimal and that some of the remainder may run

1. Taylor, C. C. Convincing documentary evidence is brought to argue this case.
 2. *ibid.* Quoted from P.R.O. source.
 3. Thompson, M. W. "Fifty years ago there was a tendency to attribute the retreat in the 14th century to catastrophe, mainly the Black Death . . . there tended to be a strong reaction against this. . . . Recently the pendulum has swung back to its original position".

4. Bryant, A. 383-4.
 5. Hutchins, ii, 75: quoted from Leland. Itin. iii.
 6. Information from J. G. Hurst.
 7. Rahtz, P. A. 140.

into the 14th century. It is useful to notice that a number of sherds of 16th century pottery were found scattered across the ruins, including fitting fragments (Fig. 14: 68).

As regards the regional affinities of the pottery, Dr. Dunning points out the almost total absence among the cooking-pot rims (with the exception of no. 7) of the West Country bell-mouthed type with internal thickening. There were more of these from the kiln at Hermitage⁽²⁾ over a score of miles W. of Wimborne. He suggests therefore that the Leaze pottery as a whole originated eastward and north-eastward (Hampshire and South Wilts.). This was borne out by the presence of scratched-mark ware, mentioned above, which did not extend much farther to the W. in S. Dorset. This view was strengthened by the rims with the top sloping to the outside and with slight thickening or moulding, like no. 6.⁽³⁾ Shallow dishes like nos. 26 and 27, with rims more heavily moulded than on the cooking-pots occur also at Holworth⁽⁴⁾ and Corfe Castle⁽⁵⁾ also have their affinities eastwards and north-eastwards. Ultimately they might be derived from the Late Saxon dishes in East Anglia.

(Unless otherwise stated, the wares are as described above).

Nos. 1—18: large cooking-pots

1. Ware C: debris, Period 6 (26).⁽⁶⁾
2. Ware C: floor, House III, Period 4-5 (76).
3. Ware A: debris, Period 6 (56).
4. Ware C: wall, House I, Phase 1, Period 4 (74).
5. Ware C: debris, Period 6 (16).
6. Ware A: *cf. Renn, D. F.*: D28 (mid-12th century) and *Cunliffe, B. W.*: fig. 34 (c. 1100); debris, Period 6 (22).
7. Ware, C.: *cf. Field, N. H.*: Nos. 11, 15, 17 and 21 (c. 1250-1300); floor, House I, Phase 2, Period 5 (29).
8. Ware C: floor, House I, Phase 2, Period 5 (52).
9. Ware B: *cf. R.C.H.M. (C)*: fig. 11, no. 3 (12th century); debris underlying House I, Period 3 (57).
10. Ware B: *cf. R.C.H.M. (C)*: fig. 9, no. 5 (c. 1100); occupation, House I, Phase 2, Period 5 (31).
11. Ware A: *cf. Renn, D. F.*: C17 (c. 1100); wall, House I, Phase 1, Period 5 (49).
12. Ware C: wall, House II, Period 4-5 (67).
13. Ware B: traces of grey-green glaze within; *cf. R.C.H.M. (C)*: fig. 15, no. 12, which has similar fabric but lacks the flat top to the rim (c. 1200); *Renn, D. F.*: D24, D26 (late 12th century); early fill of W. ditch of street, Section S2, d (Small find 19).
14. Ware C: finger-impressed collar on exterior, similar to no. 29, Pit 6, Laverstoke — information from J. W. Musty (early 13th century); fill of E. ditch of street, Section S2, a (Small find 35).

For nos. 15—18, *cf.* frilled rims at Corfe Castle: *R.C.H.M. (C)* fig. 13, nos. 2, 3, 5 (12th century).

15. Ware A: Buff paste, red-brown exterior, flinty; occupation between Houses I and II, Period 4-5 (34).
16. Ware B: debris, Period 6 (12).
17. Ware B: buff paste, pink-brown exterior; debris, Period 6 (16).
18. Ware A: debris, Period 6 (20).

Nos. 19—23: large bowls

19. Ware B: occupation, House II, Period 4-5 (81).
20. Ware B: *cf. Rahtz P.A.*: no. 37; floor, House I, Phase 1, Period 5 (45).
21. Ware B: debris, Period 6 (79).
22. Ware A: floor, House III, Period 4-5 (76).
23. Ware B: debris, Period 6 (22).

Nos. 24—27: plates or platters

24. Ware C: *cf. R.C.H.M. (C)*: fig. 12, no. 5 (12th century); occupation, House I, Phase 2, Period 5 (31).

2. Field, N. H. 168-9, nos. 11, 15, 17 and 21.

3. Cunliffe, B. W. 106, fig. 34.

4. Rahtz, P. A. Fig. 9, nos. 20-22 and fig. 12, nos. 29-30.

5. R.C.H.M. (C). Fig. 11, no. 12; fig. 12, no. 5; and fig. 14, no. 4.

6. The number in brackets identifies relevant storage-bag, except where specifically noted as a small find.

25. Ware B: *cf. Rahtz P.A.*: no. 29 (12th-13th century); debris, Period 6 (42A).
26. Ware B: debris, Period 6 (38).
27. Ware C: debris, Period 6 (1).

Nos. 28—39: small cooking-pots

28. Ware C: *cf. Renn, D. F.*: C9, where this internal beading is given affinities in the Upper Thames Valley (12th century); floor, House III, Period 4-5 (32).
29. Ware B: debris, Period 6 (20).
30. Ware B: wall, House I, Phase 2, Period 5 (47).
31. Ware B: debris, Period 6 (42A).
32. Ware B: wall, House I, Phase 2, Period 5 (49).
33. Ware B: occupation between Houses I and II, Period 4-5 (34).
34. Ware C: *cf. Cunliffe, B. W.*: fig. 31, no. 7, which is of coarser material (c. 1100); floor, House I, Phase 2, Period 5 (42).
35. Ware A: debris, Period 6 (27).
36. Ware B: traces of green glaze; *cf. Renn, D. F.*: D14 (12th century); pit (A), Period 3 (72).
37. Ware B: debris, Period 5 (42A).
38. Ware B: wall, House I, Phase 2, Period 5 (47).
39. Ware C: debris, Period 6 (23).

Nos. 40—44: jugs

41. Ware C: debris, Period 6 (28).
42. Ware A: traces of light green glaze, slashing on handle and stabbing on flat rim; floor, House I Phase 2, Period 5 (Small find 39).
43. Ware C: poor brown glaze over combing; *cf. R.C.H.M. (C)*: fig. 13, no. 11 and fig. 14, no. 1 (12th century); debris, Period 5 (16).
44. Ware B: poor greenish-brown glaze over combing; pit (A), Period 3 (72).

Nos. 45—46: bases

45. Ware B: traces of greenish-brown glaze; base of pitcher, *cf. Cunliffe, B. W.*: fig. 33, no. 6 (13th century); debris, Period 6 (36).
46. Ware C: buff fabric and surface, thumbled base; *cf. R.C.H.M. (C)*: fig. 15, no. 3, which is, however, glazed (13th century); pit (A), Period 3 (Small find 37).

Nos. 47—61: bowls

47. Ware J: debris, Period 1 (Small find 40).
48. Ware P (fine, hard, red, sandy): occupation between Houses I and II (34).
49. Ware B: debris, Period 6 (28).
50. Ware B: floor, House I, Phase 2, Period 5 (35).
51. Ware A: debris, Period 6 (23).
52. Ware B: debris, Period 6 (75).
53. Ware B: debris, Period 6 (75).
54. Ware C: floor, House I, Phase 2, Period 5 (35).
55. Ware B: floor, House I, Phase 2, Period 5 (35).
56. Ware B: medium brown fabric; debris, Period 6 (14).
57. Ware B: debris, Period 6 (42A).
58. Ware C: debris, Period 6 (3).
59. Ware B: floor, House II, Period 4-5 (53).
60. Ware B: occupation between Houses I and II, Period 4-5 (34).
61. Ware F (hard, sandy, grey buff, poor yellow-brown glaze within): possibly a post-medieval sherd; debris, Period 6 (16).

Nos. 62—68: small vessels

62. A hard bluish-black ware, brown paste, matt surface: Normandy stone ware⁽¹⁾ (late medieval); floor, House II, Period 4-5. (small find 46)
63. Hard, buff-cream ware, externally glazed yellow with raised brown stripe: wall, House II, Period 4-5 (67).
64. Hard, red, sandy ware with finger-nail impressions below rim: wall, House II, Period 4-5 (67).
65. Hard, pale-buff, speckled green glaze externally: possible trace of handle; floor, House I, Phase 2, Period 5 (29).

1. Information from J. G. Hurst.

66. Ware B possibly, with speckled black-grey surface: finger impressions with nail-marks on rim; wall, House II, Period 4-5 (46).
67. Hard, well-fired buff ware with good yellowish glaze, speckled brown and well-cut incised lines and groove; possibly a post-medieval tankard; debris, Period 6 (42A).
68. Hard, well-fired grey ware with highly glazed surface, externally with brown patches and internally brown only; Raeren stone-ware,⁽¹⁾ cf. Cunliffe, B. W. p.142-3 (late 15th-early 16th century); this was scattered over House III in four pieces and some other fragments of similar ware occurred in the Period 6 debris; debris, Period 6. (Small finds 21, 33, 58, 59).

(b) *Finds other than pottery* (fig. 15)

1. Lava quern. This fragment varies in thickness from 0.65 ins. (16 mm.) to 0.75 ins. (19 mm.). The diameter was probably 16 ins. (355 mm.). One of the flat sides is smoother than the other and is well polished along its curved edge from contact with its companion stone. The material is certainly a grey volcanic rock and should therefore be of Niedermendig origin, common in early medieval contexts. Of twenty pieces of lava quern found at Northholt, "it is possible that all were earlier than 1300" (Hurst, J. G.: 278-9). Lower fill of pit (A), Period 3 (72).
2. Pottery griddle. This has been well fired from a substance containing brick-earth mixed with some yellow clay. The edge has been knife-cut. The flat upper side does not appear to have been directly affected by heat, whereas the under side is much broken, probably by repeated firing. The griddle had a minimum original thickness of 1.4 ins. (35 mm.), which compares with some 1.6 ins. (40 mm.) for the example from the kiln at Hermitage (Field, N. H.: 172-3). Debris, Period 6 (Small find 42).
3. Fiddle-key horseshoe nail. An iron object of typically early medieval character. A specimen illustrated from Northholt is dated 1225-1300 (Hurst, J. G.: 288 and 290). Feature B, Period 2 (Small find 62).
4. Iron object, probably a hinge for a box. Debris, Period 6 (Small find 51).
5. Iron nail. This was the largest of several found in the abandonment material. The shank has been squared by cutting. Debris, Period 6 (Small find 6).
6. Iron cleat. Debris, Period 6 (Small find 66).
7. Fitting or strip of gilt copper or bronze. The fragment is curved, about 2 mm. thick but thinner at the splay round the terminal hole. The outer side is flat and the inner is convex with traces of gilt over the corrugated face. "Such gilt bronze or copper strips are not uncommon in twelfth and thirteenth century contexts".⁽¹⁾ This fragment is probably a small handle for a casket or similar. Floor, House II, Period 4-5 (Small find 29).

(c) *Grain specimen*

A carbonized grain was found deep inside the northern of the pair of posts forming feature K, Period 1. It was identified by Dr. Cutler of the Royal Botanic Gardens, Kew (through the kind agency of Dr. Metcalfe), who reports: "The sample from the Leaze compares more closely with grain of *Hordeum vulgare*, barley, than with *Triticum* spp., wheat".

1. Information from J. G. Hurst.

1. R.C.H.M. (W). 136 and fig. 50, 16, with a discussion on these strips.

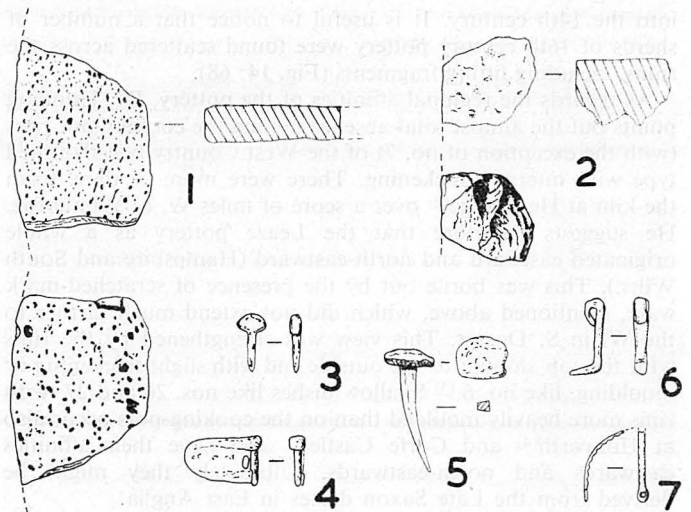


FIG. 15. Finds other than pottery. Scale $\frac{1}{4}$

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Deserted Medieval Sites in Dorset

Mansel-Pleydall essay competition entry, 1970

by Joan Brocklebank

(Note:—The verses of William Barnes' poems included in this essay were conceived as the thoughts of a 19th century Dorset man but could well have been those of a medieval man.)

This title can be interpreted in several senses; it could range from large buildings, a castle perhaps, with or without its attendant huddle of small houses under its protection; or at the other extreme, it could mean the small farmhouse with a couple of cottages, a site barely large enough to be called a village or even a hamlet.

It could mean sites first occupied in medieval times and later abandoned or it could mean sites of earlier date which were abandoned in medieval times. The scope is therefore dauntingly wide and a choice must be made.

It would seem that the chief interest lies not so much in the sites themselves, their position, plan, size, etc., as in the reason for their diminution or abandonment. Was it through slow attrition or by sudden disaster? The details of each site might show something of the answer for each individual case, by study, preferably by systematic excavation as was done at Holworth, of the humps and hollows now left. This would need to be backed by close study of all the available deeds and documents, again a daunting task.

Fortunately much of the work has been done and the results published in a most charming, imaginative and scholarly study by Christopher Taylor in his book *Dorset* in the "Making of the English Landscape" series, edited by W. G. Hoskins (pub. Hodder & Stoughton Ltd. 1970, £2). His two chapters on the medieval landscape discuss the flowering of the villages and the decline of some of them, a few totally abandoned, others reduced to a single small farm, particularly noting that decline and abandonment were much more common on the chalk lands than in the heavy-soiled vales. Indeed there was growth of habitation in the latter simultaneously with decline in the former. He suggests reasons for this; the plague, coming to this country first through Dorset in 1348 and perhaps in its first virulence hitting the compact villages of the chalklands more severely than the scattered farmsteads of the assart lands in the vales; the loss of fertility of the lighter soils after 4000 years of cultivation; the falling of the water-table; the general economic decline of the period. He ends by saying that it may have been a combination of these factors and possibly others which must be reckoned to account for the decay of many villages. The words "possibly others" are tempting, not to say challenging.

In this essay two other possible factors will be suggested, two different but closely interlocked causes of decay. To study the slow attrition of a village in relation to the first of these causes it is not necessary to go back to the medieval past where evidence is scanty; the factor operated at a much later date in the village of Affpuddle. As the writer has particular knowledge of this place examples with quotations from documents and diaries of this manor will be given, but they will be such as could be found among many other manorial papers in Dorset. At Affpuddle are to be found as with the medieval sites, the hollows in the ground of the vanished houses and barns, the green banks marking the boundaries of the "backsides" and gardens. And this destruction happened within the span of the last 150 years and is well documented and mapped. The decline and near disappearance of this village has only lately been halted by modern building.

The twin causes which will be set forth for consideration are:—

(1) Fire: combined with

(2) Increasing shortage of timber for building and repair.

Before going on to show the high incidence of fire it is necessary to show how bad the decline was in the hamlet of Affpuddle,

which is one of four hamlets within the civil parish of this name

The following figures show the reduction of houses over the years. For purposes of comparison where a house was originally occupied by one family and is thus shown in the Hearth Tax list and the 1760 Isaac Taylor map and schedule it is reckoned as one house subsequently, though most of these buildings were divided into two or even three to accommodate the population bulge in the mid-nineteenth century. The population census returns of this time give no apt comparison:

1664	Hearth Tax	37 houses
1760	Isaac Taylor Map	31 ..
1839	Tithe Map	28 ..
1956	O.S. Map	16 ..



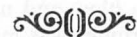
Fire, fire, fire down below,
It's fetch a bucket of water, boys,
There's fire down below!

Fire in the forepeak, fire in the hold,
It's fetch a bucket of water, boys,
There's fire in the hold!

FIRE!

FIRE!

FIRE!



The shout of fire in a wooden ship must have been one of the most frightening of human cries. No wonder that the urgency of the shanty still catches us. But in a village, in a close-huddled street of timber-framed houses with thatched roofs, with no sea from which to scoop up a steady stream of water, how terrifying! Only a human chain to pass the buckets from the well some way along the street, or to stretch through the backside garden and across the water-meadow to the river. Small wonder that buckets of water and sand hung ready, as they still hang in Puddletown Church, and that long-chained hooks for clawing off the burning thatch were kept on the walls of so many church tower chambers instantly to be taken down and put to use as soon as the cry was heard.

No one can doubt that fire was an ever present danger. One of the "customs" of Affpuddle manor was that tenement-holders were to keep their chimneys repaired and swept.

1634 Affpuddle Manor Court Book. (translated).

Moreover the homage present that the several chimneys of Helena Melledge, John Butt, Andrew Vye, Henry Hellier and Robert Syms are ruinous and in decay, and very dangerous in a fire. Therefore each of them in mercy. 5/-.

It used to be the job of the Hayward to see that such repairs were carried out but, as Affpuddle Manor Court with its Hayward became less important, the estate being run by the landlord, James Frampton, direct from his house at Moreton, a new post was created:—

1827 We present that Lawrence Mitchell and William Runyard shall be Inspectors of Chimneys and Wells for the year ensuing.

By the terms of the copyhold leases tenants were responsible for the upkeep of their own houses and also for the building of new houses. Fire prevention was therefore in the copyholders' own interest, the houses being their own property.

Without painting too easily romantic a picture of village community life, reliance on mutual help must have been considerable, and "... do to all men as I would they should do unto me" a necessity of life and particularly of fire-fighting.

In spite of mutual help there must have been a great deal of damage by fire in early times when houses were built of wattle and daub rather than cob, stone or brick. The thatched roofs were the main danger, as they still are. The Court Books do not record incidents of history such as fire, so there is no documentary evidence.

In the mid-nineteenth century copyhold leases were not renewed and the old family houses were let as cottages with the newly enclosed farms. The onus of rebuilding and repair then fell on the landlord and the entries in the Frampton Estate Diary show the expense to which the estate was then put. At this time there was a proliferation of local insurance companies, whose gaily painted signs now decorate the walls of the Dorset County Museum, reminders of the change of social habit and mental climate of those years. It seems from the diary entries that fire-fighting help was not readily given but had to be paid for, and arson was sometimes suspected.

The following extracts show the frequency of fires in the parish as a whole from the date of the final enclosures until the property was sold in 1914.

1857 A Fire took place at Pallington Farm on Sunday August 30th whilst people were at the afternoon service owing to some Hay ricks . . . being over heated . . . the wind was blowing from the South East and the whole of the Cow-houses Barn pigstyes and a stable in the middle of the yard were burnt being all thatched. . . . The cottages near being thatched twice caught but the fire was extinguished on the roof. The wind being very brisk when the fire began the whole Village of Pallington was in peril. (At this date Pallington consisted of a street of copyhold houses from Pallington Farm westwards. Now there are only 3 or 4 scattered houses left in the half mile of road.) It luckily ceased to blow and nothing more caught. . . . The tenant Mr. Parmiter was insured for his crops to the amount of £500 which he received from his Insurance Office. "I received from the West of England who also paid more than $\frac{3}{4}$ of the expenses of the men working at the fire, the other office having refused to pay anything and I paid the remainder".

1865 At Rogers Hill Farm a fire (no doubt purposely owing to some grudge toward the tenant from one of his labourers) took place in August in the evening when everyone but one woman, the Housekeeper, was away in the fields harvesting. It luckily burnt down only the Milk House, Stable and Barn adjoining the House. It was prevented from extending to the House by the Workmen and the Well luckily holding plenty of water to keep the thatch on the House and cottages nearby wet. I was insured for £150 in the West of England Office for Insurance and the sum was immediately allowed by them.

1869 At Bryantspuddle a fire took place owing to the carelessness of children and burnt down the Blacksmiths House and Stables and a cottage. The Blacksmiths house was insured for £150 but the cottage, which was let with Rogers Hill Farm, was not insured. A new house, slated, was built for the Blacksmith.

1890 Serious fire at Affpuddle East Farm. Barn, Cart-house, stable, cider house, piggeries all gone. Recovered the sum of £388 from the Insurance Company. Began building the new farm buildings . . . in July. They are now finished at a cost of £800.

1893 A serious fire at Throop Farm on the 29th of October destroying a Barn, Strawhouse, and cart-house. How originated not known but the whole place very narrowly escaped destruction. The buildings destroyed were insured for £200 in the West of England Fire Office and the full

amount being claimed was promptly paid as well as £5 for damage to a granary and £3 for the use of my Fire Engine.

1900 Fire occurred at Affpiddle which burnt four cottages, two being totally destroyed. The two outside walls of the other two being left standing. The cottages were insured for the sum of £190, which amount was claimed and paid by the West of England Insurance Company. Two of the cottages were rebuilt using the old walls where possible and raising them 2 feet higher at a cost of £150.

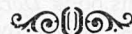
1907 In April of this year a fire occurred at Bryantspuddle destroying the Dairy House, stable, Granary, Piggeries, Barn and Cow House. The full insurance was paid by the Company. The buildings were reconstructed by the Estate workmen who completed the work by August.

1913 A fire occurred in May of this year at Affpiddle West Farm, Barn, Cowhouse, and piggeries being destroyed.

Since the sale of the property in 1914 to Sir Ernest Debenham the dairy and cheese house with outbuildings at Affpuddle West Farm has been burnt down, date unknown. In 1930 a row of four cottages went, due it is said to a spark from a motor bicycle exhaust. During the war a small thatched cottage was burnt down. About 1960 another thatched roof was burnt and replaced with tiles.

Sir Ernest Debenham centred his new experimental Bladen Estate on Bryantspuddle and built all his new cottages there and none in Affpuddle so these later fire losses were not made good.

Since his estate was sold up two of the old thatched cottages shown on the 1956 O.S. map have been demolished as unsafe, which indeed they were, but ten houses have been built in the old gardens by private enterprise. As this essay is written bulldozers are digging for main sewerage along the street and it is possible that more houses and some council houses will be built and the village may return to full life again.



Of all the trees that grow so fair,
Old England to adorn,
Greater are none beneath the Sun,
Than Oak, and Ash, and Thorn.

Sing Oak, and Ash, and Thorn, good Sirs
(All of a Midsummer morn!)
England shall bide till Judgment Tide,
By Oak and Ash and Thorn!



With the constant need of wood for house building and repair, whether by fair wear and tear or often because of fire, and also for the posts and bars and the moveable fences of the common fields and pastures, a medieval village would need a tremendous amount of timber. By the early 16th century rules were strict in the manor of Affpuddle, as in other manors:—

1611 A note of the Custombes of the Manor aforesaid. . . .
Item. We present that we ar to preserve and uphold the bodies of Ash Elme and Oake without any Voluntarye Wast or distruction for the Lord and also to reapeare sustaine and maintaine tenements.

Im. Wee present that it is lawful by our custombe for us that be tenants to Shroude Toppe and loppe any Tymber trees upon our severall Tenements at Seasonable Tymes.

Im. Wee present that all windfall trees be the Lords of the manor to be employed in and about our tenements by the Lords leave only and not otherwise to be taken at the will of the Tenants.

1628 From the Manor Court Book (translated).
And further they present that the house of Emmanuel Sare is in decay as to the doors and doorposts for lack of timber. Therefore he is in mercy. And thereupon, for the reparation thereof timber is allowed to the same Emman.

uel from trees growing on his own tenement. Upon this condition, nevertheless, that he shall plant and preserve from destruction three young trees of oak, elm or ash for each tree thus allowed him.

And further they present that the barn of John Butt is in decay as to the rafters of the roof called the blades for want of timber.

Entries of this kind occur for each twice-yearly meeting of the Manor Court. Affpuddle was fortunate in having a big wood within the manor boundary and was also on the edge of the heath. But from where, speaking generally, did the necessary timber come?

