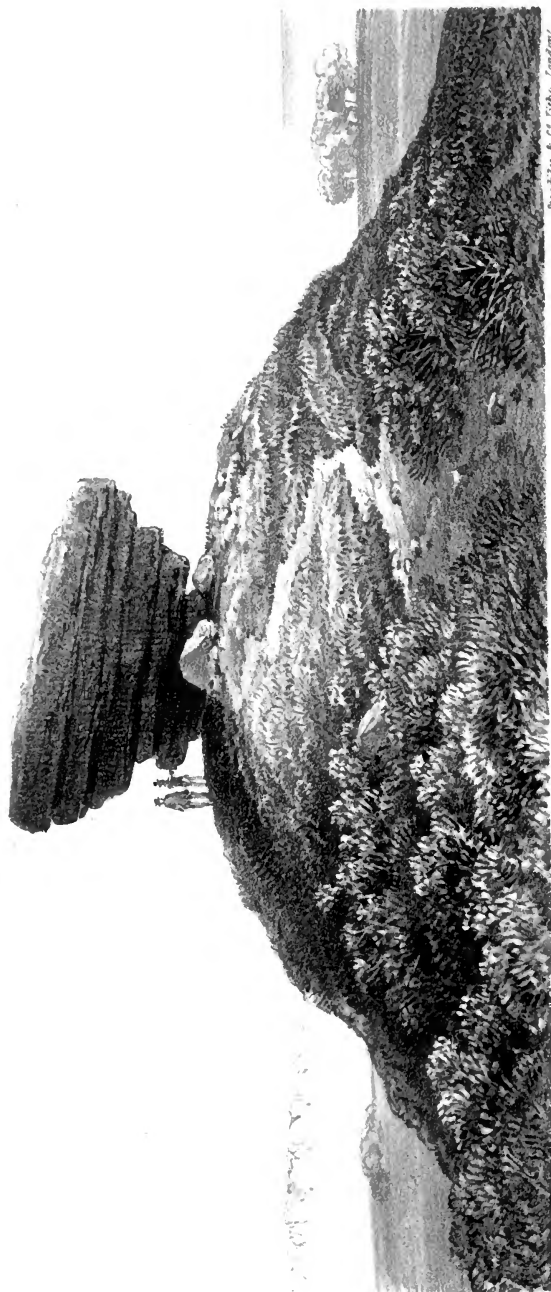


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THE AGGLESTONE.

P A P E R S

READ BEFORE THE

PURBECK SOCIETY. *K*

1856 — 57.

WAREHAM;

PRINTED BY C. GROVES, WEST STREET.

1857.



A GUIDE

TO

THE GEOLOGY OF THE ISLE OF PURBECK,

AND THE

SOUTH-WEST COAST OF HAMPSHIRE.

BY THE

REV. JOHN H. AUSTEN, M.A.

BLANDFORD:

W. SHIPP, PRINTER AND PUBLISHER.

1852.

The following sketch of the Geology of the S.E. of Dorset has been compiled from notes taken at various periods during a three years' residence in the Isle of Purbeck, but which were unavoidably brought to a hasty conclusion, a circumstance which the writer trusts will be a sufficient excuse for any inaccuracies which it may contain. He however anticipates that it will prove to be a sufficient guide to the stranger in this interesting district.

ENSBURY HOUSE, *July*, 1852.

A GUIDE

TO THE

GEOLOGY OF THE ISLE OF PURBECK,

&c. &c.

As the following pages are intended chiefly as a guide to the collector of the organic remains, and the amateur student of the geology of the neighbourhood of Swanage, I propose commencing with the Tertiary clays of Barton Cliff and the lacustrine beds which lie immediately above them at Hordwell Cliff, as they are at no great distance from and within sight of the town.

In a paper by Mr. Searles Wood, in the first number of the *London Geological Journal*, it is stated that the upper marine formation occurs on the west side of a ravine, which is situated near the village of Milford, "at an elevation of ten or twelve feet above high water mark, but with a thickness of only nine or ten inches, and only traceable for about forty yards." He gives a list of Testacea from this stratum containing fifty-six species. At Hordwell Cliff the strata are in the order of the following list, which I have compiled partly from that published by Mr. Lyell in the *Geological Transactions*, and partly from my own observations.

1. Alluvial gravel, containing large teeth similar to those which are abundant in the gravel of the neighbourhood of Cambridge, and probably the teeth and other remains of elephant.
2. Fine white sand with greenish marl.
3. Green marls, with arenaceous clays, containing bituminous wood, and seed-vessels, with shells of *Helix*, *Planorbis*, &c. Stratum of laminated marl with *Cyprides*.
4. Sands and clays, *Mya gregaria*, abundant; a layer of bituminous clay containing lignite.
5. White calcareous marl, with freshwater shells, *Planorbis* abundant, and a large *Helix*, and *Gyrogonites*. A layer of black carbonaceous clay with lignite.
6. Green unctuous and arenaceous marls. A thick bed of extremely fine white sand, containing an abundance of fluviatile shells of genera *Mya*, *Lymnæa*, *Melania*, *Cyclas*, *Paludina*, &c. It was from this bed that nearly all the fossils were obtained which are enumerated in Mr. Searles Wood's list, viz:—bones and teeth of *Palæotherium*, *Dichobune*, *Microchærus*, *Spalacodon*, *Seal*, *Alligator*, *Lepidosteus*, &c.
7. Light green calcareous and sandy marls, with layers of a carbonaceous clay containing lignite, abundance of shells, and seed-vessels. Here, I imagine, is the bed which Mr. Searles Wood designates "Lower Marine." It rises from beneath the beach a short distance to the east of Mead End, and may be traced to the top of Beacon Bunny, and on to about half way from thence to Barton, where it ends abruptly in the deep yellow coloured Bagshot sands.

8. Green marl, carbonaceous clay, and lignite, ferruginous clay, marl with leaves and seed-vessels and green clay. Freshwater shells.
 9. White siliceous sand, without shells.*

Retracing our steps "we follow in imagination the gradual silting up of a former estuary, and its gradation eastward into a pure river deposit. The gradual disappearance of marine species, such as are found at Long Mead End, and their replacement as we proceed by such as are of freshwater origin, is just such a succession as we should expect to meet in tracing the course of a river upwards from its mouth."

NUMBER OF SPECIES.

Acteon	2	Fistulana	1	Pleurotoma	15
Amphidesma	1	Fusus	14	Psammobia	2
Ampullaria	5	Gastrochœna	1	Pyrula	2
Ancillaria	1	Hipponyx	1	Ringicula	1
Anomia	1	Infundibulum	2	Rostellaria	2
Arca	3	Limopsis	1	Scalaria	4
Avicula	1	Littorina	1	Saxicava	1
Balanus	1	Lucina	5	Seraphs	1
Buccinum	1	Melania	1	Serpula	5
Bulla	6	Melanopsis	1	Sigaretus	1
Cancellaria	2	Mitra	3	Solarium	3
Cardium	4	Modiola	4	Solenocurtus	1
Cassidaria	1	Murex	7	Solen	1
Cerithium	3	Natica	7	Strombus	1
Chama	1	Neœra	2	Tellina	10
Clavagella	1	Nerita	1	Terebellum	1
Conus	3	Nucula	5	Teredo	2
Corbula	6	Nummulites	2	Triton	1
Crassatella	2	Oliva	4	Trochus	3
Cultellus	1	Ostrea	4	Turritella	2
Cypricardia	1	Panopœa		Typhis	2
Cyrena	1	Pecten	3	Venericardia	2
Cytherea	7	Petricola	1	Voluta	12
Dentalium	3	Pectunculus	2	Volvaria	1
Ditrupa	2	Pholas	1	Vulsella	1
Fasciolaria	1	Pinna	1		

The greatest rarity of Barton is the wing shell, (*Rostellaria macrop-tera*.) Dealers consequently charge a high price for it, but with this exception, and perhaps a few others which are not so expensive, a good collection may be obtained at a moderate sum. The best season for searching the cliff is in the spring. The upper beds where they rise from beneath the beach near Beacon Bunny are the most productive; the *Chama squamosa*, for instance, is very abundant. Beneath Barton are found the larger shells, and teeth are to be met with nearer to Chooton Bunny, and abundantly near Beacon Lodge.

A short distance to the west of Rothsea Castle the clay disappears; its line of boundary runs from thence in a straight line, forming a low hill by Hubborne, and Bistern to Poulner (a mile and a half east of the town of Ringwood), and a few miles beyond meets the line of plastic clay

* For a description of the Crocodile, and the four species of Tortoises discovered here by the Marchioness of Hastings, I refer my readers to the *Fossil Reptilia of the London Clay*, by Professors Owen and Bell, published by the Palæontographical Society.

which crosses the river Avon at or near Fordingbridge. This clay is worked in the neighbourhood of Alderholt for the manufacture of coarse ware, commonly called Verwood Pottery. At Poulner, the hill is capped with gravel containing a band of pudding-stone called Burley Rock, at which place it is dug in considerable quantities. Along the side of the above-mentioned hill many springs rise and form rivulets to the Avon.

The valley of the Avon is gravel and brick earth. Wells at Bistern are sunk in gravel and sand to the depth of only 15 feet. One sunk at Poulner to the depth of 36 feet exposed the following section:—

Gravel, 5 feet.
 Sand, 9 inches.
 Sand and clay.
 White clay, alternating with white sand.

On the opposite side of the valley the hill near the turnpike gate is capped with gravel resting upon sand. In a pit here is a good section showing the stratification.

This rests upon a stratum of grey clay alternated with thin layers of light-coloured sand, which is exposed at the foot of the hill on the south side of the railway gate. This hill is cut by many narrow ravines. A well was sunk in one of these at St. Ives, by C. Castleman, Esq., to the depth of 60 feet, through a pure white sand, without obtaining a supply of water. The railway passes a quarter of a mile to the north of St. Ives, through a narrow broken gauge named Holly Grove, which appears to have been formed by a crack. The cutting presents the following section:—

	feet	inches
Yellow sand	2	6
Grey Clay	1	6
Light-coloured sand, with lignite and thin layers of clay	2	0
Clay and sand alternating, containing lignite	2	0
White sand to the level of the rail		

At the western end measuring upwards from this level, there is ten feet of dark grey clay, containing large pieces of lignite. On the side of the hill between the rail and the Ringwood, and Horton road are a vast quantity of beach pebbles mingled with the soil, which may be observed in a sand-pit at this spot, and they are noticeable on the road for nearly a mile. The clay mentioned in the above section does not present itself between the railway and the line of mottled plastic clay, the country being composed of sand and brick earth. At Crab Orchard the yellow brick earth is at the surface, and at a short distance a well was dug to the depth of 16 feet through only sand. The same grey clay is dug for the purpose of making bricks in the neighbourhood of the Angel Inn, near Longham; but in the village it would seem either not to exist, or to be at a considerable depth, since wells there are dug to the depth of 13 feet through only gravel; but at one sunk near the turnpike gate the dark clay was touched at the depth of 14 feet. At West Parley it is at the surface, and contains lignite, and on the opposite side of the river Stour at Ensbury House, in a well dug some years since, it appeared beneath the gravel alternating with sand, to the depth of 14 feet, and then white sand, which was bored to the depth of 40 feet. The water in this well is abundant and very clear, but contains oxide of iron in solution, which gives it a most disagreeable flavour and smell. In the absence,

then, of actual survey, it appears that the boundary line of this clay commences north of Holly Grove, and crossing the railway parallel with the turnpike road, possibly takes in Stape Hill, crosses the Stour to Oakley, where the railway is again cut through it.

Returning to Highcliff, we have the cliff from thence to Mudieford composed entirely of sand. From Hengistbury Head an ironstone has been dug for several years past, and shipped to Swansea: it produces 25 per cent. of iron. From the blocks on the shore may be obtained teeth of *Lamna Elegans*. Between this point and Bournemouth the cliff is composed of sands and sandy clay.

At Bournemouth, is a band of a light-coloured sandy clay about three feet in thickness, which contains leaves of several species, and one or more species of fern. In sinking a well near the Preventive Station, the workmen came upon the same vein. Specimens are most easily obtained at a small ravine formed by the falling of a landspring, situated about a quarter of a mile west from Bourne. Thence to the Sandbanks the cliff presents the same character, being composed of sands and clays. About midway there was formerly a pottery for the manufacture of common earthenware. From the ending of this cliff to Studland, are about three miles of sand hills. On the left of the road which leads from the shore to the village of Studland, the cliff is composed of a dark-coloured clay, which is succeeded by variegated sands similar to those at Alum Bay. In this cliff is a vein containing leaves. These occur also at Arne in Poole harbour, and abundantly at a pipe-clay pit at Furzey Brook, where is exposed the following section in descending order:—

Bed of Lignite, about	10 feet.
Grey Clay, with leaves carbonised	2 "
Yellow sandy Clay with leaves	2 "
Irony Band, a few inches.	
White Sand, about	30 "
Pipe Clay	11 to 14 "

I have obtained many species of leaves from this pit, and one very fine specimen of a reed.

The only other organic remains which this district affords are several species of shells, amongst them a *Cardium*, which occurs abundantly in a sandstone at a pit near Lytchet Beacon.

The variegated sands at Studland are separated from the chalk by a low cliff, which is covered with brushwood. The plastic clay, consequently, is not exposed to view.

I do not attempt to enter upon the still disputed question of the divisions of the sand and clays, which occupy the above-noticed district, viz., from High Cliff to Studland; but merely add Mr. Prestwich's series published in the *Quarterly Journal of the Geological Society*, for November, 1847:—

Fluvio-Marine, and freshwater series.
 Barton Clays.
 Bagshot, or Bracklesham Sands.
 London Clay.
 Mottled Clays and Sands.

At the commencement of the chalk cliff are four domes, formed of a conglomerate composed chiefly of flints cemented together by iron matter, and which are filled with chalk. The cliff here has been disturbed, the

flints being broken, but further on, this character disappears, the chalk is horizontal, and the flints in layers. The whole of the hill between Studland and Swanage bays is capped by the upper chalk, containing—Belemnites, Echini, Terebratulæ, three or more species. Spatangus Cor-anguinum, an Ammonite, corals, and, at Studland, portions of Pentacrinite.

At the end of the cliff are the perpendicular masses known as Old Harry and his Wife. Here the beds dip under the sea at a very low angle, but rounding the point they are found to rise at an angle continually increasing, until at Ballard Head the strata bend upward in a curve and rest against vertical strata. The cliff at Ballard Head is about 352 feet in height, and at Old Harry about 100 feet. On the south side of the hill the lower chalk contains very few fossils, and these few are not easily cleared on account of the chalk being extremely hard. From a pit at Westwood may be obtained Inoceramus, a small Echinus, and, at Punfield, Turritites and Pleurotomaria.

At Punfield we have the upper greensand, or Firestone, and Gault, in a highly inclined position. The junction of the former and the chalk may be easily traced from thence to Corfe Castle. The Hedge which separates the enclosures from the Down, may be taken as a tolerably correct line. The Firestone skirts to the foot of the chalk cliff nearly as far as Ballard Head, and many characteristic fossils may be obtained from it, but the Gault contains few or none. Some years since, however, C. Wilcox, Esq., of Swanage, obtained from it, at this locality, the carapace of a small crustacean.

West to the Gault are four or five thin irony bands in an equally inclined position, separated by sands and dark-coloured clays containing marine shells. One of these is composed chiefly of a small oyster, and two specimens of a cone have been obtained from it. The westernmost of these bands is composed of a blackish grit, containing a quantity of (apparently) quartz, similar in character to a bed of quartzose sand which is exposed in a deep waggon-way at Godlingston, passing into an irony band, and which enters largely into the composition of a band of sandstone which is exposed at about half a mile further west. The above-mentioned band contains Cyprides. From thence to Swanage are the Hastings sands and clays—yellow sands, pink and grey clays, with irony bands, and sandstones. Many Saurian bones were formerly to be obtained from this locality; Dr. Mantell, in his *Geology of the Isle of Wight*, speaks of them as being extremely abundant, in fact that “the sea shore is often strewn with rolled bones of the Iguanodon and other animals that have been washed out of the fallen masses of the strata.” Such, however, has not been the case for some years past. The geologist may now search, and in all probability, as I have frequently done myself, in vain for a single specimen.

Professor Buckland, speaking of these remains, says: “In the month of September, 1829, I found in the museum of the Rev. T. O. Bartlett, of Swanage, a collection of bones of various reptiles, such as have been found by Mr. Mantell associated together in the ironsand of Tilgate Forest; the most remarkable are those of the Iguanodon, together with vertebræ and other bones of more than one large species of Plesiosaurus, and of large and small crocodiles, and fragments of

large cylindrical bones resembling those of *Megalosaurus*, but too imperfect to be identified with certainty."

The pink clays contain a great quantity of lignite, and good specimens of the stems of ferns may be obtained from them.

The junction of the Hastings sands and Purbeck beds is not visible at Swanage. The line runs along the foot of the hill upon which the town is built, by the church to Court farm, passing, at Herston, through a small copse which is situated in the middle of a meadow, to the keeper's house at the back of Leeson farm, immediately beyond which, in the lane leading to Wilkeswood, the thin upper beds of the marble are exposed. It follows this lane, which skirts two woods, and continues along the stream to Wilkeswood farm, where the Hastings sand forms a steep bank to Quarry farm, and the line of marble is marked in the valley by hillocks formed of the refuse from the ancient quarries, as far as the worked marble quarry at Woody Hyde; then the line continues and crosses the turnpike road at the foot of Kingston Hill.

At the Woody Hyde Quarry, which is situated about half a mile east of Kingston Hill, the beds of marble appear in the following succession, in descending order:—

	feet.	inches.
1. Rag	3	0
2. Paving Beds, each 6 in.	1	0
3. Clay	0	3
4. Ceiling Bed	0	7
5. Blue Marl	3	0
6. Marble	1	7
7. Blue Marl. Depth unknown below 4 feet.		

The marble slabs which are noticeable in many of our churches and cathedrals, frequently of a pinkish hue, and yielding to the weather, were quarried from the upper beds. That which is now obtained from the bed numbered 6 in the above list, is of very superior quality. Specimens of the pink marble can only now be obtained from the old walls in the valley, whence also may frequently be collected good specimens of *Unio* from the same beds, with, occasionally, teeth and palates. Above Woody Hyde, and immediately below Afflington Barn, a waggon track passes over, and exposes the edges of the Purbeck beds as they *run out* on the side of the hill. At this spot they show evidence of great disturbance. This may be connected with and caused by the great fault which is exposed in the centre of Durdleston Bay, and which runs through the Island. But it will be found also that a line drawn from this spot to Peveral Point, will cross Primrose Hill—where the marble appears broken and forced up—and the lane at a few paces below Leeson Gate, where the *Corbula* beds are similarly disturbed. At the Point, the comminuted shell limestone, or marble rag, has been broken across, and turned up so as to form with that portion which continues in its natural position, what is geologically termed a *synclinal*, or inverted saddle, breaking up the marble beds, and throwing their remains into the thus formed hollow. As a proof how much the island has been disturbed, I would mention the frequent occurrence of what the quarriers call *jumps* in the strata. As they work on the vein, of a sudden the vein ends, and is found again either above or below its proper level; but after quarrying some distance further, the second *jump* is arrived at, and then the vein continues in its proper

position. This accounts, in some measure, for the difference in the depths of the quarries in which are worked the same vein of stone. For instance, of the two by the side of the road leading to Worth, and which are not more than thirty paces apart, the one is forty feet deep, and the other only twenty-five feet.

We now return to Swanage, and following the narrow foot-path along the south shore of the bay, immediately beneath Peverel House, we find the comminuted shell limestone dipping beneath the sea, all the beds above it being gone. At the end of the wall the *Unio* bed is exposed, and the low bank between this spot and the Preventive Station presents the following section :—

	Feet.	Inches.
1. Yellow Marls, with a band of hard shales, containing <i>Cypris</i> and small <i>Paludina</i>	3	0
2. { Soft Shales Bands of fibrous Carbonate of Lime Hard and sandy Shales, containing a long bivalve } ...	1	2
3. Hard green coloured Bed, with <i>Unios</i>	0	6
4. Soft, do.	0	5
6. Light-coloured Marl, containing a long bivalve	0	4
7. Pinkish shaly Marl.....	2	0
8. Band of Marble	0	9
9. Grey Marl		

These beds are much distorted, and disappear beneath the station. At Peverel Point, the comminuted shell limestone is disturbed by a fault as mentioned above. Turning into Durdlestone Bay, and commencing with the lowest part of the cliff at the spot where a flight of stone steps descend from the Flag Staff to the shore, the Purbeck beds are found to rise from beneath each other in the following order :—

DURDLESTONE BAY.

	Thickness.	Organic Remains.	Quarry List.
A <i>Cypris</i> Shales	1		
B Marble bands	2 3	Marble Marl	} See List of Marble Quarry.
	4 5	<i>Cypris</i> shales Sandy Marl	
C <i>Unio</i> beds	6 7 8	Crocodile bed Laminated Marl <i>Unio</i> bed	} <i>Unio</i> , Coprolites ? { <i>Paludina</i> Fluvio- rum, <i>Unio</i> , Teeth of Crocodile, Scales of fish.
	9	Sandy stone com- posed chiefly of broken shells— <i>Cy- rena</i> .	
D Comminuted Shell limestone	9 ft. 6 in.	Remains of Tur- tle, Palatal teeth of fish, <i>Paludina</i> .	Marble Rag
E Beef beds	1 ft. 9 in.	Shales with bands of fibrous carbonate of lime	

			Thickness.	Organic Remains.	Quarry List.	
E	Beef beds (continued)	11	Hard grey limestone	7 inches		
		12	Soft shaly band	4 inches		
		13	Hard blue shales	1 ft. 6 in.		
		14	Soft shales	3 feet		
		15	Alum shales	1 foot		
		16	Soft shales with bands of fibrous carbonate of lime	3 feet		
		17	Hard blue limestone	5 inches		
		18	Soft shales with bands of fibrous carbonate of lime	14 in.		
		19	Shelly limestone	9 inches		
		20	Soft shales	1 foot		
		21	Alum shales	9 inches		
22	Shelly limestone	1 ft. 6 in.				
23	Soft shales with bands of comminuted shells, and of fibrous carbonate of lime	About 7 ft. 6 in.				
F	Corbula beds	24	Hard greenish shales. Pink and blue bands of Corbula limestone	1 ft. 10 in.	Palatal teeth, and Teeth of Fish, Corbula.	
		25	Soft and hard shales with bands of fibrous carbonate of lime	1 foot		
		26	Pink Corbula limestone, with band of indurated marl in the centre	10 in.	Melania, 3 species.	Toad's Eye
		27	Dark shales with a band of comminuted shells	16 in.		
		28	Blue indurated marl, rubbly	1 foot	Bivalves, Vegetable Remains.	
		29	Pink Corbula limestone	19 in.	{ Bivalves, Corbula, &c., Univalves, Teeth.	
G	Pecten beds	30	Hard greenish rubbly rock, full of shells	1 foot	Pecten, Cardium, &c.	Green Rag
		31	Blue and cream-coloured indurated marl without shells except at the bottom	1 ft. 2 in.		
		32	Soft shales and comminuted shell limestone	1 ft. 3 in.		
		33	Dark shales and band of hard grey limestone	2 feet		
		34	Green shelly rock	2 feet		
		35	Soft shales with bands of slaty and hard limestone	3 ft. 6 in.		
		36	Blue and cream-coloured indurated marly limestone	1 ft 6 in.		

			Thickness.	Organic Remains.	Quarry List		
G	Pecten beds (continued)	37	Shales	3 feet			
		38	Green shelly rock, Soft and hard shales	2 feet			
		39	Grey marly rock, weathers vertically in zig-zag lines	2 ft. 15 in.			
		40		Shales with bands of shell limestone	1 foot		
		41	Corbula limestone	5 feet			
		42	Green shelly rock with a thin band of Corbula, and a band of hard shales in the centre	8 inches	Melania.		
		43	Corbula limestone with Paludina	5 feet	Teeth of fish, Pecten.		
44	Soft shales	1 ft. 9 in.	{ Slabs of Paludina with Cyclas.	White Roach			
		4 inches					
H	Turtle beds	45	Cream-coloured and grey shell lime- stone		Slabs of Cyclas.	Laneing Vein	
				4 feet			
		46	Soft shales	Here is a fault, the beds being let down seven feet.			
		47					
		48	These beds are hidden by the beach	About 5 feet		Royal	
		49			{ Devil's Bed & Devil's Bed- mate.		
		50					
		51					
		52	Rag composed chiefly of shells,	2 feet	Turtle, Bones, Co- prolites.	Red Rag, & Under Rag.	
		53	Black shaly marl	11 in.			
		54	Rag composed chiefly of shells	2 ft. 4 in.	Paludina.		
		55	Black marl with thin bands of com- minuted shells and fibrous carbonate of lime	1 ft. 4 in.			
56	Soft blue sandy bed having a bitu- minous smell	4 ft. 6 in.	Teeth of fish, Spines.	{ Lead bed & Shed bed.			
57	Blue sandy rock	10 in.	Coprolites.	Shingle			
58	Shaly blue and brown marl	9 inches	Shells, Vegetable Remains, Archæo- niscus, Small scales of fish.	{ Under- picking.			

Thickness. Organic Remains. Quarry List.

			Thickness.	Organic Remains.	Quarry List.
		59	Rubbly bed	1 foot	Grub
		60	Light-coloured, compact limestone	3 ft. 3 in.	} Free-stone Quarry
		61	Rubbly band, composed of shells	1 ft. 2 in.	
		62	Compact limestone	3 feet	Ostrea distorta
		63	Hard, bluish limestone	1 ft. 6 in.	Blue bed
		64	Cream-coloured ditto	1 foot	Lias
		65	Compact limestone	2 ft. 4 in.	Vegetable remains
		66	Hard and soft shales	1 ft. 10 in.	Planorbis
		67	Blue Marl	1 ft. 6 in.	Bones
		68	Bands of shell limestone and shale alternating; the latter having a bituminous smell	} 3 ft. }	} Slabs of Cyclas, Serpulites, Teeth, Cyprides }
		69	Shell limestone			2½ feet
		70	Dark coloured shales	1 foot	Cyclas, Turtle, Fish, Coprolites, Teeth, Spines Melania, Chelonyia, Cypris, Univalves, Coprolites
					Laper, Under-picking, Rotten grey bed
					Downs Vein
I	Cinder	71	{ Upper cinder Urchin band Lower cinder }	12 feet	Ostrea distorta Hemisidaris Purbeckii, and its spines
J	Chert beds	72	Blue Cyprideiferous shales	1 foot	Cyprides, Univalves, Bones
		73	Cream coloured cherty limestone	6 inches	Broken shells
		74	Shell limestone with thin soft cherty bands of comminuted shells	2 feet	
		75	Blue marl stone with vegetable veins	6 inches	
		76	Comminuted shell limestone	6 inches	Cyprides, Bivalves
		77	Hard, sandy shales with vegetable remains and shells	9 inches	
		78	Blue marl with shells	6 inches	Cyprides, Vegetable remains, Bivalves
		79	Hard shelly limestone	1 foot	
		80	Soft shales full of shells	1 ft. 10 in.	Univalves, Cyprides
		81	Cream coloured shelly limestone	4 feet	Bones, Bivalves
		82	Shales with a band of chert	6 inches	Unio, Planorbis, Cyclas, &c.
		83	Cream coloured limestone with nodules of chert	2 ft. 10 in.	Turtle
		84	Cream coloured and blue marly limestone, with a band of chert at the bottom	2 ft. 8 in.	Turtle, Cyprides
					} Feather Quarry
K	Marly beds	85	Soft shales	1 foot	

			Thickness.	Organic Remains.	Quarry List.		
K	Marly beds <i>continued.</i>	86	Dirt bed, containing shells	9 inches			
		87	Band of chert full of shells	4 inches	Unio, Cyclas, Paludina, &c., Teeth		
		88	Bands of sandy, shaly, and indurated marlstones, and shales containing green spots	4 feet	Paludina, Bivalves, Cyprides, Univalves, Coprolites		
		89	Hard grey limestone	9 inches			
		90	Indurated marls	2 ft. 4 in.			
		91	Hard crystalline band	3 inches			
		92	Shaly marl comminuted shells	6 inches			
		93	Dirt bed	11 in.	Planorbis, Univalves, &c.		
				Here the beds for some distance are parallel with the beach but much contorted.			
				94	Marly limestone with thin band of shells	1 foot	
		95	Rubbly marlstone	2 feet			
		96	Cream coloured marly limestone	2 feet			
		97	Soft Shaly band	4 inches			
		98	Cherty band	4 inches			
		99	Marly limestone	15 in.			
		100	Rubbly do.	1 foot			
		101	Marly limestone	8 inches			
		102	Rubbly blue marly limestone	3 feet			
		103	Rubbly white marly limestone	4 feet			
		104	Marly limestone	3 feet	Vegetable remains. Insects (elytra, wings, and bodies,) abundant in patches		
		105	Slaty Marl	1 ft. 6 in.			
		106	White marly limestone, with a harder band in the centre	4 feet	Insects, vegetable remains		
		107	Blue slaty marl	1 ft. 6 in.			
		108	Hard marly limestone	1 ft. 4 in.	Hones		
		109	Blue slaty marl	1 ft. 6 in.			
		110	Laminated sandy marl		Vegetable remains, fish scales, serpulæ, and small cardium, cherty band, with melania		
		111	Marl with cyprides and shells	1 ft. 6 in.			
L	Insect beds	112	Shaly Marls	4 feet	Leda		

L	Insect beds	113	Marly limestone	2 feet	Insects, a branching plant	Plaster
		114	Blue laminated shales & marl, and gypsum quarry The beds here are hidden by the fallen cliff	3 feet		
		115	Slaty marl		Vegetable and insect remains, cardium	
		116	Cream coloured marl, full of shells	2 ft. 6 in.		
		117	Cherty band, full of shells	4 inches	Univalves, cyprides, A small cardium, abundant	
		118	Slaty coloured marls	1 ft. 6 in.		
		119	Indurated marls	3 feet	Cyprides, univalves, insects, elytra	
		120	Bluish marl			
		121	Indurated marl		Bivalves, abundant	
		122	Cliff disturbed			
		123	The cliff here is disturbed; contains blocks from several beds			
		124	Cypris shales	3 feet	Vegetable remains, Archæoniscus	
		125	Indurated marl and shales alternated	4 ft. 6 in.		
		126	Band of white marl vertically cracked			
127	Hard band, containing Archæoniscus	5 inches	Archæoniscus { Shells, cyprides, a large species of Archæoniscus, œstherea			
128	Blue and Brown marl, indurated.					
M	Cypris Limestone	129	Cream coloured, marly bed, composed of cyprides. It is soft in Durdlestone Bay, but is hard at Round Down, where its smashed state is better displayed. This peculiar character appears to have been caused by the settling of the beds, this, at the time, being in a more brittle state than the others. The beds above and below it are undisturbed.			
N	Chert beds	130	Great fault		{ Fresh water univalves and cyprides	

Crossing the great fault the beds numbered 86 to 93 are repeated, and dip at a sharp angle. Then immediately succeed the beds of the Downs vein, numbered 68 and 69. Then a second fault, and a series of beds again repeated, commencing with No. 54, and including those of the Freestone Quarry. These run parallel with the beach, (but are much contorted,) forming a low under-cliff in the following order:—

	Feet.	Inches.
Blue and Brown Limestone	2	4
Cream coloured Tilebeds	0	4
Grey sandy bed, having a bituminous smell	0	11
Pink and Blue Limestone, Modiola	1	0

	Feet.	Inches.
Band composed of shaly Marl, with thin veins of fibrous Carbonate of Lime, and a thin hard band, contains the Archæoniscus, Vegetable Remains, and Shells	0	8
Blue comminuted Shell Limestone	0	11
Band of shaly Marl	0	4
Compact Shell Limestone.....	1	8
Bed of shells, with Melania, Chelina	2	0
Grey compact Shell Limestone, with Ostrea Distorta ...	1	4
Do	3	6

The remaining beds which present themselves successively from beneath the beach down to the Cinder (which rises at a considerable angle) are in their proper order. The beds composing the Downs vein being thus repeated three times.