Firstly there were the woods, land designated as such and firmly fenced around. Some of these were within "forest" boundaries as in Gillingham, Blackmore and Bere Regis "Forests". Others were in the separate manors held by Landlords from the King, as at Affpuddle, held by the Abbot of Cerne.

Secondly there were the timber and scrub areas usually bordering on the woods often called park lands — hence the Park field at Affpuddle and Park Farm at Tolpuddle.

Thirdly there were the individual trees or clumps of them dotted about among the fields, hedgerow trees they would now be called, but then there were no or few hedges.

To take the last first: on the chalklands which mostly slope to the south the prevailing wind does not allow for quick timber growth of oak, elm, or ash. The woods are often on the sheltered north steep scarp of the hills, as at Creech, Affpuddle, Bloxworth, Melcombe, High Stoy, Hambledon and Hod. At the rate at which timber was used there was little hope of regeneration on the windswept chalklands.

The parklands bordering the woods, "all that woody and furzey ground" as it is called in deeds, was early enclosed or assarted, and put under the plough.

In the woods, and particularly in the King's game forest woods, the rate of timber cutting was colossal. The Victoria County History of Dorset gives some of the figures of big trees cut for building in the 13th century.

Blackmore Forest

- 1230 an oak for bridges at Corfe Castle.
- 1232 ten oaks to Earl of Lincoln.
- 1233 sixty oaks to the Abbot of Bindon.

Gillingham Forest

- 1251 80 logs for works and sluices at Gillingham.
- 1252 6 oaks for chapels of Corfe and Dorchester.
- 1253 6 oaks for the nuns of Shaftesbury.
- 1257 60 oaks and 60 ashes to Earl of Cornwall.
- 1270 407 oaks felled since the last Forest Pleas for repairs to houses and court at Gillingham and the Castle at Sherborne.

These few examples picked out show a devastating amount of timber. The building boom at this time included not only great abbeys and castles and some parish churches but also private houses, "keeping up with the Joneses". In a deed of 1248 when Sir Geoffrey de Mandavilla makes a gift for life of the Manor of Chidihoc to Sir Thomas le Britthun, Sir Thomas is to build a hall there with timber supplied by Sir Geoffrey. (D.R.O., D.16:T.10/1).

The big timber of the woods being cut in this way would mean a great deal of cord-wood to be disposed of. Surely it would be easier for the small man of the bare chalklands whose house needed repair for whatever reason to cut his loss and move to where the timber was rather than haul it or packhorse it to his old homestead or cottage?

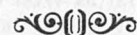
Affpuddle Wood, (now known as Sares Wood), typical of a wood held by a big landlord, was valuable at the time of Domesday, described as "very shady" in 1356 and headed the list for timber value in the Abbey of Cerne's property in 1535. However, by the end of the 17th century it had deteriorated disastrously as a court case shows. There was no timber, hardly any coppice and cattle depastured in the wood, the fences being broken down and useless. It was replanted in the late 18th and early 19th

The girt woak tree that's in the dell!
There's noo tree I do love so well;

• • • • •

An' oh! mid never ax nor hook
Be brought to spweil his steätely look;
Nor ever roun' his ribby zides
Mid cattle rub ther heäiry hides;
Nor pigs rout up his turf, but keep
His lwonesome sheäde vor harmless sheep;
An' let en grow, an' let en spread,
An' let en live when I be dead.

But oh! if men should come an' vell
The girt woak tree that's in the dell,
An' build his planks 'ithin the zide
O' zome girt ship to plough the tide,
Then, life or death! I'd goo to sea,
A sailen wi' the girt woak tree:
An' I upon his planks would stand,
An' die a-fighten vor the land, —
The land so dear, — the land so free, —
The land that bore the girt woak tree;
Vor I do love noo tree so well
'S the girt woak tree that's in the dell.



centuries when nouveau-riche landlords competed with each other in landscaping their properties. West Indian sugar wealth saved at least this one of England's woods. Till that time of major replanting and shaping the landscape to the pattern we now know, with wide shelter-belts and clumps for pheasant cover, there was little chance of regeneration. Forestry, as we now call it, does not go well with deer preservation, as any modern forester knows. Pannage would not help — herds of pigs gobbling up the acorn and mast.

Leland's description of the chalklands of Dorset tells the tale—"little corn and no wood but all about great flokkes of sheppe". *No wood.* And with little corn then little material for thatching, unless you lived near the heather and furze of the heathlands.

After the deer and the pigs — the sheep. And then came the rabbits.

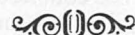
John Lawrence of Rogers Hill to James Frampton of Moreton House.

"Febry. 4th 1755.

"I am a great sufferer by the Rabbets at Oker's Wood (new strip fields created when Oakers Wood was grubbed up in 1744), 'for I sewed turnips there twice and at last had a tolerable good crop but your Rabbets eat them up so much that I could keep about threescore and ten Hog Sheep there about a fortnight, whereas if your Rabbets had not eat them the Turneps would have served the Sheep till Lady Day, so that I compute I am a sufferer between four and five pounds by your Rabbets'".

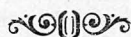
The rabbits have only lately left us and now are beginning a come-back.

And throughout all this time — men with axes.



Aye, the girt elem tree out in little hwome groun'
Wer a-stannèn this mornèn, an' now's a-cut down.
Aye, the girt elem tree, so big roun' an' so high,
Where the mowers did goo to their drink, an' did lie
In the sheäde ov his head, when the zun at his heighth
Had a-drove em vrom mowèn, wi' het an' wi' drith,
Where the hay-meäkers put all their picks an' their reäkes,
An' did squat down to snabble their cheese an' their ceäkes,
An' did vill vrom their flaggons their cups wi' their eäle,
An' did meäke theirzelves merry wi' joke an' wi' teäle.

Ees, we took up a rwope an' we tied en all round
 At the top o'n, wi' woone end a-hangèn to ground,
 An' we cut, near the ground, his girt stem a'most drough,
 An' we bent the wold head o'n wi' woone tug or two;
 An' he sway'd all his limbs, an' he nodded his head,
 Till he vell away down like a pillar o' lead:
 An' as we did run vrom en, there, clwose at our backs,
 Oh! his boughs come to groun' wi' sich whizzes an' cracks;
 An' his top wer so lofty that, now he is down,
 The stem o'n do reach a-most over the groun'.
 Zoo the girt elem tree out in little hwome groun'
 Wer a-stannèn this mornèn, an' now's a-cut down.



Nature can be devastating in its freakishness. Cloudburst, such as that which washed away the Corryates Gap road and the Ringstead road a few years back, could have been the cause of Holworth's demise. Loss of trees is not entirely due to the ravages of man and animals. I must tell the story of the big gale of 4th December, 1929 as a personal story.

We lived then at Marnhull in the elm-timbered north-east Blackmore Vale. A cousin and I went over in the car that evening through the lanes to Iwerne Minster to do a drama turn in the village hall there. When we came out about 10 p.m. a terrific gale was blowing. We got as far as West Orchard but the road was blocked with fallen trees. We tried the road via Sturminster but were turned back because of cars blocking the road snarled up in fallen telephone wires. We returned to Iwerne and went up the hill and along the top road to Shaftesbury. There was no rain but ragged clouds were tearing overhead with great flashes of lightning darting between them. We cautiously nosed our way down the Causeway to East Stour, then Stour Provost and so home about 1 a.m. When we got up in the morning every lane round the house was blocked with fallen elms, we could get out nowhere!

The wind had come in great gusts and the trees had not fallen with the wind but had sprung back in the sudden cessations and were lying higgledy-piggledy like skittles. Many of them were snapped off about 15 ft. from the ground and some of these can still be seen grown again now to near full height from their big trunks. The Blackmore Vale was a shambles.

I will never forget my first sight of the Vale. We went in the silver-gold sunshine of the Easter holidays of 1914 from our home near Portsmouth, (my father was in the Navy), to stay with his bachelor brother who was Vicar of Longbridge Deverill, Wiltshire. On Easter Monday we went in the family car to Wincanton Races, climbing up the Deverill valley and over the downs above Mere. There, at the top of the hill, we came on this marvellous panorama of the blue-timbered vale backed by hills from Shaftesbury round to Bulbarrow and beyond, with Duncliffe as a focal point in the middle distance. What a sight for my twelve-year-old eyes, used to town-scape and sea-scape but not to Dorset landscape. The parents decided that this would be our home for the retiring days soon to come. Alas! that my father had four gruelling years of storm, fog and icebergs on the Iceland Patrol with the 10th Cruiser Squadron before that dream became reality.

To return to the great gale: there were bad gales during the following two winters of 1930 and '31, which brought down trees loosened in the first gale. The commodity of which no one went short during the next ten years was elm board for coffins!

The Vale has never been the same again. Before 1929 every field, but every field, was bordered by tall stately elms. Some of the saplings which survived the storms have now grown to nearly full height but they have not the sculptured shapes of the old trees and there are many fewer of them.

My sister and I played golf at the newly-constructed links on Fontmell Down in the early 1920s. Looking over the Vale from there no house could then be seen and hardly a field, so close-set were the elms. Now Marnhull church tower and many other landmarks are clearly visible.

Often, if rain threatened, we would abandon golf and go off to the Farnham Museum and take pleasure in studying General

Pitt-Rivers' models of his excavations, an interest denied to the present young generation. Or in the summer we would go and explore his sites. Such places, Rotherly and Woodcuts, Romano-British villages, do not come into this essay except that while they were abandoned Ashmore survived, and survived right through medieval times till now. Why?

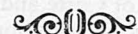
Ashmore's pond as a domestic water supply can be only part of the answer for there were ponds a-plenty among the coombes of this upland country, six in the parish of Ashmore itself, three of them in the small village and three in the "bottoms" surrounding it (1842 Tithe Map). There were dew-ponds, so called but really fog and rain ponds (*Antiquity*, Sept. 1930, E. A. Martin), at the head of nearly every coombe for the sheep and cattle. These, including the Ashmore ponds, survived until the early 1920s when the piped water supply was brought to this district. Ashmore's ponds, right in the village, held enough water for successful fire-fighting, as old inhabitants who remember the place before the coming of the water pipes could testify.

Ashmore had plenty of timber. In 1621 Sir W. Powlett sold copyholds in Ashmore including 700 acres of woodlands and 250 acres of copse (*History of Ashmore*, Watson, 1890. D.R.O.). And there were the big woods of the Chase near by. There would be no reason for Ashmore to die for lack of building material.

Woodcuts and Rotherly must have died for some other reason. Woodcuts Common has now disappeared under the plough, all its gorse and brambles and its nibbled turf gone. How the nightingales would sing there, and in the hazel coppice around in the 1920s . . . "Perhaps the self-same song that found a path Through the sad heart of . . ." some Romano-British lassie? Was she, like me, trying to find her way in a world whose values had been diminished by war and in her case perhaps invasion? Was she really only 4 ft. 9 ins. tall (average) as the General's stone, graven with tit-bits of information told us? One of the pleasures which this present generation cannot know is the classic beauty to the eye of archeological sites of those days, whether the sites were the medieval hollows and banks that this essay is about, or fosse and vallum, or ring, bowl or bell barrows, all were smoothly covered by the sheep-nibbled fine turf and their curves and outlines had the subtle grace and serene stillness of marbles by Phideas or Praxitiles.

But these are personal memories. Alors! Revenons a nos moutons, to the great flokkes of sheppe . . . little corn . . . and no wood.

Surely that is one of the answers to the problem of the deserted medieval sites.



O spread ageän your leaves an' flow'rs,
 Lwonesome woodlands! zunny woodlands!
 Here underneath the dewy show'rs,
 O' warm-air'd spring-time, zunny woodlands!
 As when, in drong or open ground,
 Wi' happy bowoyish heart I vound
 The twitt'rèn birds a buildèn round
 Your high-bough'd hedges, zunny woodlands.

My vu'st shrill skylark whiver'd high,
 Lwonesome woodlands! zunny woodlands!
 To zing below your deep-blue sky
 An' white spring-clouds, O zunny woodlands!
 An' boughs o' trees that woonce stood here,
 Wer glossy green the happy year
 That gie'd me woone I lov'd so dear,
 An' now he' lost, O zunny woodlands!

O let me rove ageän unspied,
 Lwonesome woodlands! zunny woodlands!
 Along your green-bough'd hedges' zide,
 As then I rambled, zunny woodlands!
 An' where the missèn trees woonce stood,
 Or tongues woonce rung among the wood,
 My memory shall meäke em good,
 Though you've a-lost em, zunny woodlands!

The Mediaeval Deer-Parks of Dorset XII

By J. D. Wilson

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CHARMINSTER (P15)

"Here seems to have been a park belonging to the prebendary", says Hutchins (II, p. 543), "for, in a grant of some lands in this manor, 13 Jac. I, mention is made of Park Close, near Heydon, containing four acres."

The name Haydon now survives in Haydon Hill, on the south side of the Cerne valley a mile north-west of Charminster. The western side of the hill is called Charminster Down, and here the Tithe Apportionment lists a field called Park Eweleaze. This evidence was thought to justify Charminster's inclusion in the list of possible park sites, but examination of the area revealed no trace of park-like embankment. The parish boundary between Charminster and Stratton runs more or less along the crest of the down here and is nowhere strongly embanked. On its eastern side, presumably, ran the very ancient road which Professor Good describes as going north-west out of Dorchester and up on to this spur of the downs, by a road which is today in part metalled, leaving the Cerne road at Charminster. This old route formed a southern fork of the Furzey Down road which is referred to elsewhere in the present article, and it is to be presumed that a park here would have been situated to the north-east of the road. But crucially, virtually all the area was occupied by the open fields of Charminster. In the Haydon Hill area they were enclosed in 1587 (S & DN & Q, XIII, 162-170), the remainder being finally enclosed in 1837. The hedge patterns in the area bear witness to late enclosure, and it seems that the field name quoted is no more convincing a proof of the existence of a mediaeval park here than are those at Hilfield, also mentioned in the present article.

EAST MELPLASH (15)

The De Banco Roll for 1304 contains the only reference so far discovered to a park at East Melplash. It was alleged by William Bouwode and his wife Ascelina that Reginald de Remmesbury drove off a number of their cattle from "a certain place called Roukelonde" at North Bowood (half a mile south-west of Stoke Abbott) and took them to his park at East Melplash (Fry, G4, p. 1002). The name 'East Melplash' is no longer current, but from remarks in Hutchins (II, p. 114) it seems clear that it can be identified with the present village of Melplash. No field or place names give a clue to the whereabouts of a park in this area, but topography suggested that the steep-sided valley east of the village might provide a likely site. Field investigations have however yielded nothing but a series of particularly attractive views. Another possibility was suggested by the solitary field name 'Park Moor' almost on the southern edge of Netherbury parish (which includes Melplash), rather more than a mile south-south-west of Melplash church and just west of the Beaminster-Bridport road. This field name did not appear significant in itself (though a 'Park Moor' field was one of the clues which led to the discovery of Rampisham Park as described in *Proceedings*, Vol. 85). But Hutchins remarks that Reginald de Remmesbury had a manor at Mangerton, which is only half a mile east of 'Park Moor'. However, examination of 'Park Moor' and its surroundings revealed nothing of significance, and the steep combs east of Melplash village still seem the most likely area for the park.

EARNLEY (14)

On 29th January 1949, Col. C. D. Drew read to the Society a paper entitled "Earnley; A Lost Place Name Recovered". In it he showed that the name Earnley, which occurred during the mediaeval period in a variety of spellings, the last known reference being in 1436, seemed to have been replaced by the name Benville, which is of course still in use today. Various topographical considerations led him to the conclusion that these two were in fact one and the same place, and the discovery of a group of fields called "Earnley Wood", just south of Benville Manor showed that his theory was correct. These names, with slight variations, are to be found also on the Tithe Roll, and it is these latter which are given on the sketch map (fig. 1). The same source includes two fields called "Great Park" and "Little Park", just to the north-east.

The mediaeval reference to Earnley which most concerns the present series of articles is found in an Inquisition of 1380, which inquired into: "... defects arising in the lands, buildings, woods and gardens belonging to the priory of Frampton since it was last taken into the hands of King Edward on account of the war with France. . .". It should be pointed out that Earnley was among the estates in the Liberty of Frampton which had been given to the Abbey of St. Stephen at Caen by the Conqueror and his son Henry. The Inquisition includes the following item relative to Earnley: "In the park there 52 oaks were felled worth 6d each and 100 ash trees worth 4d each, and in the outwood 60 oaks worth 6d each." (Cal. Inq. Misc. Vol. IV, p. 89.) Referring to the Earnley Wood field names, which he found on a Benville estate map, Col. Drew remarked: "The wood which gave the name has vanished, but there can be no doubt that here was the manorial wood of Earnley, and that Earnley and Benville are one and the same place." The question arises: can the Earnley Wood fields be taken as part of the park? Field examination unfortunately failed to find a conclusive answer.

What can be said is that the field boundary on a long curving line around the north-west and south-west side of those fields (A-B-C on the sketch map) is virtually unbroken, with a fairly massive bank from 8 feet to 11 feet wide and 3 feet or 4 feet high. It is topped with a dense hedge which, to judge from the variety of shrub species in it, is of considerable age, although it must be said that the bank is not entirely characteristic of a deer-park earthwork. North-east of A it is lost along the line of Benville Lane. South-east from C no convincing line for its continuation could be found. The parish boundary between Corscombe and Rampisham here is heavily embanked, and similar to the hedge line just described, but it runs right down to the main road without any sign of having ever made any connection with the line A-B-C.

This parish boundary, as Prof. Good points out (*The Old Roads of Dorset*, p. 50), is the line of an ancient road, still surviving a little to the north under the name of Yard Drove. Repeating that nothing can be found on the ground to show such a link, it must be suggested that the line A-B-C did indeed join up with this boundary, perhaps in the neighbourhook of point D. A possible place for it to leave the boundary would be at E, where there is a marked kink in the line of the Yard Drove and a hedge line leads off to the northwards, and down the slope towards Benville Knap. But only at one spot along this latter line, at point F, is there one short fragment of quite impressive embankment. Of a northern side to the park nothing can be found, though the position of the two "park" fields already mentioned, east of Benville Farm, may perhaps give a clue. The main road, A356, the Yard Drove and Benville Lane are all routes of great antiquity, so that we may assume that the park lay between them. The absence of habitation in the area, and its configuration as a basin-like valley,

lend support to its identification as the park site: an area somewhat in excess of 150 acres could have been occupied by the park. It is a pity that nothing more convincing could be found to mark the site of Earnley Park, since it would have formed a trio of remarkable near neighbours with Hooke Park, immediately south of the main road (*Proceedings*, Vol. 83) and Rampisham Park (*Proceedings*, Vol. 85) less than a mile away to the south-east.

GREEN HILL (P45)

Green Hill lies a mile and a half north-west of Milton Abbas. A spur of the chalk downs running south-east from Bulbarrow towards Milton has a combe at its southern tip: the park site occupies the innermost angle of the combe, on the steep slopes above Keeper's Cottage. (Fig. 2).

Just east of the cottage a bank, A-B, runs north-east up the slope, along the edge of Green Hill Plantation. This bank is 12 feet-13 feet wide and about 2 feet high, with a ditch on the western side about 10 feet wide and 3 feet deep. Almost at the top of the slope the bank makes a right-angled turn to run across the down. At C it is 12 feet wide and 2 feet high on the outer, northern side; the inside ditch is about 10 feet wide and 2 feet deep, and here the top of the bank is some 5 feet above the bottom of the ditch. These dimensions are generally maintained as far as D. For much of the way the bank has shrubs or small trees on it, and in places it is somewhat eroded. Hereabouts it runs through a complex of earlier earthworks which are discussed in RCHM Vol. III, p. 337, where the park bank is also mentioned in passing.

Beyond D the line of the bank is barely traceable along the same line to meet the hedge which marks the parish boundary between Milton Abbas and Hilton. The park boundary is presumed to have followed this line southwards as far as point E, though no embankment survives. At E however a bank can be found running off at an angle through brambles and bracken, about 10 feet wide and 2 feet high, with a ditch again on the inside. Entering the wood at the northern edge of Horse Park Plantation, it plunges steeply downhill. Here, not surprisingly, it is very much eroded, but with care it can still be followed through the wood, making a slight change of direction on the way, and reaching the track along the foot of the wood at F. From this point it must be presumed to have run direct to A, but the cultivation of Broadfield, and the construction of the track have obliterated all traces of it.

The area enclosed is a little over 30 acres, making this the smallest park so far found in Dorset. The crest of Green Hill, now a nature reserve, is a pleasantly leafy stretch of downland. The size and shape of the bank there, as well as its superimposition upon earlier earthworks, is reminiscent of the park at Winterbourne Houghton, described in *Proceedings*, Vol. 89, which is less than a mile away to the north-east. Thanks are due to Miss Richeldis Wansbrough of Milton Abbas for drawing attention to the bank in the first instance.

HILFIELD (p25)

A group of "park" field names north and north-west of Manor Farm led to the inclusion of Hilfield in the list of possible park sites. However it appears probable that these names are of comparatively recent date. Christopher Taylor says of Hilfield: "Elsewhere, however, similar enclosures were made peacefully by agreement between all parties as at Hilfield in 1697-8. Here the whole of the common land of the parish covering some 300 acres was broken up into large sub-rectangular fields which still remain there today." (*Dorset*, p. 132.) The "park" fields are among these straight-sided enclosures and it therefore is very unlikely that there was a mediaeval park in their vicinity.

HILTON (P26)

The deep and wide combe known as Hilton Bottom runs due south from Bulbarrow to Hilton village, a couple of miles north-west of Milton Abbas. Both the chalk ridges which contain the combe carry a road of some antiquity: that on the west, the present metalled road from Okeford Fitzpaine up over Bulbarrow and south to Ansty, is perhaps a branch of the prehistoric ridge-way from Salisbury Plain to the south-western peninsula. On the eastern ridge runs a bridle path called the Ice Drove, one of the roads to the mediaeval market town of Milton Abbas.

Two significant field names from the Tithe Map, in what

seemed a favourable topographical position in the combe, caused Hilton to be added to the list of possible mediaeval parks. These were 'Park Way' just north of Manor Farm (the reader is referred to Sheet 178, 1 in. O.S. map) and 'Park' half a mile further north. However, examination of the area showed no signs of any embankment. In a valley bottom it is always less likely to have survived, as at Cerne, Sydling St. Nicholas, and Green Hill, but here the ridge tops too were equally unrewarding. The probability seems to be decidedly against the existence of a mediaeval park here, unless some clear documentary evidence comes to light.

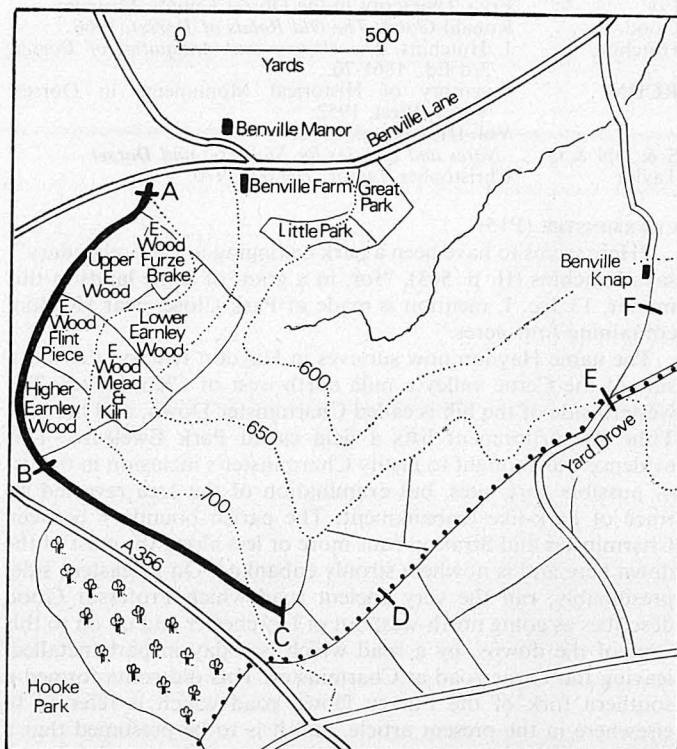


Fig. 1. Earnley

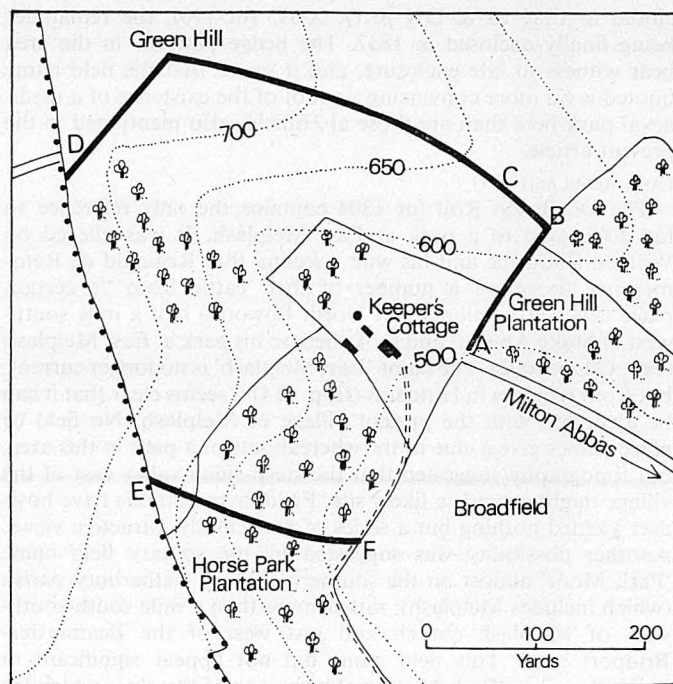


Fig. 2. Green Hill

SCOTLEY (p7)

"Yetminster. Church lands. 36 Henry VIII lands here, called Scotley Park, Springs and Rough Hay, belonging to Cerne Abbey were granted, inter alia, to George Duke." Thus Hutchins (IV, p. 448). The name Scotley does not seem to have survived,

except in a group of three adjacent fields not in Yetminster, but at the southern tip of Leigh, the next parish to the south. They are named in the Tithe Apportionment 'Scotley Park', 'Park Mead' and 'Little Park Mead'. More remarkably, three fields adjoining them in Batcombe parish are each called 'Cow Park'. Since no more specific reference to a deer-park named Scotley has come to light, this site was regarded as no more than a possibility.

The field names are shown on the sketch map, fig. 3. It will be apparent that the area of a park here would have been delimited by the rough parallelogram of roads, if they could be shown to be at least of mediaeval age. Forming the north-western side of the area is Seivers Lane, an interesting and picturesque track, little used, somewhat overgrown and, north-east of the Wriggle River, virtually impassable. This lane certainly has the appearance of great antiquity. The north-eastern side of our area can perhaps be taken not as the continuation of Seivers Lane and the present metalled road from Batcombe to Leigh, but the curving footpath which branches off north-westwards from the latter to run alongside the Wriggle River towards Chetnole. Professor Good suggests that this path follows the line of a road of considerable age, that it was, in fact a continuation towards Yeovil of the great Furzey Down road which came up from Maiden Castle and from Dorchester along the chalk ridge which separates the valleys of Cerne and Sydling. A short distance south of the point where this footpath leaves the road, a drove leads off to the south-west. This is, at least in its western half, of great age, being a continuation of the old road which comes down from Batcombe Hill past the New Inn—a road mentioned in the account of Batcombe Park which appeared in *Proceedings*, Vol. 93. As for the southern end of our area, it should be noted that the present metalled road from Batcombe past Redford Farm to Chetnole is quite recent and that the road formerly ran along the line of footpaths south of the New Inn. The western of these paths should therefore be taken as a limit to our area on the south.

This suggested outline encloses an area of some 110 acres. Nowhere on its perimeter have significant earthworks been found. The conclusion must therefore be that if there was a park here the likelihood is that it was never embanked: a conclusion which might suggest further that it was a late emparking. In the absence of an earlier reference, and one more explicit than that given by Hutchins, a question must remain against it.

UP SYDLING (P33)

With the closure of the rifle range, the search for traces of a deer-park here is less hazardous than formerly, but no more rewarding. Field names alone led to its inclusion in the list of possible park sites: these lie immediately north of the road which runs eastward from Cerne Abbas to Sydling St. Nicholas. This road crosses the high ridge of chalk along which runs the ancient trackway called the Furzey Down Road, which is here the line of the parish boundary between Cerne and Sydling. Immediately west of the ridge top the road from Cerne plunges steeply downhill and passes a copse on its northern side. This copse is called "New Park" on the Tithe Roll. In the valley bottom, on the eastern bank of the Sydling Water and close to the former rifle range,

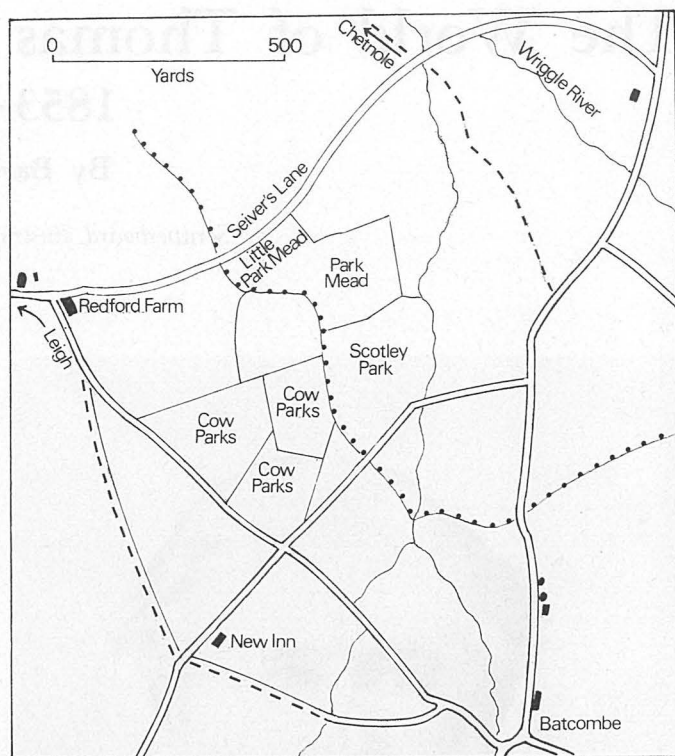


Fig. 3. Scotley

are two fields jointly named "Part of Old Park". These names were promising, but nothing can be found on the ground to support the suggestion that there was an embanked park here. The road itself, an ancient route, turnpiked in about 1780, may have obliterated any bank that ran on the southern side of our area—on the steepest part of the slope it is deeply cut into the chalk.

Northwards along the ridge top from the road no trace of embankment can be seen: this area has been intensively cultivated in recent years. The two spurs thrusting westwards into the Sydling valley, Hog Hill and Buckland Down, show no sign of embankment: it is Buckland Down, the northernmost of the two, which would seem likeliest as the northern extremity of a park here.

The RCHM West Dorset Inventory lists three groups of earthworks in the vicinity. In the valley bottom "a series of low banks and scarps forming irregular fields or enclosures with hollow-ways" occupy much of the area of the "Old Park" fields. Earthworks on Buckland Down and Hog Hill are described as Celtic field banks with a hollow-way and a possible dwelling site. These earthworks need not be taken as ruling out the possibility of a mediaeval park in this area, but the balance of probability seems unfavourable.



The World of Thomas Pearce, Vicar of Morden

1853 — 1882

By Barbara Kerr

Scraperboard illustrations by Ann F. Wilson

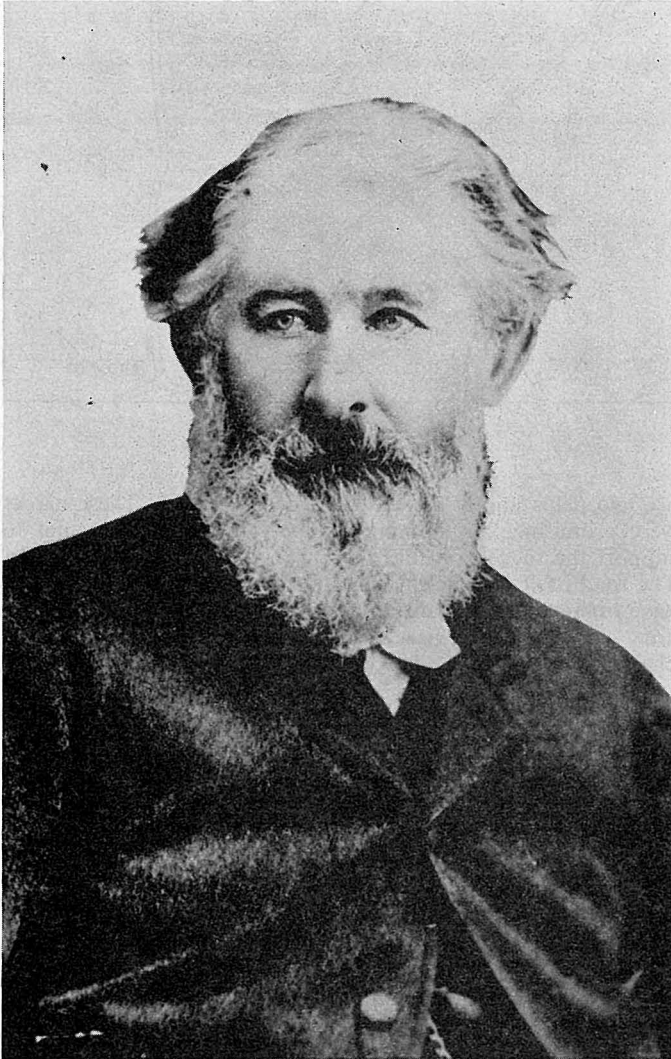


FIG. 1. Photograph of Thomas Pearce

A RUN of warm summers in the mid-nineteenth century ripened the apricots in parsonage gardens and brought to fruition numbers of far-ranging clerical speculations many of which found their way into print. The literary output of the incumbents of Dorset and its borderlands included a translation of Mogileff's *The Doctrine of the Russian Church* (1845), Anthony Huxtable's polemical agricultural tract, *The Present Prices* (1850) and Thomas Pearce's *Dogs of the British Isles* (1866 with H. Cocks), *The Dog* (1872) and the *Idstone Papers* (1872). Idstone, the pseudonym under which Pearce contributed to *The Field*, became a household word at home and was carried round the world on the "Idstone Boots". In praise of these a major wrote from India, "they are faultless . . . I have shot snipe for hours in water over my ankles". Much of the popularity of Pearce's writings was due to his outspoken comments on country life and to the spanking pace of his literary style which, although it often took a toss over grammatical hurdles, was, and still remains, eminently readable. Before viewing the social and sporting scene of Morden

through Pearce's eyes, some account must be given of the vicar's career which was as headlong as his prose.

The father of Thomas Pearce (1820-85) held the living of Hatford in Berkshire; and also owned property in the Midlands where his two sons were brought up to have "a thoroughly practical acquaintance with every country pursuit". After taking his degree at Oxford Thomas, destined as the second son for the army, took himself abroad on a sporting rather than grand tour. In France he studied the management of truffle dogs, and on Alderney he shot snipe and learned to dispense medicines and to hold the bottles to the light with "a scientific look". After a few months' shooting in Algeria Pearce finished up in America where he had "the luck before setting out for England, to have a very pretty hand-to-hand encounter with a bear". On his return Pearce found his father mortally ill and regretting that he could not leave any of his Leicestershire property to his second son since he was "too heavy to ride in a grass country". Pearce had to be content with inheriting money in the Funds which enabled him, after making a decision surprising to his friends but not alien to his temperament, to accept the modest livings of Charborough and Morden in East Dorset.

Morden Vicarage was well situated as it "looked down one of the most charming valleys I think I ever saw" and was also within reach of four packs of hounds and of Black Heath which stretched between the Sherford and the Piddle and offered the new incumbent "the best (because the most varied) shooting" he knew. The old vicarage and its environs have changed little. As



FIG. 2. Morden Vicarage

the parsonage had been occupied by a labourer and his family, Pearce made extensive alterations and occupied himself with "furniture vans and paper hangers". It was probably at this time that the eighteenth-century brickwork was given a stone facing, and additions were made to give yet another roofing level to a building which had seen not a few improving incumbents. To sit on a sunny day in the south-stretching garden of the old vicarage is to understand Pearce's great attachment to his home although he affected to consider himself cut off from civilisation: "I live

twelve miles from the nearest lobster, fourteen and a half from ice, and five from pickles or Durham mustard". Despite these drawbacks the vicar was kept at Morden for over quarter of a century by his affection for his parishioners and his love of a countryside where the sportsman's grief at the end of the season was assuaged by the splendours of spring in a woodland district famous for its nightingales.

In Morden every prospect pleased since all the beauties of Dorset were to be found on a small scale in a parish which, in Pearce's day, stretched from the Winterborne to the Piddle. The cowslips on the Chalk uplands to the north gave way to "blue hyacinths spread like a carpet" beneath the oaks which flourished south of the Morden settlements; while few remembered the great heath was black when "the sundew was in flower, and the yellow hawkweed, and the starwort or blue camomile blossomed", and in early autumn "the borders of the turf walls [were] covered with dark blue gentian" and the bracken turned "from green to chrome and so to burnt sienna and 'Payne's grey' ". This regular succession of colours gave townsmen the satisfying feeling that all must be well with country-dwellers whose lives were regulated by the harmonious roll of the seasons. Pearce recognised this regularity: Morden housewives sowed their Brompton stocks on Good Friday, the vicar's dog trainer arrived when the gooseberry bushes came into leaf and asparagus cutting started when the lesson on Balaam and Balak was read. Though the seasons continued to dictate village ploys throughout Pearce's pastorate, the vicar knew how harshly oppressive this rule could be.

Soon after Pearce arrived in Morden the 'Crimean' winter of 1853-4 froze the heart out of the countryside. Wareham work-house was over-filled with desperate villagers and Black Heath was crowded with birds in search of water. Pearce noted that: "Wild geese, black ducks, pintails, smews, shovellers, mergansers, sheldrakes, golden eyes, mallards, pochards, teal, widgeon — all these were seen — and some of them in profusion when our soldiers were in Crimea".

This hard winter was followed by a cholera-ridden summer. Throughout Dorset were echoing messages similar to the one Pearce heard bawled in his stableyard: "Brown's five boys is got took down with the fever, and four on t'em won't live the night!" As Death kept his post by cottage doors through bitter frosts and sultry August nights feelings were blunted; the vicar heard one stricken soul sent out of the world with the words: "Don't make such a fuss about it; get on with your dying; you will soon be all right". Weeping endured for a long night but joy did not come with the morning despite all the efforts of Pearce and his fragile, fairy-like wife, Fanny Georgina, for typhus broke out in 1855. New wells were sunk at the vicar's expense, benefit clubs started and a village school established; but it was Pearce's bulky and comforting presence rather than his works that sustained his parishioners. As he went from cottage to cottage consoling, cheering and doctoring the Morden villagers, the vicar secured and kept a place in their hearts. In return Pearce never allowed his sporting interests to oust his concern for the agricultural labourers. Few of the *Idstone* articles, which in 1865 started to appear regularly in *The Field*, were without some reference to the men who were so often overlooked. In describing the failure of a shoot organised to impress an Oxfordshire landowner "who had come down from the midst of his shorthorns and superphosphates", Pearce noted that the situation was saved by the old man in charge of the game cart. The "good humour, patience, thankfulness, and quiet wit" of this ancient and one-eyed carter "dispelled the feeling of mortification".

The old carter was able to bear his own burdens and to help lighten those of others, but what philosophy could help the six children who survived from his family of twelve? Never was a population explosion more ill-timed than that which filled Dorset villages in the mid-nineteenth century with young people for whom no prospects existed. When the population of Morden reached in 1851 its peak of 1,018 souls, the exertions of the whole family in bird scaring, button making and ploughing could not exorcise the spectre of pauperism. Fear of the relieving officer haunted the homes of craftsmen as well as those of labourers. Neither the traditional guile of the miller nor the blacksmith's

strength could save James Bridle and his family of Upper Mill at Whitefield and Aaron Baker of West Morden smithy from falling on the rates. Observing the fate of their hard-working parents children grew restive under their inherited burden of poverty. This restlessness was increased by tales of city opulence which filtered through even the green shades which enclosed the hamlets of Morden in wooded hollows. News from the outer world was brought by girls who returned from domestic service in towns, by the railway workers who temporarily made their homes around Wareham station, then in the parish of Morden; and by the servants employed in large establishments like Charborough Park. Servant girls, however, were the pioneers who blazed the trail to South London where surge after surge of country immigrants arrived hoping to better themselves in the South-Bank gasworks or in the Nine Elms Railway Depot. Describing the Morden of her childhood Ethel, Pearce's daughter, noted that "two long curls were worn by many a girl in her teens"; this style was aptly named "follow-me-lads".



FIG. 3. Near Bridle Bridge at Whitefield

As the boys followed the girls to the towns villages gradually ceased to be isolated communities with their own traditions and taboos. These also retreated before the advance of national education which, in the opinion of William Barnes, dealt old Dorset its death blow. Visiting a parishioner in a half-ruined cottage, Pearce observed: "The bailiff had not been to school for nothing, and, having a careless squire, it was his way to whitewash the outsides, and make out a good long bill for mending interiors". These convenient ready reckonings were encouraged by lavish and heedless employers many of whom regularly moved from town house to country seat with a large train of servants. Of the sixteen indoor servants employed at Charborough Park in 1851 only four were Dorset born: an under butler, a footman and two maid-servants. Domestic workers who had seen the world were not slow in letting the rustics know the folly of their beliefs, whether they were in witches and charms or in honesty and fidelity.

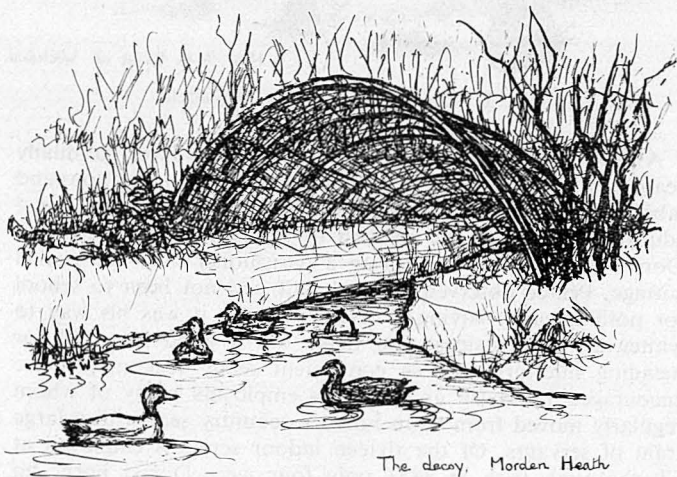
No one knew better than Pearce, who passed regularly by open cesspits and into crumbling tenements, how hard it was to practise the old virtues. The vicar lived among agricultural labourers and "frequently acted as their medical adviser, their lawyer, their mediator, and their severe mentor — the last not often; I don't like it". Pearce's doctoring may have been, as one of his patients asserted, "like hedge carpentry — not neat-like, but everlasting strong"; but his concern often cured rather than his doses which were requested at all hours of the day and night. Requests for help were sometimes prompted by the old beliefs so ridiculed by the "frilled steward" and upper servants of large establishments. A ploughboy could not sleep as "the devil played the very wag wi' un" and Sacrament silver was still sought by those subject to fits. To the vicar parishioners were never a flock but always individuals, whose very footprints he recognised: "I can verify the impressions made by almost all the men, some of the women and children". As Pearce so often combined

shooting and visiting he never seemed a being apart to cottagers who opened their hearts freely to him when he dropped in after his "flight shot". One evening an old carter related the "heft" of his life. Growing up when bread was "terrible dear" the labourer had started bird scaring when he was seven and three years later could "hold plough". At eighteen he was promoted to carter's work and 9s. a week. For the rest of his long life his heart was given to his "fancy pinks" and his horses, which he tended day and night. When the old man died the vicar wrote, "in my churchyard there lies one more scrupulously honest man". He added that science had come to the aid of the old carter's successors in the shape of "stuff" compounded of "vitriol, butter of antimony, arsenic and lots of things" to make their horses' coats sleek without the effort of grooming.

Ideas for making easy money were often imported into the countryside by new and wealthy arrivals concerned with speculation and sport — or both. Such activities almost broke Pearce's heart: "I have known moors stripped of all game, and the shooting lodge defiled by the goings on of those great speculators — men without honour, conscience, or common decency". Concerning one of these new men who rented the shooting on Christchurch marshes Pearce wrote:

"He was not a *thorough* sportsman. We never knew his antecedents, as he persisted in going to sleep after dinner. I always thought he had been a paper-maker, for when someone handed him *The Times*, which contained startling news from India, he didn't read it, but, having put his tongue to the margin, gave it as his opinion it was 'animal size', and passed it on. . . .

"He always wore a frockcoat, even with his beagles; tried to catch wild ducks on their passage out to sea with nets hung on clothes' props; trapped the foxes or poisoned them, cubs and all. . . ."



The decoy, Morden Heath

FIG. 4. The Decoy, Morden

The news from India probably concerned the Mutiny which aroused widespread sympathy for British residents in India who were not always favourites with the public at home. Anglo-Indians, according to Pearce, could be found in the damp and ill-drained houses often let with shooting, "the widow of a 'civilian' . . . with her paraquet and monkey, or the civilian himself — an old bachelor, you know, with six dark complexioned bilious-eyed half-castes who call him 'uncle' and quarrel over his coffin by and by".

With newcomers beagling in their frockcoats, monkeys in the shooting lodge, wire in the hedgerows and the indiscriminate shooting of birds for milliners' plumage, 'bright October' in the 1870s was losing its lustre. Another, but less frequently cited, cause for waning sporting standards at home was imperial expansion. When *The Field* described the excitements of "Tiger Netting in Mysore", "Bush Hunting in Natal" and "Pig Hunting in Otago" what sportsman would lose his sleep over poachers, the "sewage dilemma" and hard roads? Pearce himself advised young sportsmen to move further afield; not to Ireland where

"they may take you for someone else and pot you", but to the craggy and still unfrequented heathlands of Scandinavia.

When the sportsmen were beginning to take flight the countryside was, in the opinion of Thomas Pearce and Henry Mayhew, invading the capital. During an early morning stroll in London in the 1860s Pearce observed "a large flock of sheep, driven by a dog" passing "in a leisurely way along Oxford Street", and the arrival of cart-loads of buttercups and groundsel which suggested "that Londoners do not despise the flowers we scorn in our country walks". In Leadenhall Street other rural trophies were displayed:

"hedgehogs, mottled mice, young magpies, tortoises, a prime young raven of it may be threescore and ten, and Aylesbury and Rouen ducks, all for sale, dead or alive. . . . Here are parrots, paraquets, and, as I live, two tame kingfishers . . . tame squirrels, dormice, a solemn horned owl, two jackdaws, and a half-callow nest of young thrushes gaping and showing their yellow throats. Here are live storks from Holland, and long-coated white kittens drinking 'London milk'".

Caged birds could not be brought into the capital quick enough to satisfy the yearning of the new townsmen for some token of the countryside. By the late 1840s Mayhew's old bird catcher was complaining: "I don't think where they'll drive all the birds to by and by. . . . It's hard for a poor man to have to go to Finchley for birds that he could have caught at Holloway once, but people never thinks of that". A few decades later the bird nets had to be thrown even further afield. A birdcatcher told Pearce that he was doing a thriving trade in Morden: "All the best times of the year for it I catch goldfinches, linnets, bullfinches and sometimes woodlarks, for the London markets . . . if you should like to *have* a good bullfinch — quite a *star* — he does the *whittle* so blink, and *choulmy, choulmy, chay*; and now and then does *suck, suck, chay*, all in one run!" The traffic in songbirds continued long after its prohibition in 1873 so that the demands of countrymen in towns brought their favourites close to extinction.