Here is the centre of the bay, and hence to its western extremity the series of beds, from the cinder downwards, is repeated, but in many places they are hidden by the debris of the fallen cliff.

At Durdlestone Head the Portland oolite commences, the Purbeck beds rise to the top of the cliff which they cap, to within about a mile of St. Alban's Head, the valleys of Seacombe and Winspit being oolite. Thence their boundary line turns away to Kingston. The cinder is exposed on the top of Kingston Hill.

Near Browdown a descent may be effected to the edge of the cliff, whence may be obtained good weathered slabs of the cypris limestone, and from the chert bands which are exposed only at this spot. Returning to Durdlestone Head, the cliff is composed of Portland oolite, called by the quarriers Purbeck Portland stone. At Tilly Whim is an oyster bed from seven to eight feet thick, and a Trigonia bed from six to seven feet thick. The Dancing Ledge quarry presents the following section. The names applied to the beds are those made use of by the quarriers.

Red Head.

Shrimp, containing a large Cardium. Natica, Trigonea clavalata, Trochus, &c.

Blue Bed, Ammonites, Ostrea, and a large and a small Pecten.

Spangle cap. Trigonea clavalata.

White Cap.

Pond Freestone.

Flint.

Lister Bed.

House Cap.

Under picking Cap.

Under Freestone, Ostrea gigantea.

Under Rock. Ammonites.

With regard to the dirt bed which is so conspicuous at Lulworth, I am not prepared to state whether it exists to the east of Kimmeridge. I have, however, obtained good specimens of fossil wood from walls in the neighbourhood of Aflington Barn, which must have been collected from no great distance. On the east side of the valleys of Bottom and Encombe, and overlying the shale works at Kimmeridge is an oolitic gravel. From this bed, at a pit opened near Encombe House in 1849, were obtained bones of the Elephant and fossil Ox.

Between Winspit and St. Alban's Head the Portland sand commences. It contains a few ammonites and shells, but is not very fossiliferous at this locality.

The Kimmeridge clay rises from beneath this bed at St. Alban's Head. Its characteristic fossils are the Ostrea deltoidea, ammonites triplex,

gryphæa virgula, &c. ; but at this end of the series it is impossible to obtain good specimens. At the shale works at Kimmeridge have been obtained fish, a dorsal spine, and a vast quantity of Saurian remains.

ORGANIC REMAINS.

The shells of the Purbeck beds, although abundant as to quantity, the number of genera and species have been considered comparatively few.

In the uppermost beds (A B and C) they are exclusively freshwater.

At Peveral, good specimens of *Unio* may be collected, both from the *Unio* bed No. 8, and from the green deposits above. *Paludina* associated with cyprides, beautifully weathered, may be obtained from the shales in the upper bed of marl ; and in that below the marble, the thin band of light-coloured marl contains a long small bivalve ; and the *Paludina fluviarium* occurs on the surface of the *Unio* bed and also of the crocodile bed, No. 6. This last is literally full of *Unio*, *Paludina*, bones, teeth, coprolites, and scales of fish ; the marble is composed of the *Paludina elongata*, the upper part of it contains *Unio*, teeth, and palates—next is the comminuted shell limestone, composed of the *cyrena*. This and the following beds which are classed under the heads D, E, F, G, contain brackish water, and marine shells, amongst which may be mentioned three species of *Melania*, *Corbulæ*, and other bivalves. *Pecten*, *cardium*, *avicula*, &c. At No. 43 is a band of *paludina* associated with *cyclas* ; this, when cleaved and weathered, produces a slab frequently completely covered with these shells.

The beds classed under the next head, H, contain freshwater shells, with the exception of those which compose the Freestone quarry, namely, from 58 to 62, which contain *modiola*, *ostrea*, and *cardium*, but having a thin band with *paludina*, *cyclas*, &c. Many of the limestones in this division are composed of *cyclas* ; good slabs of this shell may be obtained from No 45. The *Melania* is frequent in these beds ; I first noticed it in a thin hard blue shale immediately above the cinder.

The upper cinder is composed of the *Ostrea distorta*. In the centre band are two or three species of bivalves, and with them an echinoderm, (*Hemicidaris Purbeckensis*), which was first noticed by Professor E. Forbes in the autumn of 1849, and figured in the third decade of the *Memoirs of the Geological Survey*. The lower cinder contains a *Cardium* in abundance. Next below the cinder the beds (J and K, from 72 to 93), contain purely freshwater shells, viz :—*Valvata*, *Paludina*, *Planorbis*, *Lymneus*, *Physa*, *Cyclas*, *Unio*, and a small univalve. Amongst these beds *Gyrogonites* have been discovered at Ridgeway hill. These chert fossils are more easily obtained from the blocks which lie upon the shore at the west side of the bay ; the surface of some are covered with *Unios*. Near Round Down, which is between Tilly Whim and Dancing Ledge, is a spot at which a descent may be effected to the edge of the cliff, where the lowermost chert bands are exposed, resting upon the Portland oolite, where good specimens may be obtained, and likewise in the ploughed fields where they are near to the cliff. The stone walls in this neighbourhood, and especially those by the road-side between Afflington Barn and Kingston church, will amply repay a close search.

The beds from 94 to 128 (L) contain brackish water shells—*Læda*, *Avicula*, and a small *Cardium*.

Cyprides occur in many beds both above and below the Cinder, and number four or five species.

Remains of fish are abundant throughout the series, with the ex-

ception, I should say, of the insect limestone, No. 106, in which I have found only a single scale and which was of an unusual form. I wish to call especial attention to this portion of the organic remains of the Isle of Purbeck, as I conceive that not only are there a vast many more species of fish in these beds than is generally supposed, but that different species are strictly characteristic of different divisions of strata. Commencing with the uppermost beds, from the large blocks of marble, which are usually lying about the quarry at Woody Hyde, I have obtained specimens of a large, thick, angular scale, teeth of a species of shark, and also others which are striated. Both these teeth occur abundantly, especially the former, with other varieties, in many of the beds above the Cinder. Reference to the list of those in Durdlestone Bay will direct the collector to some of those from which they may be obtained. The Downs Vein (H. 69 & 70) is the richest of any in fossil fish. I have obtained from it the following:—

Lepidotus minor.

Microdon radiatus.

A species with the scales sinuated.

A species with *small* serrated scales.

Scattered scales serrated of a much larger and also a medium size, and two other varieties, one of which is toothed.

Three species of a small fish measuring about three inches in length, from a thin shale which is attached to the Sad bed. These are in my own collection.

Series of vertebræ of at least four species from the Freestone Quarry (H. 60—62.)

A species with striated scales, and two others. These have been obtained abundantly from a quarry in which I believe as many as seven and nine have occurred on a single slab; but they are apparently confined to one vein, and which is local. I have never met with any traces of either of these in the Freestone at Langton.

A single specimen, (the only one I have seen), having the dorsal rays continued to the tail, as in the recent sea bream in my own collection.

Two other species in my own collection.

A species of pike, and another in the collection of Mr Wilcox.

Mr W. Brodie obtained a small fish, without scales, of a new species from a thin band of indurated marl, attached beneath bed 63, and also another from the bottom of the Insect bed, No. 106. The scales of this fish resembled long plaits reaching from the back down the side. Each of these fish was about two inches long. The Feather Quarry (J.) affords the *Lepidotus Major*, and Mr. Wilcox has obtained one fish only from the New Vein, and there are four species of dorsal spines. These occur in the beds classed under letter H. One, however, of the species which is straight, smooth, and sharp pointed, I have obtained from the New Vein.

There is a bed which must be among those classed under letter K, but of which I have met with only a piece which was lying upon the beach, perfectly full of fish shales and the *Unio* shell. This list contains at least four-and-twenty species of fossil fish. I have little doubt that it might be considerably increased.

Turtles.—The scattered remains of turtles are abundant throughout the beds classed under the letter H; and single plates, in a good state of preservation may frequently be purchased of the quarriers. But the whole carapace is only occasionally met with. Several very splendid specimens, however, have been obtained by Mr. Wilcox. As many as three or four species have come under my notice, namely one from the Downs Vein, one or more from the Freestone, and another from the Feather Quarry.

Crocodiles' teeth and bones are occasionally found. Dr. Mantell, in his *Geology of the Isle of Wight*, mentions a fine specimen obtained from a quarry near Swanage in 1837; but they are now very scarce. During three years residence in the Island, I have never been successful in obtaining even a portion of one.

Two heads of the *Macrorhynchus* were in Mr. Wilcox's collection, now in the museum at Dorchester, one of which was from the Freestone Quarry; and in the summer of 1851, I purchased a portion of the jaw of one of these animals. It is as yet doubtful whether any remains of birds exist in the beds of this district.

Insects.—These may be considered as the most interesting of the organic remains of the Isle of Purbeck. In the autumn of 1850, suspecting the probable occurrence of insect remains in the strata of the Isle of Purbeck, I commenced my search in Durdlestone Bay with a bed of soft, white stone, which I had remarked upon a former occasion. I found that it contained a quantity of vegetable remains in thin veins, with elytra and wings of insects. It has since proved to be most rich in these remains, and many species have been obtained, amongst which have been determined the wings of the mole-cricket, ant-lion, white ants, dragon-fly, and eight or nine species of elytra, and seven or eight of bodies of beetles, &c., amongst which is the *Archæoniscus? Osmundi*. The large wings of the dragon-fly occur in the solid limestone, and not in the veins, consequently are never obtained perfect. Two species of elytron, measuring upwards of two inches in length, occur in a similar position. These remains are most abundant in the lower beds of No. 106, and of these we may distinguish two veins which are especially rich, one in wings, the other in elytra. Upon the slab of the latter, which did not exceed four inches in diameter, I have counted as many as four bodies of insects, several small wings, and from sixty to seventy elytra. A vein also occurs in the bed above No. 104, which is rich in similar remains, though only in places. This vein may be distinguished by the vegetable remains being much larger than elsewhere. Again, below all these is a bed of like character, No. 113, which also contains insect remains, and I have obtained small bodies and elytra from a bed situated beneath the gypsum quarry. Other beds may, I consider, be searched with a probability of success.

The *Archæoniscus* occurs in several beds; first in a thin vein of indurated marl above the cinder, No. 58. The locality, however, whence many specimens have been obtained, is between the Great Fault and the second Cinder Bed, where these have been let down. See page 15. The shells which they contain are estuary shells, as the *Ostrea* and *Modiola*, with veins of fresh water shells.

Below the Cinder a small species occurs in the beds numbered 25 and 27; and in February, 1852, I discovered a large species abundant in a vein of the indurated marl, No. 128, situated immediately above the Cypris limestone, and a few yards from the Great Fault. Upon one slab alone were as many as ten specimens.

Plants.—A water plant occurs in the bed numbered 11; and several specimens of a delicate branching plant have been obtained from the insect beds Nos. 106 and 113; and I have seen two specimens of a branching stem from a pit in a sandy rock which overlies the comminuted shell

limestone at the Priest's Walk, above the town of Swanage. From the blue marl at the marble quarry at Woody Hyde, I have obtained two species of fern.

Minerals.—Carbonate of lime and gypsum are the only minerals worthy of notice. The latter occurs in several states, viz., as needle spar, selenite, satin spar, nodular and in crystals. Carbonate of lime occurs in crystals, but is most remarkable in its fibrous state, which at Ridgeway is called Beef.

ECONOMIC GEOLOGY.

No.	Quarrier's List.	Maximum size.	To what purposes applied
1	Marble	{ 9 ft. by 3 ft. 4 in., or 4 ft. 6 in. } { and 1 ft. 7 in. in thickness }	Church decorations, Fonts, and Tombs. Building walls.
2	Marble Rag		
3—8	Top Gallants		
9	Single Laper		
10	Step bed		
11	Good bed		
12	Toad's eye		
13	Toad's eye Rag		
14	Yellow bed		
15	White roach		
16	Pitcherstone bed		
17	Laper		
18	White bed		
19	Sad bed		
20	Hard bed		
21	Mock hard bed		
22	Blue, or backing bed		
23	Royal		
24	Devil's bed		
25	Devil's bed mate		
26	Red Rag		
27	Rag		
28	Under Rag		
29	Lead bed		
30	Shed bed		
31	Shingle		
32	Grub		
33	{ Upper Roach { Under Roach Thick bed	6 ft. by 3 ft. Thickness 6 in.	Curbs and steps. Tile stone
34	Pink bed		
35	Grey bed		
36	Thornback		
37	Whetstone bed		
38	Freestone		
39	White horse, or		
40	Dun cow		
	Lias		
41	Lias Rag		
42	Laper		
43	{ Pond Grey bed	6 ft. to 8 ft. by 2 ft. 6 in. Thickness 7 in. to 8 in. 10 ft. in length.	Gate posts Tombstones, curbs, steps, grainery stones, landing stones, &c.
44	{ Under Grey bed		
45	Fustian bed		
	{ Pond White- bed		
	{ Middle White- bed		
46	{ Under White- bed	4 ft. by 6 ft.	This quarry is worked entirely for paving stones.

No.	Quarrier's List.	Maximum Size.	To what purposes applied.
47	Tile bed		
48	Sad bed		
49	Clear All		
50	Bottom bed		
51			
52	Cinder		Building and govern- ment purposes, paving steps, and landing stones
53	Button		
54	Feather		
55	Cap		
56	Flint		Large slabs are ob- tained from this vein
57	Pond Five bed		
58	Under Five bed		
59	Five bed shale		
60	Pond White bed	} 7 ft. 6 in. by 5 ft. 8 in., or 42½ square ft.	
61	Brassy bed		
62	Under White bed	} Step or curb 9 ft. long	
63	Tombstone bed		
64	Pudding bed		A soft stone ; will not stand the weather.
65	Shear		
66	Under Flint		
67	Iron bed		
68	Plaster, or Gypsum	} In blocks, from 12 ft. to 20 ft. in diameter, weighing from 10 to 20 tons each	Used for making plaster of Paris.

I give the following prices of stone at the quarries, as nearly as I have been able to ascertain them.

Marble	2s. per cubic foot.
Paving-stones	5 <i>d.</i> per foot, or 25 <i>s.</i> per 100 feet.
Curb	3½ <i>d.</i> per foot.
Steps	6 <i>d.</i> "
Pitchers, unworked	6 <i>s.</i> per ton, or 45 feet.
Do. worked	10 <i>s.</i> per ton.
Landing and Tombstones	10 <i>d.</i> to 1 <i>s.</i> per foot.
Gate-posts	4 <i>s.</i> each.
Leg and Cap stones for Graneries, round	4 <i>s.</i> per pair.
Leg & Cap stones, square	3 <i>s.</i> do.
Gage stones, viz., which are cut to order	1 <i>s.</i> 3 <i>d.</i> and 1 <i>s.</i> 4 <i>d.</i> per foot.
Long steps	1 <i>s.</i> per foot.
Tile stones	{ £1 per load, which is sufficient to cover 10 square feet of roof.
Block	6 <i>s.</i> per ton.
Wall stone.....	1 <i>s.</i> per load.
Cypsum	16 <i>s.</i> per ton.

INTRODUCTORY PAPER:

READ AT CORFE,

9TH NOVEMBER, 1855.

WHEN requested, at the first meeting of this Society, to read a Paper on the present occasion, I felt that, as I had already made myself somewhat conspicuous amongst the Naturalists of the Isle of Purbeck, by the publishing the results of my Geological Observations during a three years residence in the Island, I could not do other than at once comply, and set myself to the task, although with many a misgiving as to the result. But that which does not lay claim to perfection, has a right to a lenient judgment.

Now the first thing which I had to consider was, what Subject would be the most suitable, and it seemed to me that a general one would be the best; giving an outline of the different branches of Science, bearing upon the various productions and objects of interest within the district, which should engage our attention, as members of a Society professing to be composed of Naturalists and Antiquaries. A Naturalist and Antiquarian Society will always comprise some members, who will be eager in the pursuit of science, and others, who do not aspire to a place within the scientific circle, but still are willing to aid the efforts of those who do so. Now it is that aid which we ask of each and all, not only of the Geologist, the Botanist, the Zoologist, and the Antiquary, who will doubtless exert their strength in carrying out the objects of the Society, but of those who may be merely casual observers of nature. For instance; if a rare bird is killed, or a scarce plant gathered, the fact should be recorded. Botany, and Entomology, are peculiarly ladies' pursuits. These are the sources from whence we should gather information, to be carefully arranged and preserved, and, as circumstances warrant, to be printed for circulation.

The Isle of Purbeck is bounded on the north by the river Frome and Poole Harbour, on the east and south by the Channel, and on the west by two rivulets, Luckford Lake, which runs into the Frome, near East Stoke, and Airish Mell stream, which empties itself into the sea at Worbarrow Bay. Between the sources of these streams, a distance of half a mile, the Island is joined to the rest of the County. Its length from Luckford Lake to Peveral Point, is about twelve miles; its greatest breadth, from Arne to St. Adhelm's Head, is ten miles. It is divided into East and West Purbeck, or the Hundreds of Hasilor (West,) and Rowbarrow, (East,) and contains, according to Hutchings, one town, and nine parishes. It is designated by Leland as 'Purbeck Forest Ground.' We read that in ancient days, the Forest extended over the whole island, and that the woods were well stocked with Red and Fallow Deer, and Stags. It was reserved as hunting ground, especially in the Saxon times, and continued so until the time of James I., who was the last of our kings who hunted here, in 1625.

Now I think I may affirm, that the true naturalist could hardly find a district better calculated to gratify his every pursuit. When I speak of the *true naturalist*, I mean the man who seeks to know the hill from its cloud-capped summit to its lowest depth, which may only be examined beneath the ebbing wave, who would traverse every acre, from the sea to the river, and would never rest satisfied until he had discovered all which they produced, whether animate or inanimate.

Geologically, the Island presents a series of Strata unusual in, comparatively speaking, so small a space. The Kimeridge Clay, and the Oolite, are followed by the Purbecks, the Hastings Sands, the Gault, the Green Sand, the Chalk, and the Tertiaries, in quick succession: and where there is a varied geology, there also will the Flora and Fauna bear a varied character. It will be found, though many plants are common to all, that every series of Strata has its own peculiar Botany. It is this which has given to the Isle of Wight the enviable designation of 'the garden of England.' Here, too, in the Isle of Purbeck, though not possessing so mild a climate, nevertheless we have hill and valley, woods and thickets, pastures and rivulets, moss, and moor, and river: no where, as I have already stated, can the Botanist ramble with better prospects of success. Nor will less favorable results attend the investigations of the

Ornithologist, or Entomologist. The waters too, offer their treasures to our search; washing the marsh and mudlands of the harbour, as well as the flat sands, and rocky cliffs of the exposed sea shore. Nor do we finish our researches here; for whilst we have much of wild beauty with its thousand attractions, there is many a woodland haunt, and aged tree, which speaks to the historian and the antiquary, in language not to be misunderstood, of days when Purbeck was indeed a Forest; throwing back the imagination from one age to another, almost forcing the mind to contemplate the scenes which these hills and valleys have witnessed, when they echoed by turns, the joys of the chase and the passion of war: but such scenes are not imaginary, for their actors have left their trace behind; we find the Roman road and villa, the ruined wall, the battle-field, the monumental stone, and the funeral mound.

And what makes the Isle of Purbeck still more attractive, whether to the Naturalist or the Antiquary, is the circumstance of its being, hitherto, almost wholly unexplored. I know of no Naturalist, and of only one Botanist, who has rambled through its wilds and woodlands: a few of the rarer plants, on account of their localities, have been observed; but beyond these we know very little. The same may be said of its antiquities and ancient history; in fact, it may be affirmed that the Island has been hitherto neglected. Cut off from a thinly populated mainland by a sheet of water, which for the most part is unnavigable from shore to shore, it has but few roads, and those made over almost inaccessible hills. The stranger seldom visits it, and still more seldom chooses it for a residence: of a native antiquary or naturalist we have never heard, and even the observations which have been made, few and far between, have never been recorded. But this state of things has now, we trust, passed away, and the Purbeck Society has commenced its labours, which, if fairly supported and aided, will result, we hope, in the production of a history of this most interesting region.

Now, that it may progress satisfactorily towards this desirable result, I consider that it should proceed upon a regular plan, viz: the dividing its work into the natural Classes of GEOLOGY, NATURAL HISTORY, which includes all animated nature, BOTANY, CLIMATE, and ARCHÆOLOGY, which should include Ancient History, Antiquities, and Folk Lore.

These might be again sub-divided. And I recommend that each of these separate classes should be under the immediate management of a special member of the committee, whose business it should be to arrange the information and papers received from the members of the Society, so that the whole labour should not fall on the Secretary alone: and in the same way I recommend the division of the Island into four parts, viz: by the Chalk hill which runs from Handfast Point to Worbarrow Bay, and the High road from Wareham through Corfe, and Kingstone, and thence to Chapman's Pool. These might also be sub-divided; but in each division there should be one member who would confine his more especial attention to it, so that the work may go on steadily, and no part be neglected.

In speaking of the Geology of the Island, I feel some hesitation in referring the Society to my own Publication, as a guide to the Strata. It was however, published as a text-book for strangers to the localities which it attempts to describe, at the commencement of their geological labours, an assistance, of which I myself so much felt the need in my early visits to Durdlestone Bay: I believe I may state, that it is sufficient for the purpose, and the circumstance that the list of beds which it contains, and which constitutes its chief usefulness, have been referred to by Professor OWEN and others, in their papers now published in the Journal of the Geological Society, renders it almost necessary that its numbers should be continued in all Purbeck collections, to avoid that unhappy confusion being produced, which must be caused by a multiplicity of names being attached to one object. In working out the beds in Durdlestone bay, some discrepancy will occasionally be found to exist between their actual measurements, and those given. This arises from the difference in the thickness of these beds, which, for the most part, thin out towards the west, and the face of the cliff also changes frequently; a portion being exposed to view at one time, which the next season may be hidden by debris. The measurements alluded to were taken at the spots at which each bed rises from the beach. I think, if the most remarkable beds are first ascertained, there will be found no difficulty in distinguishing the whole. But I wish the society to understand that, because they have this simple guide in their hands, they must not conclude that there is nothing more to be done. It is only the foundation upon which they have to work; and this applies more especially to-

the organic remains contained in, and which are characteristic of each successive bed. The Quarries have produced most splendid Fossils, the descriptions of many of which are published; but even in these publications, little attention has been paid to the exact bed from which they have been obtained, and even these Quarries constitute but a few beds in the series. The others have yet to be minutely examined, not only for Bones and Insects, but especially for Shells which determine the waters, whether salt, brackish, or fresh, which occupied the area at the period of their formation.

I should further recommend that the list be interleaved by those who make use of it, and every thing worthy of notice marked down in its proper place; thus eventually, a more perfect edition might be produced.

With regard to the subject of Natural History, I have already touched upon the fruitfulness of the Island in its natural productions, both animate and inanimate, and it may for the present be sufficient to mention some of the rare and more attractive objects which have already been noticed, and point to any which have not been recorded, but which probably exist.

In commencing the study of the Natural History of a district, the first division which claims attention is that of Mammalia, which is comprised within a narrow compass. The strict preserving of game in some districts, the high state of cultivation in others, to the exclusion of broad hedge-rows and every useless copse, causes species to grow gradually scarcer and scarcer. Deer have become extinct in Purbeck since the civil wars; the Martin Cat though now very rare, may exist, as also the Pole Cat; the other species, the Stoat and Weasel are common; the Otter, and Badger are occasionally to be met with. Attention should also be paid to the different species of Mice, and Water Shrews, and Bats. A species of Whale may occasionally visit our coast, an instance of this having occurred during the present month of November, 1855.

We next come to Birds, and the same causes which I have just mentioned are at work towards their reduction; and in addition, the rapid strides which the drainage of the hitherto swampy lands is now taking.

But these do not so much affect the ornithology of the Isle of Purbeck, since it must ever possess its inaccessible sea cliffs, and its wild and sterile heaths, which will not repay the labour

of cultivation, bordered by the sea, and the mudlands of an extensive harbour. The birds of greatest interest are doubtless the Hawks, which *must* be numerous; next the Gulls and Sea Birds; then our summer visitants, amongst which is most conspicuous the Hoopoe, which has been frequently shot within the Island; and lastly, the Wild Fowl and Water Birds, which visit the north shores in great abundance, the most remarkable being the Glossy Ibis, Bittern, Northern Diver, Spoonbill, Ruff, and Grebe. Of the Fish I am not prepared to speak, further than to suggest that from the different characters of the coast, they must be, with regard to species, very abundant. In studying them, those of our rivers and streams ought not to be neglected. The same may be said of these districts in their production of numerous species of Shells. Studland Bay is one of the best localities of the south coast of England. Many of the estuary shells may be obtained in Poole Harbour; the river Frome, and the ditches of Stoborough are very productive; I am told that the neighbourhood of Bindon Abbey alone affords sixty species of fresh water shells, which doubtless exist below: the land species are proportionably abundant.

Lastly, the Reptiles are to be considered. These are not so attractive, but nevertheless, where the natural history of a district is to be recorded, no part must be put aside. Of the different varieties of the Viper, we have the Red and the common one. The ponds afford two species of the Water Eft. But the most remarkable circumstance connected with this part of natural history is with regard to the common Frog; I have never been able to ascertain its occurrence on the south side of the chalk hills. The Sand Lizard, I should conceive, inhabits the Studland and Corfe heaths, but I have not yet been successful in obtaining a specimen. Upon the other side of Poole Harbour it is common, and occurs upon the sand banks of the North Haven.

The Botany of the Island I have already touched upon, as well as the geological causes for its being so very rich. But as the Society happily possesses amongst its members, one who is devoted to this subject, I resign to him what little result my own observation may obtain during my other researches. I would only remark, that it is almost impossible for any one person, unaided, to produce a perfectly correct catalogue of the Plants

of so large a district, with their localities, and consequently, each member should record to the Secretary, those which grow in his own neighbourhood. I mentioned above, the age of trees; they are well worthy of attention and frequently involve much interest, and may be arrived at in the following manner. Trees grow, as you are aware, by the addition, each year, of a new woody layer immediately beneath the bark, which is distinctly marked by the rings which are seen on cutting through the trunk of a tree, and by counting these we may ascertain, with tolerable correctness, the number of years which have passed since it began to grow; this may be taken as a general rule. But to obtain a correct result, a slip of paper should be placed upon the transverse section of the trunk, from the centre to the circumference, on it should be marked with a pencil, the junction of each zone; upon the back of this slip should be further noted the name of the tree, and the date of its being cut. Hence, in addition to its age, will be obtained a tolerably accurate record of the seasons for the period of its growth, the layers being of various breadths, proving that in some seasons the trees made a much greater advance than in others; consequently by being particular in noting the date of the cutting of each tree, and commencing with the outer layer, it will be found that the layer of any one season in the one tree, will accord with that of the same season in the other. The measurement from the centre gives the radius, this doubled the diameter, and multiplied by six, the circumference. Where transverse sections cannot be obtained, as in the case of growing trees, the circumference should be taken at a fixed distance from the ground, and compared with others of the same species whose age is known.

If, again, the Island is, as I have mentioned, rich in its Botanical productions, it must of necessity be so also in its Entomological. I am not prepared to give much information to the Entomologist; he must be guided in a great measure by the the soil, and the plants and shrubs which grow upon it. The limestone hills afford the marbled white and clouded sulphur Butterflies; and the woodlands have their own varieties, the Lulworth Skipper, &c., as have also, the Tertiary division of the Island; upon the latter, ought to be found the Emperor Moth, and I have obtained from there several of the rarer species of Beetles. The meadows of Stowborough, plantations of Holme, and the

fenny districts of Arne would, I conceive, richly repay careful search. But I should mention by the way, that I have never met with the common Hornet on the south side of the chalk range; if it exists at all, it is doubtless of very rare occurrence. Whether it is abundant on the north side, I have not had an opportunity of ascertaining.

Attention to the Climate is always interesting, and may be productive of valuable results. Much has already been done towards determining the character of succeeding seasons, and still more may be arrived at, by steady observation of the prevailing winds and clouds, and of the thermometer, with the weather produced, fogs, &c.; this should be done at different seasons of the year, as Autumn, Mid-Winter, Spring, and Summer, especially at the Spring and Autumn Equinoxes, and their effects upon vegetation, &c., recorded.

These observations might be noted in a table such as this:

ASPECT.										
		A. M.			MID-DAY.		P. M.			MID-NIGHT.
Date.	☉	weather	wind	sun	sh.	☉	weather	wind		

The remainder of the sheet might record facts of Natural History, as the arrival and departure of migratory birds, &c. A column might be added for the depth of rain which falls; the quantity I suspect varies considerably in different parts of the Island. And here, the sayings which are handed down from one generation to another may be profitably observed; for instance, "so many Fogs in March, so many Frosts in May." Now if a saying of this kind were proved, by repeated observation, to be correct, the coming season might be foreseen and provision made accord-

ingly. In like manner, with regard to the immediate changes of the weather. During the last Spring, or the early part of May, I observed that the cloud rested upon the north hill, and drifted from the west; upon enquiring what the day was likely to be, I was told, that when such was the case, rain was not expected. However, the afternoon proved showery and cold, but, on the following day, the wind had shifted to the north, and the weather became clear.

It would be valuable, I think, in a practical as well as scientific point of view, to determine, in different neighbourhoods, the results to be expected from the different states of the Atmosphere at certain periods.

The last subject which I have to touch upon is, the Ancient History of the Island. And here we have much work to do. We find traces of occupation of the earliest date, passing on through the British period to that of the Roman. In the latter, the origin of the Kimeridge Coal Money requires special attention; and next, the Roman Roads. It is supposed that there was one of these from Dorchester to Wareham, portions of which still exist; but it remains to be determined whether this was Roman or British; similarly with regard to that from Woodbury hill to Wareham. But there is one of considerable importance, which, proceeding from Salisbury, is apparent in the neighbourhood of Wimborne, at a spot midway between Corfe Mullen School House and the Cogdean Elms, and thence to the west of Upton House, at a short distance from the Poole Junction, its destination being a spot upon the shores of Poole Harbour, called Lake, from the circumstance of there being a lake in the mud lands, practicable for boats at low water, and consequently giving a greater depth of water at other times; this is immediately opposite to Gold Point, a landing place on the shore of Arne: but a deeper channel calculated for larger craft, proceeds to Owre, whence, in later times the Marble was exported. What we first require is, to ascertain whether any traces exist of an ancient road upon this side, and its destination.

I would only remind you, that Dorchester and Weymouth were Roman occupations of considerable importance, and suggest the probability that this people coasted along, and located themselves in the bays as far as Chapman's Pool, St. Adhelm's Head forming

a barrier in rough weather, and that thence, or from Worbarrow bay, a road proceeded to join their main one at Salisbury, and not at Badbury. But now, supposing this supposition to be correct, we then ask, what the Isle of Purbeck afforded, so valuable to the Romans, as to induce them to form this second road?

The Architectural riches of the Island are confined to Corfe Castle; Studland, Worth, and Arne Churches; and the St. Adhelm's head Chapel.

In tracing out the Antiquities of a district, the present names of places, and even of fields, will frequently suggest to the Antiquary their probable original occupiers. We have, for instance, in the Parish of Langton, a farm named Knitson, or Knight's town; we suppose at once that it was held by a Knight under service to the Castle. In its immediate vicinity is another, named Knave's well, where a clear spring runs from the chalk. The term Knave, you are doubtless aware, meant, originally, a servant. Here are also remnants of ecclesiastical buildings. In the neighbourhood of Wimborne Minster there is also a hamlet by the name of Knighton, which, I conceive, might in like manner, have been held under service to the castle, as it contains a field still called Hyde's ham; a family of the name of Hyde were ancient possessors of lands in the neighbourhood of the castle. We have Woody Hyde, in Purbeck; and near Blandford is a farm still called Hyde farm, the present owner of which continues to pay five shillings yearly to Mr. Bankes, in lieu of sending a man in armour, when required, to the defence of Corfe Castle. The possessor of the Castle, up to 1755, had the power of raising Militia. These things may, individually, appear frivolous; but I think they are not so in reality, since they lead to more interesting results; in fact they are the first steps in our researches into the history of that noble castle and its ancient owners, of which we know so little.

The peculiar customs of a locality may be considered worthy of attention, being in most instances, the remnants of ancient usages; those of the Quarriers are especially so. These are a people whose origin, as a society or company, is of very early date. From time immemorial, they have continued to the present, as a company. Their ancient records were I believe, destroyed by fire at Corfe; but they still hold their yearly meetings on Shrove Tuesday. at Corfe, for the purpose of appointing

officers, &c. At the annual meeting, the Apprentices who have attained the age of twenty one, and who must by their laws be sons of quarrymen, present themselves "in court" as it is called, with a penny loaf in one hand, and a pot of beer in the other, and upon paying six shillings and eight pence, their names are entered as free. But previously to this, those apprentices, or "Free Boys," who belong to the Parish of Langton, on the second of February, which is called their "kissing day," parade the streets with ribbons in their hats and music playing, and claim a right to kiss every unmarried woman, whom they meet, if the daughter of a quarrier, or to enter for the same purpose any house the door of which they find unfastened. Their claim is neither disallowed nor objected to. They then play at foot-ball in a field adjoining the public house, and thence proceed to Worth, where they dine. On Shrove Tuesday they all proceed to Corfe, as I have mentioned above. A part of the Business of this day is to visit Owre, and continue customs, which are apparently of considerable antiquity. One is the old game of foot-ball which always accompanies their annual meetings. The ball is called the Pepper Ball, from the circumstance of their continuing the custom of carrying a pound of Pepper and presenting it to the person who occupies the house at the spot whence the marble was formerly exported, and in return receive a cake. Now I have never met with any one who could suggest the origin of these customs. The Foot-ball we can understand; the pound of Pepper I conceive to have been the acknowledgement, or quit-rent, to the Lord of the Soil for the use of the shore, in days when spice was of greater value than it is now; we still make use of the term "Pepper-corn rent." The return of a Cake, or Pancakes, is doubtless the custom of the season.

In Folk Lore, there is not much to repay research, save in a few superstitions; for instance, on examining the top of any old capstan at the mouth of a Quarry, the stain of a horse-shoe will be evident; the quarriers affirm that they nail it there, to prevent the Witches from dancing upon and splitting them.

Again, it is a common custom to place a Child upon a Donkey for the cure of Hooping Cough; the plan adopted is, to pass the child three times over and three times under, and finally seat it upon the cross of the animal.

I have only a few more words to say. I have already observed

that we have scarcely any records of historical researches in the Island. Under this state of things, the spade becomes our chief historian, and I must consequently, earnestly press upon the Society, the necessity for its use. We have, on the face of the country, traces of occupation by the Briton, the Roman, the Saxon, and the Dane. But those traces, worn as they are by the rain and the winds of heaven, by the march of time, and by the progress of cultivation, can but vaguely suggest to us, that they may afford to the enquirer, information of no light value. But it is only to the enquirer that they will do so; the passing eye may determine that the circular work claims a British, the quadrangular, a Roman origin; that the lofty barrow, and the scarcely perceptible rise alike, have contained, or do contain, traces of the departed, were they British or Roman, defender or invader of the barren soil. But it is reserved to the patient investigation of the spade, and even of the sieve, to trace the remains of the wheel or the forge, the plastic or metallic treasures that have been deposited, the nature of the sacrifice, and the variation of the sepulture; to tell us that the one mound hides, amid carefully piled stones, the urn of skilful workmanship, while the neighbouring and loftier heap of earth can disclose layers of bones consumed by fire, and of coffined skeletons telling the tale of affection, beautiful in death. What is their history? What their nation? Was the fire whose trace we mark, extinguished in the blood of victims? And what victims? Were the mother and child, the husband and wife, whose remains, undivided in death, are unclosed to the eye, but not violated by the hand, of the nineteenth century, laid with their faces to the east, looking for a Deliverer to come from those regions of which tradition may have spoken even "*penitus toto divisis orbe Britannis*"?

Though dead, they yet may speak; and it is with no feeling of idle curiosity, with no lack of reverence for the grave, that we would carefully examine the tombs, and seek for the traces of the history of those who have lived and died, and now lie among us, the cultivators or the ravagers, the invaders or the defenders, of this secluded Island.

FIG. 1.

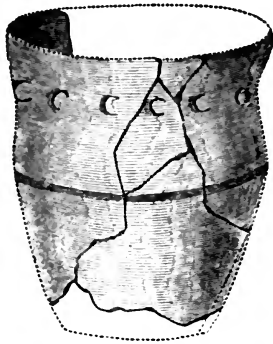


FIG. 2.

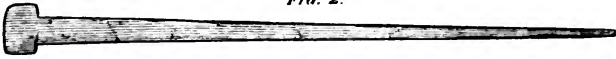


FIG. 3.



FIG. 4.



FIG. 6.

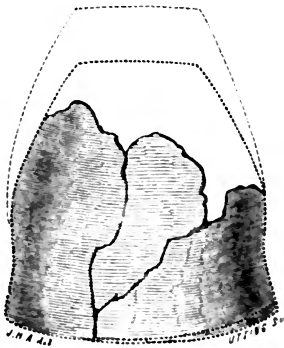


FIG. 5.





On the Tumuli of the St. Adhelm's Head District.

[Read at Leeson, February 14th, 1856.]

IN commencing the first Paper upon the Antiquities of the Isle of Purbeck, I forbear from advancing any suppositions respecting its early Colonists, and the periods of occupation of succeeding races, because such, under our present state of information, can only be derived, not from authentic records, but, from the few works which touch upon the history of the ancient Inhabitants of Britain. It appears to me to be rather desirable to allow these to rest, until tumuli and earthworks have been carefully examined in the different districts, and a chain of evidence thus obtained, which, when carefully analysed and arranged, will afford proof, either corroborative, or the contrary, of former conjectures, and productive of satisfactory conclusions. I merely then, as a ground upon which to work, extract the opinions of Hutchins, in his "History of Dorset," respecting the subject before us, and an outline of the few discoveries of his time. "We have no account of the Island," he says, "in the British times; and few or no traces of the Romans appear. In the Saxon times, it is memorable only for the murder of St. Edward, at Corfe Castle; and the wreck of the Danish Fleet, at Swanwich." With respect to the Tumuli, he suggests that "the Nine Barrows near Corfe, are probably British. Those round Studland Bay, Danish. And that, some, in other parts of the island, may be Roman." But he records very few instances of any discoveries of ancient sepulture. "Near St. Edward's bridge, at Corfe, in 1753, on digging chalk, was found an Urn, seven or eight feet deep, containing five gallons full of burnt bones; the mouth downwards. In the quarries, which lie south of the town, are sometime found human bones,

between two stones, set edgeways,¹ and covered with another, like the British kist-vacns. A little south of St. Adhelm's chapel, on digging stone, was found a hole ten feet deep, in which were many human bones. And he thus describes the contents of "a barrow, called King-barrow, which stood at the south end of Stowborough, in the road to Grange; its diameter was a hundred feet, and its height twelve feet. On digging it down, (Jan. 21, 1767,) to make the turnpike road, the following discovery was made. In the centre, even with the surface of the ground, was found a very large hollow trunk of an oak, rudely excavated, ten feet long, the outer diameter four feet, that of the cavity three feet. It lay horizontally south-east and north-west. The upper part and the ends were much rotted. In the cavity were found as many human bones, unburnt, black, and soft, as might be contained in a quarter of a peck; viz., a bone of an arm, two thigh bones, two blade bones, the head of the humerus, part of the pelvis, and several ribs. There were no remains of the skull. Many were scattered and lost; others entirely consumed; and all had been wrapped up in a large covering, composed of several skins, some as thin as parchment, others much thicker, especially where the hair remained, which showed that they were deer skins. They were in general black, but not rotten; neatly sown together; and there were many small slips, whose seams or stitches were scarce two inches asunder. This wrapper seemed to have been passed several times round the body, and in some parts adhered to the trunk. In the middle of it, the bones were compressed flat in a lump, and cemented together by a glutinous matter, perhaps the moisture of the body. On unfolding the wrapper, a piece of what was imagined to be gold lace, four inches long, two and a half broad, very black, and much decayed, was found stuck upon the inside. Bits of wire plainly

1. This mode of burial appears to have been the one most commonly practised by the inhabitants of the south coast of the Island. Mr. Miles, in his "description of the KIMMERIDGE COAL MONEY," mentions that upon the Cliff at Worbarrow Bay, a skeleton was found lying between two ranges of flat stones, which supported other flat ones, as a cover. In the burial ground of the Church at Worth, are remains of interments which have been surrounded by thin tile stones. I have been informed by labourers of the farms upon the south hill, that, in many places, the plough strikes against long thin stones, set, two together, edgeways. And, in opening a Quarry near Newtown, some few years ago, similar stones, placed edgeways, were discovered, which had skeletons beneath them.

appeared in it. There were no fragments of iron or brass. Near the south-east end was found a small vessel of oak, of a black colour. It was much broken, but enough was preserved to show it was in the shape of an urn. On the outside were scratched, as with a graving tool, many lines, some horizontal, others oblique. Its long diameter at the mouth, was three inches; the short one, two; its depth two. There being no appearance of any ashes in it, it might probably have been a drinking cup." This barrow, Hutchins supposes to have been Danish, and the burial place of a person of rank.

In the Gentleman's Magazine are the following particulars of the discoveries made in tumuli in the neighbourhood of Florus' Barrow, by the Rev. Mr. Milner, of Winchester, in the year 1791. "We began with two barrows, of no great dimensions, opposite to East Lulworth, on a level piece of ground that is met with in the ascent towards the entrenchment. We found in them promiscuously scattered, perfect human teeth, burnt human bones, together with those of animals, such as pieces of jaw-bones of horses, or oxen, teeth of the same animals, tusks of boars; small round stones, that possibly have been the heads of weapons; certain lumps of corroded metal; some crumbling pieces of dark coloured, unburnt urns; together with a few lumps of brick, or earthenware, that appeared to have been well burnt. A considerable quantity of fine rich black earth, having white mouldiness between the particles, was strewed over the remains. The bottom of one of these graves was paved with large round stones, apparently procured from the adjacent shore. The next examined was one known by the name of *Hambury taut*, or *toote*; like the former, of large size, being twelve feet in perpendicular height, and two hundred feet in circumference. Many of the same articles were found on the surface; such as burnt human bones, bits of metal, &c., but on our approaching the centre, at about the depth of four feet from the surface, a skeleton appeared in perfect preservation, lying with its head to the north; its posture was that of a person sleeping on his side, with the feet rather drawn up, one hand resting on the breast, the other on the hip. The thigh bone measured twenty inches, which, in a well-proportioned man, gives a height of about six feet six inches. On the breast of the skeleton was deposited a rude urn, too much decayed to be handled without falling to

pieces, of about the measure of two quarts; it contained nothing but the same fine mould that covered the skeleton. Near the neck of the latter were found many of the round stones I have before mentioned, but of different sizes, from that of a pigeon's egg down to that of a pea. They were not perforated. The substance of the barrow, as high as the site of the body, was formed of flints and stones; into which a shaft was sunk to a considerable depth, but without finding any thing worth notice. A third barrow, that was opened soon after, contained no less than five distinct skeletons. Three of them were in a row, lying on their backs: two of these appeared to be of the common size; but that in the middle was a small one. The two others were at the distance of a few feet from those of the ordinary size, with the head of one lying on the breast of the other. Each of the skeletons had an urn upon it, but so perished, that, upon being touched, they fell to pieces. Under the head of one of the three that lay in a row, was found a small earthen urn, about the size of the bowl of an ordinary wine glass. This urn was of the same shape with the rest which were found, namely, that of a truncated cone, and was about two inches high, and one in diameter; it was nicely covered with the shell of a limpet, but quite empty: the broken pieces of urn were ornamented, by being rudely indented in a zigzag fashion. The five skeletons were not all exactly on the same level in the barrow, which appeared to be a family sepulchre; but the two last mentioned seem to have been deposited in the side of the barrow, without taking it to pieces. Five or six other barrows, in the same neighbourhood, were afterwards opened; but the contents of all were nearly the same. One of them, about a hundred and fifty feet in circumference, and ten in perpendicular height, inclosed a rude vault, or kist-vaen, formed with unhewn stones, surrounding an urn capable of holding about two gallons, and full of burnt human bones, being covered at the top with a thin flat stone. The urn in question was composed of a coarse black clay, of the shape above described, and did not seem either to have been turned in a lathe, or burnt in a kiln, but merely hardened by fire, or the heat of the sun. Of the same substance and form were all the other urns discovered in the neighbourhood: some, however, stood upright, and others were found inverted." Mr. Milner concluded these barrows to be of British origin.

I now proceed with the description of a Barrow, situated at a short distance inland from St. Adhelm's Head, which, by the kind permission of the late Earl of Eldon, I examined in the month of July, 1850.² Beginning at the top, I found it to be composed to the depth of two feet of stones, with earth firmly embedded. Scattered amongst these, was a considerable quantity of small pieces of pottery, apparently British; and also of Kimmeridge coal, such as the "coal money" is composed of. In fact, one of these broken pieces is a fragment of coal money, and another appears to be a portion of an armlet, made of Kimmeridge coal, nearly half an inch in width. I found also in this part of the barrow, a small piece of Samian ware, and five Roman coins³ deposited together. Throughout this part of the barrow, I found many shells of the limpet,⁴ *Patella vulgaris*, and of *Helix Hortensis*, with other land shells. I now came to a stratum of stones, packed together without any earth, to the depth of six inches. Beneath this were several skeletons, lying in the following order. From the centre of the barrow, in the direction of S. S. E., to N. N. W., were set edgeways two large stones, each measuring about three feet by two feet, and three inches in thickness, forming a division wall, (if I may so describe it,) of from six to seven feet in length. On the east side of this wall and close to it lay a skeleton, with the head towards the S. S. E. Over the feet of this skeleton, within the space of two feet in diameter, were a quantity of bones, and four skulls, all of large size, and having the teeth perfectly sound. They were separately protected by flat stones, set edgeways, and slanting over them. I here found a plain bone pin, (fig. 2,) three inches and a quarter in length, neatly formed, with a rounded head. On removing the stone nearest to the centre, I found that there was another, similarly placed, at right angles to it. Immediately in

² The description of this barrow was published in the 28th No. of the *Archæological Journal*.

³ These consist of first brass of Trajan, A. D. 98, and Marcus Aurelius, A. D. 121., both much defaced and encrusted with *patina*: fourth brass of Gallienus, A. D. 254, Victorinus, A. D. 265, and Tetricus, junior, A. D. 267. These last are in good preservation.

⁴ Limpet shells have been found amongst sepulchral remains, in the Island of Guernsey, and elsewhere.

the east angle formed by these two stones, was a skull, belonging to a skeleton lying at right angles to the one already mentioned, and protected by large stones. In the opposite angle, and lying parallel with, and close to, the division wall first named, was a skeleton, apparently that of a woman; but with these remains I did not notice any skull. I here found a green glass bead, in form, merely a drop of glass pierced through. Upon the breast of this skeleton, was a small urn, lying on its side, but crushed by the stones which were packed over it, (fig. 1,) measuring in diameter at the top, six inches. It was not sufficiently perfect to enable me to measure correctly its height; but this was probably about six inches. It presented the appearance, as regards its fabrication, usual in British urns. It has a row of projecting knobs a little below the rim of the mouth, and is without any scored or impressed ornament. At right angles to this skeleton was another, with the feet towards the south, lying on its side. The skull was a very large one. I was unable to trace this to the feet. The whole of these interments were placed upon a bed of stones of various sizes, packed together without any earth, to the depth of four feet; making seven feet from the top of the barrow, and about three feet beneath the level of the surrounding soil.

Judging by the date of three of the coins mentioned above, we cannot attribute the formation of this barrow to an earlier period than the latter part of the third century, and consequently place it amongst the class which are denominated *Romano-British*. From the circumstance, however, of the upper portion having so many pieces of broken pottery indiscriminately mixed with the earth and stones, it appears probable that an older barrow had been destroyed, for the purpose of more recent burials. There is another barrow at a short distance across the ravine, which is reported to have been opened many years ago, and urns discovered in it. A third is situated upon Emmet's hill, a great part of which has fallen down the cliff; and a fourth was opened and levelled some years since, near Renscombe farm, in which pottery was also found.

In the month of October, 1855, I was present at the examination of a barrow, situated in a pasture called Bottom Cowleaze, which is about a quarter of a mile south of Affington Barn, upon the Swanage and Kingston road. It was of that class which

are denominated bowl shaped, and measured fifty paces in circumference, and six feet in height. It was commenced at the east side, by a cutting directed towards the centre. Here it was composed of earth, to the depth of one foot and a half, after which the whole barrow was of stone, similar to that at St. Adhelm's head, which I have described above. To the depth of four feet from the summit, the stones were embedded in earth, but from thence to the bottom, they were packed together without earth. At the depth of one foot beneath the centre, were two bones, apparently human, lying side by side; and beneath them upon the floor of the barrow was found a *Fibula* or *Brooch*,⁵ of bronze, (fig. 8,) measuring three quarters of an inch in diameter; it was with a few small bones, and two jaws of some small quadruped.⁶ These might probably have belonged to a skin in which the brooch was fastened. No cist or other remains were discovered at this spot; but, proceeding towards the west, an unusually handsome urn, (fig. 7,) was found. It was inverted upon two flat stones, which were fitted neatly together upon the floor of the barrow. Large stones were built closely round it, and small pieces wedged in tightly, so as to fill up the cavities, and keep the urn firm in its place, as if the several cracks in it had existed at the time of its deposit. A thin flat stone was placed carefully over it. Some of these were sandstones, which must have been brought from the heaths on the north side of the chalk range, a distance of three miles. This urn measured fifteen inches in height, five feet two inches in circumference, twelve inches diameter at the lip, and five and a half inches diameter at the bottom. It was

⁵ This was a *Ring Brooch*, composed of copper, but presenting the appearance of bronze. One very similar to this, with the ends rolled back, was found with *Roman* remains, at Longbredy, near Dorchester; it is in the County Museum. Another, agreeing in form, with this, was found near the Fleam Dyke, in Cambridgeshire, amongst *Roman* remains. And many others of like character, are recorded from different parts of England; some of them found amongst *Anglo-Saxon* remains, as at Cuerdale, near Preston. The mode of using the *Ring Brooch*, is thus described in the *Archæological Journal*, Vol. iii, p. 78. "It was formed with an opening on one side, and the *acus*, or *pin*, which was not hinged, but moved freely to any part of the ring, having been with ease passed through the tissue of the garment, was brought through the opening between the volutes. It was then brought round until, the point resting against the ring, it was firmly secured." It was an ornament worn by both sexes.

⁶ These jaws were those of a Rodent, probably a Squirrel.

highly ornamented. At four inches from the lip, was a double moulding, ornamented with small circles impressed by a punch, or some such implement. Above this were four handles of an unusual form, also ornamented with circles and scored lines. The lip, which grooved outwards, was ornamented both on the inner and outer sides, with four alternately diagonal and vertical lines, formed by the pressure of a coarse cord upon the clay, denominated the rope ornament. It contained the burned bones of an old person. At a distance of two and a half feet on the south side of this, and about two feet above the floor of the barrow, was a small urn which measured five inches in diameter, and five in height, embedded in earth. It contained only slight traces of burnt bones; but over it was an apparently human shin bone. And at the distance of five feet on the north side of the first mentioned urn, and two feet above the floor, was found another small one, (fig. 6,) also measuring about five inches in diameter and height. It was inverted, and contained a few burnt bones. Near it was a bone ornament, one inch in length. (fig. 9.) Unfortunately, they were both broken to pieces, being unprotected, and consequently with nothing to indicate their presence. Outside the urns, encircling the south side of the barrow, at the radius of seven feet from the centre, were stones of a somewhat larger size set upright, and partly sunk into the native soil. At this side were extensive traces of fire, with a black earth, such as frequently occurs in barrows. At this spot the body was most probably consumed. The side of the large urn was blackened, by the ashes having been placed against it. The remainder of the barrow was carefully examined at considerable labour, but no other deposit was discovered. It had, evidently, never been disturbed since its first formation, which I conceive to have been at no great distance of time after the commencement of the Roman location upon this coast. The urns are essentially British, as is also the mode of sepulture; but the bronze fibula was probably of Roman origin, fallen into the possession of another people.

On the twelfth of November, was commenced the examination of the Afflington Barrow, which is situated about mid way between the last described, and the Afflington barn upon the Swanage and Kingston road. It is bowl-shaped, and measures sixty paces in circumference, sixty feet in diameter, and

FIG. 7.

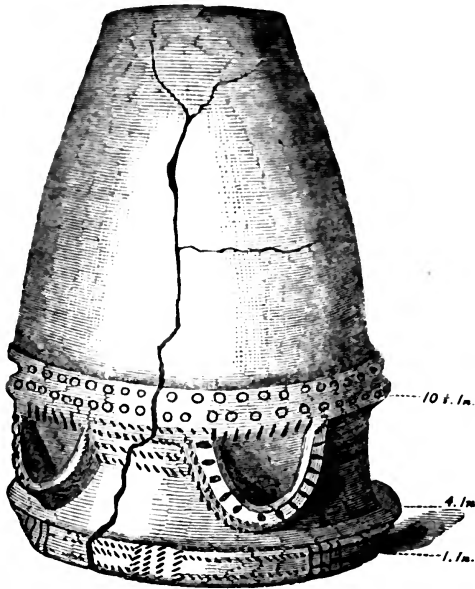


FIG 11

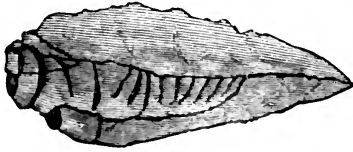


FIG 10

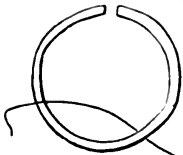


FIG 8

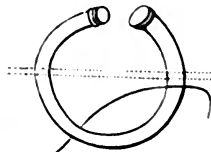


FIG 9





ten feet in height. The work was commenced at the east side, where a portion had been previously removed, with a trench of six paces broad, which was intended to have been cut completely through. I should here observe, that the whole barrow was composed of a clay-like earth, which had become so compact and hardened, as to require the constant application of the pick-axe in its removal, and was wholly cased over with six inches of stones. At the early commencement of the work were found, amongst these stones, at one spot only, several pieces of apparently *Roman* pottery, a portion of a metal clasp, (fig. 3,) a small stud, (fig. 5,) a piece of iron, pieces of Kimmeridge coal, charcoal, a few fragments of bone, and some blue pebbles. Here, at the distance of seven feet from the centre of the barrow, the original plan of proceeding with the excavation was prevented from being continued, by the discovery of the foot-stones of a *kistvaen*⁷ or stone coffin, which proved to be the first of a series of seven, placed in two rows, at the depth of only two feet beneath the apex of the barrow. These all contained skeletons, lying with the head towards the south west, and the feet towards the north east. It will be observed, that the distances between these *kistvaens* were not the same. All were in the north segment of the barrow. The following description of these interments commences with the northermost.