Thomas Pearce, like Henry Mayhew, was drawn towards those who strove to earn a living on the fringes of society and also to those in the lower echelons of the sporting hierarchy. Describing a large and impressive shoot Idstone did not omit "the old keeper whose face prepossessed me at once in his favour . . . whilst his granite suit of tweed makes him look as though he were carved in stone, a part of the seat he occupies". The idiosyncracies and, above all, the physiognomies, of such men fascinated Pearce all his life. Charlotte Johnson, who worked in the vicarage, told her daughter, still living in Morden, that as an old man the vicar would linger at the dining room table sketching impressions of village notables on the tablecloth. The earth-stoppers' feast at which hunt servants, gamekeepers, grooms and working bailiffs yearly assembled provided Pearce with a gallery of portraits. As a servant entitled to curse even lords in the field, the huntsman was accorded precedence at the gathering. He was distinguished by a "solemn expression, accompanied by the want of front teeth, and high cheek bones . . . peculiar to his craft" and a complexion "as rough and seared by care and weather, or both, as a savoy cabbage". Of almost equal consequence were the keepers. The lord's keeper arrived in a "dark green game cart with a coronet on the backboard"; while the head keeper maintained his dignity with a "white high-crowned hat, with a black band round it, known as 'butcher's mourning', and what was ordinarily known as mutton chop whiskers". At table the keeper's demeanour was remarkable for its watchfulness; his "eyes were like the patent white castors on Gillow's best sofas in form, and unlike them in only one respect, that they were never still". Though quiet in his behaviour the second horseman, "That fellow in a white tie with a little gold brooch", knew his value as he came from William Day's famous racing stables at Pentridge. Apprentices sometimes found that the stables were not the gateways to the emancipation they sought. A horse breaker "with a slightly gladiator cast of features, relieved by a good-tempered expression" told Pearce that the trainer at the stables where he learned his craft "would have no swearing or fighting. We used to go to morning church ever so many times

a week, and wear these surplices and sing in the choir, and do whatever the parson liked . . . we all was respectable, and had evening school, and singing classes, and all sorts; but fighting wasn't taught and no swearing allowed".

The rough rider felt his respectability had been thoroughly established. The vicar of Morden was not so fortunate, as his way of life was too worldly for Low Churchmen, too unsacerdotal for the Tractarians and too idiosyncratic for even the Broad Churchmen. Pearce frankly confessed his inability to relinquish tastes which had become part of his personality:

"They used to tell me that I should think less of a good setter team, a patient and 'cute retriever, and a fine scenting morning, when I had come to years of discretion; but the feeling for sport is as strong in me now as ever, although the snows of winter are gathering upon my head" . . . "The only human beings I have ever discovered who are indifferent to sport are schoolmasters and occasionally Bish — oh, I forgot, fox hunting is a pomp or a vanity, or both, forbidden to the Church!"

The proscription of hunting as a clerical diversion was due to concern for the parson's reputation rather than for the fox. Trollope's Josiah Crawley, incumbent of Hoggstock, was crying alone in the wilderness when he declared that hunting "must be vicious in all men . . . it is in itself cruel, and leads to idleness and profligacy". Had he lived a year longer Pearce would have learnt that the opprobrium attached to the hunting parson had been extended to "sporting, farming, gardening, tennis and golf-playing clergy [and] ball goers". This anathema was pronounced at the Church Congress of 1886 by the Bishop of Liverpool who, in the same breath, deplored the "dreadful laziness" which in country cures often lay "like a mould, over a minister's soul". The bishop failed to see that rural interests, such as sport or gardening, might draw country congregations closer to their incumbent, and save him from the despair of finding himself in a parish where "everything [was] green mouldy and half a century behind".

Pearce thrived in the green mould of Morden. He could be found talking to the decoy man on "the cold, dull, hungry-looking heath, holding the lonely decoy aloof from all that could disturb it", to the birdcatcher under the shade of the great oaks in Morden Park and, most frequently, to his dog breaker on Cockett Hill. The vicar's gun dogs, like the "Idstone Boots", travelled round the world: "The setters I shot over last year in Perthshire will probably be next season tacking and pointing in Indiana, or standing snipe in Russia". Pearce was the first to acknowledge that the fame of his Morden Kennels was largely due to the skill of his dog trainer, Jim, who had the knack of "gaining the respect of a dog". The notice in *The Field*: "Morden Setters, 22 whelps of celebrated breed, pedigrees include Mr. Pearce's Salop out of his Bran. . . . Apply to James W. Galton, Morden, near Blandford" shows how far had travelled the agricultural labourer who had declared: "I know nothing in the whole world but dog breaking and making 'bee-pots' (bee-hives)".



FIG. 5. The Decoy Man's House

The vicar's complete confidence in Galton shows his gift, not always shared by his clerical contemporaries, of detecting and fostering the aptitudes of the most humble. This understanding enabled Pearce to turn a village tragedy, commonly enacted in his day, into a triumph. The restoring, or rebuilding, of parish churches in the mid-nineteenth century was generally followed by the disbanding of rustic choirs and church instrumentalists whose self-management led, in the opinion of Sir Frederick Ouseley, to "over-weening conceit and vanity". The views of many church reformers were distorted by the polarity of their aims. They sought to recreate the past by destroying the ancient heritages which remained. Norman arches, uncouth fonts and box pews were swept away as lumber in order to restore a visionary age which was identified with chancel screens, symbolic carvings and high pitched roofs. The clearance was complete at Morden. The early English church, which had been allowed to fall into a ruinous state, was demolished; and on its site was built an edifice with the approved "embellishments", a clerestory, and with disproportionately high nave and chancel roofs. These, viewed from Cockett Hill, give the church an appearance of shrugging its shoulders in despairing resignation. When the new church was opened on 23 October 1873 the enthusiasm of the reporter for the *Dorset County Chronicle* was reserved for "the exquisite and effective decorations" arranged by the vicar's daughter, and the new building was damned with faint praise:

"The present structure has been creditably completed to the satisfaction alike of Miss Maria Caroline Sawbridge Erle-Drax, who has borne the expense, the designer, the vicar, the churchwardens (Mr. Drax and Mr. Lithgow), and the parishioners generally, who have now a commodious place of worship".

The designer, ungenerously left unnamed, was Joseph Sellers, a small builder of Morden and a protégé of the Drax family. He had been set the impossible task of meeting the exacting demands of the fashionable Gothic taste at the cost of £3,000. When the foundation stone was laid the vicar had presented "an elegant silver trowel" to his patron, John Erle-Drax (1800-87) of Charborough Park; but his part at the opening ceremony was confined to reading the offertory sentences. As Pearce shot over "every inch of the manor" he was presumably on good terms with Squire Drax, but it is hard to believe that two such Hotspurs saw eye to eye on every occasion. Furthermore the vicar can hardly have been, in the parlance of the day, exactly the handwriting of his bishop. George Moberley (Bishop of Salisbury 1869-85) attended the opening ceremony at Morden; and in consecrating the new burial ground declared that "he looked upon the consecrated graveyard as the very counterpart of Paradise". Pearce's only printed pronouncement on the after life was to the effect that during spring-cleaning: "When the carpets are up — especially the stair carpets — I can say for myself that I believe in the transmigration of souls".

Beneath the ceiling of the rebuilt church "coloured with blue, with gilding and other embellishments" it seemed that the villagers would have no responsible part to play. The vicar, however, was determined that their voices should not be silenced although the West Gallery, the musicians' stage, had gone. The old performers had been disbanded, but under Pearce the surpliced choir, which in 1873 consisted of thirteen men and six boys, was drawn mainly from long-established village families like the Basons, Galtons and Burrs. Though his consequence was diminished, the parish clerk was retained; and, as the old bells were kept, the six bell-ringers continued to make themselves heard throughout the parish. The days of the church musicians were ended, but Pearce established a village band. When on Whit Monday the bandsmen marched through the village with the sun shining on their garlanded instruments performers and onlookers alike felt a resurgence of the old village pride. Despite the vicar's efforts to give all his parishioners the chance to play some part in church affairs, the numbers of worshippers in the Wesleyan chapel at Whitefield steadily increased. By 1873 a handsome brick addition, with a Gothic east window, had been made to the small meeting house at the foot of the quarries from which sand was taken to the neighbouring brickyard. Since the eighteenth century the workers in

the two Morden brickyards had been building a reputation for making the "finest red bricks in Dorset" and for forming the nucleus of an active and self-governing nonconformist community.

The old parochial pride could not be wholly revived by either nonconformist independence or a wider participation in church affairs. The self-contained and self-absorbed village community of the 1850s was disappearing under the pressures of education and of the new ideas concerning "what our American cousins call 'smartness'" imported by those who had absorbed city ways. The changed outlook was not immediately detectable. When Thomas Pearce died at Bournemouth in September 1885 so many of the activities he and other clergy had fostered were in full swing that new life seemed to have been infused into Morden and the villages of Dorset. Village bands were playing at flower shows, and Pearce's friend and neighbour, James Cross (vicar of Sturminster Marshall 1877-1919), in common with many of the condemned 'gardening clergy', "sent a nice lot of begonias, also fine cucumbers and potatoes"; many of the show vegetables were making second appearances at harvest festivals and, for the first time, agricultural labourers were going to the polls. This Indian summer in the history of Morden was short-lived. Cottages were emptying, "the long wide stretches of rape and swedes, the seed clover, or better still the saintfoin (the best partridge cover left us in Old England)" were disappearing and silence fell on the many little thoroughfares which had once echoed with footfalls, cart wheels and the voices of passers-by.

Fanny Georgina, the widow of Thomas Pearce, chose apt lines for her husband's tombstone in Morden churchyard:

"We bring our years to an end
As it were a tale that is told".

Pearce's tale was well told. His understanding of his fellows and of the countryside enables his reader to see the well-to-do farmer with a "red face . . . that seemed somehow associated with 'one cheer more' and a chorus" and to hear the woodcock rise "with a quick rustle, something sharper than that of a Spanish lady's fan". To read Idstone's sporting articles is to

understand Ivan Turgenev's defence at the end of *A Sportsman's Notebook* (1852): "Shooting with gun and dog is a joy in its own right . . . but let's suppose you are not a born hunter; all the same, you're a lover of nature and freedom; and you cannot help therefore envying the rest of us".

NOTES ON SOURCES

The chief source for this account of Thomas Pearce has been the collection of his articles to *The Field* which appeared as *The Idstone Papers*, 1st ed. 1872, 2nd ed. 1874 used. Unless otherwise stated all quotations are from this source. Pearce's own accounts of Morden have been supplemented by those of his daughter, Ethel, given in *The Story of Morden*, 1932, 62pp., with illustrations and maps. A copy of this typescript account is in the Dorset County Museum. I am grateful to the Curator for kind permission to reproduce a photograph of Pearce from this typescript.

As background material the following sources have been used:

The Census Returns, 1841, 1851, 1861.

The Tithe Apportionments and Maps for Charborough, 1849, and Morden, 1847.

The files of *The Field*, *The Farm*, *The Garden*, *The Country Gentleman's Newspaper* (abbreviated as *The Field*) for the 1860s and 1870s. Pearce became a regular contributor to *The Field* after the death of The Old Bushman (also the second son of a clergyman) on 23rd December, 1865. Pseudonyms were nearly always used in *The Field*, a fact that partly accounts for the acrimony of the correspondence.

The files of the *Dorset County Chronicle*. The death of Pearce at Bournemouth, where he settled after his retirement in 1882, was not reported; but prominence was given to the proceedings of village activities which he had supported.

I gratefully acknowledge my debt to the Nature Conservancy Research Station at Furzebrook through whom I first learned of Thomas Pearce; and also to the present and former inhabitants of Morden, particularly Mrs. Margaret Billett and Mr. Graham Crocker, who remember the world, if not the person, of the sporting vicar.



Archaeological Notes and News for 1972

Edited by R. A. H. Farrar

APOLOGIES are offered to any intending contributors to these notes whose articles may have been excluded by reason of the advancement of the date for submission of copy for printing. The latest date for submission of notes should in future be 1st December. The absence of a further note on excavations at Pilsdon Pen is, however, due to what we earnestly hope is a temporary discontinuation of work on the exceptionally important features of the interior of this hill-fort. There was also an interruption in the excavation of Mount Pleasant, Dorchester.

It should be noted that in the last number of these notes, Volume 93, p.153, the illustration of the portion of a Roman altar from Dorchester was printed upside down.

INTERIM NOTE ON EXCAVATIONS AT THE CULVER WELL MESOLITHIC SITE, PORTLAND, 1972

Work this year concentrated on the southern part of the Mesolithic habitation site (SY 685694) where it was proposed to make a footpath adjoining the road; it revealed that the large shell-midden slopes down southwards, following the contour of the original surface, and unfortunately extends under the road to the Bill. This means that the midden covers an area of at least 4,500 square feet and must have been in use for a considerable period. In several of the southernmost trenches a thin palaeosol was found separating two layers of the midden; this was not matched in the northernmost trenches where the midden deposit is thickest, but it suggests that Mesolithic people, after a short interval of perhaps a hundred to two hundred years, had again camped in the area around the older midden. This opinion awaits confirmation.

The floor of limestone slabs associated with the midden was also found to extend southwards, and measures at least 500 square feet. In two or three of the southern trenches indications were found of a second 'floor'(?), at a slightly higher level overlapping the main floor, but this too awaits confirmation by area clearance.

The hearth found at the end of last season was fully excavated and samples for dating by analysis of archaeomagnetism and thermoluminescence were taken by Dr. M. Aitken, and a quantity of charcoal was collected in the hope of obtaining further radiocarbon dates.

This year's findings indicate that it will be necessary to clear a very large area in order to find the answers to the many problems presented by the site, and efforts are therefore being made to make alternative arrangements for the footpath.

SUSANN PALMER

INTERIM NOTE ON EXCAVATIONS AT THE WINFRITH NEWBURGH MESOLITHIC SITE, DORSET, 1972

The second season of work on the Mesolithic habitation site on the top of Whitcombe Hill (SY 805870) confirmed the existence of a hut-floor partly smeared over with clay. A second floor similarly treated with clay was found near the first hut, but was either smaller originally or else has become partly denuded as a result of its situation on the edge of the hill. Partly under the first hut, and extending under the second, traces perhaps of a slightly earlier habitation level were found, but no definite structures were uncovered.

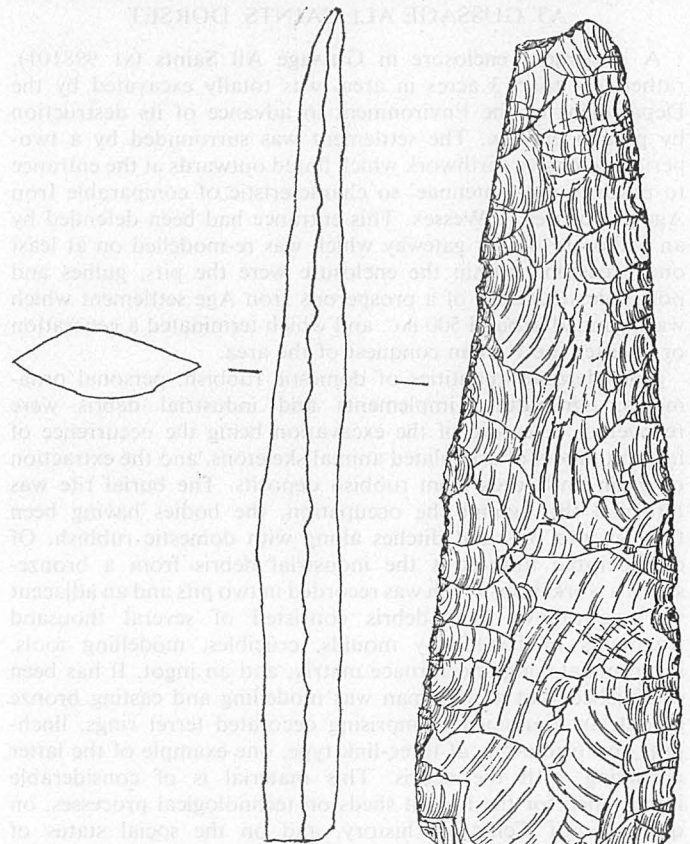
Samples for pollen analysis were taken by Prof. G. W. Dimbleby of the Institute of Archaeology; the samples are very rich in pollen and likely to produce interesting results. A great many artifacts were found, including many microliths on long blades and a small axe. The full report will be published when all the finds have been studied and final assessments are made.

SUSANN PALMER

A NEOLITHIC FLINT AXE FROM WOODCUTTS

The axe illustrated in Fig. 1 was found by the writer in 1969 very near the Romano-British settlement at Woodcuts excavated by Pitt-Rivers in the last century; the approximate grid reference is ST 962183.

The axe, fresh and unpatinated, is of a dark grey flint with a portion of cortex left on one face. Unfortunately its cutting edge was broken off in antiquity, and it must have been a little over 160 mm. long. It is of very fine workmanship and this led first



Drawn by B. Lewis

FIG. 1. A Neolithic Flint Axe from Woodcuts. Scale $\frac{1}{2}$.

to the belief that it could have been a dagger, but closer examination revealed that it was rounding off into a typical axe edge just where it had broken. It must have been used for some light woodwork as it is much too fine for clearing and felling.

Mesolithic flints and Neolithic scrapers were also found, and this field is an obvious extension of the large knapping site on Woodcuts Common noted in these *Proceedings*, Vol. 91, p.173.

MARTIN T. GREEN

INTERIM REPORT ON THE EXCAVATION
OF A BOWL BARROW
ON BLACK DOWN, KINGSTON RUSSELL

This small and much denuded bowl barrow (SY 57789046; Grinsell, *Dorset Barrows*, Kingston Russell 3, R.C.H.M. *Dorset I*, Kingston Russell 6h) lies about 100 m. W.N.W. of the disc barrow excavated in 1971 and summarily described in our last volume, p.133. Consisting originally of a flint mound 8.5 m. in diameter it had been reduced by cultivation and erosion to a height of 0.25 m. above the pre-barrow ground level which was 0.30 m. above present ground level. A continuous ditch, about 1 m. wide and 0.4 m. deep when excavated, surrounded the mound but was not evident before excavation. It contained no distinct primary silting and was filled with flints with loose soil wash between them.

There was no grave. The mound had covered the body of an adult of indeterminate sex lying on the original ground surface in a crouched position facing N.W. The skeleton had already been partly destroyed by cultivation and perhaps by the central disturbance noted by the Royal Commission but there was no evidence of this feature.

There was no trace of grave-goods, but some 30 abraded fragments of Early Bronze Age pottery including Beaker sherds were found sealed in the pre-barrow soil under the mound. These must signify human activity of some kind at a level long since eroded. A full report is in preparation.

C. J. BAILEY

INTERIM REPORT ON THE
EXCAVATION OF AN EARLY IRON AGE ENCLOSURE
AT GUSSAGE ALL SAINTS, DORSET

A settlement enclosure in Gussage All Saints (ST 998101), rather less than 3 acres in area, was totally excavated by the Department of the Environment in advance of its destruction by plough erosion. The settlement was surrounded by a two-period defensive earthwork which flared outwards at the entrance to produce the 'antennae' so characteristic of comparable Iron Age enclosures in Wessex. This entrance had been defended by an elaborate timber gateway which was re-modelled on at least one occasion. Within the enclosure were the pits, gullies and post-hole structures of a prosperous Iron Age settlement which was founded around 500 B.C. and which terminated a generation or so after the Roman conquest of the area.

Considerable quantities of domestic rubbish, personal ornaments, agricultural implements and industrial debris were recovered, a feature of the excavation being the occurrence of large numbers of articulated animal skeletons, and the extraction of grain and seeds from rubbish deposits. The burial rite was informal throughout the occupation, the bodies having been thrown into pits and ditches along with domestic rubbish. Of considerable interest is the industrial debris from a bronze-smith's workshop, which was recorded in two pits and an adjacent working-hollow. This debris consisted of several thousand fragments of baked-clay moulds, crucibles, modelling tools, scrap metal, slag and furnace matrix, and an ingot. It has been established that a craftsman was modelling and casting bronze equestrian equipment comprising decorated terret rings, linch-pins and bridle-bits of three-link type, one example of the latter occurring with the debris. This material is of considerable importance for the light it sheds on technological processes, on questions of Celtic art history, and on the social status of craftsmen in a rural settlement of the 1st century B.C.

G. J. WAINWRIGHT

INTERIM NOTE ON EXCAVATIONS AT
BRADFORD DOWN, PAMPHILL, 1972

Investigation was continued of the area in which razed flint walls were found in 1969 (*Proceedings*, Vol. 91, p.189). One building (Building I), probably of the third century A.D., proved to have been 80 ft. long and 27 ft. wide. It had possessed painted

plaster walls and there were further traces of an internal corridor-wall along one side of the interior. Later, a second structure (Building III), 35 ft. by 17 ft., simply divided into two rooms, was erected cross-wise over the ruins of the first. A short distance to the south, the boundary-ditch broadly enclosing the Iron Age and Roman site was sectioned where it circumscribed a platformed area on the hill-top. The ditch (V-shaped, but flat-bottomed), and 'platform', yielded Iron Age C Durotrigian ware. Roman finds included a *sestertius* of Faustina II (c. A.D. 170), a bronze spiral finger-ring, and a jet bead.

N. H. FIELD

INTERIM REPORT ON EXCAVATIONS AT
LAKE FARM NEAR WIMBORNE, 1972

A trial excavation was carried out at Whitsun in two areas 20 m. by 6 m. and 20 m. by 5 m. on the site of the disused railway. In the western area, that nearest the modern road junction to Corfe Mullen, a round flint-based bread oven was found, under which was an earlier oven based on clay, both of mediaeval date. At the western end of this area the presence of some 60 cm. of black garden soil under the railway ballast suggested that cottages might have fronted the road here in the Middle Ages. Below this soil, gravel metalling was encountered where the Roman road alignment was expected, but mediaeval pottery persisted to its surface. Resources did not permit further development here.

The main effort was directed at the eastern area. Lighter-coloured subsoil was found below about 45 cm. of mediaeval plough-soil, and careful levelling and cleaning here showed what seemed to be construction trenches and lines about a metre apart at right-angles to each other; these features coincided with differential areas, suggesting the presence of rooms or floor joists. Below these, at one point only, a construction trench was noted on a different alignment.

At the west end of the area a square tank or pit about 5 m. by 4.5 m. was found, from which only about 40 cm. depth of filling has yet been removed. Most of the finds were recovered from this filling; these include small fragments of fine coloured glass, samian including the stamp of LICINUS (c. A.D. 45—60), *terra nigra* and *rubra* and imitations, and a variety of other coarse wares, mainly the regional hand-made pottery. Objects of iron and bronze were in poor state, but it was possible to recognize several copper coins which are probably copies of Claudian *asses*, and two items of horse equipment—a small tinned roundel with niello inlay and the knob of a pendant.

I am particularly grateful to Mr Norman Field who has collaborated throughout and generally given me full access to all the results of his own work on the site noted in previous volumes of the *Proceedings*. The work would not have been possible without the help of volunteers, some from considerable distances, others from nearby including the Wimborne Historical Society, which also made a generous grant. Poole Corporation not only gave permission to excavate, but provided the mechanical digger and a grant of £50; the Dorset County Council lent tools and parking facilities, and the County Museum equipment and other help.

GRAHAM WEBSTER

A ROMANO-BRITISH SACRED WELL AT
NORDEN, CORFE CASTLE

The discovery and partial excavation of a well shrine at Norden just south of Corfe Castle (SY 958826), by P. A. Brown, whose fieldwork over the past two decades has done much to add to our knowledge of the Romano-British settlement pattern in the Purbeck Hills, led to the commencement of a small research excavation of the site in 1972. It is hoped to obtain evidence of the ritual significance of the well and its association with other known Romano-British sites in the vicinity, as part of a Southampton University Extra Mural Course project on

Romano-British pagan religion. The excavations, which it is proposed to continue for the next two or three years, are being directed by the writer, with Dr. Anne Ross acting in an advisory capacity.

The site is situated on a small "peninsula", between disused 19th-century clay workings and the railway line from Swanage to Wareham (which, incidentally, was removed during this year's excavations, since the line has been closed). The geology is that of Wealden sands and clays overlying the dipping chalk strata of the Purbeck ridge.

Because of the clay workings and the construction of the railway line during the last century, the ancient occupation layers on the site have been inverted, that is, removed from their original position and dumped on top of the field surface, which is covering the same or similar occupation layers stratified in the correct order. Difficulties in interpretation arose until detailed levelling produced evidence of how the stratification had formed. A layer of 19th-century sherds on the original field surface confirmed the information obtained by the survey.

To summarize, the structural evidence adduced from the 1972 and previous excavations consists, firstly, of a well (2 to 3 metres deep, 0.9 metres in diameter at the bottom to approximately 3 metres wide at the top), which may have had at least two constructional phases. The first phase could have consisted of a fairly simple cylindrical well shaft, made of rough, undressed local stones of varying sizes. The second phase could be represented by a much more elaborate construction—the top part of the shaft widened out into a funnel-shaped approach, and a flight of steps of dressed stone leading down to the water level (Fig. 2). The walls of the well would appear to have been built up on this occasion with stones that had been shaped and were of similar sizes. The 'second phase' walls may show evidence of repair, from the number of chalk blocks inserted into cracks and gaps in the stonework. The walls of the well shaft in both



Photo: N. J. Sunter

FIG. 2. A Roman Well at Norden, Corfe Castle, view East.

postulated phases were constructed by drystone methods.