No. 1. A *kistvaen*, formed by stones, similar to those now denominated *curbs*, and a thin flag stone set edgewise at the head. It contained a full length skeleton, with the head leaning towards and resting upon the left shoulder. There was no protection over this deposit.

No. 2. A *kistvaen*, formed in the same manner as the last, but covered with thin flat stones, presenting when the superimposed earth was removed the appearance of a perfect stone coffin. Its measurements inside were, five feet in length, sixteen inches in width at the widest part, and thirteen inches in depth. It contained a skeleton, which measured four feet in length, with the head leaning over the right shoulder. With this deposit was found a flint Arrow head.⁸ (fig. 11.) The intermediate

⁷ *Kistvaen* is derived from the words *Kist* or *Cist*, which in Welch means a *chest* or *coffin*, and *vaen*, *stone*.

⁸ Chippings of chalk flints, such as might be formed into arrow-heads, frequently occur in the barrows of this neighbourhood; and, in

space between this and No. 1 was two feet.

No. 3. A kistvaen, precisely similar to No. 2., and covered in the same manner with thin slabs. Its measurements inside were, four feet nine inches in length, fourteen inches in width at the head, sixteen inches at the middle, and nine inches at the feet. It contained a skeleton, which measured only four feet in length, with the head resting on the left shoulder. The body, and knees were slightly bent, so as to fit the cist, which was shortened by the foot-stone being placed in such a manner as to leave a space of about eight inches, partially enclosed by the two side stones. This space was carefully covered with a thin piece of stone, but contained no remains. In the skull of this deposit, was a hole over the left ear, which appeared to have been caused by a blow. The intermediate space between this and No. 2. was three feet.

No 4. At the distance of two feet from the southernmost side of No. 3, with its eastern angle touching the centre of the barrow, was an interment of a wholly different character from the three described above. In stead of being carefully built round, it consisted simply of a thin slab of Kimmeridge coal,⁹ or shale, which measured three feet six inches by two feet three inches, having a neatly drilled hole of an inch in diameter in its centre, placed in a slanting direction, and rested upon a slab of stone, which was set up edgeways and supported it, thus protecting the two skeletons which lay beneath; the one, that of

a field in the Parish of Langton, are occasionally turned up by the plough, In the tenth volume of the *Archæological Journal*, is an account of antiquities obtained from Wangford, near Brandon, in Suffolk, in which it is stated, that, "amongst the sand have often been found heaps of chipped flints, containing arrow heads in every stage of preparation, from the rudest to the most exquisitely finished specimen." Similar fragments of flint have been also found in Lincolnshire, Cambridgeshire, and Derbyshire. Sir R. C. Hoare says "It appears to have been a common custom to insert in the Urns, lance and arrow heads of flint, both ready chipped and finely finished, as well as others in a rough state.

⁹ Picces of *Kimmeridge Coal* frequently occur, scattered amongst the material of the barrows of this immediate neighbourhood. Its presence seems to have been the result of design, rather than of chance, and shows that some importance attached to it; as may be conceived to have been the case in other districts with regard to *Sandstone*, which we find made use of in barrows which are situated far distant from its native rock; as, for instance, in the Badbury and Deverel barrows; as also in Druidical structures, as *Stonehenge*, &c., where it is denominated *Druid Sandstone*.

a woman, which measured five feet in length, lying upon the back, with the head leaning slightly towards the left shoulder; by her right side, the skeleton of a child, also upon its back, which measured three feet two inches in length. This interment occupied a space of six feet in length, and about three feet and a half in width. Whatever may have been the rank, or relative position, during life, of the occupants of the three first graves, I think it may be safely determined that this was a superior, judging from the circumstance of the interment being covered by a slab of a different and perhaps sacred character; its position being near the centre of the barrow, and on the *dexter* side of the others, a custom which obtained in later times, and continues to the present day, it being the place of honour.

At a distance of four feet six inches from the head of No. 3., commenced a second row of similar interments, each lying with the feet in the same direction. The outermost one was in a line with No. 3., and, to suit the slope of the barrow, the heads were placed considerably lower than the feet, which were on a level with the first row of deposits; thus, I think, affording strong evidence in favour of these interments having taken place at a later period, than that of the formation of the barrow.

No. 5. A kistvaen, built with curb-stones in the same manner as Nos. 1. 2. and 3., covered with flag stones. It measured five feet ten inches in length, and contained a skeleton five feet four inches long, with the head leaning towards the right shoulder. With this deposit was found, near the knees a bronze or copper ring, measuring one inch in diameter. (fig. 10.) It was not united, having probably been joined with a softer metal, which had become decomposed.

No. 6. A kistvaen formed of stones set up edgeways without any covering or foot-stone. It measured four feet eight inches in length, and contained a skeleton three feet eight inches long, with the head leaning towards the right shoulder. It appeared to be that of a full aged but short person.

No. 7. With this interment was no wall of stone or protection of any kind; but two skeletons lay side by side, evidently those of a man and woman. ¹⁰ The feet of each were together, in

¹⁰ In the Autumn of 1851, in the Island of Portland, amongst other

their correct position, but the bodies touched each other; that of the woman lying upon its side, and that of the man slightly so; the head of each leant towards the other, so that their foreheads touched so intimately that the blade of a knife could not be passed between them. The right arm of the man lay across his breast; ¹¹ that of the woman by her right side, over which his left arm crossed, apparently to clasp the left hand of the woman, whose arm was bent in that direction across her body. The bodies having been placed in a bent position and unprotected, it was not possible to obtain a correct measurement of them. The skeletons however as they lay measured, that of the man, five feet eight inches; of the woman, five feet one inch. Here again, we find the same idea suggested with regard to the place of honour, as in No. 4; and it will be observed in addition, that the man is laid on the *dexter* side of the woman.

The cists were completely filled with fine mould, which being carefully removed, the skeletons as above mentioned became exposed to view. It may also be observed that the skulls, except in one instance, were similarly filled, probably by the agency of rain water percolating from above.

The first cutting was then proceeded with across the southern half of the barrow, along the feet of the first row of interments, round the centre, and back again between the heads of the first row, and the feet of the second row, for the purpose of ascertaining whether any more ancient deposits existed upon or near the floor. At the distance of two feet six inches from the feet of interment No. 3, and at a level of two feet deeper, the workmen came upon some large flat stones, set edgeways, but fallen inwards, which appeared to have formed one angle of a square; beneath them was a skeleton much crushed, lying upon the left side, in a different direction from those already described, the skull being towards the north-west. The knees were doubled

sepulchral remains of the Romano British period, was brought to light a stone coffin, which contained the remains of two persons, supposed to have been male and female. *Archæological Journal*, Vol 10, p. 61.

¹¹ Sir R. C. Hoare mentions interments where the right arms of the skeletons were laid across the breast, but in these instances, the head was turned towards the right shoulder.





up.¹² The whole deposit occupied a space of only three feet two inches in length. The next discovery was upon the floor of the barrow, at the distance of twelve feet east from the centre; it consisted of a large deposit of burnt bones which appeared to have been pounded, or broken into small pieces, and lay upon a layer of brown matter, resembling some rotten vegetable substance, such as a slab of wood, or bark, upon which the deposit had been placed. Near the centre upon the floor, a depth of ten feet from the apex, was found a piece of chalk flint, and with it a well formed ring of Kimmeridge coal, measuring one inch and three eighths in diameter, which may be designated an amulet. Chippings of chalk flints, and also round pebbles were prevalent throughout. There was also found an oval stone from the green sand, which measured five inches in length, two inches in width, rather less than an inch in thickness, and equally rounded at the ends and sides. It would be difficult to suggest the probable use of this stone, it being of too soft a nature for a Celt, and does not present any appearance of having been a hone for sharpening weapons. Possibly it might be of the class of objects which are supposed to have been of talismanic value. Over the whole extent of the floor existed evident traces of a very strong fire, most probably the funeral pile, over the ashes of which the barrow had been raised. About midway between the floor and the apex, were further traces of fire.

The enquiry now remains as to what period and people this barrow must be ascribed. It doubtless, contained three distinct kinds of burial. That upon the floor, which consisted of only the remains of burnt bones, we may conclude to have been of the early British period, over which the barrow was originally formed. The skeleton which was found with the knees gathered up, beneath slabs of stone, I consider of a later, but still early date. Lastly, the barrow was made use of as the burial place of some Romanized British family,¹³ at a period not long anterior to the

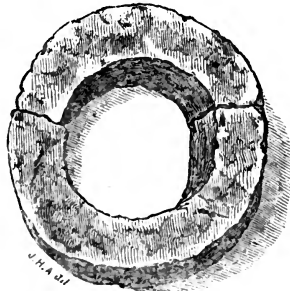
¹² Sir R. C. Hoare, in his description of the different kinds of burial in Wiltshire, mentions that of the skeleton with the legs and knees gathered up to the chin, evidently by design. In a barrow which I opened in the year 1840, near the Blandford race-course, was an interment of this description.

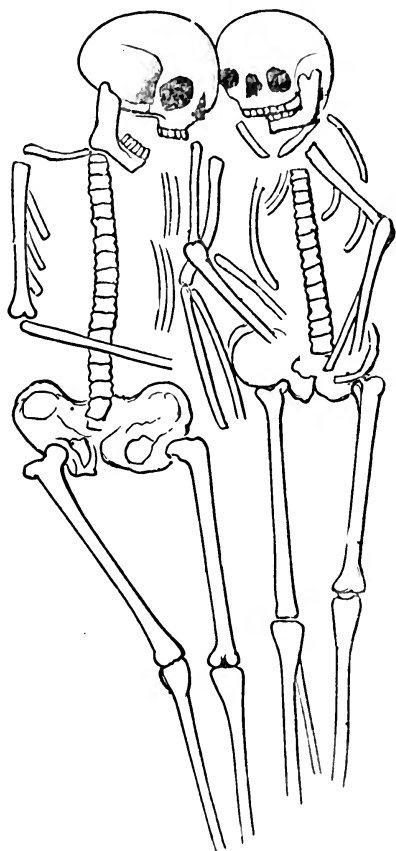
¹³ In the *Archæological Journal*, Vol. xi, p. 315, is a description of a tumulus, near Uley, in Gloucestershire; of a very remote period. Near its summit was discovered a secondary interment, accompanied by Roman coins and pottery.

Saxon invasion. Towards the solving the question, "who were the occupants of these Kistvaens?" the following points present themselves to our notice. First; they lay with their feet towards the east, as is usual in our times. Second; though some had the face turned towards the south, the sun being an object of Pagan veneration, others had it turned to the north: and, whilst some were covered, others had no protection, which I think satisfactorily proves that they were not all buried at the same time. Third; with one exception, no ornaments were discovered: they were not therefore, a rich people. Fourth; there were no traces of armour, or implements of war: we hence conclude that these burials took place during a time of peace. Fifth; their arms were not crossed, a circumstance which militates against the supposition that they might be christians.

I now leave my readers to judge for themselves upon the suggestions which I have made. And to those who would accuse the Antiquary of wantonly disturbing these ancient Sepulchres, I beg to state, though it scarcely seems necessary to do so, that remains of so touching interest as the skeletons above described, were not disturbed. It was the feeling of all present, that they should not be so. The whole of the interments were, consequently, re-covered with flagstones, and the earth thrown over them. The barrow itself, was eventually restored to its original form.

JOHN. H. AUSTEN.







List of Fishes hitherto observed in the Isle of Purbeck.

It must not be thought that this list is intended to be a perfect list of the Fishes of the Island. My observations have extended over too short a space of time to enable me to produce such a list, and that time has been marked by an unusual scarcity of several sorts of fish. It will be seen that several genera are not so fairly represented as we might expect on comparing this list with that of the fish taken on the somewhat similar coast of Cornwall. For instance, we ought to have more Gurnards, Blennies, Bream, another Grey Mullet, another Goby, more Wrasse, Rays, and Hounds. I hope, however, during the present year, if the season be favourable, to be enabled to reduce greatly this list of absentees. To assist me in this, may I request the Members of the Society, or any who take an interest in the Natural History of our Island, and who live on our sea coast, to send me notices of any fish that may be taken, which is not perfectly well known to the fishermen, or not included in this present list.

I have admitted none, but those the occurrence of which is well authenticated. Most of the Salt-water Species I have either taken or seen myself; and for the notices of the Fresh-water, and the rest of the Salt-water kinds, I am indebted to the Rev. J. M. Colson, who during his residence at Swanage, has been fortunate in seeing several rare visitors: he has also kindly looked over this list, and compared it with his own experiences as a fisherman.

I have adopted the names and classification used by Mr. Yarrell, and the figures refer to the 2nd edition (1841) of his "British Fishes."

I. Fishes having a bony skeleton, and spiny fins.

(*Ossei Acanthopterygii.*)The Perch. *Perca fluviatilis* Yarr: I. 1.

In the Frome, but certainly introduced therein.

The Basse. *Labrax lupus*. Yarr: I. 8.

Common. They ascend in shoals the brackish water of Poole harbour, and will there take a fly well.

The Great Weever. *Trachinus draco*. Yarr: I. 24.

Occasionally met with in Swanage and Studland bays.

The Lesser Weever. *Trachinus vipera*. Yarr: I. 29.

In the same localities. This fish has great tenacity of life; one that I brought home, and placed in fresh water thinking it was dead, still lived at the end of fourteen hours. The fishermen say, that the pain and inflammation attending wounds inflicted by the spines on the backs of these two species of fish, vary with the ebb and flow of the tide. Their remedy is smart friction with the liver of the animal.

The Striped Red-Mullet. *Mullus surmuletus*. Yarr: I. 31.

Generally abundant towards the latter part of the summer and autumn; in the year 1855 however, they were not taken in any numbers till the end of September.

The Red Gurnard. *Trigla cuculus*. Yarr: I. 38.

Swanage and Studland bays.

The Streaked Gurnard. *Trigla lineata*. Yarr: I. 45.

Studland bay.

The Piper. *Trigla lyra*. Yarr: I. 51.

Swanage bay.

The Sea-Scorpion. *Cottus scorpio*. Yarr: I. 75.

Common in Studland bay, but not in Swanage bay.

The Father-Lasher. *Cottus bubalis*. Yarr: I. 78.

Common in Swanage bay, but not in Studland bay, fully justifying Mr. Yarrell's remark that the two species are seldom found in the same locality.

The Rough-tailed Stickle-back. *Gasterosteus trachurus*.
Yarr: I. 90.

In Swanage and Durdlestone bays; and in fresh water, a few in the stream running down the valley from Wilkswood, in the stream running into Corfe mill-dam, and in Luckford lake.

The Fifteen-spined Stickle-back. *Gasterosteus spinachia*.
Yarr: I. 101.

Generally in shoals, as I have always taken the specimens of one day at one haul of the keel-drag. This fish is a most interesting inhabitant of the Aquarium, changing its hues under the influence of its passions.

The Maigre. *Sciæna aquila*. Yarr: I. 104.

This "Royal Fish" has been taken at Swanage since the Rev. J. M. Colson has been resident there, and was offered to him for sale. He also tells me he saw the head of another specimen on board one of the Cowes pilot boats, but is uncertain whether it had been taken within our district or not.

The Sea-Bream. *Pagellus centrodontus*. Yarr: I. 123.

"Taken in abundance at the North Ledges in Swanage bay, some twenty years back." (*Rev. J. M. Colson.*)
I have not seen one myself in these parts.

The Mackarel. *Scomber scomber*. Yarr: I. 137.

Abundant, entering Swanage bay in June and July after the shoals are broken up.

The Scad or Horse Mackarel. *Caranx trachurus*.
Yarr: I. 175.

Not uncommon in Swanage bay.

The John Dory. *Zeus faber*. Yarr: I. 183.

Frequent when trawling in Swanage or Studland bays, but those I have taken have been generally small. This fish when taken out of the net makes a peculiar croaking noise; and while dying, beautiful shades of colour pass in rapid succession over the surface of the body.

The Atherine or Sand Smelt. *Atherina presbyter*. Yarr:
I. 229.

Abundant in February and March. Here called "the Smelt."

The Grey Mullet. *Mugil capito*. Yarr: I. 234.

Common.

The Gattoruginous Blenny. *Blennius gattorugine*. Yarr: I. 256.

I took one specimen in the fall of 1854 in a prawn pot, and have not seen another since, though it appears to be common on the Devonshire and Cornish coasts.

The Shanny, or Smooth Shan. *Blennius pholis*. Yarr: I. 260.

"I have seen this fish peeping out of holes in the rocks at Peveril point." (*Rev. J. M. Colson.*)

Yarrell's Blenny. *Blennius Yarrellii*. Yarr: I. 263.

I obtained a specimen of this rare fish this year, 1856, April 1st, from Swanage bay.

The Butter-fish or Spotted Gunnel. *Muraenoides guttata*. Yarr: I. 269.

One specimen in Sept, 1855, about two inches in length, in Swanage bay, keer-dredging. Also two or three specimens in fine colour this spring, 1856.

The Double-spotted Goby. *Gobius Ruthensparri*. Yarr: I. 285.

Common in both Swanage and Studland bays.

The Freckled Goby. *Gobius minutus*. Yarr: I. 288.

Common in Studland bay.

The Sordid Dragonet. *Callionymus dracunculus*. Yarr: I. 302.

I have taken this fish several times in Swanage bay.

The Fishing Frog, or Angler. *Lophius piscatorius*. Yarr: I. 305.

Sometimes taken in Swanage bay. "I have seen a specimen there four feet long." (*Rev. J. M. Colson.*)

The Ballan Wrasse. *Labrus bergylta*. Yarr: I. 311.

Generally abundant amongst the rocks, but this year (1855) very scarce, and those which are taken, are very small. Basket fulls of this and other kinds of Wrasse, locally called "Rock Fish," or "Bunners," were thrown on shore dead, after the breaking up of

the severe weather of the spring of this year. The fishermen say that the snow-water killed them, and attribute to the same cause the present scarcity of prawns.

The Green-streaked Wrasse. *Labrus Donovanii*. Yarr: I. 315.

I took two or three specimens during the summer in Swanage bay, all of them about $2\frac{1}{2}$ inches in length.

The Comber Wrasse? *Labrus Comber*. Yarr: I. 323.

In October last, I took a Wrasse answering in most respects to the description of the Comber by Mr. Yarrell, except that the ground colour was a bright olive green instead of the usual red. On referring it to the Editor of the Zoologist, he gave it as his opinion that it was a young specimen of that species. I afterwards obtained two more similar to the first, in Studland bay. They were none of them above two inches in length.

Since writing the above I have seen Mr. Yarrell, who hardly thinks this fish to be the young of the Comber, and cannot from my description refer it decidedly to any of the species of Wrasse.

The Gilt head. *Crenilabrus melops*. Yarr: I. 325.

Common in company with the Ballan Wrasse.

The Corkwing. *Crenilabrus Norwegicus*. Yarr: I. 328.

Not rare in Swanage bay, but generally of small size.

Jago's Goldsinny. *Crenilabrus rupestris*. (Selby.) Yarr: I. 333.

In the fall of the year, hardly a morning passes without my taking some of these fish in my prawn pots; they are generally from 3 to $5\frac{1}{2}$ inches in length. They are not seen during the summer in Swanage bay. Locally named "Cook."

II. Fishes having a bony skeleton, and soft-rayed fins.

(*Ossei Malacopterygii*.)

A. With ventral fins situate on the belly, without connection with the bones of the shoulder.

(*Abdominales*.)

The Roach. *Leuciscus rutilus*. Yarr: I. 399.

Very fine in the Frome; Mr. Bartlett having taken them 3 lbs. in weight.

- The Dace. *Leuciscus vulgaris*. Yarr: I. 404.
In the Frome, and abundant in Corfe stream.
- The Minnow. *Leuciscus phoxinus*. Yarr: I. 423.
In the Frome, and very fine in Corfe stream.
- The Loach. *Cobitis barbatula*. Yarr: I. 427.
Abundant in Corfe stream.
- The Pike. *Esox lucius*. Yarr: I. 434.
In the Frome; but introduced owing to the bursting of the dam of a pond at Moreton.
- The Gar fish. *Belone vulgaris*. Yarr: I. 442.
Common in Swanage and Studland bays in August and September.
- The Salmon. *Salmo Salar*. Yarr: II. 1.
A few in the Frome, but those few fine.
- The Salmon Trout. *Salmo trutta*. Yarr: II. 77.
In the Frome; and a few are taken every year in set nets in Swanage bay, averaging about a pound a-piece.
- The Common Trout. *Salmo fario*. Yarr: II. 85.
A few in that part of the Frome which is in Purbeck, though higher up that river they are abundant. "There are small trout in a little stream in the heath behind Rempstone." *Rev. J. M. Colson*. "Also in Holme stream." *Rev. N. Bond*.
- The Herring. *Clupea harengus*. Yarr: II. 183.
Abundant in the fall. This season (1855) has been one of the best known for many years for this fish in Swanage bay.
- The Sprat. *Clupea sprattus*. Yarr: II. 197.
Common.
- The Twaite Shad. *Alosa finta*. Yarr: II. 208.
Arrive in Swanage bay before the Herrings.
- B. With the Ventral fins placed very near the Pectoral ones; the bones supporting the former being attached to the bones of the shoulder supporting the latter.

(*Sub-brachiales*.)

- The Common Cod. *Morrhua vulgaris* Yarr: II. 221.
Some are taken in Swanage bay every autumn.
- The Pout. *Morrhua lusca*. Yarr: II. 237.
Abundant.
- The Poor Cod. *Morrhua minuta*. Yarr. II. 241.
Taken with the Pout in the proportion of one to four of the latter.
- The Whiting. *Merlangus vulgaris*. Yarr: II. 244.
In Studland bay, the north side.
- The Coal Fish. *Merlangus carbonarius*. Yarr: II. 250.
At the north and south ledges, Swanage bay. Local name, "Bluffin."
- The Pollack. *Merlangus pollachius*. Yarr: II. 253.
Abundant all round the coast. The finest are taken in Chapman's pool, sometimes 9 or 10 lbs in weight.
I saw one last summer, in which the intermaxillary bones were wanting, and the lower jaw in consequence projected a full inch beyond the upper; Vide 1st ed. of Yarr: I. 110, for a vignette of a similar malformation of the Sea-Bream.
- The Green Cod. *Merlangus virens*. Yarr: II. 256.
The only specimen that has been observed here was taken at the south ledges, Swanage, by Dr. Babington this last summer.
- The Hake. *Merluccius vulgaris*. Yarr: II. 258.
One was taken last November in Swanage bay, weighing 5 lb.
- The Ling. *Lota molva*. Yarr: II. 264.
"I have seen one during my residence at Swanage."
Rev. J. M. Colson.
- The Three-bearded Rockling. *Motella vulgaris*. Yarr: II. 270.
"I caught one about 2 feet long in 1833". Rev. J. M. Colson.
A small one was taken this spring also.
- The Five-bearded Rockling. *Motella quinquecirrata*,
Yarr: II. 278.
Not uncommon.

The Plaice. *Platessa vulgaris*. Yarr: II. 297.

Common.

The Flounder. *Platessa fiesus*. Yarr: II. 303

Common. Also taken in Wareham river.

The Common Dab. *Platessa limanda*. Yarr: II. 307.

Common.

The Turbot. *Rhombus maximus*. Yarr: II. 324.

Common.

The Brill. *Rhombus vulgaris*. Yarr: II. 331.

Common.

The Sole. *Solea vulgaris*. Yarr: II. 347.

Common.

The Bimaculated Sucker. *Lepidogaster bimaculatus*.
Yarr: II. 363.

A small specimen was brought to me this April, (1856,) taken in a prawn-pot.

The Lump Sucker. *Cyclopterus lumpus*. Yarr: II. 365.

A specimen weighing $3\frac{3}{4}$ lbs, was taken in Swanage bay this March.

Montagu's Sucker. *Liparis Montagu*. Yarr: II. 374.

I obtained three specimens of this fish by keel-dredging in Swanage bay this summer; the last I took was a dull green above in place of the usual orange. When at rest, it generally remains in a curved position, the tail being bent round, and lying close to the head. Mr. Conch says that he never saw it adhere to any fixed substance; all those that I have taken adhered closely to any vessel in which they were placed.

c. With no ventral fins.

(*Apodales*.)

The Sharp-nosed Eel. *Anguilla acutirostris*. Yarr: II. 381.

In the Frome, Corfe stream, and the stream running down the valley to Swanage.

The Conger. *Conger vulgaris*. Yarr: II. 402.

Abundant all round the coast; the largest I myself have taken weighed 28 lbs.

The Sand Launce. *Ammodytes Lancea*. Yarr: II. 429.

Abundant; it is dug out of the wet sand at low spring tides. Superior even to Whitebait for the table. Local name, "The Riggle."

There are two British species of *Ammodytes*, and though *A. Tobianus* is rare, I think it still may perhaps be found in Purbeck. To assist in endeavouring to ascertain this fact, it may be well to give here the differences between the two species. *A. Tobianus* is larger, measuring 12 to 15 inches in length; the head, and particularly the lower jaw is longer than that of *A. Lancea*: the dorsal fin commences on a line with the end of the rays of the pectoral fins; that of *A. Lancea* commencing in a line with the middle of the pectoral fins: *A. Tobianus* is also browner and less transparent than *A. Lancea*.

III. Fishes having a bony skeleton and gills arranged in tufts.

(*Ossei Lophobranchii*.)

The Great Pipe-Fish. *Syngnathus Acus*. Yarr: II. 432.
Studland bay.

The Deep-nosed Pipe-Fish. *Syngnathus Typhle*. Yarr:
II. 439.

Swanage and Studland bays, the most common species in the former bay.

The Equoreal Pipe-Fish. *Syngnathus equoreus*. Yarr:
II. 442.

I obtained one specimen of this somewhat rare fish in Swanage bay, last October.

The Snake Pipe-Fish. *Syngnathus anguineus*. Yarr: II.
445.

Studland and Swanage bays.

The Straight-nosed Pipe-Fish. *Syngnathus ophidion*.
Yarr: II. 447.

Studland bay.

The Worm Pipe-Fish. *Syngnathus lumbriciformis*. Yarr:
II. 450.

In the grass banks in Studland bay.

IV. Fishes having a bony skeleton and their jaws soldered together.

(*Ossei Plectognathi.*)

The Short Sun-Fish. *Orthogoriscus mola.* Yarr: II. 462.

“I have seen two specimens taken in Swanage bay, and one in Chapman’s pool.” (*Rev. J. M. Colson.*) The Rev. N. Bond also tells me one was taken in Worbarrow bay, in 1853 or 1854.

V. Fishes having Cartilaginous skeletons.

(*Chondropterygi.*)

The Small-Spotted Dog-Fish. *Scyllium canicula.* Yarr: II. 487.

Common round the Coast.

The Large-Spotted Dog-Fish. *Scyllium catulus.* Yarr: II. 493.

Much less frequent than the former.

The Blue Shark. *Carcharias glaucus.* Yarr: II. 498.

Taken every fall. I have seen them upwards of five feet in length.

The Picked Dog-Fish. *Acanthias vulgaris.* Yarr: II. 524.

Sometimes in shoals off the coast; bold enough to follow a bait to the surface of the water, and to be dipped out with a landing net. This year there have been very few; in 1854 I took sometimes forty in an afternoon, whilst Pollack fishing.

The Angel Fish. *Squatina angelus.* Yarr: II. 539.

“Sometimes taken in Swanage bay.” *Rev. J. M. Colson.*

The Skate. *Raia batis.* Yarr: II. 561.

Common.

The Homelyn Ray. *Raia miraletus.* Yarr: II. 570.

Common. I have taken them free from spots.

The Thornback. *Raia clavata.* Yarr: II. 582.

Common: the fishermen here suppose this to be the male of the Skate.