Other structural features consist of the remains of a rough, drystone wall built upon foundations of chalk blocks, which runs approximately north—south across the site. This wall may be associated with the well approach structure, as the area between these features consists of a chalk block floor that has been well worn in parts.

On the other side of the north—south wall, the structural levels appear to be lower. They consist of two possible walls, one with similar chalk block foundations to those of the north—south wall. The relationship of the structures has yet to be determined. Also within this area lies a slumped structural feature consisting of a possible raised platform of dressed limestone on a small chalk block foundation, and a possible floor of limestone flags.

Material evidence from the 1972 excavations consists of pottery including decorated samian, metal-work, animal bones, building material, and coins. Evidence of shale-working and the manu-

facture of chalk tesserae was also found, thus providing a close link with the industrial site excavated nearby by N. J. Sunter (interim report, *Proceedings*, Vol. 91, p.187).

Evidence for the ritual character of the site, in the main arising out of Mr Brown's excavations before 1972, is provided by two small uninscribed limestone altars found by him at the well entrance—one in association with the wall structure, the other lying nearby on the chalk floor—and by the presence of a complete sheep's skull deposited at the bottom of the well.

The finds suggest a general date for the occupation between the late 1st and early 5th centuries A.D.

MICHAEL HUGHES

FIFTH INTERIM REPORT ON THE HALSTOCK VILLA, 1972

The principal results of work in 1972 were the clearance of the Room 2 mosaic found in 1971 south of the Room 1 mosaic, the elucidation of some of the history of these two rooms, and the uncovering of part of a bath suite with a complicated history, lying on the west side of these two rooms.

The layout of the establishment as so far known may be outlined as follows, with reference to the plan of the eastern portion published in these *Proceedings*, Vol. 92, comprising a barn building aligned approximately east—west with a stone-paved corridor fronting its southern side and continuing westwards for some 12 m. before turning south at rather more than a right-angle. This southwards-pointing arm has been traced, as far as the presence of Common Lane permits, for some 15 m., and immediately west of it, on a somewhat similar axis, lies the complex of living quarters of which a small but important part was described last year. These quarters have already been traced for some 16 m. west and for about 26 m. north—south, the present extreme (Rooms 3 and 8) lying as far north as the north wall of the barn.

As they appear at present, in a late constructional phase, the living quarters consist of the remains of a narrow bath suite (Rooms 4—6) on a north—south axis, with a long furnace at the south end, and with a westerly arm (Room 7) at the north end. The inverted L-shape so formed is encompassed on the east and north sides by the mosaic rooms, 1 and 2, the former having proved to possess a westerly arm at its north end, rather than an apse as suggested in 1971. This simple picture is complicated by the presence of Room 3 on the north side of Room 1's westerly arm, and by Room 8, a small north—south room with pillared hypocaust, at the west end of the arm.

It is also complicated by the fact that the alignment of the living quarters, and of the western arm of the corridor associated with the barn, converge sufficiently to impinge on each other at the S.E. corner of Room 2, entailing a curious architectural compromise in this major phase (see below).

The Bath Suite. The bath suite seems to have had at least three phases, the first being least known but including a *caldarium* on a hypocaust of brick *pilae* set in a concrete base. Phase II was substantially on the original line but wider and longer, and partitioned to provide a *caldarium* (Room 4), with *tepidarium* (5) to north. An apsidal room (6) on the west side of the *caldarium* was possibly a hot plunge, and the above-mentioned Room 7 seems also to belong to this phase, probably with its own flue in the west wall. The function of Room 8, mentioned above, is not yet clear. Phase III, evidently part of the major changes which saw the reconstruction of Rooms 1 and 2 for the mosaics, involved disuse of these rooms as a bath suite.

Rooms 1—3. Little is known of the predecessor of the mosaic Room 1, except that it cannot have conformed in shape or size and that it had possessed a channelled hypocaust heated by way of a flue towards the south end of its west wall; it is clear that this flue channel was filled up with clay, after removal of its capstones, and the mosaic laid over it, eventually to sag into the filling.

Room 2, about 5 m. (north—south) by 6 m., and at the south end of the living quarters as so far known, was heated by a channelled hypocaust leading to box flues in the walls. Its main channel, through the west wall, was served by the adaptation of

the long furnace formerly serving the baths. This room had the foliate geometric mosaic floor described in the succeeding note, with some motifs similar to those of the adjoining Room 1 to north, and it is clear that they were laid by the same mosaicists. Communication between the two rooms was by a door at the west end of the party wall, evidenced by a guilloche 'mat' set in the chequered border opposite the labyrinth mat in the corresponding border of Room 1.

It has already been mentioned that the convergence of alignments involved a constructional difficulty in this phase. The extraordinary solution was to dispense with a normal right-angled east wall to the room, and to use instead the nearer wall of the converging corridor. To accommodate the rectangular mosaic, the west face of this converging wall was cut back in the S.E. corner of the room, while the gap of over a foot between the divergence in the N.E. corner and the true face of the wall plaster, which was square with the mosaic floor, was filled in some way, probably with wattle and daub.

Room 3. Only the southern end of this room, which had a concrete floor 25 cm. thick, has been explored, but it also displays a curious constructional feature in its final phase, when it was evidently reduced in size so as to leave a narrow compartment or passage on the east side. This alteration was effected by building a narrow plaster-faced wall in a single thickness of herringbone masonry, but this wall was also continued against the old plaster of the south wall of the room.

R. N. LUCAS

THE MOSAIC IN THE SECOND ROOM OF THE HALSTOCK VILLA, DORSET

The floor discovered in 1971 in Room 2 of the Roman villa at Halstock and excavated in 1972 proved to be a well laid and skilfully executed mosaic over a hypocaust (Fig. 3). The basic design is of two large guilloche-bordered saltires, one of which was partially destroyed. Each cross has a central medallion, one with a border of three-strand guilloche framing a stylised flower composed of four convoluted ivy leaves pointing outwards, alternating with four hearts pointing inwards, all linked in the centre by lines forming a 'cushion' framing a shaded diamond.

The arms of each cross are decorated with two large peltae, very like those in Room 1⁽¹⁾, the lateral points forming tightly rolled spirals and the central point terminating in a convoluted ivy leaf; these alternate with fluted urns without handles, from which spring sprays of ivy leaves flanking a central petal. The tips of the arms of the crosses are formed of lozenges framing a large variety of devices, including a strange meandering Greek key swastika, pairs of convoluted ivy leaves, an arrangement of four simple ivy leaves, a duplex knot with two plain leaves, shaded chequers and shaded triangles both with a plain centre, and elongated stylised flowers, one with a leaf tendril looped round the points of two petals.

The triangles between the arms of one cross hold little sprays of three leaves, and between those of the damaged cross, one triangle frames fifteen, and another ten, small black triangles. The square formed between the arms of the two saltires has a border of shaded 'Z' pattern enclosing a badly damaged stylised flower formed of lotus buds and convoluted ivy leaves.

The border panel of alternate convoluted and plain ivy leaves, a piece of which was revealed in 1971, runs along the north side of the mosaic, while a similar scroll, with plain ivy leaves only, forms the border to the south. Two-strand guilloche separates the scrolls from the saltires and encloses the whole patterned area of the mosaic, being in its turn surrounded by a narrow border of white. The tesserae used are approximately $\frac{1}{4}$ inch square.

The surround of $\frac{3}{4}$ inch tesserae is composed first of a narrow grey border and then of five rows of $2\frac{1}{4}$ inch red and grey squares, which run right up to the plaster moulding of the north and west walls, but has six rows of grey and ten rows of dark

red tesserae between the chequers and the walls on the south and east sides of the room.

A mat of guilloche in the finer tesserae replaces the chequers in the N.W. corner, indicating an entrance to Room 1 where a labyrinth pattern lies on the threshold.

Colours

Near the doorway leading to Room 1 the outline of the pattern is executed in black, but throughout the remainder of the room dark blue or bluish-black tesserae have been used indiscriminately with the black.

Three-strand guilloche	Black/2 rows white/red/black Black/white/2 shades of grey/black
Two-strand guilloche	Black/2 shades of red/white/black Black/2 shades of grey/white/black
Scroll with convoluted leaves	Leaves white with red tips. Links white, 2 shades of grey, outline and tendrils black, small leaves red and black
Plain scroll	Leaves white, yellow band, red tip. Links, outline, tendrils and small leaves as above
Fluted urns	Base and outline black, fluting red, yellow and white
Peltae	Red, yellow and white with black centre, outline and spirals

All the leaves in the mosaic are executed in the same colours as those in the plain scroll, and the colouring throughout is black, blue-black, white, yellow and two shades of grey and red. All the guilloche and the 'Z' pattern are on a black ground, while the remainder of the patterned area of the mosaic is on a white ground.

A fragment found thrown into Room 7 appears to show part of another threshold mat with a band of black, red and white guilloche on a black ground set in a surround of coarse grey tesserae. Panel borders of two-strand guilloche in black/2 shades of grey/white/black and black/red/grey/white/black on a black ground could be part of a pattern similar to that in Room 1.

Discussion

The mosaic in Room 2, as in Room 1, is a typical example of a pattern used by the 4th-century Corinthian workshop, and the layout and motifs are closely paralleled in mosaics found in Oxfordshire, Hampshire and, of course, in Gloucestershire.

The stylised flower in the centre of one saltire is unique in Britain, but bears a superficial resemblance to other ivy-leaf-petalled flowers found elsewhere in the country.

The fluted urn with no handles appears to have been copied from a pattern for a lotus urn of a type perhaps used in the mosaic found in Old Broad Street, London⁽²⁾, but at Halstock the two lateral petals have been converted into sprays of ivy leaves, leaving the central petal intact. A similar change in the use of the pattern may also account for the strange point between leaf sprays in the urns in Rooms 7 and 26 at Bignor in Sussex⁽³⁾.

The mosaicist, perhaps bored by the restrictions imposed by a rigid geometric pattern, has introduced into the lozenges a great variety of motifs and has, wherever possible, indulged in the use of spirals, which were perfected in the peltae. Apart from the duplex knot motif, which also appears in Old Broad Street, London, Basildon in Berkshire and Cirencester (Ashcroft) in Gloucestershire, the motifs have no exact parallel anywhere in Britain. The shaded triangles are absolutely unique, although they do appear in mosaics in other parts of the Roman Empire, including a 3rd-century pavement found at Grand in France⁽⁴⁾.

2. R.C.H.M., *London III*, 1928, pls. 39 and 48.

3. J. M. C. Toynbee, *Art in Roman Britain*, 1963, pl.224.

4. H. Stern, *Recueil general des mosaïques de la Gaule*, I, fasc. 2, 1960, pl. xlv.

1. *Proc. Dorset N.H.&A.S.* 93 (1971), p.143, figs. 10—12.

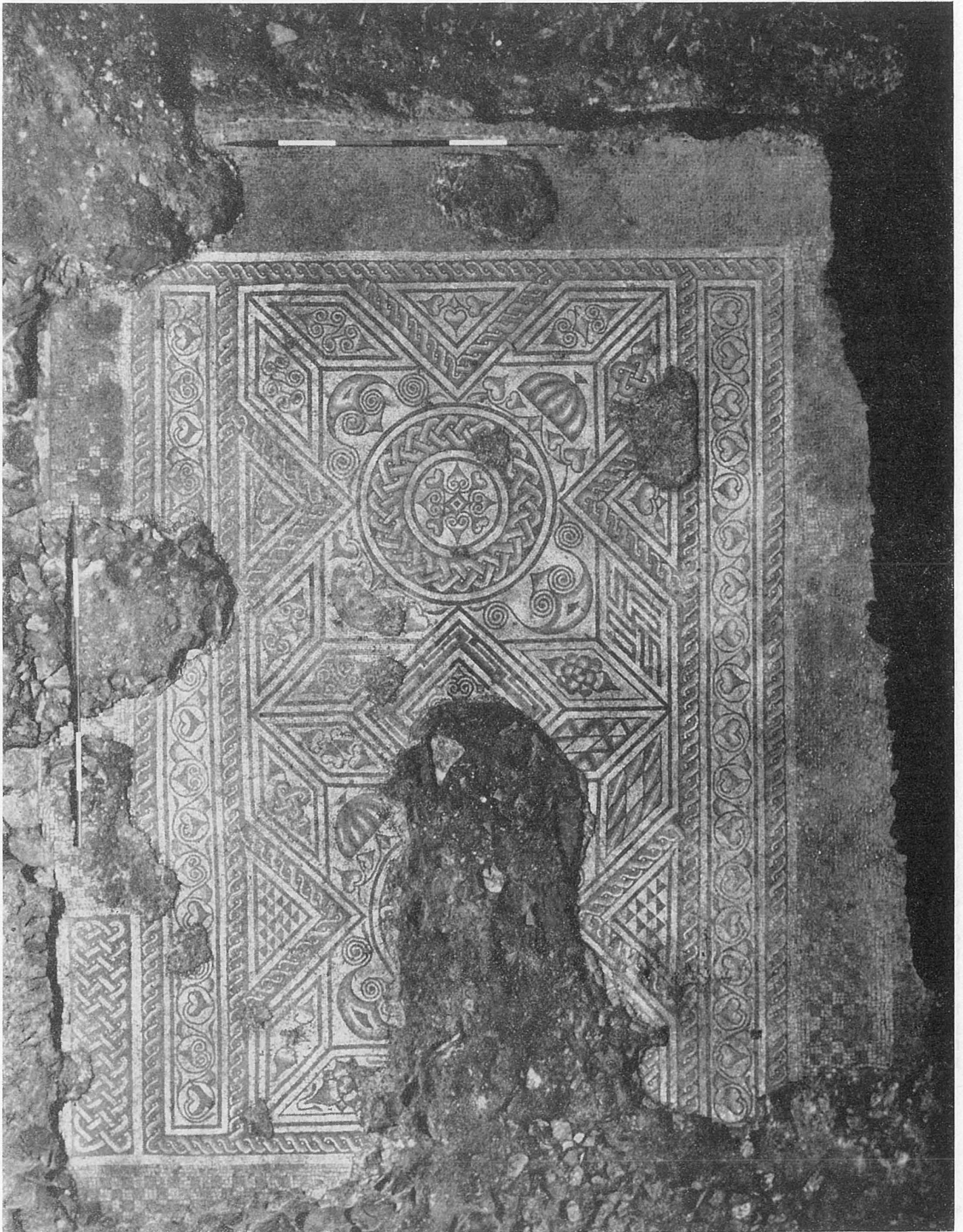


FIG. 3. The Mosaic in Room 2, Halstock Villa (East at top).

The surround of chequers in coarse tesserae is unusual, although it is interesting to note that all the mosaics in the 4th-century Building 1 in Colliton Park, Dorchester⁽⁵⁾ have a very narrow plain surround, and that Room 13 has an outer border of chequers.

ANNE RAINEY

A ROMANO-BRITISH SITE AT COMPTON VALENCE

The site, at sy 58069382, was first brought to the notice of the writer when a quantity of late Romano-British pottery including fragments of New Forest indented beakers was brought to the museum by Mr Scott of the Ordnance Survey. It had been found by him in earth moved during the making of a farm road and was confined to a relatively small area.

With the kind permission of Mr Simon Chick the area was observed during subsequent cultivation and evidence of predominately late Roman occupation was found. Among a concentrated flint scatter the plough turned up fragments of roof-tile, nails, and much unabraded pottery.

Earthworks to the north and N.W. must be associated with this site. Marked on the 1903 O.S. as 'British Village' they are described in R.C.H.M., *Dorset I*, as a series of small enclosures. These have been mostly destroyed by farming activities but that shown in the preface to the R.C.H.M. volume (p. xxxiv) survives, as do the 'remains further to the S.E. . . . of indeterminate character'. The site in question is about 45 m. to the south of these latter earthworks and about 400 m. to the N.E. of the site, adjacent to the Roman road, where pottery of similar type and fabric was noted by the late Jeffrey Radley and commented on by R. A. H. Farrar in our *Proceedings*, Vol. 87, p. 83.

During the latter part of August 1972 a limited exploratory excavation was carried out by a small team of members of the Society. The place chosen for investigation was as near as possible to that where pottery was found by Mr Scott. The soil in this area is derived from reddish clay with pebbly flint overlying chalk. Natural clay was generally reached at rather less than 1 metre. Above this, where not disturbed by cultivation, a virtually stoneless layer of reddish, silty soil contained pottery and a few nails. Some of the pottery was in large fragments indicating no disturbance after deposition. This, together with the stoneless silt, would seem to suggest that they were under water. There are still natural ponds nearby formed by basins in the impervious clay.

In all about 25 sq. metres was excavated. From over 500 pottery sherds found, the following vessels could be identified by rim or base:—5 large storage jars of hard buff fabric with everted rims, 34 New Forest indented beakers with purple-brown metallic slip, 4 examples of colour-coated ware and 45 of black-burnished ware including flanged bowls, plain-rimmed dishes, handled jars and everted-rim cooking-pots. There was a complete absence of recognisably early Durotrigian material, but some evidence of earlier activity was shown by 7 samian sherds and a well worn 'as' of Marcus Aurelius (BMC 1092).

The main occupation here must therefore be late. The distribution of pottery types found during excavation is in line with those found by Mr Scott and at Mr Radley's site. A significant feature in each case is the relatively high proportion of New Forest ware on such a rural site.

C. J. BAILEY

EXCAVATIONS FOR THE DORCHESTER EXCAVATION COMMITTEE, INTERIM REPORT, 1972

SITE 1. SOUTH GROVE COTTAGE, TRINITY STREET (SY 69159036).

Excavation of the garden of the cottage, at the south foot of Trinity St., was undertaken in advance of proposed development, in association with the organization 'Rescue' and Rob Walkers, the successors of Lee Motors on the site. Rob Walkers shared

the cost of the excavation with the Department of the Environment.

A trench 16 m. by 5 m. was excavated. The earliest feature was a pit of late 1st-century date sealed by occupation layers cut, at the south end of the trench, by a 3 m.-wide chalk and flint footing previously seen in the 1970 trench across Bowling Alley Walk (*Proceedings*, Vol. 92, p. 135).

In the far southern end of the trench was the tail of the primary Roman town rampart, which was constructed during the 2nd century and apparently respected the edge of the footing. At the end of the 3rd century the back of the rampart was extended over the footing; occupation layers built up on it, and finally a cobbled surface was placed on top. In the north end of the site the robbed west end of a 4th-century structure was found with associated cess-pits.

Above the Roman levels was a churned black garden soil containing pottery from the Roman period to the present day. (*D. W. A. Startin*).

SITE 2. THE GROVE (SY 68899082).

Excavation across the supposed line of the Roman western town defences was carried out in advance of development and by permission of Dorchester Borough Council, towards the higher, southern end of The Grove.

One trench was cut in an east—west direction, measuring 30 m. by 4 m. The excavation revealed two ditches of north—south direction dug into the natural chalk bedrock. The larger, outer ditch, 27 m. from the west edge of The Grove, showed three phases of construction, (1) an early V-shaped ditch, (2) a wider ditch producing 3rd- to 4th-century Roman pottery, and (3) a final phase producing 14th- to 15th-century pottery.

The second smaller ditch, 5 m. east of the outer ditch, showed two phases, an early phase producing 2nd- to 3rd-century Roman pottery, and a later phase without dating evidence because of heavy 19th-century disturbance, which, indeed, covered most of the site.

At the same time the chalk and clay bank to the S.W. of the main site was investigated, on which the clubhouse of the Dorchester Tennis Club once stood (68849076). Examination revealed this to be the counterscarp associated with the Roman defences. Over the outer edge of the counterscarp was a spread of Roman debris, consistent with cleaning out the ditches in either the Roman or mediaeval period. (*K. Smith*).

SITE 3. POUNDBURY CAMP (SY 685911).

Excavation continued on the Bronze Age settlement and late Roman cemetery.

On Site C, at the base of the combe east of the hill-fort, the Middle Bronze Age settlement was found to cover an area of 2,500 sq. ft., enclosed on the north by a ditch similar to that found on the south side in 1971, and on the east by a curving palisade trench. The north end of the overlying 3rd-century Romano-British building was excavated; the interior yielded further scrap from iron-working and various objects, including a small male statuette. Of the 4th-century Christian cemetery 17 inhumations were excavated including one of a man enclosed in a lead-lined wooden coffin packed with gypsum. Traces of blonde hair survived.

On Site D, the earliest phase of occupation was represented by a circular hut of native Iron Age type, 24 ft. in diameter. During the 3rd century a rectangular dwelling-house 44 ft. by 18 ft. was erected, enclosing at one end two ovens and a raised foundation for a water-heater. Three 3rd-century cess-pits lay outside the building, beside the small cemetery first located in 1971. Of 26 burials most were aligned north—south and several contained grave-goods such as jet bead necklaces, coins and food offerings, or studs from footwear. Several were mutilated by later burials, the cemetery continuing in use through the 3rd century into the early 4th, when occupation ceased.

A strip of open ground separated the Christian cemetery to south and west. 26 burials were excavated, the focus of one group consisting of two adults in substantial wooden coffins and

5. R.C.H.M., *Dorset II*, 1970, part 3, pls. 219 and 220, and plan, p. 556.

a child in a lead-lined wooden coffin packed with gypsum. Locks of dark brown hair survived. Another notable find were fittings from a bronze-bound box thrown into a grave.

On Site E, further up the hillside to the S.W., the earliest finds consisted of two small flint quarries of Neolithic/Bronze Age date and a stretch of the linear boundary ditch noted on Sites B and C. The south perimeter of the 4th-century Christian cemetery was marked by a V-cut ditch containing 4th-century occupation debris. Another ditch running north through the cemetery was cut by several burials, one containing a young girl possessing bronze bracelets.

Within the angle formed by these ditches lay two mausolea. One, decorated with wall paintings, contained two adults in lead-lined wooden coffins packed with gypsum, remains of dark brown hair surviving in both cases. The other enclosed two children, one in a lead-lined wooden coffin, an adult in a lead-lined coffin, and a woman with a bone comb, in a Hamstone coffin. All three coffins were packed with gypsum. Thirteen ordinary inhumations were also excavated in the surrounding area. In the post-Roman period a complex of pits including a corn drying oven was superseded by two periods of palisaded enclosures. (C. J. S. Green).

D. W. A. STARTIN
K. SMITH
and C. J. S. GREEN

FOURTH INTERIM REPORT ON EXCAVATIONS AT DEWLISH ROMAN VILLA, 1972, AND ON THE MOSAIC IN ROOM 11

The second full season of excavation on the Roman villa at Dewlish by Weymouth College of Education took place during July and August 1972, generously supported by Mr. and Mrs. J. A. Boyden, Mr. and Mrs. J. R. Boyden, and the Society.

Excavation continued S.W. from the 1971 site, and nearly 200 sq.m. were uncovered (Figs. 4, 10). Now that the work is clear of the large tree growing S.W. of rooms 3 and 4, the trenches were extended to include part of the corridor or verandah (room 12) which runs along the S.E. side of the main range of rooms.

Only one further room of this range was examined (room 11, Fig. 6) but this is clearly the principal room of the villa. The rectangular part measures 7.35 m. (N.E.—S.W.) by 6.1 m.; the apse is 6.15 m. wide by 4.1 m. deep. The length of the whole room to the back of the apse is thus 10.2 m. The walls were of coursed flint as elsewhere, but where room 11 opened into the corridor there was a timber-framed division of some complexity which may have included folding doors. This timber work had been burnt (though this is not true generally of the villa) and the ashes included a number of nails and spikes up to 24 cm. long.

Room 11 had no hypocaust, and it may be that room 4 served as the main living room during the winter. The floor of room 11 was an elaborate mosaic of Durnovarian style (for discussion see below). Unfortunately during post-medieval times a large tree⁽⁶⁾ grew in the centre of the room and subsequently fell over, completely destroying the major part of the pavement. After the fall of the tree interested persons dug around the hole, uncovering parts of the pavement along the N.E. wall. This was then left exposed to the frost and the tesserae removed except in some small patches. Of the main rectangle of the floor only a small area in the east corner survived undisturbed, including a fine picture of a leopard attacking a gazelle (Fig. 8), which gives some idea of the quality of the lost work. The apse (Fig. 7) survived the fall of the tree and was undiscovered by the diggers, suffering only slight damage from growing roots.