*List of Stalked-eyed Crustacea hitherto observed in the
Isle of Purbeck.*

The same remarks that I made at the commencement of the List of Purbeck Fishes will equally apply here. This list is not more perfect than that one, and from the same causes.

The names and classification are taken from Professor Bell's "History of British Stalked-Eyed Crustacea."

I have taken all except those marked with an asterisk, myself; of these, two were obtained by Professor Bell, and for the notices of the other three, I have to thank the Rev. J. M. Colson.

- I. Stalked-eyed Crustaceans having five pairs of thoracic extremities, and the gills enclosed; with short tails.

(*Decapoda Brachyura.*)

Long-legged Spider-Crab. *Stenorynchus Phalangium.*
Bell, 2.

Common.

Slender Spider-Crab. *Stenorynchus tenuirostris.* Bell, 6.
A few, generally in grass banks.

Four-horned Spider-Crab. *Pisa tetraodon.* Bell, 22.

Common, generally half concealed by masses of small fuci growing on the carapace.

- *Hyas araneus*. Bell, 31.
Frequent in the spring, and as much covered with small fuci, as the preceding species.
- *Hyas coarctatus*. Bell, 35.
On Peveril ledges at spring tides, June; again in the fall keer-dredging in Swanage bay.
- * Spinous Spider-Crab. *Maia squinado*. Bell, 39.
"Common off Swanage, on the lobster ground, I have seen several. (Rev. J. M. Colson.)"
- * *Euryome aspera*. Bell, 46.
Taken by Professor Bell in Swanage bay.
- Great Crab. *Cancer Pagurus*. Bell, 59.
The Crab *par excellence* of the market. Common.
- * *Pilumnus hirtellus*. Bell, 68.
Dredged by Professor Bell in Swanage bay.
- Common Shore-Crab. *Carcinas mænus*. Bell, 76.
The most common species close along the shore.
- *Portumnus variegatus*. Bell, 85.
One specimen in the keer-dredge on 24th October, and since then one or two more; but certainly not as Dr. Leach observes "one of the most common."
- ¹ Velvet Swimming Crab. *Portunus puber*. Bell, 90.
Swanage bay, but not common.
- Arched-fronted Swimming-Crab. *Portunus arcuatus*.
Bell, 97.
The most common species in six or seven fathoms water, as the Shore-Crab is in shallower water.
- Cleanser Swimming-Crab, *Portunus depurator*. Bell, 101.
Swanage and Studland bays.

¹ All the Swimming-Crabs are locally called "Fiddlers," from the peculiar movement of their hinder legs.

Marbled Swimming-Crab. *Portunus marmoreus*. Bell, 107.

One specimen, in Studland bay, October, carrying the remarkable parasite mentioned by Professor Bell.

Henslow's Swimming-Crab. *Polybius Henslowii* Bell, 116.

A fine male, keer-dredging, November 2nd, 1855, in Studland bay.

Common Pea-Crab. *Pinnotheres pisum*. Bell, 121.

Common in mussels off Durdlestone head.

Masked Crab. *Corystes Cassivelaunus*. Bell, 159.

Cast on shore in Swanage bay after easterly gales.

II. Stalked-eyed Crustaceans having five pairs of thoracic extremities, and the gills enclosed; with anomalous tails.

(*Decapoda Anomoura*.)

Common Hermit-Crab. *Pagurus Bernhardus*. Bell, 171.

Common in the deserted shells of the Whelk, (hence the local name "Whelk-Crab"); and when small, in empty shells of *Litorina*, *Natica*, *Trochus*, *Murex*, &c.

Scaly Galathea. *Galathea squamifera*. Bell, 197.

Now and then in prawn-pots in Swanage bay.

Spinous Galathea. *Galathea strigosa*. Bell, 200.

I took one specimen of this very handsome species in a lobster-pot in October 1854.

III. Stalked-eyed Crustaceans, having five pairs of thoracic extremities, and the gills enclosed; with long tails.

(*Decapoda Macroura*.)

Lobster. *Homarus vulgaris*. Bell, 242.

The superior quality of the Swanage lobsters is well known.

* *Gebia deltura?* Bell, 225.

A *Gebia* was taken in Swanage bay in 1854. I did not see it myself, and from the drawing which I received of it, I am not able to tell which of the two British species it belonged to; it resembled most closely on the whole, *Gebia deltura*, and Mr. Colson who took the drawing seems to think it must have been this species.

Common Shrimp. *Crangon vulgaris*. Bell, 256.

Abundant.

Varying Hippolyte. *Hippolyte varians*. Bell, 286.

Not uncommon. Locally named "Crook-backs."

.. .. *Pandalus annuliformis*. Bell, 297.

One or two specimens I have taken in Swanage bay.

Prawn. *Palæmon serratus*. Bell, 302.

Generally very fine and abundant, but last year very scarce.

* *Palæmon squilla*. Bell, 305.

"I believe this to be the species commonly called at Swanage and at Studland, "Puddle-Shrimps"; abundant in Poole harbour and in Little sea." (*Rev. J. M. Colson.*)

.. .. *Palæmon Leachii*. Bell, 307.

A few specimens

LESTER LESTER.

April, 1856.

A
SYSTEMATIC CATALOGUE

OF THE

*Birds of the Isle of Purbeck.**

ORDER I. — RAPTORES, OR BIRDS OF PREY.

3. Cinereous Eagle, *Aquila albicilla*.
An occasional visitant. A specimen was killed in the neighbourhood of Poole Harbour, in January, 1838; a second about 1844, at Woolgarston; and another at Lulworth.
6. Peregrine Falcon. *Falco peregrinus*.
Is not of unfrequent occurrence. It breeds in the precipitous cliffs of Durlleston head, and the south coast of the Island.
7. Hobby, *Falco Subbuteo*.
A summer visitor.
8. Merlin, *Falco Æsalon*.
A frequent winter visitor. Six specimens were killed at Langton during the last winter.
10. Kestrel, *Falco Tinnunculus*.
Frequent.

* In the above Catalogue, I have adopted the arrangement of the Rev. Leonard Jenyns, in his "Manual of the British Vertebrate Animals," published in 1835, to which the numbers refer.

12. Sparrow Hawk, *Accipiter fringillarius*.
Frequent.
14. Common Buzzard, *Buteo vulgaris*.
A specimen was shot at Encombe, in the month of October, 1855.
17. Marsh Harrier, *Buteo rufus*.
Is occasionally observed on the heaths of the northern division of the Island. A specimen was killed at Arne, in the autumn of 1855.
18. Hen Harrier, *Buteo cyaneus*.
22. Long-eared Owl, *Otus vulgaris*.
23. Short-eared Owl, *Otus Brachyotos*.
Occasionally met with in the autumn and winter. A specimen was killed at Langton, November 2nd, 1855.
24. White Owl, *Strix flammea*.
Frequent, but not abundant.

ORDER II. — INSESSORES, OR PERCHERS.

31. Red-backed Shrike, *Lanius Collurio*.
A common summer visitor.
32. Spotted Fly-catcher, *Muscicapa grisola*.
A common summer visitor.
35. Missel-Thrush, *Turdus viscivorus*.
36. Fieldfare, *Turdus pilaris*.
A common winter visitor.
37. Song-Thrush, *Turdus musicus*.
38. Redwing, *Turdus iliacus*.
A common winter visitor.
39. Blackbird, *Turdus Merula*.

40. Ring-Ouzel, *Turdus torquatus*.
Has been frequently observed at its autumn migration.
One was seen at Encombe, in 1855, as late as Oct. 31st.
43. Hedge Sparrow, *Accentor modularis*.
44. Redbreast, *Sylvia Rubecula*.
46. Redstart, *Sylvia Phœnicurus*.
A summer visitor.
49. Sedge Warbler, *Sylvia Phragmitis*.
A summer visitor.
50. Reed-Wren, *Sylvia arundinacea*.
A summer visitor. In 1850 I was shown a nest of this bird, which had been taken at Wilkswood.
51. Nightingale, *Sylvia Luscinia*.
A summer visitor. Very abundant in the Vale.
52. Black-cap Warbler, *Sylvia Atricapilla*.
A frequent summer visitor.
54. White Throat, *Sylvia cinerea*.
A common summer visitor.
57. Willow-Wren, *Sylvia Trochilus*.
A frequent summer visitor.
59. Dartford Warbler, *Melizophilus provincialis*.
In November, 1855, I observed several of these birds upon the high furze at Little-sea.
60. Golden-crested Regulus, or Wren, *Regulus aurocapillus*.
Frequent.
62. Pied Wagtail, *Motacilla alba*.
Common.
63. Gray Wagtail, *Motacilla Boarula*.
A regular winter visitor.
64. Yellow Wagtail, *Motacilla flava*.
A summer visitor.
67. Meadow Pipit, or Titlark, *Anthus pratensis*.

69. Rock Pipit, *Anthus petrosus*.
Common. Breeds upon the Cliffs, especially in Durlleston bay, and at Kimmeridge.
70. Wheat-Ear, *Saxicola Œnanthe*.
A summer visitor; abundant over the whole Island.
71. Whin-Chat, *Saxicola Rubetra*.
A frequent summer visitor. I have observed them in small companies, shortly after their arrival, in the neighbourhood of the Langton quarries.
72. Stone-Chat, *Saxicola Rubicola*.
Common.
73. Great Tit, *Parus major*.
Common.
74. Blue Tit. *Parus cæruleus*.
Common.
76. Marsh Tit, *Parus palustris*.
Frequent.
77. Cole Tit, *Parus ater*.
Frequent.
78. Long-tailed Tit, *Parus caudatus*.
82. Sky-Lark, *Alauda arvensis*.
83. Wood-Lark, *Alauda arborea*.
85. Snow-Bunting, *Emberiza nivalis*.
A winter visitant, but rare. In October, 1852, a specimen was observed several days in succession, by the Rev. O. L. Mansel, in a chalk-pit above Creech; and on the 9th of April, 1856, I noticed one on the road between the Afflington barn and Kingston.
86. Common Bunting, *Emberiza Miliaria*.
87. Reed-Bunting, *Emberiza Schæniclus*.
Common.
88. Yellow Bunting, *Emberiza Citrinella*.
91. Chaffinch, *Fringilla Cælebs*.
92. Mountain Finch, *Fringilla Montifringilla*.
A winter visitor.

93. House-Sparrow, *Fringilla domestica*.
96. Green Grosbeak. *Fringilla Chloris*.
97. Goldfinch, *Fringilla Carduelis*.
100. Common Linnet, *Fringilla cannabina*.
101. Mountain Linnet, *Fringilla Montium*.
102. Bullfinch, *Pyrrhula vulgaris*.
104. Common Cross-bill, *Loxia curvirostra*.
A winter visitant.
107. Starling, *Sturnus vulgaris*.
109. Chough, *Fregilus Graculus*.
Abundant throughout the year upon the lofty cliffs of the south coast of the Island, and is occasionally observed upon the chalk cliffs between Handfast point and Swanage bay.
110. Raven, *Corvus Corax*.
Abundant. A pair of these birds had built their nest for many successive years previous to 1851, upon the ivy tower of Corfe Castle. It is also recorded to have bred upon the Agglestone.
111. Carrion Crow, *Corvus Corone*.
Frequent; especially on the shores of Poole harbour, where it feeds upon the fish and carrion, which are cast up and left by the tide.
112. Hooded Crow, *Corvus Cornix*.
One was observed at Encombe, in October, 1855.
113. Rook, *Corvus frugilegus*.
114. Jack Daw, *Corvus Monedula*.
115. Magpie, *Corvus Pica*.
116. Jay, *Garrulus glandarius*.
Frequent upon the north side of the chalk range, less so upon the south.
118. Green Woodpecker, *Picus viridis*.
Common.
121. Wryneck, *Yunx Torquilla*.
A summer visitor.

122. Common Creeper, *Certhia familiaris*.
 123. Common Wren, *Troglodytes Europæus*.
 124. Hoopoe, *Upupa Epops*

Has frequently been killed in the Isle of Purbeck. Yarrell, in his "History of British Birds," speaks of this part of the coast as appearing to be one of the most favourite haunts of the Hoopoe in this country, and that he had seen, in the collection of the Rev. Mr. Bartlett, at Swanage, in the autumn of 1827, three Hoopoes, all killed in that vicinity. On the 9th of May, 1850, I saw two Hoopoes in the garden of the parsonage at Langton, where they had been observed for several days; being disturbed, they flew towards the woods and were not seen again. The Rev. O. L. Mansel informs me of two other specimens having occurred in Purbeck, one in the Kimmeridge valley, near the village, which was not killed; the other was killed at Studland. One was killed at Corfe about eight years since, which is now in Encombe house, and another at the same place, in the possession of the Rev. E. Bankes. Dr. Pulteney also records its having been killed near Wareham.

125. Nuthatch, *Sitta Europæa*.
 126. Common Cuckow, *Cuculus canorus*.
 A summer visitor.
 130. King-Fisher, *Alcedo Ispida*.
 131. Chimney Swallow, *Hirundo rustica*.
 132. House Martin, *Hirundo urbica*.
 133. Bank Martin, *Hirundo riparia*.
 134. Swift. *Cypselus Apus*.
 136. Nightjar, *Caprimulgus Europæus*.
 Frequent at Woody Hyde, Arne, &c.

ORDER III. — RASORES, OR SCRAPERS.

137. Ring Dove, *Columba Palumbus*.

*

* 139 Dr. Pulteney, in his list of Birds of Dorset, leads us to suppose

140. Turtle Dove, *Columba Turtur*.
 145. Common Pheasant, *Phasianus Colchicus*.
 146. Ring-necked Pheasant, *Phasianus torquatus*.
 Frequent in the neighbourhood of Kingston.
 149. Black Grouse, *Tetrao Tetrrix*.
 153. Common Partridge, *Perdix cinerea*.
 156. Common Quail, *Perdix Coturnix*.
 Has been known to breed in the Island.

ORDER IV. — GRALLATORES, OR WADERS.

159. Common thick-knee Plover, *Edicnemus crepitans*.
 A summer visitor.
 161. Golden Plover, *Charadrius pluvialis*.
 A winter visitor; abundant in certain seasons.
 163. Ringed Plover, *Charadrius Hiaticula*.
 Common upon the shores of Poole harbour and Studland bay, during the autumn and winter, and, I have no doubt, breeds upon the sand-hills. In the spring of 1851, I watched a pair for a considerable time as they flew to and fro from sand-hill to sand-hill, but failed in the attempt to discover their nest.
 166. Gray Plover, *Vanellus griseus*.
 A winter visitor. I have, in my collection, a male and female, which were shot at Arne in the spring of 1839; the breast of the latter nearly approaching to its summer plumage.

that the Rock Dove, *Columba Livia*, formerly inhabited the cliffs. But he confounds it with the Stock Dove, which he speaks of in the following words. "*C. anas*, (Wild, Wood, or Rock Pigeon, Stock Dove, Pen.) This is a winter bird of passage, migrating hither in November, and returning in the spring. In Dorset, it breeds in hollow trees, but most commonly in holes in the cliffs in Purbeck. In hard winters they will take refuge in the dove houses, and leave them in the spring.

167. Crested Lapwing, *Vanellus cristatus*.
Common.
168. Turnstone, *Streptilas Interpres*.
A winter visitor.
169. Sanderling, *Calidris arenaria*.
A winter visitor: not uncommon. It has been killed in the neighbourhood of Wareham.
170. Pied Oyster-Catcher, *Hæmatopus ostralegus*.
Is of frequent occurrence in Poole harbour.
172. Common Heron, *Ardea cinerea*.
Common. There is a Heronry on Brownsea Island, inhabited by (on an average) about a hundred birds. In the seasons of 1854 and 1855, two pairs of Herons built their nests in some fir trees at Arne.
178. Common Bittern, *Ardea stellaris*.
An occasional winter visitor. Two specimens were shot near Wareham during the third week in December, 1855.
182. Black Stork. *Ciconia nigra*.
A specimen of this rare bird was shot in the Isle of Purbeck, in a marshy field on the banks of the Middleburg creek, on the 22nd of November, 1839, and passed into the hands of the Earl of Malmesbury. Its entire length was three feet four inches and a quarter; from the carpal joint to the end of the wing, twenty-one inches; the length of the beak from the point to the forehead, six inches and three quarters; to the angle of the gape, seven inches; length of the middle toe, four inches; of the tarsus, eight inches; of the naked part above, four inches and a half. The colour of the head and neck, dusky brown; wings, tail, and back, black with purple reflections; lower part of the breast and belly, dingy white; bill and orbits, bright orange; irides, hazel; legs and toes, pale red.
183. Spoonbill, *Platalea Leucorodia*.
An occasional winter visitant. Two specimens, male and female, were shot in Poole harbour, on the 17th of June, 1841: they are now in the possession of my friend W. Borrer, Esq. of Cowfold, Sussex. Four others were killed there in the month of Nov. 1848.

184. Glossy Ibis, *Ibis Falcinellus*.

On the 26th of October, 1839, I obtained at Poole, a specimen of this accidental visitant. It had been shot at the upper part of the harbour, towards Wareham, whilst standing in the water. Its body was dissected by a Physician then resident at Poole, who supplied the following description. "Bill five inches; tongue, somewhat triangular, only six lines; gullet, cylindrical; proventriculus, with numerous glandular crypts; gizzard, of moderate strength, was empty with the exception of a few pieces of rounded quartz and fragments of small scales of fish; intestinal canal, three feet three inches and a half; cœca, very small; sex, female. The heart, comparatively large, indicating a vigorous circulation of the blood. Extent of wings, three feet one inch; from root of bill to rump, fourteen inches; tail, three inches and a half; tibia, five inches and a half; tarsus, four inches and a half; middle toe, three inches. Both externally and internally it was quite loaded with fat. From the extent and strength of the wings, as well as the bulk of the great pectoral muscle, its flight must be powerful and capable of being extended to a vast distance." Two other specimens a male and female, were shot in the same neighbourhood, in the month of September, 1842, which are now in the collection of W. Borrer, Esq.

185. Common Curlew, *Numenius arquata*.

During the winter, abundant on the shores of the harbour.

186. Whimbrel, *Numenius Phæopus*.188. Redshank Sandpiper, *Totanus Calidris*.

Autumn and winter visitor. Not uncommon.

191. Common Sandpiper, *Totanus Hypoleucos*.

A regular summer visitor. It frequents the banks of the river Frome.

192. Greenshank, *Totanus Glottis*.

On the 27th of June, 1839, I obtained a specimen of this bird, which, with another, had been shot at Arne during the spring.

195. Bar-tailed Godwit, *Limosa rufa*.
Migratory. A specimen was killed in the neighbourhood of Poole harbour, on the 19th of April, 1840.
196. Black-tailed Godwit, *Limosa melanura*.
I have in my collection, a specimen of this bird which was killed upon the banks of the Wareham river, on the 12th of October, 1840.
197. Woodcock, *Scolopax Rusticola*.
Common. In some seasons very abundant.
199. Great Snipe, *Scolopax major*.
I am informed by C. O. Bartlett, Esq. of Wareham, that a specimen of this bird has been killed in the neighbourhood of Wareham.
200. Common Snipe, *Scolopax Gallinago*.
Abundant. Some remain throughout the year.
201. Jack Snipe, *Scolopax Gallinula*.
A winter visitor. Common.
203. Ruff, *Tringa pugnax*.
Migratory. In the month of April, 1840, I obtained at Poole, a Reeve, which had been killed on the 19th; and, in the following autumn, a Ruff, between Arne and Wareham, during the month of September. Both specimens were in their winter plumage.
205. Dunlin, or Ox-bird, *Tringa variabilis*.
Abundant on the shores of Poole Harbour, and Studland bay.
207. Purple Sandpiper, *Tringa maritima*.
210. Knot, *Tringa Canutus*.
A winter visitor. Not uncommon. I have in my collection two specimens, male and female, in their ferruginous summer plumage, which were killed at Arne, at the end of the month of April, 1839.
213. Gray Phalarope, *Phalaropus lobatus*.
An occasional visitant, but not uncommon. Amongst

many notes which I have of the occurrence of this Gray Phalarope in this part of Dorsetshire, I find that on the 2nd of October, 1839, I obtained two specimens, one of which had been picked up on Brownsea Island, the other had been sent from Swanage. It has also been killed, I am informed, in the neighbourhood of Wareham. About the year 1849, a flock of these birds appeared in Kimmeridge bay, during a gale which lasted several days, and left with the storm.

215. Water Rail, *Rallus aquaticus*.

216. Land Rail, *Crex pratensis*.

A summer visitor. I am not prepared to state whether this bird breeds in the Isle of Purbeck or not. It is, however, very abundant in the vale in some seasons, especially after a wet summer. S. Serrell, Esq., of Durnford House, informs me that the flight arrives about the middle of September, and takes its departure about the second week in October; and that he had killed as many as forty five couple in one season, and the same number in the succeeding.

220. Moorhen, *Gallinura chloropus*.

Common on the banks of the river and brooks.

221. Common Coot, *Fulica atra*.

Is not so abundant in Poole harbour as it was formerly, but is still to be met with in considerable numbers. It breeds on the marshy shores of Little sea.

ORDER V. — NATATORES, OR SWIMMERS.

222.* Wild, or Gray-Legged Goose, *Anser ferus*.

223. Bean Goose, *Anser Segetum*.

224. White-fronted Goose, *Anser albifrons*.

* The Species included between the numbers 222 and 263, must be considered as frequenting, more especially, the northern shores of the Island.

225. Common Bernicle, *Anas Leucopsis*.

In 1842, I saw a specimen which had been killed in Purbeck, in the month of February in that year.

226. Brent Bernicle, *Anas torquatus*.

232. Whistling Swan, *Cygnus ferus*.

Frequent in severe winters. Several were killed in Poole harbour in the month of January, 1855; and in the following winter, between Brownsea and the Purbeck shore.

236. Common Shieldrake, *Tadorna Bellonii*.

Frequently occurs during the winter. It bred abundantly upon the Islands which are situated between Brownsea and the Purbeck shore, as recently as the year 1842. The last nest was in 1849, and was destroyed. Specimens were killed in the harbour, during the winter of 1855 and 6.

238. Shoveller, *Anas clypeata*.

Not uncommon in severe winters. I find recorded in my note-book, that three of these birds were killed in Poole harbour, in the last week in March, 1840; and also two in the winter of 1855-6.

239. Gadwall, *Anas Strepera*.

A winter visitor, but not common. Two specimens, male and female, were shot at Brownsea, in the month of January, 1841.

240. Pintail. *Anas acuta*.

A winter visitant.

242. Mallard, *Anas Boschas*.

Common. Very abundant in severe winters. Some remain throughout the year. The nest is frequently made at a considerable distance from the water: A furze-brake is a favourite locality.

244. Teal, *Anas Crecca*.

Of frequent occurrence. I am informed that it breeds on Brownsea Island.

245. Wigeon, *Mareca Penelope*.

A regular winter visitor. Very abundant in severe weather.

250. Black Scoter, *Oidemia nigra*.

Not uncommon. In the month of November, 1840, I saw a specimen which had been killed in Poole harbour; and another during the winter of 1855-6. In the early part of the year 1851, I observed one rise from the water at Durlleston Head.

252. Common Pochard, *Fuligula ferina*.

A winter visitor. Common in severe seasons.

255. Scaup Duck. *Fuligula Marila*.

A regular winter visitor, and not uncommon.

256. Tufted Pochard, *Fuligula cristata*.

A winter visitor. Is common in the harbour, and frequents the Wareham river.

257. Golden-Eye, *Clangula chrysophthalmos*.

A frequent winter visitor.

259. Long-tailed Hareld, *Harelda glacialis*.

An occasional winter visitor. In the spring of 1840, I obtained two young specimens of this bird, which had been killed in Poole harbour during the previous winter. I ascertained their local name to be "King and Queen."

260. Goosander, *Mergus Merganser*.

Occasional winter visitant.

261. Red-breasted Merganser, *Mergus Serrator*.

A winter visitor: not uncommon. I find a note of one that was killed in Poole harbour, or its neighbourhood, about the 19th of April, 1840.

263. Smew, *Mergus albellus*.

An occasional visitant in severe winters.

264. Great Crested Grebe, *Podiceps cristatus*.

Not uncommon.

266. Slavonian Grebe, *Podiceps cornutus*.

A specimen in the collection of L. Lester, Esq. was killed at Arne in the month of February, 1855.

268. Little Grebe, or Dab-chick, *Podiceps minor*.

Common in the river Frome.

269. Northern Diver, *Colymbus glacialis*.

An occasional visitant, but not uncommon. A specimen in the first year's plumage, in the collection of L. Lester, Esq. was caught in a fishing net in Swanage bay, on the 9th of November, 1855.

271. Red-throated Diver. *Colymbus septentrionalis*.

272. Foolish Guillemot, *Uria Troile*.

Abundant off Studland bay.

275. Puffin, *Fratercula arctica*.

A summer visitor: abundant. It breeds in the cliffs of the south coast of the Island.

276. Razor-Bill, *Alca Torda*.

A summer visitor. It breeds in the sea cliffs.

278. Common Cormorant, *Phalacrocorax Carbo*.

Common, both in Poole harbour, and round the sea coast. It breeds at a part of the cliff called Black-guard's hole, from whence I have obtained its eggs.

279. Crested Shag, *Phalacrocorax cristatus*.

A specimen of this bird was shot in Poole harbour, on the 16th of November, 1840.

280. Gannet, *Sula Bassana*

Is occasionally met with. One was taken off Studland in 1840; and another, now in my collection, in mature plumage, was picked up, dead, upon the shore near Bournemouth, on the 23rd of October, 1841. A third, in immature plumage, caught upon Corfe common a few years since, is now in the possession of J. H. Calcraft, Esq. of Rempstone Hall; and a fourth, in mature plumage, was caught at Swanage in May, 1855, which is in the possession of L. Lester, Esq. Dr. Pulteney states, that, it frequents the coast when the herrings are in the channel.

282. Sandwich Tern, *Sterna Cantiaca*.

A summer visitant. A specimen in my collection, was shot about a mile outside Poole harbour, in the first week of July, 1839.

284. Common Tern, *Sterna Hirundo*.

285. Arctic Tern, *Sterna arctica*.

During the early part of the month of May, 1842, a flight of Arctic Terns visited this coast.

286. Lesser Tern, *Sterna minuta*.

287. Black Tern, *Sterna nigra*.

293. Black-headed Gull, *Larus ridibundus*.

Frequents Poole harbour.

295. Kittiwake Gull, *Larus tridactylus*.

296. Common Gull, *Larus canus*.

298. Herring Gull, *Larus argentatus*.

Breeds abundantly upon the cliffs of the south coast.

299. Lesser Black-backed Gull, *Larus fuscus*.

300. Great Black-backed Gull, *Larus marinus*.

Abundant. I have observed large flocks of these birds at Little sea, in the month of November.

303. Common Skua, *Lestris Cataractes*.

304. Pomarine Skua, *Lestris pomarinus*.

In January, 1838, I obtained a specimen of this bird, which had been killed near Wareham.

311. Stormy Petrel, *Procellaria pelagica*.

I am informed that a specimen has been obtained in the neighbourhood of Wareham; and a few years ago, one was picked up under a hedge near Smedmore, in an exhausted state, after a gale of wind.

JOHN H. AUSTEN.

On the occurrence of a Bottle-headed Whale, Hyperoodon rostratum? (Gray,) in Swanage Bay.

Abstract of a Paper read at Corfe, November 9th. 1855.

On the 29th of October, some kind of Whale was observed blowing in Swanage bay, and soon after, it became entangled in mullet nets, not far from the Coast Guard station; breaking away from these, it passed on to the southward towards the mouth of the bay, and coming within range at Peverel Point, was shot at by Stevens, one of the preventive men. Getting into the shallow water amongst the rocks, it was partly stranded; boats were accordingly launched, and by means of creepers and grapnels it was towed ashore. Owing to the steepness of the shingle bank where it was moored, and the height of the water on the south side of the bay caused by the north-easterly gales, it was not easy to take all the measurements that could have been wished; and the rain which fell incessantly, likewise prevented a sketch from being made on the spot.

The following are the measurements obtained.

	feet	in.
Greatest length, measured across the curve of the back,	26	: 2
Greatest girth,	16	: 2
Girth at the junction of the tail, ..	3	: 7
Length of the snout,	1	: 8
Girth of ditto,	2	: 2
Length from tip of snout to dorsal fin, ..	15	: 8
Dorsal fin, measured along anterior edge, ..	2	: 8
“ “ posterior edge, ..	2	: 1
“ “ the line of back, ..	2	: 0
Length from Dorsal fin to the commencement of the tail,	6	: 4

	feet	in.
Length of tail,	2	2
Breadth of ditto,	7	10
Measurement of ditto along the anterior curve of one of the flukes,	4	9
Length of Paddle	2	8

Its colour was a uniform dark slate, except on the under side of the head, where it was marbled with white, and the under surface of the snout which was entirely white. Its shape was that of a large Dolphin, but with greater proportionate girth, and the snout was suddenly prolonged into a slender, somewhat tapering, beak. All traces of teeth were wanting. The blowers were united, forming a crescent with the horns pointing forwards;* they were situated in a perpendicular line with the orbit of the eye. The body for some distance before joining the tail, was somewhat compressed and sharply keeled, both above and below, the keel being produced someway into the substance of the tail. The paddles were placed a little in front of the greatest girth of the body; they were ovate-acute in shape. On being cut up, the blubber was found to average eight inches in thickness. It was a female, and contained a young one apparently perfect, and fit for birth.