It is fortunate that it is possible to establish a *terminus post quem* for the mosaic. At the time of its construction both its side walls were rebuilt S.W. of their original positions; at the same time room 8 was refloored with a plain red and white tessellated floor, which covered the demolished remains of the

6. This may well have been one of those mentioned by Hutchins, *History of Dorset*, 3rd edn., II, p.607.

earlier partition wall. Enough of the step remained to confirm the existence of a door between the two rooms. Thus, material from beneath the floor of room 8 was securely sealed at the time of the reconstruction. So far three coins have been found, the latest of which is of Constantius II, dated 353—6.⁽⁷⁾ Accordingly the Durnovarian mosaic is securely dated to the second half of the fourth century A.D.

Room 14 was demolished to make way for the apse of room 11. The corridor (room 12) continued right through the area excavated, though the geometric mosaic floor (Fig. 5) was destroyed by ploughing at its S.W. end. The corridor is 2.7 m. wide and its outer wall has been completely rebuilt inside its original position, and at the same time a substantial porch was added immediately opposite the entrance to room 11.

The villa as a whole can now be seen to have two clearly defined periods of construction, recognisable by a change from a yellowish gritty mortar to a smooth chalky mortar. The rebuild seems to have been substantial involving the reconstruction of some walls immediately adjacent to their original positions (the outer wall of the period I corridor was in fact falling over outwards) and the rebuilding of others (e.g. the corridor inner wall) from below floor level. There is no sign of earlier floors; a cutting through the corridor floor foundation at its S.W. end revealed nothing but builders' rubble over a gravelled surface.

Comparatively little pottery was found, most of it coming from the drainage gully which runs from the stokehole of room 9 past the apse of room 11 through the demolished wall of room 14. It is hoped to publish this group, which was sealed by the collapse of the villa, in the next interim report. An interesting find was the almost complete Hamstone finial (Fig. 9) found in the collapse layers in the centre of the apse to room 11, on the apex of whose semicircular roof it may be assumed to have stood.

Findings are held in Weymouth College of Education pending ultimate storage at Dorset County Museum. Work continues in 1973.

The mosaic in room 11.

Most of the mosaic pavement had been totally destroyed, but the horseshoe-shaped apse protruding from the side of a rectangular room is still fairly well preserved. The curving outer border of the apse (Fig. 7) is composed of a foliate scroll of red leaves outlined in black, each twist of the scroll ending in a central round, red fruit, high-lighted in white. Only a fragment remains of a very similar scroll running along the chord of the apse (Fig. 6), but here the red leaves flow from cornucopiae, and from at least one of these emerges a small tuft of acanthus leaves.

Within the scroll border is another of two-strand guilloche, which also forms a flattened semi-circle at the base of the apse and, radiating from this, cuts the apse into five segments. In each of these panels is a device resembling a candelabra, three decorated near the base with a little face or mask⁽⁸⁾ in red or white, and all with red or black tendrils and red leaves, mostly outlined in black. The 'candelabra' are all badly executed and two are very crude indeed, the mosaicist apparently having found it difficult to fit them into the awkwardly shaped panels.

In the semi-circle is a heavy fluted urn shaded in red, white and brown, with a wide mouth from the black depths of which flop two wide-eyed dolphins, with white bellies, grey and brown backs and red fins, one having a large white 'whisker'.

The remains of the mosaic in the main part of the room (Fig. 10) indicate that the pattern may have included a wide border of sixteen guilloche-bordered panels composed of a square of guilloche mat in each corner and three rectangular panels on each side, probably framing alternate figured and geometric designs facing towards the centre of the room. The best preserved of these lies in the east corner and contains a

7. We are very grateful to Mr Richard Reece for annual identification of the coins.

8. Similar faces or masks may be found between the panels in Room W at Keynsham in Somerset, in panels round Bacchus at Thruxton in Hampshire and perhaps on the hinges of scallop shells in the apses at Littlecote in Wiltshire.

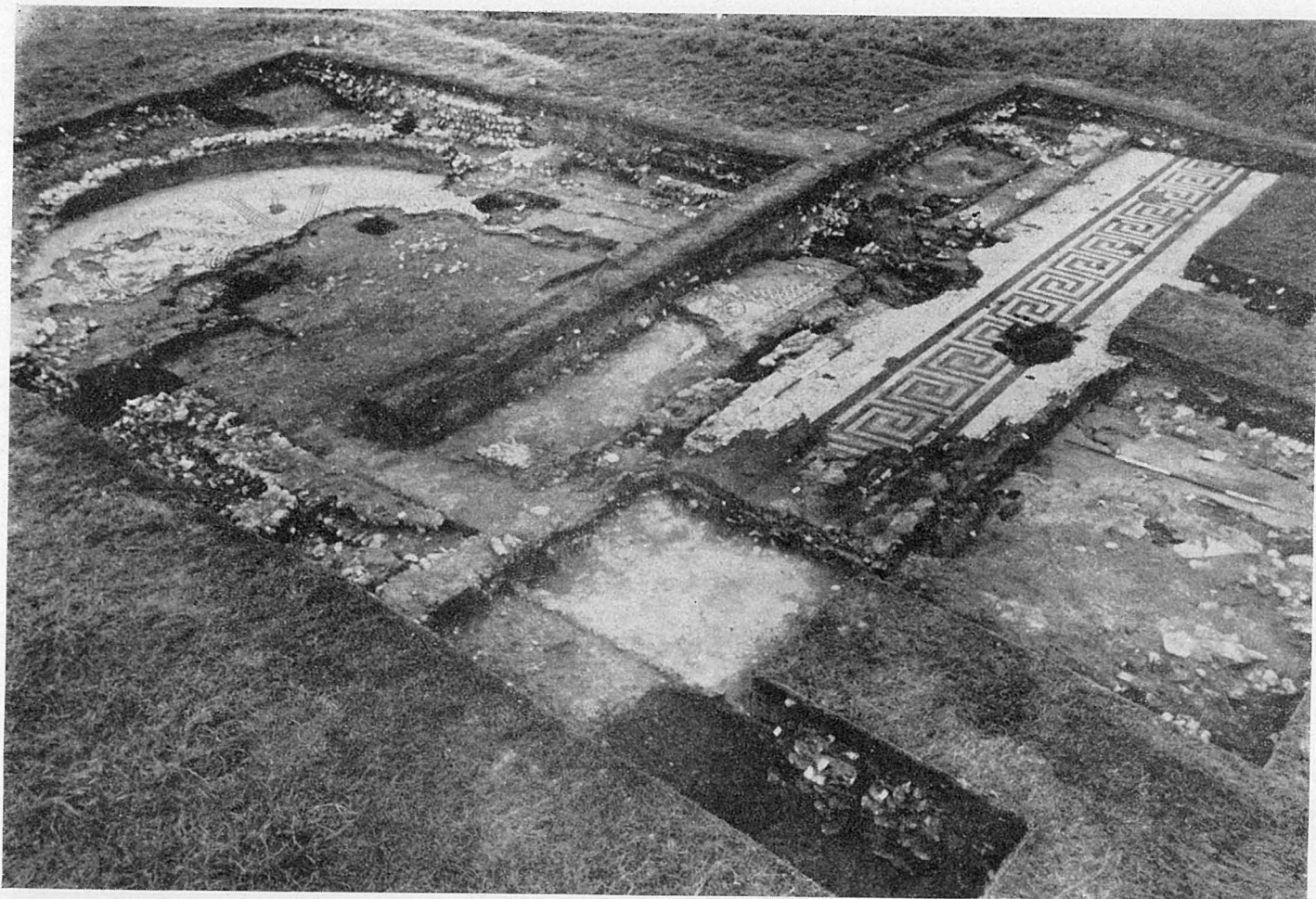


FIG. 4. Dewlish Villa; the Excavations from the South, 1972.



FIG. 5. Dewlish Villa; part of the Corridor floor (Room 12).



FIG. 6. Dewlish Villa; Room 11, from the North-East



FIG. 7. Dewlish Villa; the Apse of Room 11.

lively scene with a leopard, worked in grey with white spots outlined in brown, leaping on to the back of a fleeing Dorcas gazelle⁹ executed in grey shaded with white and brown, with a brown shadow cast by the hind legs, and red tesserae being used for the blood which pours from a wound in the shoulder (Fig. 8).



FIG. 8. Dewlish Villa; detail of Mosaic in Room 11.

Only fragments of the three panels along the N.E. side of the room survive, and of these one is recognisable only as a figured scene and one as a geometric design, perhaps a medallion. The third has the right leg of a man wearing purple leggings, probably below a short tunic, with a black band above the ankle and short black boots;¹⁰ the left leg with bent knee may perhaps be discerned against a shapeless grey object with a wedge-shaped protrusion at the base. A staff or the shaft of a spear between the legs slopes up from the right ankle towards the left thigh (?). On the right are lines of black tesserae, perhaps representing a plant, and shadows are cast by the two presumed legs. The man is in a classical stance for a hunting or amphitheatre scene, but the spear (?) is in an unusual if not impossible position for attack or defence.

The guilloche mats and the two-strand guilloche enclosing the panels and weaving without interruption between them are all executed in black, red and white on a black ground, with white dots between the strands; these panels have a plain inner border composed of two rows of red tesserae.

Of the large central area, measuring 3.95 m. by 3.35 m., all that survives is one corner with a very small and extremely puzzling fragment of pattern, showing three asymmetrically placed feather-like objects pointing towards the corner and lying over two downward curving 'horns', the whole being outlined in black and shaded in red, grey and white. Within the guilloche border is a plain band of two rows of black tesserae and, on the N.E. side only, this is supplemented by a band of grey. Apart from the guilloche mats, the background of all the panels is white and the whole mosaic has a surround of predominantly red tesserae.

The central design of the mosaic may have comprised a grid of guilloche-bordered panels, but this seems unlikely in view of the fact that the figured scenes all appear to face inwards and that the border of the 'feather' motif is in a different colour, indicating a change in the pattern.

9. *Gazella dorcas*. We are grateful to Miss Wilma George for identifying the gazelle and for telling us that the species was described with some degree of accuracy in *Aelian* 14.4, as well as being found in ancient Egyptian wall-paintings and on tombs, etc.

10. We are grateful to Professor J. M. C. Toynbee for her comments on the clothing worn by huntsmen in several mosaics.

The corridor mosaic (room 12).

A striking Greek key pattern, executed in creamy white outlined in black and dark red between bands of black and white, runs the length of the corridor within broad borders of coarse grey and brown tesserae.

Discussion.

The approximate size of the tesserae is 14 mm. in the apse, 11 mm. in the leopard panel, 21 mm. in the corridor pattern, and 26 mm. in the coarse surrounds of both pavements.

The workmanship in the mosaics at Dewlish appears to have been of very uneven quality. The hunting scenes, the scrolls and even the dolphins and the heavy urn in room 11 are well drawn and executed, as are also the two corridors of Greek key pattern, and the fragment with triangles in room 9, but most of the 'candelabra' in room 11, the small chequers in room 1, the adjacent circles in room 3, and the chequered apse of room 4,¹¹ all appear to be the work of an inexperienced mosaicist. Two of the 'candelabra' are better executed than the rest and could perhaps have been laid by the master craftsman as a guide for his pupil or assistant.

Three main points emerge from the study of the mosaic in room 11.

1. It appears to be the work of the Durnovarian School. Foliate scroll of this type has so far been found only round the Bacchus medallion at Frampton, the god at Hemsforth, the saltire at Fifehead Neville, and at Hinton St Mary, all in Dorset. A somewhat similar type may be seen in pavements at Whittington Court in Gloucestershire, and Newton St Loe, Nunney (Whately), and in a fragment at Low Ham, all in Somerset. Although the interweaving of the guilloche between the panels, which



FIG. 9. Dewlish Villa; Hamstone finial.

occurs at Dewlish, appears to be an invariable feature of guilloche borders in Durnovarian mosaics, it must be noted that this also occurs elsewhere in Britain. The dolphins cannot be placed with any certainty as their mouths and tails are missing, but they appear to be much the same as two of those found in Room D at Frampton, and the Greek key pattern corridors are very similar in style to the meander and swastika pattern corridors also at Frampton, although the latter, again, is not exclusive to Durnovarian mosaics.

11. *Proc. Dorset N.H.&A.S.* 93 (1971), p.157, Figs. 17—21.

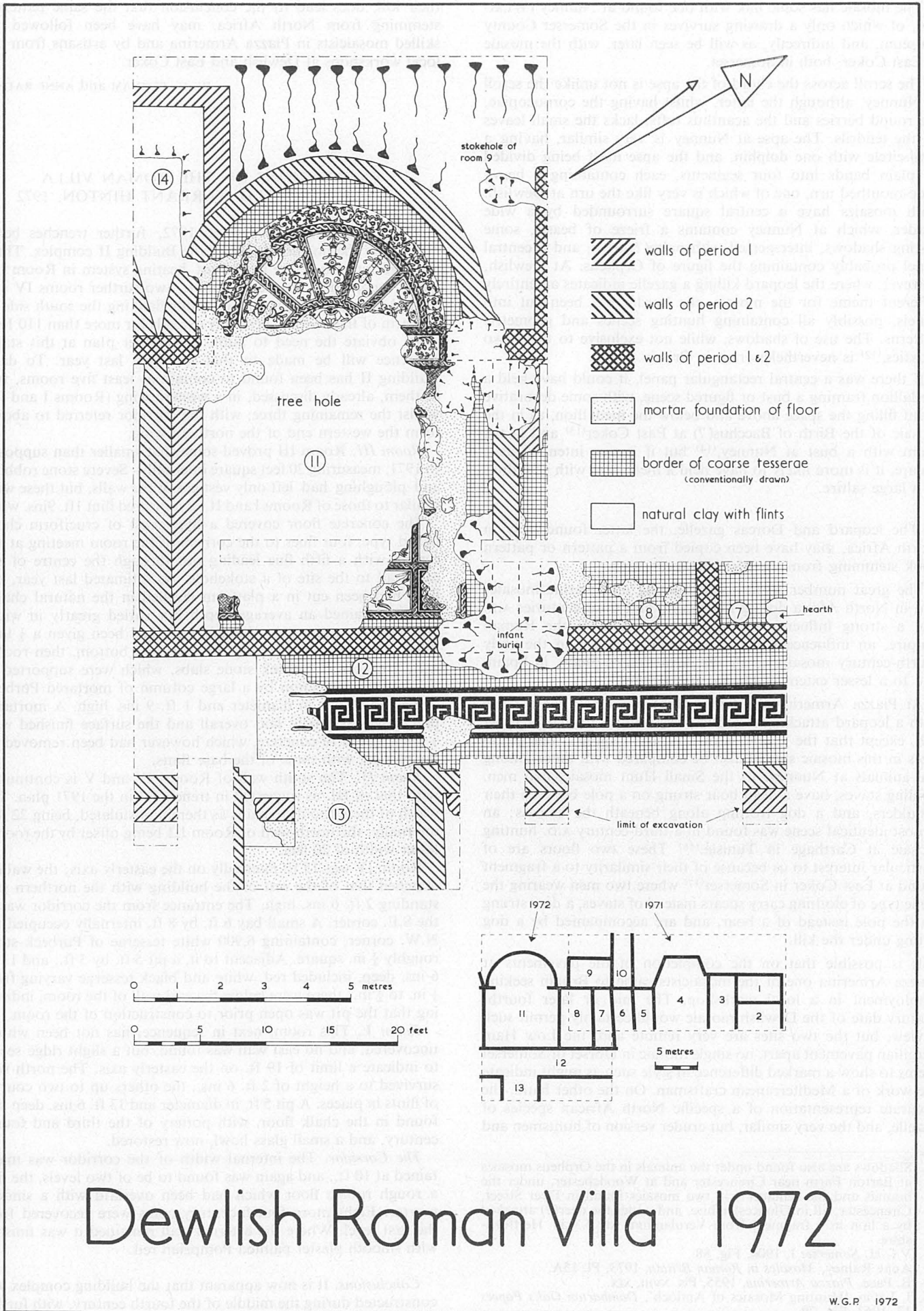


FIG. 10.

2. The mosaic has some link with one found at Nunney (Whately), of which only a drawing survives in the Somerset County Museum, and indirectly, as will be seen later, with the mosaic at East Coker, both in Somerset.

The scroll across the chord of the apse is not unlike the scroll at Nunney, although the latter, whilst having the cornucopiae, the round berries and the acanthus tufts, lacks the small leaves on the tendrils. The apse at Nunney is very similar, having a semi-circle with one dolphin, and the apse itself being divided by plain bands into four segments, each containing a heavy wide-mouthed urn, one of which is very like the urn at Dewlish. Both mosaics have a central square surrounded by a wide border, which at Nunney contains a frieze of beasts, some casting shadows, interspersed with palm(?) trees, and a central panel probably containing the figure of Orpheus. At Dewlish, however, where the leopard killing a gazelle indicates an entirely different theme for the mosaic, the border has been cut into panels, possibly all containing hunting scenes and geometric patterns. The use of shadows, while not exclusive to these two mosaics,⁽¹²⁾ is nevertheless rare in Britain.

If there was a central rectangular panel, it could have held a medallion framing a bust or figured scene, with some decorative motif filling the space above and below the medallion, as in the mosaic of the Birth of Bacchus(?) at East Coker⁽¹³⁾ and in the room with a bust at Nunney,⁽¹⁴⁾ but if it was intended as a square, it is more likely to have held a medallion with spandrels or a large saltire.

3. The leopard and Dorcas gazelle, the latter found only in North Africa, may have been copied from a pattern or pattern book stemming from the Mediterranean area.

The great number of pastoral, hunting and marine mosaics laid in North Africa during the second and third centuries A.D. had a strong influence on mosaics elsewhere in the Roman Empire, an influence which is certainly apparent in the early fourth-century mosaics at Piazza Armerina in Sicily, in Spain, and to a lesser extent in France and Britain.

At Piazza Armerina the Great Hunt mosaic⁽¹⁵⁾ has a scene with a leopard attacking a gazelle, very similar to that at Dewlish, except that the gazelle is of a different species. The palm-trees in this mosaic should also be compared with those among the animals at Nunney. In the Small Hunt mosaic, two men, holding staves, have a dead boar strung on a pole between their shoulders, and a dog trotting along beneath the carcass; an almost identical scene was found in a third-century A.D. hunting mosaic at Carthage in Tunisia.⁽¹⁶⁾ These two floors are of particular interest to us because of their similarity to a fragment found at East Coker in Somerset⁽¹⁷⁾ where two men wearing the same type of clothing carry spears instead of staves, a deer strung on the pole instead of a boar, and are accompanied by a dog sitting under the kill.

It is possible that on the completion of the pavements at Piazza Armerina one of the mosaicists came to Britain seeking employment in a local workshop. The mid or later fourth-century date of the Dewlish mosaic would certainly permit such a view, but the two sites are very remote and, the Low Ham Virgilian pavement apart, no single mosaic in Dorset or Somerset seems to show a marked difference in style such as might indicate the work of a Mediterranean craftsman. On the other hand, the accurate representation of a specific North African species of gazelle, and the very similar, but cruder version of huntsmen and

their kill, does lead to the conclusion that the same patterns, stemming from North Africa, may have been followed by skilled mosaicists in Piazza Armerina and by artisans from the local workshops at Dewlish and East Coker.

W. G. PUTNAM and ANNE RAINEY

EXCAVATIONS ON THE ROMAN VILLA AT BARTON FIELD, TARRANT HINTON, 1972

Work continued throughout 1972, further trenches being opened on the northern wing of the Building II complex. These revealed remains of the hypocaust heating system in Room III, partly recorded in last year's report, two further rooms IV and V, and they showed that the corridor flanking the south side of this arm of the building certainly extends for more than 110 feet.

To obviate the need to publish a further plan at this stage, reference will be made to that provided last year. To date, Building II has been found to contain at least five rooms, two of them, already discussed, in a western wing (Rooms I and II), whilst the remaining three, with the corridor referred to above, form the western end of the northern wing.

Room III. Room III proved somewhat smaller than supposed in 1971, measuring 20 feet square internally. Severe stone robbing and ploughing had left only vestiges of the walls, but these were similar to those of Rooms I and II, of mortared flint 1 ft. 9 ins. wide.

The concrete floor covered a hypocaust of cruciform channelled type, four flues to the corners of the room meeting at the centre, with a fifth flue leading out through the centre of the east wall to the site of a stokehole. As intimated last year, the flues had been cut in a platform levelled in the natural chalk; they maintained an average depth but varied greatly in width and were not accurately aligned. They had been given a ½ inch thick screed of mortar along the sides and bottom, then roofed with 1 in. thick Purbeck stone slabs, which were supported at the centre intersection by a large column of mortared Purbeck stone 1 ft. 6 ins. in diameter and 1 ft. 9 ins. high. A mortared flint base was finally laid overall and the surface finished with a thick screed of concrete, which however had been removed by the plough, with some of the base flints.

Room IV. The south wall of Rooms IV and V is continuous with that of III, as suggested in trench T.I in the 1971 plan. The width of these rooms remains as therein postulated, being 22 feet internally, the north wall of Room III being offset by the room's lesser width of 20 feet.

Room IV was 15 ft. internally on the easterly axis; the walling matched that of the rest of the building with the northern side standing 2 ft. 6 ins. high. The entrance from the corridor was in the S.E. corner. A small bay 6 ft. by 8 ft. internally occupied the N.W. corner, containing 6,900 white tesserae of Purbeck stone roughly ¾ in. square. Adjacent to it, a pit 5 ft. by 3 ft., and 13 ft. 6 ins. deep, included red, white and black tesserae varying from ¼ in. to ¾ in.; these were below the east wall of the room, indicating that the pit was open prior to construction of the room.

Room V. This room, next in sequence, has not been wholly uncovered, and no east wall was found, but a slight ridge seems to indicate a limit of 19 ft. on the easterly axis. The north wall survived to a height of 2 ft. 6 ins., the others up to two courses of flints in places. A pit 5 ft. in diameter and 13 ft. 6 ins. deep was found in the chalk floor, with pottery of the third and fourth century, and a small glass bowl, now restored.

The Corridor. The internal width of the corridor was maintained at 10 ft., and again was found to be of two levels, the first a rough rubble floor which had been overlaid with a smooth mortar. Eight more fourth-century coins were recovered from the first level. Where the external wall remained it was finished with smooth plaster painted Pompeian red.

Conclusions. It is now apparent that the building complex was constructed during the middle of the fourth century, with further work continuing much later. The pottery and coins found this season have been of the third and fourth century. The animal

12. Shadows are also found under the animals in the Orpheus mosaics at Barton Farm near Cirencester and at Woodchester, under the hounds and the centaur(?) in two mosaics found in Dyer Street, Cirencester, all in Gloucestershire, and under the deer(?) attacked by a lion in a fragment from Verulamium xiv.5.3 in Hertfordshire.

13. V.C.H. *Somerset* I, 1906, Fig. 88.

14. Anne Rainey, *Mosaics in Roman Britain*, 1973, Pl. 15A.

15. B. Pace, *Piazza Armerina*, 1955, Pls. xviii, xix.

16. I. Lavin, 'Hunting Mosaics of Antioch', *Dumbarton Oaks Papers* 17, 1963, Fig. 79.

17. Fragment stored in Somerset County Museum. V.C.H. *Somerset* I, 1906, Fig. 87.

bones recovered to date indicate that sheep were predominant, and used for food rather than for wool, though this was doubtless also important. The remains of a dog from the pit in Room IV have been identified at Southampton University as of a terrier breed; it had apparently died in the pit.

R. M. TANNER

SOME SURFACE FINDS IN SOUTH DORSET

The following notes record the results of surface observation by the writer since 1970. In addition to those whose special help is acknowledged in the text, thanks are also given to Messrs. J. Beavis, R. A. H. Farrar, and R. N. R. Peers. Unless otherwise stated, the finds remain at present with the writer.

(a) *Mesolithic and Beaker flints from Charminster and Stinsford near Dorchester.*

As a result of operations by the Avon and Dorset River Authority during the early part of 1970, flint artefacts were found in dredged material along a length of the River Frome from the road bridge to Burton (sy 68909128) eastwards to the foot-bridge (69179132) and thence east again to a point south of farm buildings at Coker's Frome (69649118); also in dredged material adjacent to the footpath running south from the foot-bridge already mentioned.

Later in the year further artefacts were found in arable fields immediately north and west of the Coker's Frome farm buildings and thereafter in arable land to the north of the lane, as far as 69929196.

During the summer of 1971 the Southern Gas Board laid a pipe-line for natural gas from the cottages at Coker's Frome (69489147) northwards to near Hill Barn (69209383) where it joined the existing east-west main. The trench for the pipe was excavated to a depth of about 4 ft. along its whole length. Under the plough-soil was revealed brown clay interspersed with pockets of natural gravel. Traces of chalk were extremely scanty until as far north as about 69289365 where it appeared initially for the whole depth of the trench. No traces of human activity appeared in clay, gravel or chalk, but artefacts were visible in the plough-soil which had been removed along the whole length of the trench.

The finds, which were handed over to the County Museum, were identified by Mrs. S. Palmer as a mixture of Mesolithic and Beaker flints. The Mesolithic artefacts were largely located in the river area between 68949128 and 69639117 and also at 69129107 mixed with Beaker material. She states that the Mesolithic material includes 2 micro-scrapers, 7 cores including 2 micro-cores, 1 hammerstone, 2 core trimming flakes, 12 retouched flakes, and 2 carinated scrapers on chunky flakes, and that the Beaker material consists mostly of indistinctive waste.

(b) *A Mesolithic pick from Winterborne St. Martin.*

A Mesolithic pick of Greensand Chert, identified by Mrs Palmer, was found in 1970 on arable land on the South Dorset Ridgeway at sy 64908670. Measurements: 5.1 in. long, 1.6 in. maximum width.

(c) *Pottery and daub from a barrow in Bincombe parish.*

In 1970 the round barrow at sy 68918531⁽¹⁸⁾ was on arable. Two pieces of daub and one small fragment of everted rim of pot were recovered from its N.W. quadrant. The proximity of sherd and daub could, of course, be fortuitous.

The sherd has orange outer and dark inner surfaces, the former marked with a repeated chevron pattern. Both pieces of daub show signs of burning and the larger, 3.5 in. long and 1 in. thick, apparently bears wattle marks.

Dr. I. H. Longworth, of the British Museum, believes the sherd to be either from a rather coarse Beaker or possibly from one of the simple Beaker/Food Vessel forms. With regard to the daub, he suggests that if the material of the mound represents

a scraped up occupation site, excavation in the neighbourhood might reveal evidence of actual structures, perhaps of a late Neolithic or early Bronze Age date.

The barrow is now (1972) under grass; height still about 5 ft.

(d) *A Romano-British occupation site in Stinsford parish.*

The following finds were made in 1971 in the S.E. corner of an arable field north of farm buildings at Coker's Frome amongst a wide scatter of small fragments of tegula and imbrex tiles:—

(i) Abraded sherd of plain Samian base of form Drag. 18/31 at sy 69799141.

(ii) Sherd of New Forest ware thumb-pot rim at 69809147.

(iii) Wedge-shaped fragment of upper stone of rotary quern of Romano-British type at 69829146. Thickness at circumference 2.1 ins., diminishing to 1.5 in. at 7 ins. from the edge. The surfaces of top and edge are pecked. The grinding surface not only shows signs of concentric striations, but a smooth zone about 0.75 in. wide running across them, bearing heavy rust marking. Deposits of this rust also lie in peck-marks adjacent to this band. Possibly this fragment had a secondary use as a whetstone. Identified by Messrs. J. F. Cowley and M. R. B. Bone of County Hall as Wealden sandstone.

Roman burials in the vicinity, alongside the supposed Roman road from Stinsford to Stratton, by-passing the Roman town of *Durnovaria*, are recorded in R.C.H.M., *Dorset*, II, part 3, p.541.

(e) *Mediaeval and other finds from an enclosure in Portesham parish.*

In 1970 the square enclosure⁽¹⁹⁾ on the north slope of Hewish Hill⁽²⁰⁾ at sy 64358423 was ploughed for the first time within the writer's memory. Finds subsequently made there have been identified by Mr P. R. Walker as follows:—

(i) Part of 'slashed' strap-handle and body of glazed jug, and two small body-sherds, from the farm track which now marks the west side of the enclosure. The largest sherd bears sparse, lustrous yellowish-green glaze. All are sand-tempered with a buff-grey core and orange surfaces. Date: 13th—14th century.

(ii) Seven body-sherds and one rim-sherd, very roughly wheel-marked, representing at least four vessels (cooking pots and pans), found around 64258422 on the east bank of an overgrown stream about 100 yds. west of the enclosure. The quality of these vessels is much poorer than that of the jug (i); the sherds contain much grit and vary in surface colour from dark buff to grey-black; all cores are dark. Date: probably 12th—13th century, but one or two sherds may be of the 14th century.

(iii) Boat-shaped whetstone of ferruginous sandstone; length 6.5 ins., max. thickness 2 ins., max. width 1.9 in. Date: possibly post-medieval. Found on east bank of stream just north of (ii). The site is now (1972) under grass.

P. F. WILLIAMS

A NOTE ON HORSE PUMPING GEAR AND AN ICE-HOUSE AT BLOXWORTH HOUSE

At Bloxworth House a horse gear used for pumping water from a well is to be retained *in situ* for its historical interest by the owner, Mr T. A. Dulake.

The gear consists of a spoked, cast-iron bevel gear and pinion driving triple pumps situated in the well. Motive power was supplied by horse or pony harnessed to a wooden beam. The equipment appears to be complete and undamaged, and is possibly the only horse gear remaining *in situ* in Dorset.

Also at Bloxworth House is a double chambered subterranean structure noted by the Royal Commission on Historical Monuments as a late 18th or 19th-century ice-house which, although it is not 'listed' or 'scheduled', is also being retained.

D. YOUNG

18. R.C.H.M., *Dorset*, II, part 3, p.439, Bincombe Hill Group, no. 54; L. V. Grinsell, *Dorset Barrows*, p.91, Bincombe no. 27.

19. R.C.H.M., *ibid.*, p.503, and therein suggested as of mediaeval or later date.
20. "OE hiwisc 'family, household; a family-holding of land, hide' is the source of pl. ns. HEWISH, HUIH . . . The meaning may be that of HYDE, i.e. 'homestead consisting of one hide'." (E. Ekwall, *Dictionary of English Place-Names*).

A BOOTMAKER'S WORKSHOP AT STURMINSTER NEWTON

In February 1972 Miss Beale, the proprietress of Palmer's shoe shop in Sturminster Newton, offered the contents of a disused bootmaker's workshop (Fig. 11) to the Dorset County Museum.

The offer was gratefully accepted, and everything moveable was transported to Dorchester, where it is now stored in four of our members' houses. The material consists of hand tools, patterns, lasts, three sewing machines, a large buffing machine, boot-making materials, boots and shoes, various shop fittings, account and measurement books from 1882—1953, trade regulations and directories, etc.

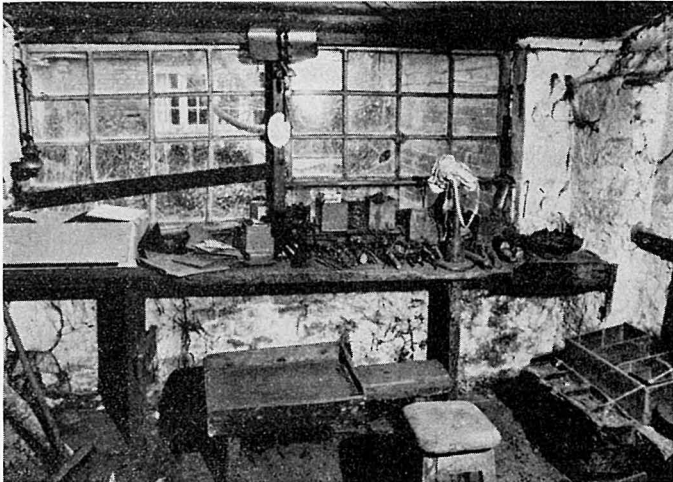


FIG. 11. A Bootmaker's Workshop at Sturminster Newton.

It is intended to reconstruct the workshop for display when space is available. Meanwhile research into its history is being pursued.

We are grateful to the County Records Office for assistance in dealing with the papers which were suffering from damp.

F. W. CLARK

SOME RECENT ARCHAEOLOGICAL DISCOVERIES IN DORSET

A stone construction at Mangerton, Netherbury.

Our member Mr Alan Harvey has deposited in the County Museum a record and sketch of the exposure in 1971 of some unusual stonework at the foot of the scarp, some 2 m. high, on the west side of the curving N.W. corner of a field at Mangerton

Manor Farm, Netherbury, near West Milton, during excavation for the partial replacement of an old concrete block retaining wall by a new wall of concrete blocks.

The site is some 70 m. north of the farmhouse, at sy 48869590, where a minor track leads from the farm towards a hill-top quarry and old lime-kilns. The exposure occurred immediately south of the curve of the field corner. The remains consisted of an exposed length of about 5 m. of vertically pitched stones, one course high (30 cm.), of which the northern end was beginning to curve in conformity, presumably, with the corner of the field scarp, when further observation was impracticable. Rubble stones including flints appeared to be packed in behind the uprights. At the southern end of the exposure the alignment was again curving inwards (*i.e.* into the face of the scarp) and at this furthest point of observation the small uprights were replaced by a large block with a few flat worked stones on top of it, heavily burnt.

The soil above the stones seemed to be loamy plough-soil, and no objects were seen other than an animal bone. It is fairly clear that the scarp is largely due to lynchet formation from ploughing. The stones rested on what Mr Harvey considers was natural clay subsoil, and the possibility exists that the feature was constructed before the formation of the lynchet. Its behaviour at the southern end of the exposure seems to militate against a view that it was simply the remains of an earlier retaining wall for the scarp.

Mr Harvey suggests that the stones were of various types, some local, perhaps quarried further up the hill; others included a greenish rock. It is understood that the remains were to be preserved behind the new work.

Romano-British finds near St Edward's Bridge, Corfe Castle.

Mr P. A. Brown reports some further discoveries in the field immediately north of St Edward's Bridge, below the Castle, during the digging of an agricultural trench towards its N.W. corner (sy 95698257). Pottery including samian sherds and New Forest ware was recovered, a typical right-angled pestle of Purbeck stone, and a class C shale armlet lathe-core. A few tesserae of 'ferruginous shale', as well as a samian sherd, came mainly from just above natural sand, beneath some 0.75 m. of dark topsoil.

Mr Brown noted that the natural sand here rose to some 0.3 m. of the present ground surface, by the hedge bounding the main road, the former toll road to Wareham; his opinion that this absence of any sign of wear into the natural subsoil is against any view of a great antiquity for the precise route followed by the toll-road here, is worthy of note.

R. A. H. FARRAR



The Cerne Abbas Union Workhouse

1835 — 1838

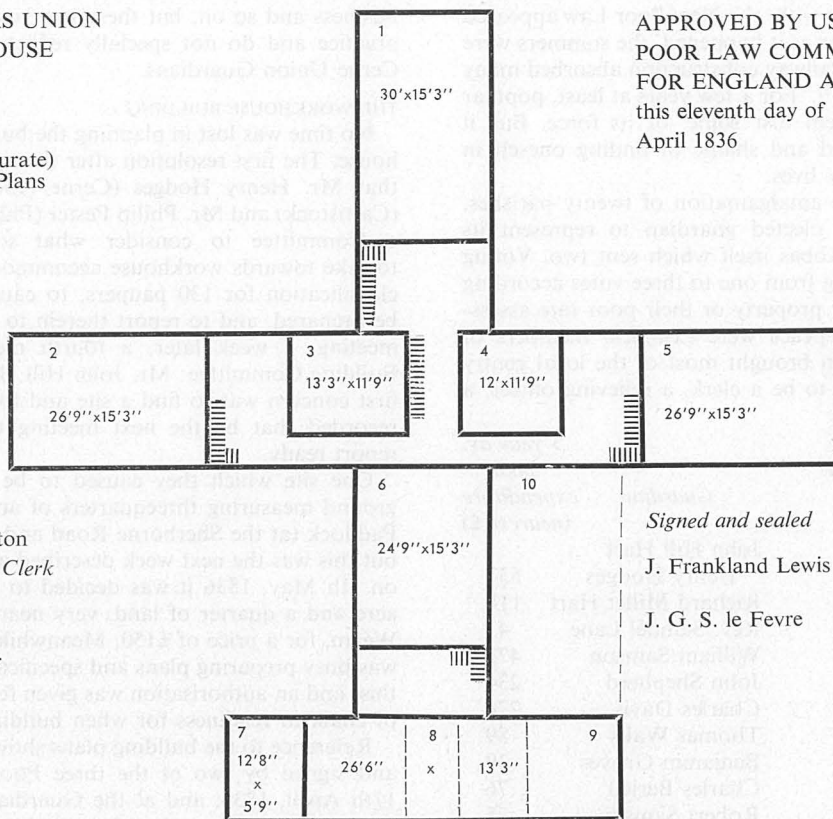
by Elizabeth O. Cockburn

CERNE ABBAS UNION
WORKHOUSE

8 April 1836

Sketch (not accurate)
of Workhouse Plans

APPROVED BY US THE
POOR LAW COMMISSIONERS
FOR ENGLAND AND WALES
this eleventh day of
April 1836



William Frampton
Clerk

John Biles
Wm. Northover

Signed and sealed

J. Frankland Lewis

J. G. S. le Fevre

Ground Floor

- 1 Day Room
- 2 Bread Room
- 3 Kitchen
- 4 Matron's Dining Room
- 5 Day Room
(Assembly Room)
- 6 Chapel
- 7 Porter, Office
and Bed Room
- 8 Entrance
- 9 Vagrants
- 10 Verandah or Covered
Way

First Floor

- 1 Men's Sick Room
- 2 Women's Bed Room

- 3 Matron's Bed Room
- 4 Master's Bed Room
- 5 Men's Bed Room
- 6 Boys' Bed Room
- 7 Clerk's Office
and Paper Room
- 8 Board Room

Second Floor

- 1 Women's Sick Room
- 2 Women's Bed Room
- 3 Lying-in Ward
- 4 Medical Officer
- 5 Men's Bed Room
- 6 Girls' Bed Room
- 7 Nurse's Bed Room
- 8 Children's Bed Room

THE Dorset County Record Office possesses the first Minute Book of the Board of Guardians of the Cerne Poor Law Union. The Union Workhouse which was built by the efforts of the Guardians still stands, almost unaltered in appearance, on the outskirts of Cerne Abbas, even though its days as a workhouse ended over forty years ago in 1930; and this makes it interesting that the details of its building, and the organisation of local poor relief can be followed in considerable detail by a study of the Minute Book. In addition, the plans of the first and second floors have survived, and while the ground floor plan is missing, the arrangement of the rooms can be deduced from the building itself with the help of people from the locality who remember it formerly. Wareham's workhouse is said to have been similar so it would appear that there were a number of standard workhouse designs of which this was one.

During the first quarter of the nineteenth century the cost of poor relief in this country arose alarmingly. The end of the Napoleonic Wars caused a flood of needy people to be thrown on the support of public authorities; and from 1817 onwards

numerous select committees discussed the problems of agricultural and other distress. Finally, in 1832, a non-party Royal Commission was appointed to inquire into the whole problem of Poor Law Reform. After much serious study the Commissioners published their Report in 1834. The result was the grouping together of parishes into "Unions", and the election of Boards of Guardians to take over from the churchwardens and overseers in each parish, their disagreeable duty of administering poor relief. The unions were to be made up of from 12 to 20 parishes grouped round a central market town where the Union Workhouse would be built, the theory being "that except as to medical attention . . . all relief whatever to able-bodied persons or to their families otherwise than in well-regulated workhouses shall be declared unlawful"⁽¹⁾.

Sir Francis Head, an Assistant Poor Law Commissioner wrote, "The very sight of a well-built establishment would give confidence to the Board of Guardians; the sight and weekly assemblage of all servants of the Union would make them proud of their office; the appointment of a chaplain would give

dignity to the whole arrangement, while the pauper would feel it was utterly impossible to contend against it"⁽²⁾; for one commonly held opinion at that time was that the poor were largely to blame for their own misfortunes.

There were people even then who condemned the system and pointed out the inhumanity of housing all paupers under a single roof, and, indeed, as the years passed there was a perpetual series of attempts to undo what had then been decided and of action to transfer one class of inmate after another to special institutions. However, to start with, the New Poor Law appeared to be working successfully, for as it happened, the summers were fine, harvests good and new railway construction absorbed many of the unemployed workers⁽³⁾. For a few years at least, popular resentment against the system lost some of its force. But it always existed and the dread and shame of finding oneself in "the Union" darkened many lives.

The Cerne Union was the amalgamation of twenty parishes, each of which sent a duly elected guardian to represent its interests, except for Cerne Abbas itself which sent two. Voting was plural, rate payers having from one to three votes according to the rateable value of their property or their poor rate assessment. Local justices of the peace were *ex-officio* members of the Board, and this provision brought most of the local gentry on to the Board. There was to be a clerk, a relieving officer, a treasurer and an auditor.

Parish	Population	Guardian	3 year av. poor expenditure (nearest £)
Cerne Abbas	1209	John Hill Hart Henry Hodges	537
Alton Pancras	210	Richard Millet Hart	118
Batcombe	170	Rev. Samuel Lane	43
Buckland Newton	786	William Samson	472
Cattistock	427	John Shepherd	234
Cheselborne	351	Charles Davis	274
Frome St. Quintin	143	Thomas Walls	89
Godmanstone	152	Benjamin Groves	39
Hermitage	124	Charles Berjeu	76
Hilfield	150	Robert Samson	75
Mappowder	308	William James	110
Melbury Bubb	121	Benjamin Jesty	39
Melcombe Horsey	172	John Davis	79
Minterne Magna	331	John Hearn	204
Nether Cerne	83	Joseph Goodenough	26
Piddletrenthide	680	Philip Pester	388
Pulham	302	George Young	174
Sydling St. Nicholas	617	John Willy	264
Wootton Glanville	331	Henry Meech	200
Up Cerne	88	John Flower	29

Much preliminary work had already been done before the first meeting of the Board of Guardians was called for 29th December, 1835. Not only have all the parish representatives been duly elected, but Mr. John Frampton, the clerk, is in attendance, with his salary decided (£40 a year) and only needing a resolution to that effect to make it official. Similarly, there is recorded a resolution that Mr. John Samson be the relieving officer upon filing securities for the due discharge of his duties. His yearly salary was to be £90, but then his was a full-time job. Herbert Williams of Dorchester, Esq. was requested to be the treasurer upon entering into sufficient securities, (he was the Dorchester banker).

Each parish was immediately desired to pay one eighth of its average annual poor relief expenditure into the hands of the treasurer by the first of February, 1836, which would give the Guardians a sum of money for immediate expenses, for not only had the existing parish poor still to be relieved but the salaries of the officials had to be paid, and there were expenses for such things as hire of a room at the New Inn (4s. a meeting), account books and stationery, printing of official notices, an official seal (£1), newspaper advertisements and so on.

At the first meeting only three Guardians failed to attend. Attendance figures naturally varied and on a few occasions meetings had to be cancelled for lack of a quorum, while at

other times there was so much business that an adjourned meeting had to be called for a subsequent day, and the next regular meeting cancelled.

After about three months there is a minute to the effect that to ensure regularity in their *Proceedings* the following bye laws shall be adopted and read whenever any Guardian desired to call to order the meeting. Then follows a series of propositions as to standing to speak, addressing the chairman, keeping to the matter under discussion, not speaking above twice to any business and so on, but these bye laws were probably standard practice and do not specially reflect upon the conduct of the Cerne Union Guardians.

THE WORKHOUSE BUILDING

No time was lost in planning the building of the Union Workhouse. The first resolution after the appointment of officers was that Mr. Henry Hodges (Cerne Abbas), Mr. John Shepherd (Cattistock) and Mr. Philip Pester (Piddletrenthide) be appointed a Committee to consider what steps it may be desirable to take towards workhouse accommodation on the principal of classification for 130 paupers, to cause plans and estimates to be prepared, and to report therein to this board. At the second meeting, a week later, a fourth member was added to the Building Committee: Mr. John Hill Hart of Cerne Abbas. Their first concern was to find a site and for weeks in succession it is recorded that by the next meeting they hoped to have their report ready.

One site which they caused to be surveyed was a piece of ground measuring threequarters of an acre called Bakers Cross Paddock (at the Sherborne Road and Acreman Street junction), but this was the next week described as "not available". Finally, on 5th May, 1836 it was decided to enter into a treaty for an acre and a quarter of land, very near to the former site, called Weam, for a price of £150. Meanwhile, Mr. Wallis, the surveyor, was busy preparing plans and specifications (he was paid £21 for this) and an authorisation was given for the immediate quarrying of chalk in readiness for when building could begin.

Reference to the building plans shows that they were approved and signed by two of the three Poor Law Commissioners on 11th April, 1836, and at the Guardians' meeting the very next day (12th April) an advertisement was drawn up for insertion in the *Dorset County Chronicle* and the Sherborne newspapers for receiving tenders for the erection of the workhouse. Only a fortnight later the tender of Messrs. Northover and Biles of Cerne Abbas was accepted at a sum of £2,050.

The financing of the building was by the issue of exchequer bills for £2,700, to be repaid in ten annual instalments of £270, with interest charged at 5%. Repayment was secured by a charge on the poor rates of the parishes, the statutory authorisation being that the sum must be less than the average annual amount of the poor rates for the past three years.

On 27th July, 1836 Messrs. Northover and Biles executed their contract and entered into a bond for its due performance. The deed for the issue of the exchequer bills was received on 14th September, and at once £1,100 of this was sold and on 5th October a building account opened and debited with "checks" of £300, £500 and £250 drawn for Messrs. Northover and Biles. On 12th October £350 more was paid out to them, and a further sale of £400 was ordered from the exchequer funds. Clearly the building was rising with (to us) amazing speed. At this meeting an order was given for the "necessary water shoots and pipes to be placed at the Workhouse".

In November an advertisement was inserted in the *Dorset County Chronicle*, the *Salisbury Journal* and the Sherborne newspapers that a married couple would be wanted at Christmas to fill the office of master and matron. The man was to be able-bodied, his age not to exceed 50 years. The joint salary was to be £40 a year with coals, candles and such provisions as the House afforded. Mr. William Bartlett and his wife were appointed, and received a board and lodging allowance in the interim period.

It is possible to follow the progress of the building by items minuted. On 24th November, 1836 it is resolved that each courtyard shall have a pump. In January, 1837 coals for airing the workhouse are ordered, and the thanks of the Board are

conveyed to the building committee for the attention they have paid to their duties. At the same time the building is insured in the sum of £1,500 with the West of England Insurance Office. By reference to the *Dorset Directory* of 1842 we discover that the clerk himself, Mr. John Frampton, was the local agent.

It cost £12 11s. 9d. to acquire information as to fitting up of the workhouse though this figure is not further elaborated — travelling round to other workhouses perhaps.

In April tenders for supplying provisions, clothing, etc. are listed and we can read of the cost to the authorities of stockings and shoes, bonnets and hats, trousers, fustian jackets, printed cotton for gowns, stays, flannel for petticoats, lindsey woolsey for shirts, checked muslin for caps, and items such as soap,



soda, salt, candles, sheeting and blankets. Nearly everything was obtained from Cerne Abbas shops and retailers.

As so often happens the actual completion of the workhouse was delayed. An order given on 5th April that "from and after 14 May all out-relief given to or on account of all and every illegitimate child or children shall cease and that none hereafter be afforded out of the Workhouse", had to be suspended. And on 10th May an order is minuted that unless Messrs. Northover and Biles forthwith fulfil their contract, the bond entered into by them and their surety will be enforced.

This threat must have led to instant activity, for on 26th May it is ordered that the relief now afforded by this Union to non-resident paupers shall on and from the third day of June next cease, unless the Board shall in every case be satisfied of the necessity of such relief being continued. And on 29th May, the House, presumably ready and furnished, was ordered to be occupied. This three-storey building, large by any standards, had been completed in ten months, and that encompassed all the winter months (and the winter of 1836/7 was a particularly hard one⁽⁴⁾).

There were a number of bills still to pay. A well was dug in the men's yard and that cost £7. The Guardians paid £1 17s. 6d. for 37½ cwt. of coal for airing the Workhouse (this sum included carriage); £1 15s. for labour in the garden, and as they had already paid £3 8s. for thorn bushes some of this work may have been in planting a hedge. There must have been a marathon job in cleaning and preparing the Workhouse for occupation, once the builders were (almost) ready to leave, for Elizabeth Gillingham was paid £10 4s. 1d. for the labour of herself and others.