The dimensions of the young one were.

	feet	in.
Extreme length along the curve of the back,	7	0
Greatest girth (somewhat behind the paddles) ..	3	6
Girth at junction of the tail,	1	0
Length of snout,	0	4
Girth of ditto,	1	0
Length of gape line to ditto,	0	7½
From end of snout to the orbit of the eye, ..	1	1
“ “ paddle,	1	10
“ “ dorsal fin,	4	0
From dorsal fin to commencement of the tail, ..	2	2

* Bell, Jenyns, and Jardine say that the horns of the crescent-shaped blow-holes are turned backwards.

				feet	in.
Length of paddle,	..	..	..	1	0
Breadth of ditto,	..	..	..	0	4
Dorsal fin along the anterior edge,	..	..	..	0	9
“ “ posterior ditto,	..	..	..	0	6
“ “ line of back,	..	..	..	0	6
Length of tail,	..	..	..	0	4
Breadth of ditto,	..	..	..	2	1

The general form was more slender than that of the mother; but the snout was shorter in proportion to its length, and instead of being straight and somewhat tapering, had the shape of the beak of a hawk, the upper mandible so to speak, having the ridge sharply curved and bent over the lower one, though to a much less extent than in such a bird. Its colour was rather darker than that of the mother, and the lower parts were highly tinged with suffused blood; the snout was jet black. *

The animal was sold to Mr. Gillingham, of Swanage, who informs me that he obtained 220 gallons of oil from the blubber, but probably it would have afforded much more, had he possessed proper apparatus for boiling it down; each pint of oil weighed exactly a pound. By weighing one cart-load of the blubber when cut up, and allowing for the weight of the bones, &c., the entire weight of the animal was calculated to be nearly eight tons.

The head and the cervical vertebræ will be deposited in the Museum at Corfe.

A female and a young one of this genus, were taken in 1854 in Portland roads, and are described by Mr. W. Thompson in the November number of *The Annals and Magazine of Natural History* for that year.

* Its position in the womb was straight, the head pointing towards the tail of the parent. I am led to notice this fact, by remembering that in a female Cachalot, *Catodon Macrocephalus*, dissected by Mr. Bennett, the young one was in the position of a bent bow.

THE AGGLESTONE. *

[Read at Worbarrow, August 28th, 1856.]

Hutchins describes the Adlingstone, or Agglestone, as being situated in the north-eastern extremity of the Isle of Purbeck, on an heath, on the east side of Studland Bay, and in that Parish, about a mile north-west from the village. It is a dark red sandstone, in form that of an inverted cone. On the east front it is convex, on the west nearly flat; on the top, a ridge or bulge runs its whole length from north to south, whence it slopes away towards the east six feet, and towards the west five feet. There is a considerable cleft in the middle from east to west. On the surface of it are three hollows, or cavities, which might have been rock-basins. Its circumference at the bottom is sixty feet, in the middle eighty, and at the top ninety. Its height on the east side is sixteen and a half feet, on the south side twelve and a half, on the west thirteen and a half, on the north sixteen. Its diameter at the top is thirty-six feet, by sixteen and a half. It stands upon the summit of (what appears like) a regularly formed Barrow, which is elevated more than seventy feet above the surrounding heath. Measuring from the base of this barrow to the top of the stone, the perpendicular height is ninety feet. The quarriers compute its weight at four hundred tons. Beneath it are two large stones which have fallen away from its sides, weighing severally sixteen and nine tons. There were also others of various sizes, besides many tons which are reported to have been carried away for building purposes, which must have made this stone when entire, a prodigious one indeed, not inferior to that at Constantine, in Cornwall.

* The country people call it the 'Devil's night-cap,' from a tradition, that the Devil threw it from the Isle of Wight with a design to demolish Corfe Castle; but it fell short and lodged here.

It has been considered a Druid Altar, and consequently supposed, and in fact believed, to have been brought from a distance and placed upon this mound, which by some has been supposed to be artificial. And much evidence has been advanced, favouring this supposition, with regard to the power which the ancient Britons possessed of removing vast and weighty masses of rock to considerable distances from their native localities. Such, however, does not appear to be the fact in this instance. The Agglestone undoubtedly rests, at the present day, in its primitive position, upon the hillock of which it once formed a part; the surrounding earth having been removed by design, or the agency of the weather. Upon examination it is found to be stratified, its upper portion highly indurated, whilst the lower is, comparatively speaking, very soft. Now, allowing that the ancient Britons possessed the skill and a power capable of raising and transporting this immense weight, it nevertheless, appears evident, from the constitution of the rock, that in making the attempt, the softer portion would be broken or split away from the hard.

But this argument does not militate against the belief that this stone was originally an heathen Altar, made use of by the Druids for sacrificial purposes. In fact there is much evidence in favor of its having been so. For instance, its name, which Hutchins derives from the Saxon word Halig, or Hælig, *holy*, and Stan, *a stone*. It must therefore be considered as connected with some object of veneration at the Saxon period. But there is another word of greater antiquity obtained from the language of a people who have left many traces of their occupation in this neighbourhood: I refer to the Celtic word Eglwys,¹ (Aglus,) *a church*, which is still retained in the modern Welsh. I conceive that the Greek word *ecclesia*, whence we may obtain *Eccleston*, to be derived from the same origin.

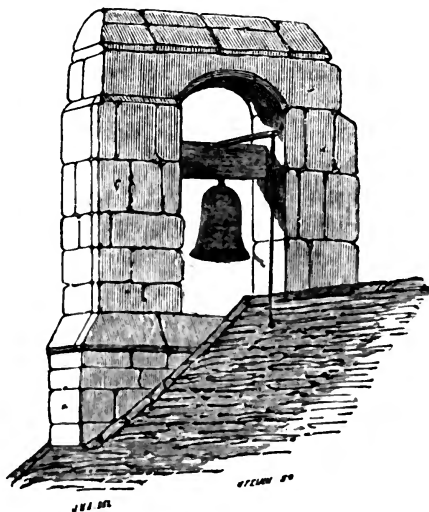
It is by no means necessary to the establishment of its Druidical sanctity, that it should have evidently been brought from elsewhere, and placed in its present position by human agency. There are single stones scattered over many parts of Britain,

¹ Many Parishes in Wales are called "Eglwys Bach," "Eglwys Brewis," &c., as in England, they are called "Church Knowle," "Church Stanton," &c.

which antiquaries have classed under the title of Druidic, some of which appear to be natural formations, but which have continued to be regarded with a mysterious reverence, from the belief in their having been, in by-gone ages, adjuncts to superstitious worship; notwithstanding all tradition of their object, as well as of the people who may have used them, has passed away.

The Agglestone may have been one of the *loci consecrati* set apart by the Druids for civil as well as religious purposes. To the Druids, in later times, succeeded the Bards, who, in like manner, had their hill of legislature, or *sacred mount*, where they, as ancient judges of the land, assembled to decide causes.

JOHN H. AUSTIN.



Bell-gable, Kimmeridge.

ON

THE KIMMERIDGE COAL MONEY.

[Read at The Grange, November 20th, 1856.]

IN entering upon the subject of the origin and use of the so called "Kimmeridge Coal Money," the people to whom it may be attributed, whether, in the full extent of the word, it is to be considered the refuse from the lathe, or being refuse, it was afterwards appropriated to some purpose, or whether, and which appears probable, these most interesting relics are the remains of one race of people collected by its successors and stored up as objects possessing talismanic value, we are beset at the commencement by a variety of statements, arguments, and opinions, at variance with each other, both from those who have written upon them, and others who are connected with the localities in which they so abundantly occur. I have myself received in my researches, every requisite assistance from the owners of the soil I have excavated at Kimmeridge, Tyneham, Encombe, and Povington. I have in my possession, specimens of every variety which has been discovered, and still I am forced to confess that the more I search, the more I enquire, the more conflicting becomes the evidence obtained. They are in fact, as Sir Richard Colt Hoare designated them, "very singular relics, and the Antiquary who endeavours to ascertain or investigate their original use, treads upon unknown and very mysterious ground." I will not therefore, start upon theory, but state the results as yet attained, and suggest the most probable conclusions to which they tend, hoping that the time may not be far distant when some, more satisfactory, may be arrived at.



FIG. 1.

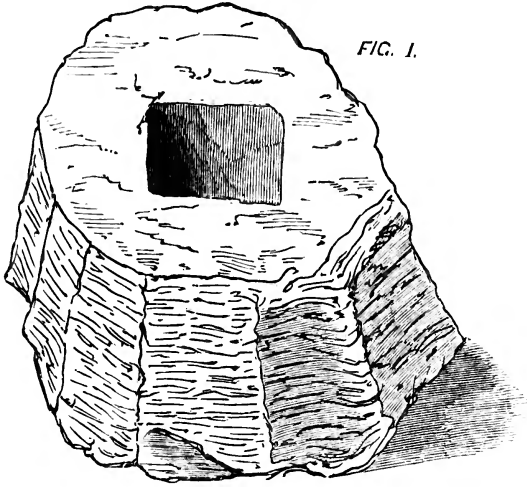
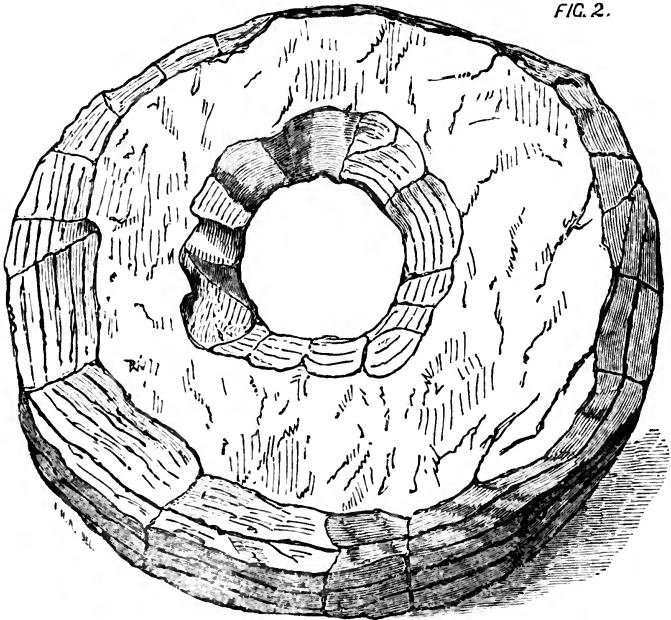
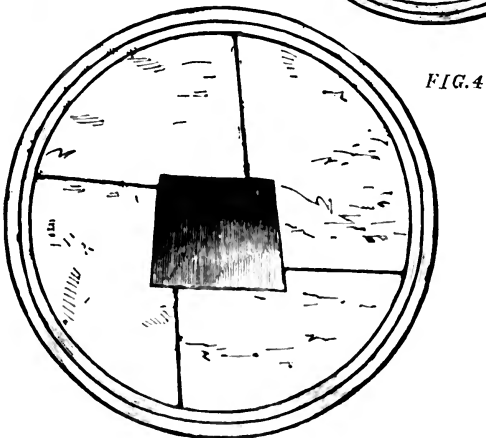
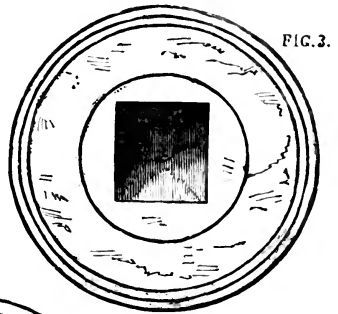
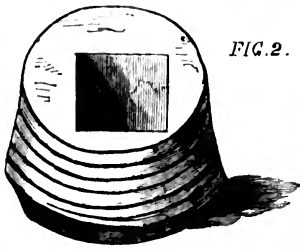
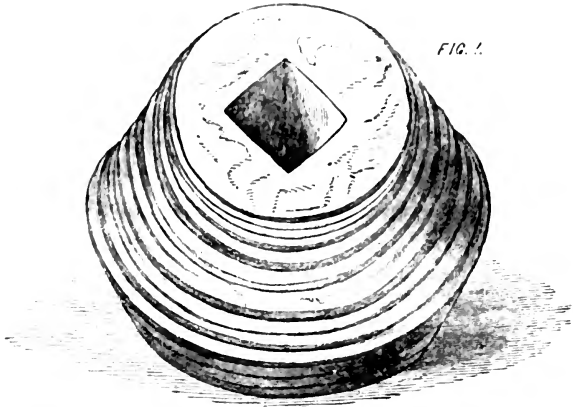


FIG. 2.







The material of which they are formed, is a bituminous shale called Kimmeridge Coal, of which there are extensive beds on that immediate part of the coast. It is still used by the inhabitants of the neighbourhood as fuel. It burns freely, with a white ash and slaty residue, and emits a disagreeable bituminous odour. A few years since, it was extensively worked for the purpose of making naphtha.

In the first place however, I propose describing these relics, in their different varieties. In form they are circular, with bevelled and moulded edges, measuring in diameter from three inches and a half to one inch, and in thickness, from nearly one inch to three eighths of an inch. These measurements apply to the flat varieties only. It is evident, from the accuracy with which the circle is universally preserved, and from the regularity and sharpness of the mouldings, that they were turned in a lathe. ¹ They have on one side, two or three, and occasionally, four round holes, or one square hole, for the purpose of fixing them to the chuck, and on the other side a small hole made by the front centre of the lathe. In some instances they are perforated with a single square hole, showing that the piece may be fixed on a square arbor. In most specimens the greatest circumference is found nearest the side by which it was attached to the chuck, so that the bevil on the outside is longer than that on the inside; in some few however, the greatest circumference is in the centre of the thickness of the piece, and the bevels equal. I have never yet met with a specimen in which the largest bevel, and consequently the greatest work, was on the side next the chuck.

Fragments of the shale are frequently found under the same circumstances as the "Coal Money," which show the marks of cutting tools, as if prepared for the lathe. At Encombe I have found such pieces measuring from four to five inches in diameter, by an inch in thickness. Upon a piece which Mr. Miles obtained from the cliff at Worbarrow, were "traced with mathematical

¹ Small narrow chippings of flints are frequently found associated with the "Coal Money," their thin sharp edges or points being chipped and broken. It has been suggested that they were used in turning the "Coal Money;" and this has been further confirmed by experiments which prove that the most highly tempered steel does not retain its edge when opposed to the rapidity of the coal when in the lathe. I have a specimen of the "Coal Money," into a fracture of which I found sticking a sharply pointed chipping of flint.

exactness, circles and various angles: the centres of the circles were evident, as if the point of the compass had indented the material." I have frequently found pieces of rings, or rather armlets, *armillæ*, (pl. viii, figs. 2 & 3,) apparently about two inches and a quarter in diameter: they are of the same material, and the inner curve will be found to agree with the circumference of the most frequent sized pieces of "Coal Money." Mr. Sydendam mentions an instance of a "perfect ring being dug up in the formation of a drain, the inner diameter of which was an inch and a quarter, and the thickness three eighths of an inch," making a total diameter of two inches. I have occasionally found flat circular pieces of shale rudely cut by some sharp instrument into an irregular form of four or five inches, with central perforations varying from half an inch to one, and two inches, in diameter. (pl. v. fig. 2.) Another specimen which I have, is the half of an amulet of three inches and a half in diameter, having a central hole of five eighths of an inch, the sides of which as well as the circumference of the specimen, are smoothly rounded. The armlets do not appear to have been turned direct out of the coal whilst in its rough state: the piece was first cut and fashioned into a circular form, the holes for the chuck chiseled or drilled out, and then in this state, applied to the lathe. (pl. v. fig. 1.)

The difference in the varieties of the "Coal Money" arises from two causes; first, the different kinds of chucks of the lathe used, and secondly the number of rings cut off one piece; the usual form supplying only one, whilst from that of a conical, two or more have been taken.

Var: 1. Taken in their order of frequency, the most usual form is that in which a chuck with a square head has been used to attach the work to the lathe. (pl. vi.) These vary in diameter from two inches and a half, to an inch and one third, and in thickness from two fifths of an inch, to half an inch. The circular lines which *appear* to have been for ornament, are merely the necessary markings of the tool. The straight lines which are found drawn at right angles to the sides of the square hole, (pl. vi. fig. 4,) were probably for the purpose of centering the piece. In one instance this has been effected by a circle, evidently described by the compass. (pl. vi. fig. 3.) Of this variety are extant two specimens, one of which is in the Museum

at Dorchester, of especial interest from the circumstance of their having attached to them the portion of a ring, or armlet, (pl. vii.) which appears to have been fractured whilst in the lathe, and therefore cast aside by the workman, as refuse.

Var: 2. The next is that in which the work has been turned upon a square arbor, the hole passing completely through the piece. (pl. vi. fig. 1.) Their smallest diameter is frequently only one inch.

Var: 3, are with three holes, having been turned upon a three-pronged chuck. Their smallest diameter is a little more than an inch and a half. They are generally much thinner than the preceding, some being only three eighths of an inch in thickness. The holes are placed at the angles of an equilateral triangle, which is faintly traced upon the shale. It is curious to remark in some specimens, traces of the piece having flown out of the lathe before it was finished, owing to the unskilfulness of the workman. (pl. viii. fig. 4.)

Var: 4, are with two holes, having been turned upon a two-pronged chuck. (pl. ix. fig. 3.) These are less common than any of the preceding: their diameter is from two inches and a quarter, to less than one inch and three quarters, by half an inch in thickness.

Var: 5, with four holes, having been turned upon a four-pronged chuck, are very scarce. (pl. ix. fig. 2.) The specimen from which the figure was taken, measured an inch and three quarters in diameter, by three eighths of an inch in thickness.

Var: 6, are, more or less, of a conical shape, (pl. viii, & x.) owing to two or more rings having been turned from the same piece. Various chucks have been used for turning them, as the square head, and three-pronged: they vary in height, from two inches and a quarter, to one inch.

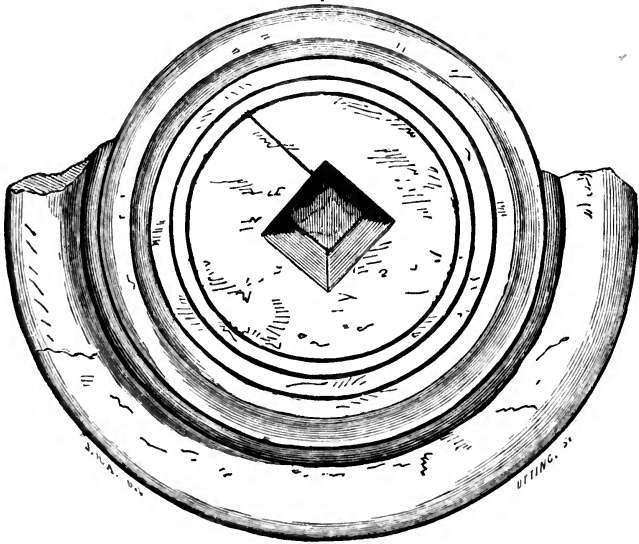
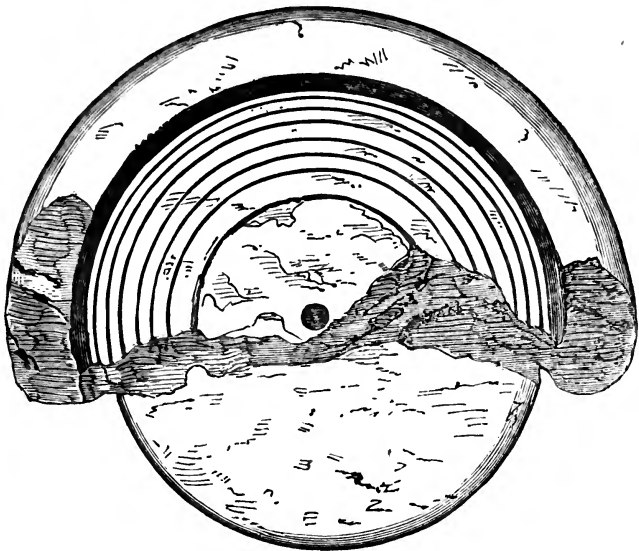
There are besides, three specimens which cannot be classed with either of the foregoing varieties. One of these, measures in diameter three inches and a half, and one inch and a quarter in thickness. It was turned upon a square headed chuck, and the front centre of the lathe appears to have worn away the shale, until it met the chuck, causing a circular hole at the bottom of

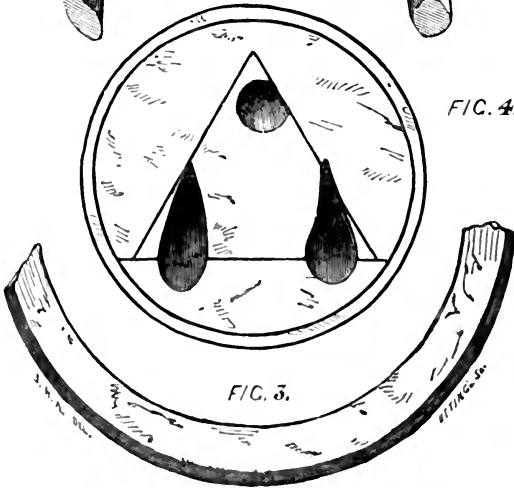
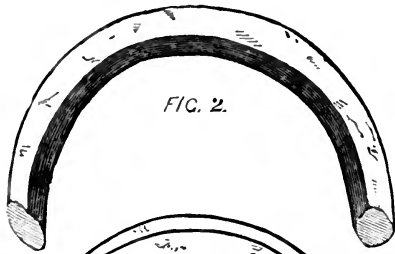
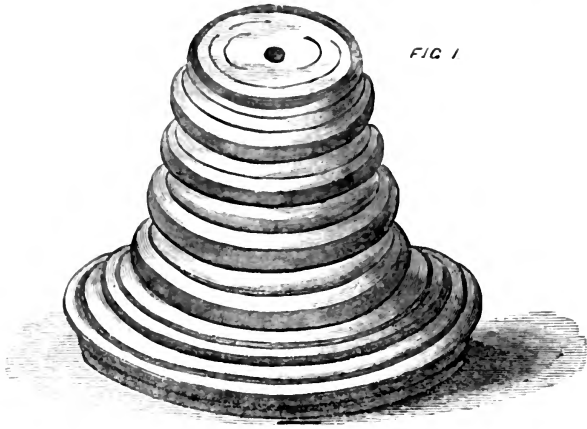
the square cavity which received the chuck. The ~~block~~ ^{block} seems to have been turned upon a square arbor, but owing to the sucking of the tool, the piece of work has spun round upon the square axis, and so formed an irregular circular hole. The third is a specimen, (pl. ix. fig. 1,) totally different from any of those previously described; it is conical in shape, three inches and a quarter in height, three inches in diameter at its base, and one inch and a half at its apex. In it is a hole of an inch and a quarter in depth, square at its end, and irregularly circular at its commencement, as if it had fitted upon a chuck with a square head and a round shoulder. The greater part of its exterior surface is finely chiselled. Towards its apex are several irregular mouldings highly polished. It is worthy of remark, that the apex is certainly oval: this however may have arisen from the unequal shrinking of the material.

I will now, before I proceed further, notice and make some remarks upon the opinions which have been published respecting these relics. It will appear evident that these writers knew very little of the subject. Hutchins merely mentions their most common form, and the locality near Smedmore, at which they were found in his time. The best known work upon the subject is that of Mr. Miles, who visited the shores of Worbarrow and Kimmeridge bays, in 1826. His researches, however, were very limited, his discoveries were not satisfactorily carried out, and his suggestions are not supported by any evidence. He commences with a detail of his researches at Worbarrow, upon the side of the cliff about the centre of the bay, where he found "the soil for about two feet deep, to be composed of a rich black mould, intermixed with some animal remains, occasional specimens of coal money, a few marine shells, and several fragments of pottery of a peculiar, but of no decisive character, together with large rounded water-worn stones." But he afterwards dug up a piece of *Samian* ware: and he records a story reported to him, that some labourers had discovered a skeleton at the same spot, "lying between two ranges of flat stones, set perpendicularly so as to support other flat ones, which formed a cover," with the skull resting upon an urn, containing *Coal Money*. He then proceeds to Kimmeridge where the results of his researches bear much the same character. He states its occurrence there to be under the same circumstances as

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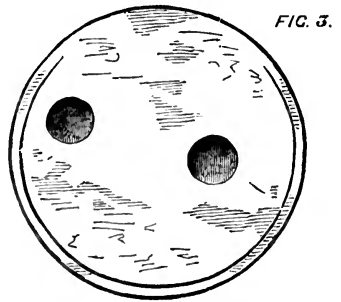
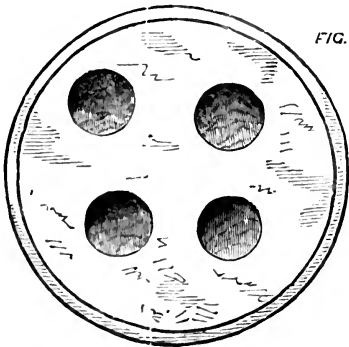
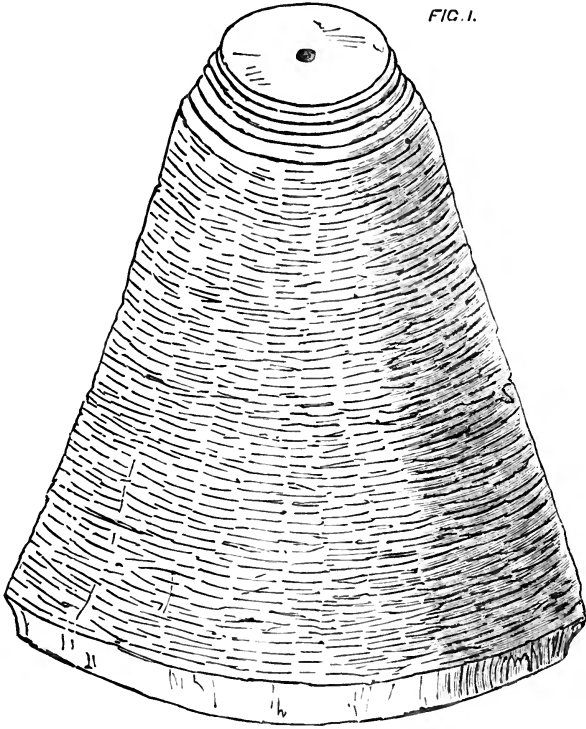












at Worbarrow; the large rounded stones forming a kind of foundation to the artificial soil, the Coal Money occupying the mid depth, and that he found fragments of Samian ware. He gives the following description; "thus, in the absence of positive positions, our general observations can only be deduced from casual discoveries and various analogies. It is, however, evident that the people who inhabited this spot, were acquainted with the method of carving stone, since I found a large portion of a shallow circular patera, not destitute of elegance, and formed of granite. But the most decisive and singular point, which has hitherto come under my actual observation, and which throws a more decided light upon the use of 'Coal Money,' is a cist on the edge of the cliff containing a sacrifice. At the depth of a foot and a half from the surface, a pentagonal chamber, four feet by three, and a foot and a half high, was formed by large flat stones of the Kimmeridge material. These slates were perpendicularly placed, supporting larger ones, which formed a roof or covering. Within this chamber was a coarse patera of a reddish kind of brick earth, intermixed with pieces of white and yellow clay. This rude kind of pottery had undergone but a very partial heat, and was too friable to preserve entire. This patera was resting on large loose stones, its edges were raised two inches round its sides, and in it was deposited the head of a bullock, while the appearance of the roots whence the horns protruded, indicated the animal to have been young. Within this chamber neither *Coal Money* nor bones were deposited; but *around* it, on the outside, in every direction, the fragments of pottery, Coal Money, and remains of animal bones were very abundant. The chamber having been closely examined, the labourers removed the usual black mould, and within the space of two square feet on the western side of this singular deposit, we were fortunate enough to discover upwards of eighty pieces of Coal Money, varying in their dimensions."