August, 1837 saw the sale of the final £200 of exchequer bonds, (the sale realised £206 5s. 10d.), and the depressing realisation that the first repayment of the £2,700 loan was due. The Guardians signed a memorial praying the Lords of the Treasury to extend the time of repayment to be advanced from 10 to 20 years and that the interest be reduced from 5 to 4 per cent. The first repayment of £135 and one year's interest of £108 is minuted on 11th September, by which we can calculate that the memorial has been agreed.

Later improvements to the Workhouse were largely to do with taking water away from the yards. In November, 1837 a drain from the women's yard was dug, and the S.W. court paved with flint throughout and gutters made to take the water away.

Pumps in both yards were repaired and the wells deepened, and the well in the men's yard was deepened again in January, 1838 at a cost of £2 19s. 3d.

THE RELIEVING OFFICER

One of the key posts for the successful working of the new Poor Law was that of relieving officer. John Samson had to attend the weekly meeting and produce his out-relief books for examination, when the amounts expended were authorised for payment by the treasurer and the books initiated by the chairman, John James Smith, Esq. of Sydling House, or in his absence, the Rev. John Davis, vicar of Cerne Abbas, both *ex-officio* Guardians.

Everything appears from the Minute Book to be running satisfactorily until November, 1836 when the clerk represented to the Guardians that the relieving officer's books were not in such a state as to enable him to prepare the Pauper Description Book. John Samson was admonished, told to have his books satisfactorily made up or be reported to the Assistant Poor Law Commissioner. At a later meeting he was still unable to produce his books in a reasonable state and tendered his resignation. Notices for a replacement were immediately advertised, and within a fortnight Mr. William Cave was appointed, having entered into a £100 bond and named as his surety Mr. William Clark of Cerne Abbas. His salary was settled at £80 a year, £10 less than his predecessor.

A few months later his itinerary was revised and it is given like this:—

- 23 May: Mappowder, 9 a.m. Pulham, 10 a.m. Wootton Glanville, 11 a.m. Buckland Newton, 12 noon.
- 24 May: Godmanstone, 9 a.m. Cerne Abbas, Up Cerne and Nether Cerne, 10 a.m.
- 25 May: Cattistock, 9 a.m. Frome St. Quintin, 10 a.m. Batcombe, 10½ a.m. Hilfield, 11 a.m. Melbury Bubb, 11½ a.m.
- 26 May: Cheselborne, 9 a.m. Melcombe Horsey, 10 a.m. Alton Pancreas, 10½ a.m. Minterne Magna, 11 a.m. Piddletrenthide, 12 noon.

This seems a tight schedule considering his duties. Presumably he met the parish overseer, loaves of bread were distributed, meagre sums of money handed out and any particular cases of paupers in difficulties noted before riding, or driving along the old hill roads to the next village, or along the lanes, often deep in sticky mud, or white with summer dust, to the neighbouring parish.

The cost of out-relief varied considerably from week to week. Taking the period before the Workhouse was open, in June, 1836, it was as low as £25, but the average was about £40 and in January, 1837 it rose to £55 4s. 5d.

MOSTLY BREAD

Relief in kind to those in need was given in the form of bread, and many of the entries in the Minute Book are concerned with this subject. At the first meeting on 29th December, 1836, one resolution was that an advertisement be inserted in the *Dorset County Chronicle* for tenders to supply the Union with bread made of the best second flour (which sounds nicer than second best flour), such supply to be delivered at whatever times and places this Board or their Relieving Officer shall direct. A fortnight later Mr. James Dunning's tender at fourpence the quartern loaf with one per cent discount is accepted, "such bread shall not be delivered until twenty-four hours after the baking, when each loaf shall be of the full standard weight".

Later contracts were for bread at 5½d. a loaf, and for some reason it was charged in the accounts at 6d. per loaf and a deduction of ¼d. a loaf was made therefrom at the termination of the quarter. Thus, on 29th March, 1836 Charles Durden, the then contractor, is "debited with £5 19s. 4d. being the excess charged in his account of ¼d. per loaf on 3,808 loaves, and the Balance Sheet credited with the same".

Each week an estimate of the quantity of bread required is minuted together with the actual loaves issued for the past week. For example, in October, November and December, 1836, the weekly order was for 540 loaves, whereas the actual numbers received and paid for varied from 520 up to 580 as the hard

winter progressed. In the new year of 1837 the issue of bread rose to 600 loaves.

The diet of the workhouse inhabitants was not left to the Guardians to invent; they decided to accept the Authorised Dietary Table No. 1, but gave it sufficient attention to decide on two alterations: viz. that the allowance of meat (on the menu Sundays, Tuesdays and Thursdays), be reduced from 5 to 4 oz. and that an additional pound of potatoes be supplied in lieu of the ounce of meat. And another order was that 100 copies of the Dietary Table be printed. This was because copies had to be displayed for inmates to examine.

Tenders for supplying various items of food were agreed on 19th April. The list includes flour, beef, suet, mutton, bullocks' cheeks, potatoes, boiling peas, sugar, tea, salt, cheese, butter, Scotch barley, rice and sides of bacon. Not, it will be noted, a very interesting or stimulating diet. There were specified diets for the aged and infirm, the able-bodied, nursing mothers and children. These latter were classed as under two years, from two to five, and from five to nine. The sick were to be dieted as the medical officer directed. It is pleasant to see that the over 60s were privileged to have each an ounce of tea, four ounces of butter, and five ounces of sugar every week, according to the usually disregarded stipulation of the 1824 report that the old "were to enjoy their indulgences"⁽⁵⁾. In a not very comfortable world such small luxuries must have given special pleasure.

SETTLEMENT AND REMOVAL

Until well into the present century everyone was considered to have an authorised place of settlement, although after 1795 persons found away from their parishes of settlement were no longer liable to removal unless they became a charge on the poor rates⁽⁶⁾. Then they could arbitrarily be removed to whatever parish the overseers, after inquiry, decided the pauper and his, or her, family belonged. This was normally the registered place of birth, but there were a number of exceptions such as that the settlement of children up to 16 depended upon the place of birth of parents or parent. Even within a Union these rules of settlement held, for each parish resolutely declined to support any but its own poor, convinced as they were that this rule only had to be relaxed for them to be flooded with the arrival of paupers from all directions. The amount which a parish could spend on legal fees contending (or prosecuting) an order of removal of a pauper family could be completely unrealistic. For example, the Church Records of the small parish of Hermitage, with a population then of about 125, show that in 1853 and 1854 a sum of £112 was expended in successfully contesting the removal of Caroline Napier and her five children from the adjoining parish of Minterne Magna — a sum which would surely have been better expended in relieving the necessitous family; presumably Minterne's expenses were of the same order.

This was at the time when a Bill proposing complete Union chargeability was being introduced in Parliament. However, it was not until 1861 that such a Bill became law. In the same Bill the residential qualification for settlement, conferring the status of irremovability, was established at three years, and widows were not to be removed during their first year of widowhood, neither were sick or disabled persons to be removed unless their disablement was of a permanent character. Even in the year 1907 upwards of 12,000 persons were removed from one Union to another in England and Wales, with expenses of removal and litigation amounting to £21,530. In every Union the time expended by officials in considering and enforcing questions of settlement was quite out of proportion to the importance of the subject.⁽⁷⁾

In the Minute Book of the Cerne Abbas Board of Guardians a number of settlement and removal cases are reported. The first of these, in June, 1836, concerns James Slade, his wife and children, who were to be removed from Cerne to the parish of Lady St. Mary, Wareham. The Overseers of this latter parish refused to receive the family but "upon consideration of the circumstances IT IS ORDERED that the Clerk of this Board apprise the Churchwardens and Overseers of the said Parish of Lady St. Mary that unless the said Pauper and his family are immediately taken from the said parish of Cerne Abbas this Board will direct an Indictment to be prepared against them at

the ensuing Session for the disobedience of the said Order".

Alas, at this same meeting the Overseers of Cerne report the death of Eliza, wife of James Slade, and that they had ordered a coffin, the expenses of which and all proper charges relative to the funeral are to be allowed in the Overseer's accounts.

Funeral of Eliza Slade:

Shroud,	3s. 4d.	Coffin,	16s.
Clerk's Fee,	3s. 6d.	Pall Cloth,	1s. 6d.
Beer for Bearers,	1s. 8d.		

The last we hear of this pathetic family is when the Overseers of Cerne report that they had expended in conveying the said James Slade and his family to Wareham and back (for the cart and driver only that would be) £3 9s. 7d. and paid the postage of the returned Notice of Chargeability containing a copy of the Pauper's Examination and Magistrate's Order 1s. 7d.

A month later the Churchwardens and Overseers of Map-powder reported that they had received from the Parish Officers of Chilton Cantelo in Somerset, notice of chargeability there of Phyllis Parley and Barbara, her daughter, with a copy of the Magistrate's Order for the Removal.

In November it is ordered that Robert Lawrence of Buckland Newton be examined as to how and in what manner he became legally settled in the parish. Later, Buckland Newton is to "take all necessary steps for appealing against an executed order for the removal of Sarah Anning and her child from Sidbury in Devon, and to prosecute such appeal at the next Sessions for the County of Devon. This was a complicated case, for three months later Mr. John Frampton, the Clerk, was ordered to proceed to the Island of Jersey (a nice little jaunt) to procure the necessary witnesses to support the case on the part of the appellants in the matter of Buckland Newton and Sidbury.

Again, the parish officers of Pulham are ordered to take all necessary steps for appealing against an executed order for the removal of Thomas Hardy from the parish of Arreton in the Isle of Wight to their parish and they are to prosecute such Appeal at the next Session for the County of Southampton.

These are a few examples from the Cerne Union Minute Book of the manner in which a man could be removed by warrant from where he was living to some distant part of the kingdom immediately he was driven to apply for relief, even in a transitory emergency, returning perhaps to a place where neither work nor accommodation would be available to him, thus discouraging mobility of labour at a time when the industrial growth of the country was leaping ahead as never before.⁽⁸⁾ Perhaps we have a modern equivalent in the nationalistic field, where people are shuttled by air from one country to another; illegal immigrants arrive by surreptitious routes and deportation notices are served on those who outstay their scheduled work permits.

MEDICAL MATTERS

In the original Poor Law Act of 1834 it is laid down that the post of Medical Officer is to be put out to the lowest tender, although after 1839 the commissioners admitted that this practice ought to be abandoned, and they authorised standard medical salaries, with set fees for operations, amputations and so on.⁽⁸⁾ The Cerne Guardians at their meeting on 23rd February, 1836, ordered that the necessary newspaper advertisements be drawn up. The Union was to be divided for medical purposes into three districts; the eight northern parishes (population 2,480), the six eastern parishes (2,647) and the six western parishes (1,636). The applicants had to be legally qualified, and the appointments were to be for a year from 25th March. The contract was to include all cases of sickness, surgery, midwifery and vaccination with the necessary medicines provided by the officer appointed. The Guardians did not pledge themselves to accept the lowest tender, and sealed tenders were to be delivered to the Board at the meeting on 8th March.

The appointment of two Cerne Abbas surgeons was confirmed at this meeting. Mr. Alfred Davis, who lived in Long Street, was to be the medical officer for the northern district at a salary of £50 a year, and Mr. John Fox of Abbey Street took on the rest of the parishes at a salary of £85. (*The Dorset Directory* of 1842 gives the names of four surgeons living in Cerne, one of them being John Fox and the other three all called Davis — Alfred, John and Thomas). The two medical officers were ordered to

attend at the next board meeting where they would execute their contracts.

Few details of the services given by the medical officers are reported, though there is a note of the number of paupers, (usually less than six), who received medical attention each week. An occasional medical matter is minuted. For example, once the Cerne overseers certified they had directed Mr. John Fox to afford medical relief to Ann Miller in a sudden illness, (she was officially Mr. Davis's patient). Trustees were sometimes ordered for named paupers, and once it is mentioned that Mr. Randall of Wincanton is to be the supplier of a truss at a cost of 30s. At times the medical officers reported that certain paupers were insane, when two J.P.s would be ordered to attend with the M.O. for examination after which presumably they would be accommodated at the lunatic asylum at Forston, the precursor of Herrison Hospital, for on 4th January, 1837, £12 10s. 3d. was paid by Cerne Abbas for maintenance of three paupers at the Forston Lunatic Asylum.

Occasionally tempers flared. On 15th February, 1837, Mr. Fox reported to the Board that the Relieving Officer "had sent a note couched in highly improper language". All the Board felt able to do was to admonish the officer and order him to be more circumspect in future. But it was only three weeks later (perhaps there was a connection?) that Mr. Fox himself was in trouble when the churchwardens of Cattistock complained of his neglect of Grace Shiner, an insane pauper. This was a matter of serious concern, and Mr. Fox was summoned to attend at the next board meeting. A committee of five members was then directed to prepare a report, and at the next meeting the report was received and a fair copy prepared with the signature of the chairman to be transmitted to the Poor Law Commissioners in London. Meanwhile, Mr. Fox's appointment for the succeeding year was confirmed at a salary of £100 — a £15 increase, and nothing more is heard of the matter.

SOME PEOPLE

Deserted wives and illegitimate children are some of the needy people who were the concern of the Board of Guardians. As far as was possible near relatives were required to give support and this might mean getting an order from the Justices of the Peace to this effect. On 8th January, 1836, it was resolved that an order be obtained to require John Short of Hermitage to maintain his daughter Catherine Hockey and her child, now chargeable to the said parish. On 22nd June William Coombs of Mappowder was ordered to maintain his daughter-in-law Mary Ann Coombs and her children. Later, there was a question as to why orders of filiation had not been made with regard to her two bastard children, and a week later again she was to be examined before J.P.s as to the reputed father of her illegitimate children, so perhaps William Coombs objected to maintaining his so-called daughter-in-law.

In August the parish officers of Cerne Abbas were apprised that Elizabeth Hart had been delivered of a bastard child. The next thing was to determine who the father might be. The word of the mother was not held to be definitive, and corroborative evidence had, if possible, to be got. In this case it was reported that Elizabeth Hart was a person of weak intellect, that she represented that Moses Bedloe, a pauper himself, was the father of her child but that no supporting evidence was forthcoming.

In the case of Mercy Bridle of Sydling St. Nicholas she declared that Joseph Newman of the same place, butcher, was the father of her child. This was corroborated and Joseph Newman was ordered to support the child. He was instructed to pay 20s. for cost of maintenance up to the time of granting such order and 1s. 3d. a week afterwards. The costs of obtaining the Order in Bastardy (£13) was debited to Sydling.

One might be ordered to maintain one's parents. Joseph Andrews of Melbury Bubb was required to maintain his father, John; and Richard Allen and Honor Weston were required to maintain their father, William Allen. James Bartlett of Frome St. Quintin was ordered by the J.P.s to maintain his mother, Ann.

Pauper funerals were charged to the appropriate parishes. The usual cost of a funeral was about £1 3s. 6d. made up of coffin, 15s., the clerk's fee, 3s., shroud and bearers, 5s. 6d. But the

many children's funerals might cost as little as 7s. 6d. On 10th May, 1837, James Humphries of Cerne Abbas applied for a loan of 25s. to assist him on account of the sickness of his family, and he was also allowed 7s. 6d. for the funeral of one of his children. On another occasion the officers of Cerne expended £1 10s. for the funerals of two children of Joseph Rolls.

Loans were granted for various reasons. On 13th January, 1838, there was a payment itemed as a loan of 8s. for the funeral of George Mitchell's child. Harriet Davidge residing at Froome Selwood in Somerset, an out-parishioner of Buckland Newton, having her goods distrained for arrears of rent, applied for £2 5s. as a loan. It was ordered that the money be advanced to her and the amount debited to Buckland Newton. Another loan to an out-parishioner was granted to Simon Warr residing in the city of Warwick. He belonged to the parish of Glanvilles Wootton and his request for a loan of 19s. was granted.

Desertions caused difficulties. On 4th January, 1837, Lydia, wife of George Bazell of Alton Pancras, having applied to the Board in the absence of her husband from his "residence", for four loaves of bread, it was ordered that the Relieving Officer do supply her therewith and the cost be debited as a loan to George Bazell. But, surprisingly, a week later, it is reported that Lydia had refused the bread granted her. One wonders why; it was not because George had returned, for on 26th April it was ordered that the parish officers of Alton Pancras do cause George Bazell to be apprehended and prosecuted for deserting his wife and family and leaving them chargeable to the parish.

MISCELLANEOUS

To find employment for able-bodied paupers was one of the earliest concerns of the new Board of Guardians. A resolution taken at their first meeting was that "this Board do take into consideration the best mode of setting the Able-Bodied to Work preparatory to the Establishment of an efficient Work-house system". It appeared that there was only one parish where there was a possibility of employment and that was in Piddlehinton. All parishes were ordered to send their able-bodied paupers over to the Piddle valley to work in breaking stones. The work was to be paid for by the cubic yard, the amount so paid not to be equal to the common rate of wages, and one half of such wages was to be given in kind.

Another resolution was that the clerk write to the overseers of Buckland Newton to check "the old and ruinous practice of making up wages from the Poores' Rate and to request them to draw attention of the land owners and occupiers to the very low rate of wages given to Boys". The clerk was also instructed to write to the Poor Law Commissioners for instruction as to binding out apprentices.

There was the fate of the old village workhouses or poor houses to consider. Sanction had to be obtained from the Commissioners for the sale of these premises, for one proposal in the original Royal Commission's Report of 1834 was that in some cases the old workhouses would be used to accommodate separate classes of paupers, although in the event this provision was over-ruled in favour of the new centralised Union Work-house. In Cerne Abbas the old workhouse was in Duck Street (Bridge Street) and there was also a garden in Lime Kiln Lane (described as "near to the Poor House") and these were to be offered to Lord Rivers, who owned much Cerne property, at the sum of £110. The Buckland Newton and Sydling poor houses were likewise to be sold.

In 1836 an Act of Parliament directed that a Civil Register of Births, Deaths and Marriages should be kept and an official Registrar be appointed. In the case of the Cerne Union it was decided that the entire Union should form one Registrar's district and that a properly fitted-up room should be provided within the new workhouse building. Mr. Henry William Norman of Cerne Abbas was appointed and as he is described as "carrier" he would be able to get early unofficial notice of prospective births and deaths. Marriages came into a different category. Mr. William Beach, the Cerne schoolmaster, was appointed "Registrar for the purpose of being present at Marriages to be solemnised by Virtue of the Act passed in the last Session of Parliament entitled 'An Act of Marriages in England'".

On 17th May, 1837, the Guardians passed a resolution that the workhouse be opened for the reception of paupers on the 29th inst. How did they arrive? Walking from the old Cerne poorhouse in Duck Street? In carts and wagons from the outlying parishes, bedridden folk on blankets, old men joking about the fine carriage they were riding in, on their way to the new palace? Young women with their illegitimate babies and small bundles of possessions; men without work and their children with thin, sad faces; a deaf and dumb boy, John Courtney, of Sydling, whose apprenticeship was a matter of discussion; sick people, the simple-minded, the homeless and workless, all in need came through the entrance hall of the huge, gaunt building and were directed up their own staircase to their classified quarters and to their own exercising yards. The medical officers were there — they had been ordered to attend. Later, they were instructed to “forthwith vaccinate the children”.

And so, all at once, the high echoing rooms were filled with the noise of boots and chattering people; the master had a hundred things to see to, the porter never stopped work, answering questions in his room by the entrance and giving a hand wherever it was wanted; and away on the second storey, matron was comforting the crying babies and trying to get the older girls to help the younger ones to go to bed, while the boisterous din of the skylarking boys on the first floor could be heard over everything else.

Once the workhouse was occupied the out-relief figures fell; from £52 9s. 2d. on 31st May to £26 1s. 10d. on 8th June. From this one deduces that only about half the people receiving relief came into the workhouse, notwithstanding the resolution agreed on 26th May that the relief now afforded to non-resident paupers shall cease from 3rd June unless the Board shall in every case be satisfied of the necessity of such relief being continued. However, as no statistics of the relief afforded to different classes of paupers are available one is not able to arrive at any conclusion as to the division of the Cerne Union flock into sheep and goats, beyond the figures given in August that 86 paupers had spent in all 1,699 days within, an average of nearly 20 days each, showing that some paupers probably only stayed within for a few days at a time.

An immediate crisis was the departure of the workhouse master and his wife within a fortnight of the occupation of the building, as he was found quite incapable of keeping his official books in order. That difficulty was overcome by the appointment of the porter to the post, with his wife, who had been engaged as school mistress, to be matron. They seem to have covered all four duties between them for several months, for it is not until 25th October that new appointments for porter and school mistress are resolved upon.

There were still bills outstanding for furnishings. On 21st June are minuted payments for cannisters, grates, baskets, window bars, cooking apparatus (carriage from London, £1 5s.). On 5th July, £113 11s. 4d. is paid for a further list of tables, beds, etc. and clothing for the paupers. Stone troughs are bought, and a slipper bath at £2 1s. 5d. and a pall is offered, and bought, for 30s. from Mr. Henry Clark.

In August it is decided to provide a book to be kept by the porter “wherein all Persons visiting the Workhouse do enter their names with such observations as they shall think fit”.

Perhaps just too many curious people had been found wandering around the huge new premises and a request to sign one's name would be a check. But what the official visiting hours (if any) were in these early days there is no record, nor how much freedom the residents had to wander away from prison-like quarters.

In November, 1837, 109 paupers are in maintenance, and the collective number of days amount to 2,067. Provisions cost £120 and clothing £38; establishment charges are even more — £241, and there was a loan repayment due of £135. No wonder a sub-committee was formed consisting of John James Smith, Esq., the Rev. Samuel Lane and Mr. John Hill Hart “for the purposes of enquiring into the discipline, management and expenditure of the Workhouse with a view to economise the present expenditure but at the same time having especial regard

to the comfort of the Paupers, and that they do report to this Board thereon”.

After the dietary and coal tables had been accepted the master is directed to report back to the Guardians as to the sufficiency of the allowances. And on 20th December among the tenders accepted are those for wine (3s. 6d. a bottle), brandy (4s. 6d. a quart), rum (3s. 6d. a quart), ale (2s. quart), and cider (3d. quart) so it looks as though a certain jollification was permitted at Christmas time, and at that price why indeed not?

The children's school education was considered. It is ordered that no book shall be made use of in the instruction of the children except such as are on the list published by the Society for Promoting Christian Knowledge and approved by the Poor Law Commissioners. The workhouse chaplain, the Rev. John Davis of Cerne is reported as objecting to this order. His own preferences are not recorded, which is a pity, for it would have been interesting to know whether they would have been thought unorthodox or merely extravagant. But he was over-ruled, and twelve each of the second part Child's First Book and the Charity School Spelling Book are ordered, and six Watt's Hymn Books and Bibles; to which order is added one dozen slates for writing lessons. In addition, Elizabeth Churchill is to come and teach the children to knit. She is to be paid £1 2s. for her time and the materials. The women and children were to be taught netting and Mr. Charles Vincent offered to provide netting work.

Curiously, the problem of where to accommodate vagrants was not considered until a batch of seven actually arrived early in 1838. The Relieving Officer had given an order to the master for supplying vagrants with articles of food to the amount of 1s. 3d. At the next meeting the Guardians put forward the resolution that accommodation in the workhouse be provided for the reception of vagrants and other casual poor and that Messrs. Willy, Shepherd and Jesty be a committee for carrying this resolution into effect.

The committee recommended that the two rooms on the north side of the entrance hall be fitted up and that a chimney be set up with a fireplace for each room and that windows and doors be secured with bars, locks and bolts.

At the last meeting in this surviving Minute book is a resolution that the clerk be requested to visit the workhouse at Beaminster, and ascertain the mode adopted for pulverising bones and report thereon. This was a standard workhouse occupation and led to a notorious scandal in Andover, where paupers were said to be eating the half-putrid gristle and marrow from the bones they were given to pulverise; proving, as some said, the insufficiency of their diet⁽¹⁰⁾.

This, however, one likes to think, was not the case in the Cerne Union. Nevertheless, it was seriously criticised by the Select Committee on Medical Relief in 1844. There had been an outbreak of typhus there in 1841 and the report showed that while there was an infirmary section with about 20 beds it had inadequate ventilation and no sanitation, and there was no isolation ward for infectious cases. As a consequence a detached block was built, with a new maternity ward, as well as isolation wards. This is the two storey building lying behind the main building as seen from the road.

To conclude, a more happy picture of the Cerne Union is given by a report in the *Dorset County Chronicle* on 1st November, 1860: “Mr. Gulson, the Poor Law Inspector, has recently paid an unexpected visit to Cerne Union Workhouse, and in his report he says, ‘I have found everything in exemplary order: the state of the establishment reflects credit upon all concerned in its management’”.

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