It is upon the strength of this discovery, that Mr. Miles ascribes the origin of the '*Coal Money*' to a *Phœnician* or *Carthaginian Colony* settled in these Bays. He affirms that "these relics cannot be attributed to either the *Danes* or the *Saxons*," and he argues that, "from the remains of pottery, and also from topographical situation, neither *Kimmeridge* or *Worbarrow* were

Roman or British Settlements." Now I believe I may safely assert that he is altogether in error, and that they are undoubtedly of Roman origin. First, with regard to the pottery; I have in my possession, specimens obtained from Roman sites at Badbury, Southampton, and Hurst-per-point, in Sussex, many of which bear a close similarity to those which are found in this neighbourhood. And there can be no doubt of the origin of *Samian* ware. I have also obtained at Kimmeridge, a comb, (pl. x, fig. 1,) of a peculiar form, made from a portion of the horn of a deer, which is precisely similar to several which have been found amongst Roman remains at Jordan Hill, near Weymouth. Mr. Miles suggests the probability that the Phœnicians traded to the Isle of Purbeck for the clay, and established manufactories of pottery in the immediate neighbourhood of the Kimmeridge coal. But this applies equally in favour of the Romans, whose potteries are frequently met with in localities which afford suitable clay; for instance, there are extensive remains of one in the New Forest, upon the Plastic clay.¹

His other argument against the supposition that these Bays were Roman stations, is, that there remains no appearance of defensive works having existed, and consequently, that their inhabitants or colonists were open to an attack by an enemy descending from the hills which command them. But the Romans, be it remembered, were latterly so firmly established in this Country as not to need such precautionary measures, of which the luxurious arrangement of their villas affords ample proof that they dwelt in peaceful possession.

But the discovery to which he appears to attach the most importance is that of the bullock's head, which he asserts to have been a sacrificial deposit: still there is nothing in this,

¹ Upon a former occasion I suggested an enquiry into what could exist in the Isle of Purbeck of sufficient value to the Romans, to induce them to make a road of considerable pretensions, especially directed to its shores? I think we are here guided to a reply. They paid great attention to the utility of the mineral productions of this country. The ashes of mineral fuel have been frequently found in the fire places of Roman villas. Their potteries are also known to have been very extensive. Here in Purbeck was a clay superior to any which they could have met with elsewhere, and only three miles distant, upon the coast, a coal, well suited to the requirements of the kiln, and also to the manufacture of ornaments.

contradictory of their claim to a Roman origin. The sacrifice of animals, chiefly young oxen, was a common custom amongst the Romans.† Though I would remark that no 'Coal Money' was found *within* the cist; and with respect to the other interments which have been brought to light, in no instance has the 'Coal Money' been found associated with the sepulchral deposit. Some of these have been in kistvaens, precisely similar to those in the Afflington barrow, (see page 43,) and may, I think, be attributed to the same people, and the same age. They are frequently several feet beneath the stratum of black mould containing the Coal Money, which apparently had been dug through for the purpose, and afterwards filled in around the interment. Mr. Miles certainly mentions the circumstance of an urn filled with 'Coal Money,' having been found beneath the skull of a skeleton, but he does so merely upon hearsay. And if this interment can be proved to belong to a period subsequent to the Roman, it is not improbable that some degree of talismanic value may have attached to it. Lieutenant Smith, of the Coast Guard Station at Kimmeridge, has favoured me with a description of a grave opened by himself, which bears testimony to the truth of what I have advanced. It was oval, and concave at the bottom, surrounded by a wall of water-worn boulders, and lined with a kind of plaster. In it were the two upper arm, and thigh bones, lower jaw, and upper section of a skull, which appeared to have been sawn through. There were two rough rings or circles of Kimmeridge Coal placed one on each side of the skull, but *no Coal Money* was found within the grave. On the outside were bones of various animals, a stags horn, and immense quantities of limpet shells. He likewise informed me that pottery of Roman character was very abundant in the neighbourhood; and upon one occasion he had found a bow-shaped fibula. Mr. Miles also describes a spot near the edge of the cliff, about a mile westward from that mentioned in Kimmeridge bay, where were "great quantities of pottery, ashes, bones, shells, &c. A skeleton was

† It was necessary that animals to be sacrificed (*hostiæ vel victimæ*) should be without spot and blemish, (*decoræ et integræ vel intactæ*) never yoked to the plough.

Sometimes the victim was all burnt, and called *Holocaustum*, but usually only a part.

here found, five feet from the surface, buried in a similar manner to the body found at Worbarrow cliff, between flag stones set edgeways, supporting incumbent ones. Near this body were found a large deer horn, and an iron implement. On proceeding in this barrow, I found a cist at the depth of twelve feet from the surface, situated on a bed of ashes, and enclosed by a wall on its northern and its southern side. The stones were placed in a quantity of clay, and in this cist I found only ashes and snail shells. A large flag-stone formed the bottom, and a flag-stone partly covered it. Beneath this cist, the ashes still continued, but no snail shells: above it were laid some human remains, the skull of the subject showing it to be that of a young person. On removing the floor of clay which ran westward of the cist, about eighteen inches thick, I found beneath it another cist, formed of slabs of Kimmeridge slate; it was a parallelogram, but contained only coal ashes. From its north-west angle, ran a division slab in the direction of north-east, and to northward of it the soil was composed of coal ashes, burnt to a red colour. In another shaft, at the depth of twenty feet, I found a piece of Coal Money."

With these statements before us, then, we may attribute the origin of the '*Coal Money*,' to the Romans; and proceed to investigate its local history.

Hitherto, these curious relics have been supposed to occur only in two localities which are open to the sea, known as Kimmeridge, and Worbarrow bays. There are, however, several others, at which they are sufficiently abundant to lead to the conclusion of the existence of manufactories, as at Rope Lake, and at Povington, which is situated on the north side of the chalk range. Near Freshwater steps is another locality, where they are also associated with *Roman* pottery. A considerable quantity were discovered at Encombe, in the year 1850. And in the vale below Kingston they are by no means unfrequent. I have obtained from the labourers employed in draining in that neighbourhood, specimens of both Coal Money, and beads. (pl. xi, figs. 2 & 3.) At Kimmeridge they occur mostly at about eighteen inches beneath the surface. Upon one occasion, Lieut. Smith found upwards of six hundred specimens packed carefully together. It seems that they are most abundant at Mether hill, which is situated between the Preventive station and the Village.

At Tynham, which is about a mile distant inland from Worbarrow bay, it is very common, and usually associated with pottery. In the month of April of the present year, in company with the Rev. N. Bond, I assisted in examining a portion of a field called Egliston mead. The labourer informed us that it extended over only a limited space of about an acre; probably the area occupied by the manufactory. Every spit of earth brought up by the spade, contained two or three pieces beautifully perfect. That they must have been embedded very shortly after being cast from the lathe appeared evident from the sharpness of their edges. In their deposition there was no appearance of design, they were scattered in the black earth, thus affording proof in favour of the belief that they were refuse. We found only a few small pieces of pottery, and a portion of an armlet. It is worthy of remark that the specimens found at this spot were, without exception, of one variety. (pl. 6, fig 1.)

At Povington they occur under precisely the same circumstances as at Tynham, with the addition of a considerable quantity of coal chippings, and frequent pieces of broken armlets. I conceive the spot examined in my presence, to have been near to that at which the lathe was fixed. The Coal Money obtained was of greater variety, there being as many as five kinds.

I must now endeavour to meet and reply to the universal question, What is the 'Coal Money'? what was its origin? what was its use? The varied theories which have been advanced by some antiquaries are unsatisfactory, whilst those who are better acquainted with the use of the lathe, have determined that they are simply the refuse pieces of the turner, the nuclei of rings and armillæ formed by his art, in which indeed he must have been far advanced, so beautifully are they manipulated.

The circumstance of the central portion, or what is called the 'Money', being found in such large quantities, and in so many different places, whilst the outer portion or the ring, has been found in no instance in a whole and unbroken state, amongst any of these remains, is, it appears, strong evidence that these rings

It is worthy of remark, that the Shale does not exist *in situ* in Worbarrow bay, and consequently must have been conveyed, if not by water, over the hills, to Tynham and Povington. If the latter, it involves the necessity for a road.

(and not the centre part) were the objects of interest to the people who turned them. The fact of one of these armillæ being found upon the arm of a skeleton at Dorchester in a cemetery, described by Mr. Sydenham in the *Archæological Journal*, seems to confirm this view, that the rings or armillæ were made for use, and when turned out from the other portions, that which is commonly called the 'Coal money,' was thrown away; we consequently can arrive at no other conclusion, than that they were refuse.

Of the ornaments which have been manufactured out of this material, we have access to many specimens, I have in my possession, besides portions of armillæ, several specimens of amulets, or beads. "In the year 1839, excavations were made in the cemetery of the Romano-British settlement, at Dorchester; and, amongst the discoveries then made were several armillæ of the Kimmeridge Coal, all of which had been evidently turned, highly polished, and finished in a manner indicating an advanced state of art. One was grooved and neatly notched by way of ornament; the interior diameter of this ring was two inches and a half. Others were polished, but not ornamented. One of these rings to which I have alluded, was round the wrist of the skeleton of a female. At the same time were found two or three amulets of the same material. These were nearly spherical, of a flattened barrel shape, being an inch and a quarter in length, and an inch in breadth. Associated with these relics, were all the ordinary indicia of Romano-British interments, pottery, precisely similar in description to that found at Kimmeridge and Worbarrow, urns of various descriptions, with coins of Hadrian, Gratian, and others." These facts confirm the supposition that Romano-British establishments were founded for the manufacture of ornaments, amulets, beads, &c., out of the material called Kimmeridge Coal, which, as also Kennel Coal, seems to be the same as what the Romans designated by the name of *gagates*, or jet; and which Solinus celebrates as found in great abundance in Britain. In our own time, Kennel coal has been used in the manufacture of ornaments, turned in the lathe. The ornaments in jet, of the Romans in Britain, were also made on the lathe, and consisted chiefly of rings, amulets, beads, buttons, &c. Traces of the manufactories in one district have been discovered.

Hitherto, no vessels composed of Kimmeridge coal have been discovered within the island; but, it may not be irrelevant to the subject to insert an extract from a paper read by Professor Henslow before the Cambridge Antiquarian Society, in the year 1846, on the materials of two sepulchral vessels which were found at Warden, in Bedfordshire. He says, "Upon looking over some fragments of Romano-British pottery from the neighbourhood of Colchester, I met with what appears to have been part of a large patera, or at least some vessel with a flat surface and a shallow projecting rim. This fragment is of the same material as the Kimmeridge 'Coal Money,' and bears the impression of a fossil ammonite(?) distinctly marked upon its surface. Upon drying, it has become cracked and *warped*, precisely in the same manner as we see the specimens of the 'Coal Money.'

Upon examining Mr. Juskip's collection of Romano-British Antiquities, now in the possession of the Cambridge Antiquarian Society, I perceived that the two remarkable vessels which were found at Warden, in Bedfordshire, (pl. xii,) were composed of a bituminous shale, in all respects similar to that which occurs in the Kimmeridge clay, and from which the 'Coal Money' has been turned. A faint trace of a fossil impression may be seen on the bottom of the more perfect vessel, and towards the summit there is also a sand-gall, or intermixture of sandy material, in the shale; and probably indicating the direction of the strata. These vessels have been formed out of separate pieces, as though the bed of shale had not been of sufficient thickness to admit of their being turned from a single mass.

A ring of similar material connected with a bronze ring, which was so clasped into it that the two had the appearance of a link in a chain, were found in this state lying upon the breast of a skeleton, at Littlington, in Cambridgeshire. Both these rings would have been considered as armlets, excepting for the above arrangement."

We now arrive at the third head of our enquiry, namely, whether a superstitious value attached to the 'Coal Money' at a subsequent period. It appears probable that such was the case as regards the coal or shale, itself. Pliny¹ mentions it as pos-

¹ Plin. Nat. Hist. Lib. 36. cap. 19.

sessing, amongst other medicinal and magical virtues, that of driving away serpents: and it is well known that superstition has often venerated what it has proved to be beneficial. We know not why the Druids made use of sand-stone in preference to any other material; but we find they did so: it is almost invariably present in tumuli of an early date. The same respect or value would seem to attach to the Kimmeridge shale; the kistvaen which Mr. Miles describes, was made of it. One of the most important interments in the Afflington barrow, namely, that of the Mother and child, was covered with a large slab of this material, in the centre of which was neatly drilled a circular hole. Again, in confirmation of the idea that before the Coal money was cast from the Roman lathe, long perhaps, before the Romans landed upon this island, its inhabitants made use of this material in the formation of objects which might have been connected with their native worship, I would refer to the amulet figured at page 46, which was found upon the floor of the barrow, where was also an interment of an early date.

We must not assume more than we are able to maintain, but we may argue that when we find this material present in sepulchral deposits of a very early date, apparently anterior to the Roman occupation, and then again made use of in sepulchral interments apparently posterior to their occupation, we are not to be surprised, if, when the foreigner had turned it into forms so attractive, so superior to any which native art could produce, we find evidence that in some instances it was carefully packed together as a hidden treasure, and in others, that it was carried away, scattered over the island, and even conveyed into distant counties.

In the transactions of the Archæological Association, of the year 1845, is an account of some barrows opened in Derbyshire during that year, which contains the following statement: "We opened a large flat barrow called Net-lowe, upon Alsop Moor. On digging towards the centre, we met with large quantities of rat's bones, small fragments of a coarse urn, and horses teeth. Precisely in the centre was laid at full length, a skeleton, close to whose right arm was a large brass dagger, with thirty rivets, and two pins of the same metal, which had formed the decorations of the handle. Close to this dagger, were two orna-

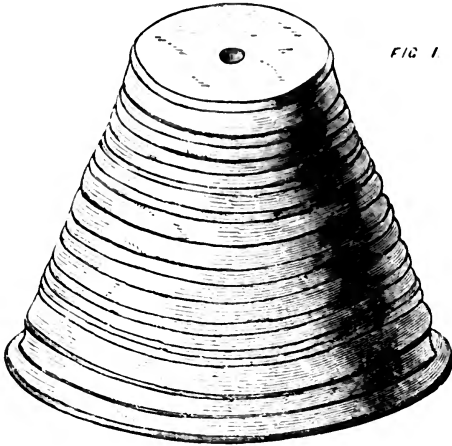


FIG. 1

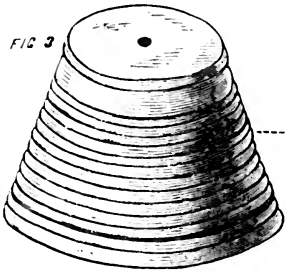


FIG. 2

FIG. 4

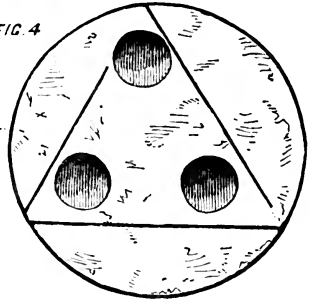
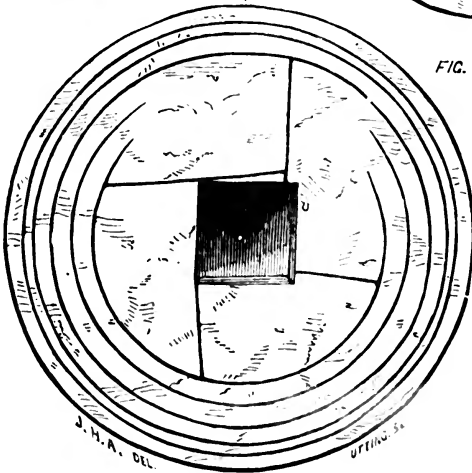


FIG. 3



J. H. A. DEL.

UTTING. Sc.





FIG. 1

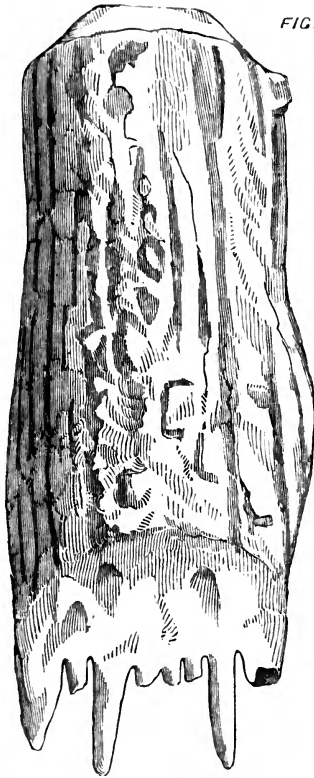
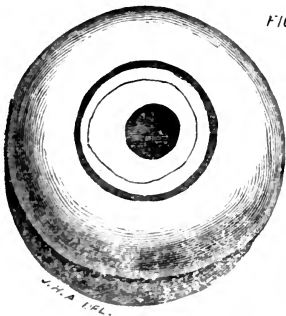
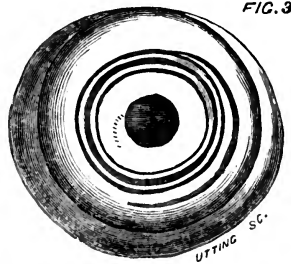


FIG. 2

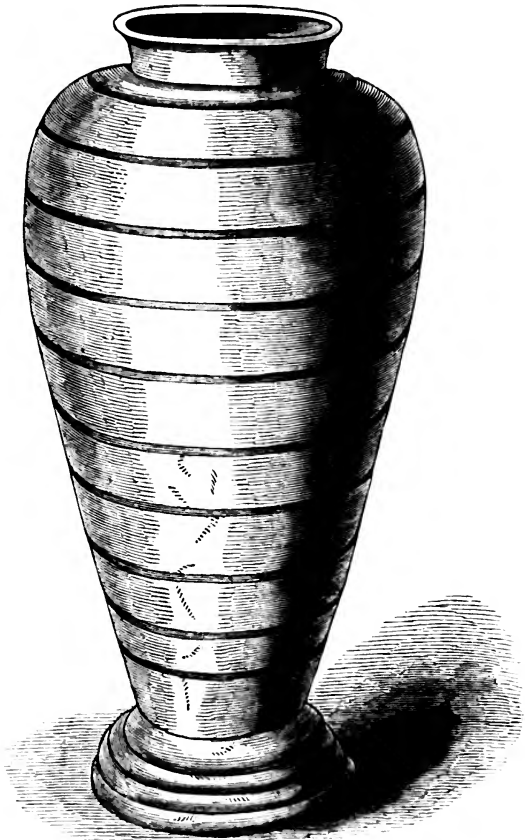


J.H.A. DEL.

FIG. 3



UTTING SC.



J. H. A. DEL.

G. W. SCOTT SCULPT.



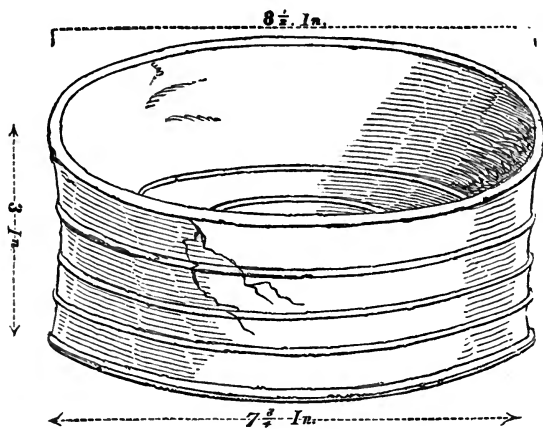
ments of Kimmeridge Coal, of a circular form, and moulded round the edges. On the back were perforations." The writer supposed them to have been attached to the dagger as charms, or objects of talismanic value.

In plate 34, vol. i, of Sir Richard Colt Hoare's *Ancient Wilts*, is figured one of two ornaments of the same description, which were found in a barrow near Woodyates, upon the border of Dorsetshire. They were with the remains of a bronze dagger, which lay by the side of a skeleton, buried with the legs gathered up. Near the thigh bone was also another ornament of jet, resembling a pulley. In addition to these, frequent mention is made in the same work, of beads and ornaments of this material found in barrows.

And now, having laid before you all that is at present known upon this hitherto supposed mysterious relic, I have only to add that I believe there is much yet to be learned, a nearer approach to be attained to the lathe itself, or rather to the spot on which it stood, and hence to a better and more instructive series of specimens. Thus a clearer knowledge may be obtained of the pottery which is evidently connected with the 'Coal Money,' a sister manufacture. And I would appeal to all those who are connected with the 'Coal Money' districts, to assist to the utmost of their ability, reminding them, as I have done upon a former occasion, that "the spade is our sole historian."

Since the above was in type, I have received from Albert Way, Esq., the following account of the discovery of two other vessels formed of Kimmeridge Coal, which I subjoin in his own words. "In December, 1856, two remarkable vessels, formed of Kimmeridge Coal or Shale, were discovered in immediate proximity to Roman remains at Great Chesterfield, Essex, the Station *Icianum*, where so large and valuable a collection of Roman vestiges, coins, pottery, ornaments, &c., has been found of late years by the Hon. Richard Neville, and is now preserved in the museum at Audley End.

“The subjoined sketch will give a notion of the form and proportions of one of the vessels. It measures eight and a half inches in diameter at the top, seven and three quarter inches at the bottom, and three inches in depth. The sides are half an inch in thickness.



“The discovery occurred in cutting drains in a field, the property of Mr. Green, at Chesterford, by whom they have been presented to Mr. Neville. They lay in black soil, two feet beneath the surface, with two broken vases of dark Roman pottery. One of them has been restored, and the form, as well as the ware, confirm the impression that the whole of these relics are undoubtedly Roman. The vessels of Kimmeridge Coal were so perfect, and the condition of the material so compact, that they were for some time concluded to be of wood. By exposure to the air the coal has cracked and exfoliated, precisely as the ‘Coal Money’ usually does, — no doubt can exist of the identity of the material. The vessels have been carefully compared, by many persons who have seen them, with the ‘Coal Money’ for which we are indebted to Mr. Austen. The material is precisely the same. The drains were cut about twenty feet apart; and in the drain parallel to that in which these remarkable vessels were found, and at that short distance from it, a large urn of black ware was found, containing burned bones.

“In the loose soil, near the same spot, a very curious discovery was made, at no great distance from the vessels of shale. Two pairs of bow-shaped fibulæ of silver were found. They are of a simple and rather uncommon type; the four fibulæ exactly similar; each pair is connected with a silver chain about six inches long. These ornaments are undoubtedly Roman. In fact the locality is replete with remains of that period, with scarcely any admixture of relics of later date. Mr. Neville procures smaller vessels of black Roman ware of the same form as these of shale, (sieve-shaped,) but they are raised on a foot, and only serve to illustrate the occurrence of a form which, at first sight, may appear too ungraceful to have been really of Roman date.

“The vessels of shale are remarkable as having been turned out of blocks of such large dimensions, whereas, the vases found at Warden, in Bedfordshire, (see pl. xii,) were formed of several pieces, rabbeted together. In the centre, on the bottom of each vessel, there is a raised flat boss, left by the turner, and suggesting, at first view, a striking similarity to a piece of ‘Coal Money.’ The underside of the bottom of each of these vessels, presents concentric rings, in pretty high relief, the intention of which is uncertain: they may have answered no special purpose, unless possibly to strengthen the bottom, without rendering it unnecessarily heavy.”

For representations of the vase and fibulæ, Mr. Way refers to vol. xiv, of the *Archæological Journal*. In the quarterly number of which for the autumn of 1856, is a notice of armillæ said to be of Kimmeridge Coal, found in Ireland.

Mr. Way also informs me that in the Museum at Boulogne, amongst the *Roman* reliques found there in abundance is a covered Box of about four and a half inches in diameter, which he believes to be made of Kimmeridge Coal, from the exact identity of material with those found by Mr. Neville, and from the circumstance of that peculiar shale being unknown as occurring elsewhere. And amongst a fine collection of amulets of jet, he noticed two of shale. He observes, that nothing is more probable than that the Kimmeridge products should have found their way over to the Roman Settlements in France.

FLOWER'S BARROW.

[Read at The Grange, November 20th, 1856.]

The interest felt by the Members of the Purbeck Society, on the subject of Flower's Barrow, has been so strikingly expressed by their presence at our meeting there, that I trust a Paper upon this subject will not be this day ill timed, or listened to with indifference.

The twenty-eighth of August was but ill calculated for seeing, much less for appreciating this interesting object. Thick clouds gathered in from the Atlantic over the distant Island of Portland, the wind rose as the day advanced, the rain fell in passing storms, and the hill of Flower's Barrow, to which so many eyes were turned with interest, was frequently hidden from view by the driving fog, which hung heavily on its summit. In spite, however, of these discouraging circumstances, the Purbeck Society mustered in more than usual numbers, of whom the greater portion ascended the hill, and walked round its singular ramparts and trenches. All, even under these difficulties, must have been struck with its bold and romantic situation, and I feel that, on this point, I can say but little to add to what must have been their own impressions. Situated on the extreme western termination of the Purbeck line of chalk hills, the ground falls rapidly away on the west, towards the shore of Arishmill, and to the north, by a still more rapid descent towards the village of East Lulworth. On the south, a precipitous cliff allows the lover of the picturesque, whose head is equal to the sight, to look over the giddy height of some six hundred feet, with the bay of Worbarrow beneath. The restless surge as it breaks upon the pebbly shore below, ever with slow, but certain effort, is gradually undermining the face of the cliff, and crumbling its earth works into a constantly decreasing compass. On the east

alone is there any thing like a level entrance, offering an opportunity for carriage or vehicle of any sort, to enter into this singular earth-work fortress of bye-gone days. Hutchins, in his well known History of Dorset, gives this account respecting it. "About a mile east of Lulworth, and in that parish, on the top of a very high hill, east of the creek, and on the west point of the hills that run hence to Corfe, is a fortification, surrounded by three ramparts and ditches. Its area is about five acres. It has two entrances, one on the south east, the other on the south west. The ramparts are very slight on the south next the sea, where the cliff is almost perpendicular. Its shape is an oblong square. Under it, a little south east, lies Worbarrow Bay. The country people call it 'Flower's Barrow.' I submit it to the judgment of the learned, whether it might not be a corruption of Florus' Barrow, from some Roman officer, under whose direction it was formed. Mr. Aubrey," he adds, "calls it a British Camp." In the second, and fuller edition of Hutchins, this further additional notice is taken of the subject of our present consideration. "The Rev. Mr. Milner, in writing to the Editor of the Gentleman's Magazine, speaks of the hill as being a steep and lofty mountain, the top of which is crowned with a bold double intrenchment of Roman or Barbaric workmanship. If we pay any regard," he says, "to the conjecture of Mr. Hutchins, who derives the name of Flower's Barrow from a supposed Roman General of the name of Florus, the question will be solved at once, what people raised this strong intrenchment. But we are to observe that he produces no proof whatever of any Roman General of the name of Florus, ever having been in these parts: nor does the figure of the camp affect the Roman Quadrangle; but seems rather to humour the natural shape of the hill. Indeed part of it, by some convulsion of nature, appears to have sunk below its original level; while no small part of it has fallen into the sea below, which at the depth of seven hundred feet is for ever undermining its rocky base."

It is remarkable that the foregoing account, given by Hutchins, should on one point be so incorrect. He states that the fortification consists of three ramparts and ditches. In reality, it must be obvious to every one, who examines it, there are but two. There is indeed a small earth-work extending about fifty yards in length, on the plateau between the two ramparts, on the right

hand as you enter the fortress from the east; and some semblance of an external earth-work, towards the west. But these do not extend round, nor are they of sufficient height, to be named as another rampart and ditch. Hutchins also mentions some slight ramparts, towards the south, next the sea: If such ever existed, there is no trace remaining of them at the present time beyond a mound in one place, which may have formed a part. Such an embankment might perhaps have been raised with a view of protection from the wind; but it is obvious that the fortification on that side, is already too strong from its natural situation, to require any assistance from art, as the cliff is too steep to be accessible by the most daring climber. The principal approach is, as has been already mentioned, on the eastern side. There the range of hill, which is nearly level, allows of an easy access: and this must have been, not only the principal, but almost the only entrance, the other being on the declivitous side of the hill towards the north-west, totally impracticable for carriages of any sort, and which, from this circumstance, might be more properly considered to have been a sally-port, than an entrance.

The height of the outer, as well as the inner ramparts, are about the same proportions, from fifteen to twenty yards, measuring the slope, from the top of the ramparts, to the bottom of the ditch. The entrance gateway towards the eastern side, strictly speaking, faces the south-east; requiring from its situation, the assailing force to approach it by a side movement, in doing which they would necessarily be flanked by the ramparts, lined with its defenders. On reaching this gateway, which, as I have said faces south-east, the observer must be struck with its peculiar position, and its great adaptation to resist, from its situation, the assaults of a besieging force. The rampart, as well as the gate, is situated on the brow of the hill, allowing only a very narrow passage of a few yards wide, for the besiegers to pass round, and where indeed it would be impossible for any large force to be collected, from the hill falling so precipitately towards the sea. On passing through this, we enter upon a wide level space of about thirty two yards. To the right, some way towards the north, is the earth-work already referred to, and which Hutchins may have mistaken for a third intrenchment, but which, in reality, appears only to have been a small inner

work, intended, perhaps, to strengthen the fortress, on this, the most assailable side. The inner gateway, facing nearly east, is not in a line with the outer: arranged, no doubt, in a way to give the defenders advantage over any enemy who might have gained the outer intrenchments, and who would, here again, have been forced to approach the gate by a side movement, flanked as before, by the ramparts of the inner fortification. Within the inner rampart, the space appears to be what Hutchins mentions, about five acres. But the shape of it is far from being that of an oblong square. At the distance of twenty five yards from the eastern entrance, it measures from north to south one hundred and twenty yards, whilst at a similar distance from the western side, it measures little more than half only, sixty-six yards. In the centre, the breadth is ninety-three yards. The ground appears to have been naturally, like the ridge of the hill, sloping from the centre each way, north and south. The southern slope plainly shows indications of a gradual wasting of the ground towards the sea. The chalk in the face of the cliff is of a loose, rubbly nature, which has, connected with the height, no doubt led to this waste. Large cracks appear in the surface of the ground, through which the chalk shows itself. All these exhibit an inclination, or depression towards the cliff, some of greater, others of less extent. From all which it may be certainly concluded, that the area formerly enclosed, must have been no doubt, far more extensive than it is at present.

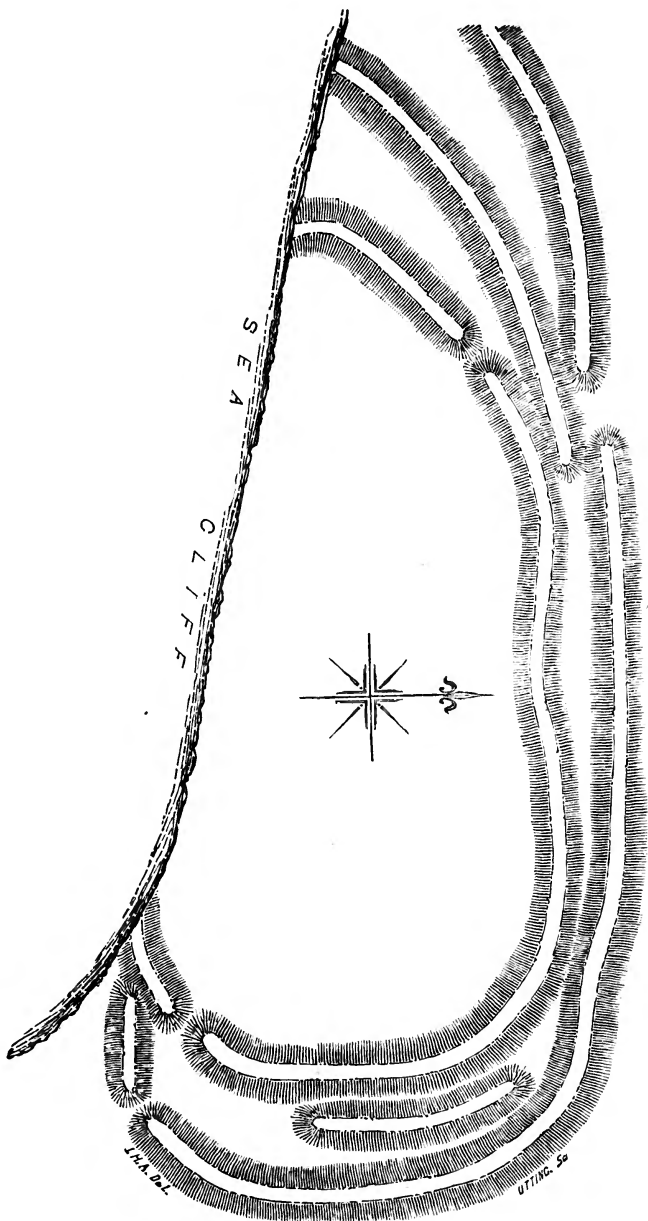
The rampart here rises an average height of about seven feet above the level of the ground inside, and was formed no doubt, for protection to the defenders from the arrows of those, who might have made themselves masters of the outer works. The soil for this embankment has been apparently taken from the inside: the whole of the earth dug to form the trench, having been apparently used for the formation of the outer rampart. The entrance through the inner rampart on the north-west, appears to have been an inconsiderable one; less so, it is worthy of remark, than that through the outer one. This latter is more than fifty yards further to the north, probably so arranged, as in the entrance on the other side, for the sake of giving the defenders an advantage over any assailants who may have gained the outer intrenchment. It may be observed also, that this outer entrance passes diagonally through the rampart. On the west side, like

the east, a far wider space occurs between the two ramparts than on the north. The space here measures about seventy yards in breadth, whilst it diminishes rapidly as the ramparts turn to the north: lessening, towards the end of the north side, so much, that the summit of the outer rampart forms, in one part, the brink of the inner trench. From the very abrupt nature of the ground on the west side, there appear, at first sight, something like signs of a third rampart; but upon a close inspection, I think this semblance will be found to be owing to the trench having been cut in the steep side of the hill, giving the brink of the outer trench the appearance, rather than the reality, of an artificial rampart. The circumference of the inner rampart, taken from the base, by a person walking in the trench, appears to be about five hundred and fifty yards, that of the outer, about six hundred and fifty.

From the hardness of the chalk of which the hill is composed, and the depth and extent of these works, it is evident that very great labour, and that of many workmen, must have been employed upon them for a long time. They could not have been thrown up on any sudden emergency, but must have been prepared before such arose, either, with a view to a regular warlike encampment, or as a place of strength, and refuge, to which the inhabitants might fly, for the security of their families and themselves, on any sudden invasion of an hostile people.

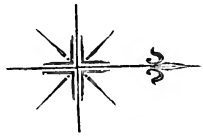
The enquiry, by whom these extensive earth-works were formed, is necessarily an interesting one, as well as a point on which it becomes us to form an opinion. My own, I venture to give with great deference. I could sincerely have wished that I had enjoyed the opportunity of referring to the work mentioned by Hutchins, Aubrey's *Monumenta Britannica*. But from the enquiries I have been able to make, I believe that this work has never been published, and that it exists only in manuscript. My own opinion coincides with that of Mr. Aubrey, that the remains are those of a British, and not a Roman Camp. The historian of Dorset does not state the slightest grounds which he has for suggesting them to be the latter, and his conjecture on this point, like that of the name of the Roman General, Florus, is, in fact, a suggestion without even theory to rest on. Mr. Milner describes the opening of a Barrow between this fortification and Arishmill, and although he found it had been opened





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before, and its contents were in a confused state, enough is, I think, stated, to lead to the conclusion, that it had been formed by the Britons; and if so, may it not afford a clew to what people raised the neighbouring fortification? I have made enquiries, but without being able to hear, that remains of any sort were ever found within the entrenchment itself; had any such been found, they would of course, have given some insight into what is now so obscure, the history of its formation and occupancy.

Under these circumstances, therefore, we are necessarily left much to conjecture, and reasoning, founded upon circumstantial grounds. A strong argument of this kind may, I think, be drawn from this consideration. The Romans were, as we are all aware, not only experienced and skilled in the art of war; but also, especially in Britain, a conquering and dominant people. Thus their fortified camps may generally be found in fertile districts, from whence they could easily draw supplies; or in some central points, near their roads, where they might occupy what might be called a military position, easy and commodious to move from in any direction. Or lastly, they might be supposed, especially at their first landing, to have formed an entrenched camp so as to command a secure and sheltered harbour for their shipping. On not any one of these grounds, would it seem probable, that they would make choice of Flower's Barrow. That situation, as we know, would be most inaccessible for an army to reach their supplies: it is exposed in no common degree to the winds; it is destitute of water, which must be fetched with great risk and labour from the sea shore at Arishmill; it could overawe, only a small, and that poor and uncultivated country; it is alike difficult of access, as of egress; and supposing an harassed army, or small body of troops, to have taken shelter there, their supplies could, with great ease, have been cut off by an hostile population around them. These arguments which tend to disprove the Roman claim, tend, I think, at the same time, to strengthen that of the Britons, to these works. They were inexperienced in the art of war, and would not, it may be supposed, show much discretion in the choice of their camp, beyond the obvious recommendation, which this certainly offers, of natural strength. To make use of a common expression, this

fortification seems "a corner of the earth;" the last point to which a defeated, and unwarlike people would fly for refuge; and where their enemies could only, with common advantage, attack them on one side. On the other three, as has been seen, they would be comparatively safe against assault, from the broken and sloping nature of the ground. Its remote and inconvenient situation, which disqualified it for the Roman choice, would be the most obvious recommendation to the defeated and harassed Britons. In addition to which, the very circumstance of the broken and precipitous nature of the ground, rendering it a difficult undertaking to assault it openly, must have much impeded a besieging force in the attempt to maintain any thing like a close blockade. Thus the Britons within might have been able to hold intercourse with their friends without, and drawn from them the supplies which they needed.

I have not touched upon the argument used by Mr. Milner, respecting the form of the camp, which also deserves consideration; and tends, I think, to confirm the conclusion to which it appears to me, we may reasonably arrive, that Flower's Barrow is not a Roman, but a British Camp.

It is difficult to leave this interesting spot without glancing, for a few moments, upon those buildings which lay on the northern side of its base. They now are merely those of a farm house; but they formed some years ago a part of the Monastery of La Trappe. There, under the generous hospitality of Mr. Weld, the Monks of the Order, (driven by the sequestration of their property, and the horrors of the French Revolution, to seek an asylum in foreign lands,) found, for a season, a quiet home and resting place. They cultivated the adjoining farm by spade husbandry for their subsistence, and drew from the soil, with some assistance, enough to supply their own scanty wants, as well as charitably to contribute to those of the poor around them. From the ridge of this hill might be seen, at that time, thirty or more of them together, dressed in their white frocks, and with their wooden shoes, working in the fields. The Monastery partly remains; but the chapel is removed. The enclosure, we see, with a few shrubs raising their heads above the wall, was once their burying ground; and there rest the remains of those exiles, who died during their stay in England. In that cemetery, a grave

was then always open, and ready: when one of the Order died, the long opened grave received its expected tenant, and another was immediately prepared by its side; a warning to the Brethren of the insecurity of life, when, perhaps the very hand which had been engaged in digging it, was that which was to be afterwards laid unconsciously within it.

The history of the Order is too generally known to need any beyond a passing notice here. Founded by Count La Trappe, in a season of the deepest mental agony, and remorse, the rules of the Order are those of the strictest abstinence and self-denial; converting life into a constant scene of penance and mortification. Perpetual silence is enforced on the members. They sleep on boards, with a pillow of straw to support the head. From this comfortless couch, they are called to rise one hour after midnight, with the awful warning "Memento mori." One meal in the twenty-four hours, and that, composed only of the coarsest brown bread, and vegetables, eaten with salt, and with a cup of cold water, forms their only diet. The day itself is spent between the labours of the field, and the religious services in their chapel, to which latter, they devote seven hours in every day, and more than eleven on Sundays. To these austerities is to be added, the endurance of cold in winter, when the use of fire is permitted only for a few moments at a time; and heat in summer, when the drops of sweat gathered by toil, must not be dried by a handkerchief, but only wiped from the brow by the hand. Lastly, they are taught to reckon all this nothing; to welcome blame, and even calumny, without an attempt at defence, or even explanation; whilst the head is to be constantly bowed, and the eyes cast down in token of contrition. But it will be interesting, I am sure, to let the Prior of La Trappe speak for himself, respecting his Monastery, and its inmates, and I have in my possession a letter, written by him, during the sojourn of the Order at Lulworth, which has an especial interest on these grounds, which I trust I shall need no apology in now reading to you, merely prefacing it, by mentioning, that it was written to the Magistrates' Clerk at Wareham, intended to defend the Order from the charge of concealing French Spies in the Monastery, of which it appears, they were most unreasonably suspected.

“Sir,

You have told Mr. Weld, that Counsellor Bond had been informed that our House enclosed suspected Persons. I am, Sir, impressed with the most entire conviction, that neither you, nor the respectable gentleman just mentioned, annex the smallest credit, to so wretched a report; but it is a duty, that I owe to myself, it is a duty that I owe to those who live under my direction, to obviate even the shadow of suspicion. This, I will undertake to accomplish by a precise exhibition of the principles, and characters of the persons of whom our Society is composed. Submission then, the most implicit, to *our* spiritual, and to the temporal authorities, in addition to a respect, fidelity, and attachment to those, in whom those authorities are vested, constitute equally the basis of our religious, and political opinions; and whoever would hold principles opposite to these, should not be admitted into our Community. With respect, Sir, to the persons of whom this Community is composed, they may be distinguished in three distinct classes, the first consisting of Clergymen or French Emigrants, the second of a small number of Englishmen, and the third is almost entirely the growth of Ireland. With respect to our French brethren, I presume that any apology would be absolutely superfluous; our sentiments are too generally known to render an elucidation necessary; and it is for our unshaken fidelity to our religion and our Kings, that we have abandoned our possessions and our families, and rent asunder those ties most precious to the heart of man, to encounter the rigors of a tedious exile. Dispositions, in which we have uniformly persevered during a period of twenty years, cannot be justly regarded by our Governors, as objects of suspicion. We know, because we have experienced, the horrors of civil anarchy, of which we are the victims; and if any persons can be prompted by feeling, by circumstance, and inclination, to proclaim these horrors, and to urge a dutiful submission to the constituted powers, I and my Brethren are undoubtedly the persons. But independently of the motives which are suggested to us by the circumstances, to which I have adverted; independently of the motives which flow from the influence of Religion, (which must be *everything* to men *professedly religious*,) gratitude alone is sufficient to attach us to the Government of England, with a fidelity unwarpt, unshaken, and perpetual. England is to us another native land, we have experienced in it that hospitality, which we have lost for ever in our own; long residence in it, has mellowed our attachment to it, into filial love; and we feel that our existence, our peace, and our tranquility, are essentially connected with the existence, the peace, and the stability of the Government under which we have the happiness to live.

“With relation to the few Englishmen to be found in our Community, as, from the paucity of their number, and their attachment to their native Country, they cannot reasonably be regarded as objects of suspicion; to repel such a charge from them, would be equally superfluous and unnecessary.

“There remains then only the third class, which I have stated to consist of Irishmen; men, for the most part, poor Country People, who, from the mildness of their dispositions, are alike strangers to factions, and to civil strife, who have travelled hither to share with us our penitential exercises, and of whose conduct, previous to their coming, I was furnished with the most flattering recommendatory testimonials. In truth, the persons who propagate such miserable fabrications, appear but imperfectly instructed in the life we lead. Isolated, as we are, from the world, and the relations of the world, and preserving a silence, interrupted only by the peals of psalmody, or the hardy operations necessary to overcome the infertility of the desert soil which we inhabit, can even malice itself brand us as rebels, or stigmatise us as incendiaries? Constituting, as we do, a solitary family of Brethren, we are enabled by some trifling assistance from that Government, which, from report it might appear our intention to subvert; by the assistance also of some generous friends; but above all, by the labour of our hands, and the sweat of our brows; we are enabled, I say, to support a life of perpetual abstinence and austerity. Can such a house, the venerable retreat of recollection, midnight psalmody, and sober solitary meditation, be duly regarded as the haunt of Demagogues and Rebels? Can conspiracy exist in a place where the inter-communication of sentiment is precluded by a law of silence? Amongst us that law is of strict, and paramount obligation. The Superior, or a Person commissioned by the Superior, is alone exempted from its influence, and amongst the Brethren it is never violated. This statement gives but little countenance to the imputation of intrigue; and our epistolary correspondence gives as little. I, indeed, am in the daily receipt of many letters, I open all, and read all, but the contents I keep to myself, except when I may occasionally judge it adviseable to communicate them. With regard to the writing of letters, none are ever written but by my express permission; and I always peruse them, previously to their being dispatched. All the letters which are arrived from Ireland within the last eighteen months, are still producible, and, with great pleasure, I would submit them to the inspection of you, Sir, Counsellor Bond, or any other Person whatsoever.

“From what I have above declared, it will appear that if there be any Person in the house open to suspicion, that Person must be myself, and if my character after nearly twenty years, of which seventeen have been passed at Lulworth, since my emigration, is not considered of sufficient weight in the present instance, I pledge my word of honor, (and it is the honor of a French Clergyman,) that neither has been said or written in this house a word that should excite either the suspicions, or the apprehensions of the Government. I declare, that on no account would I consent to receive suspected Persons into our Society; and I pledge myself, to receive at my hazard, all those who may at any time come under my direction. By the way, it may not be unnecessary to remark, that neither Gazettes, nor Newspapers, nor any Pamphlet of any description whatever, have ever found entrance here; and to this

hour, my Brethren would have been ignorant of the existence of the war, did I not sometimes engage their prayers, for the purpose of disarming the thunder of Divine vengeance, and of averting those evils, which our crimes have called down upon our heads. Come then, Sir, visit if you please, our humble mansion; engage Mr. Bond to accompany you in your visit: I shall feel a pleasure in receiving both, and feel an equal pleasure in communicating to both equally, all our papers without reserve. If requested, you shall be admitted to hold conversation with my Brethren; and nothing shall be omitted to convince you of the wretched ignorance, or the wanton malice, of those who could disseminate such lying rumours. It is now almost eight years since two Provincial Magistrates, made an inquisitorial visit, in order to examine whether Jerome Buonaparte, was not concealed in some corner of the house, with a certain supply of arms and ammunition. Having been at that time, Procurator to the house, I unfolded, with a scrupulous punctuality, every place to their minute inspection; and in conclusion, they assured me of their friendship, owned themselves ashamed of the ridiculous imputation, which had been the occasion of their visit; but alleged the necessity under which they lay, of abating the effervescence of certain warm imaginations. Your visit, Sir, and that of Mr. Bond, will, I have no doubt, be attended with a like effect; it will convince you, (if conviction would be necessary,) that the *phantom of suspicion* which has been conjured up in the present instance, is only the *raw-head and bloody-bones* of some distempered imagination; and I shall not greatly lament the affair, as at least it will procure me the honour of seeing you.

“I request, Sir, that you will communicate my letter to the Counsellor, and, as to the rest, I leave you to make of it what use you think proper; convinced, as I am, that the man can have nothing to apprehend, who writes only in conformity to the dictates of truth and conscience.

I have the honour to be,

Your very humble and obedient Servant,

F. ANTHONY,

Prior of La Trappe.

La Trappe, Lulworth,

26th, October, 1811.

About two years after the restoration of the Bourbons to the throne, the Monks of La Trappe left Lulworth, and again returned to France; Louis xviii, having given them land, and buildings at Mellieraye, in Normandy. Still, they appear not

to have been settled there permanently. As strangers, and pilgrims upon the earth, they seem, after some years, to have again wandered back to England. I am informed that the particular branch of the Order who were settled at Lulworth, are now residing at Loughborough. Some of the same Order are also settled at Cappoquin, in Ireland; whilst a Nunnery of La Trappe has subsisted for a long time at Stape Hill, near Wimborne, where the tall red brick tower of their chapel, with its sharp slate roof, may have been often noticed on the right hand of the rail-road, towards Ringwood.

N. BOND.



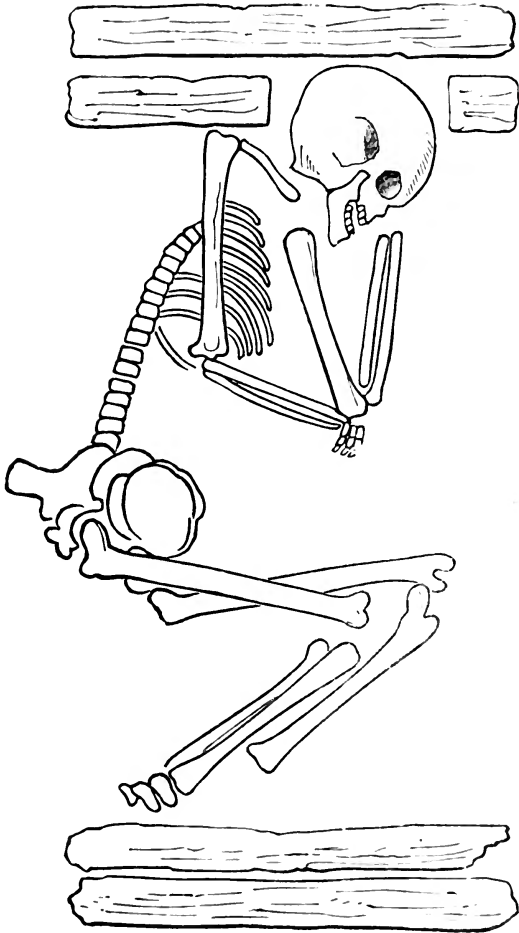
The Harpstone.

ON THE TUMULI, &c., OF THE CHALK RANGE.

[Read at Encombe, January 29th, 1857.]

THE portion of the Chalk Range, which lies to the west of Corfe Castle, known as Knowle and Creech Hills, is remarkably rich in sepulchral remains, which afford much of historical interest respecting two distinct races of people, who inhabited this island, at periods remote from each other; comprising several barrows of different sizes, some peculiar earthworks, and two cemeteries, which have been brought to light by the cutting of road-ways across the hill. It is probable that others may exist in the immediate neighbourhood, in fact that this was not only the place of sepulture of the aboriginal Briton, but, in after-times, a burial place of the early Anglo-saxon population.

On the twentieth of September, last, the investigation of these remains was commenced with the largest of the Barrows upon Knowle hill, the property of the Earl of Eldon; which measured fifty-two feet in diameter, and about three and a half feet in height. A broad trench was first cut from the west side to the centre, where, at the depth of two feet beneath the turf, we came upon a skeleton which proved to be lying at full length, west by north, and east by south, and measured six feet in length. The head was turned over the left shoulder, thus looking towards the north, and protected by two stones placed carefully over it; near the left elbow, on the north side, were picked stones built up in such a manner as to bridge over the skeleton, and rest on the south side, upon Purbeck stones measuring fourteen inches





by seven inches, (such as are locally termed "pitchers,") which were set up against the right elbow. At about six inches distant from the right ankle, was also a small pitcher stone placed for protection to the feet, of which this race of people seem to have been especially careful. I would remark, that the skull of this skeleton was of moderate size, and we may speak of it as belonging to a thin skulled race. The trench was then lowered, and at the distance of two feet from the head of this deposit, being nine and a half feet to the west of the centre of the barrow, the workmen exposed a square cist, measuring two feet eight inches in diameter, having double flag stones at the north and south sides, set up edgeways, and leaning outwards; the former measured in diameter, two feet by eighteen inches, the latter, three feet by eight inches. The other sides were not protected. At the bottom of this cist, which was hollowed out of the native chalk to the depth of four feet from the top of the barrow, lay a skeleton with the knees gathered up, (pl. xiv.,) the head towards the N. N. E. and the feet towards the S. S. W. The head leant towards the left shoulder and rested upon the left hand, the right arm was folded across the body with the wrist touching the left elbow and the hand bent downwards. The skull touched the outer flag stone, and was further protected by other stones placed around it, in such a manner as also to support the inner flag-stone which was set up over, so as not to press upon, but effectually cover it. The skeleton appeared to be that of a large framed man of upwards of six feet in height. The thigh bone measured seventeen and a half inches in length, and three and a half inches in circumference, the tibia eighteen inches, and the upper arm bone, fourteen inches. The body had been so deposited that the spine was in an arched position, and it is worthy of remark, that two or three of the lumbar vertebræ appeared displaced, as if dislocated before interment.¹ These notes, and the accompanying sketch having been taken, the remains were

¹ Mr. Anderson gives a description of the manner in which the Damaras, a tribe of western Africa, bury their dead. "Immediately after dissolution, the back-bone of the corpse is broken with a stone, and it is then bent together, with the chin resting on the knees."

left undisturbed and the cist refilled. A trench was then cut from the centre in a south-easterly direction, and at a similar radius of nine feet a second square cist was discovered about eighteen inches beneath the surface, which measured three feet eight inches in length, and two feet eight inches in width. It was formed of stones set up edge ways, some of which were sand stones supporting a covering of thin slabs. These however had fallen in, and so completely crushed the upper portion of the skeleton, that there remained only a layer of bone reduced to powder. The body lay in the same direction as the preceding, but with a slight difference in the placing of the legs. They were gathered up, with the knees towards the east, and the feet to the west; but the legs were not together, the right foot being in the west corner or angle of the cist, whilst the left foot was under the right knee. The head and feet were protected in like manner, the former by a flag-stone two feet long and twenty inches in diameter set up against it, and the latter by a sand-stone of the same size.

We now proceeded to examine beneath the first mentioned deposit, which evidently rested upon carefully packed lumps of chalk. Upon removing it we discovered that the centre of the barrow was occupied by a cist of from eight to nine feet in diameter, which proved to be nine and a half feet in depth. At the bottom of it lying upon the native chalk was a skeleton, over which lumps of chalk had been carefully packed, in such a manner as to protect the body. Over these was a layer of earth containing pieces of burnt wood, about two feet in thickness, and thinly coated over with clay. The skull rested upon its back, but leant towards the left shoulder supported by the left hand. It was that of an old person, the teeth being much worn. The right arm was bent across the breast, the wrist supporting the left elbow and the hand bent down, as was the case in the first described cist. The legs were so truly doubled up that the heels touched the thigh bones. The whole deposit occupied a space of three feet by two feet four inches, and lay towards the same points of the compass as the two preceding. It was evidently the skeleton of a very large man, the thigh bone measuring nineteen inches in length, and four inches in circumference at the smallest part. The skull, which was of large size, having been accidentally broken was measured, and

found to be three eighths of an inch in thickness. Amongst the chalk were found two small pieces of stag's horn, two fragments of British pottery, and a piece of Kimmeridge shale. Burying at a considerable depth was not an unusual practice amongst the Britons. Tradition says of King Arthur, that his body was buried at Glastonbury, "very deep beneath the surface of the ground, in order to place it as effectually as possible beyond the reach of Saxon vengeance:" and although the story itself may not be worthy of credit as regards this legendary King, still acknowledged custom may be claimed for its foundation. But I will refer to more certain data. Sir Richard Colt Hoare mentions having found a sepulchral deposit as much as fifteen feet deep, and one in particular as being ten feet beneath the level of the surrounding soil. The mode also of burying with the legs gathered up he frequently mentions as occurring in the Wiltshire barrows, in some instances with the hands under the head, which was placed towards the north. This, he "conceived to be the most ancient form of burial,"

He describes also his discoveries of the remains of two distinct races of people in the same barrow; as, for instance, in one named King barrow, near Warminster, which contained upon the floor burned human bones, fragments of British pottery, &c., and at the top at the depth of eighteen inches, three skeletons were found lying from south west to north east evidently, he says, a subsequent deposit. The mode of burying the body entire and extended at full length, he considered to have been of the latest adoption.

I make these references, from time to time, to discoveries made in other counties and situations, because, without these comparisons, it would be difficult, if not impossible to determine to which of the successive inhabitants of this island may be ascribed the various remains.

On the twenty-first of November, Mr. Bond kindly acceded to my request to examine a barrow situated near the lime-kiln, upon that portion of the chalk range called Creech Hill. It measured, in circumference, ninety-seven paces, and was about four feet in height. The trench was commenced at the south side, where it was formed of lumps of chalk and earth. Near the centre we discovered a skeleton, at two feet beneath the

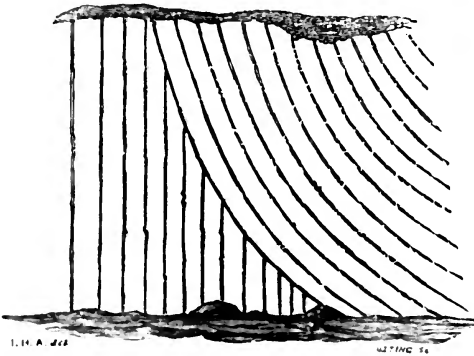
surface, lying upon its back, with the feet towards the east, or slightly to the south of east. The face was turned to the south, and the head raised above the level of the breast, as it would have been if resting upon a pillow. From its small stature it might have been the skeleton of a woman, as it measured only five feet in length, the thigh bone being sixteen and a half inches, and the tibia thirteen; the skull was small in all its parts. The front teeth in both the upper and under jaw were gone, and those which remained were much worn, as of an aged person. Proceeding with the trench in a northerly direction, we came upon the skull of another skeleton, at two feet six inches from the feet of the last, lying in the same direction, but with the left hand across the body. It was apparently that of an old man, of nearly six feet in height, the thigh bone being seventeen and a half inches long. The teeth were very much worn. The skull bore the same character. Throughout the barrow the customary mouldiness was observable. Upon removing these deposits, we came upon a stratum of large flints carefully packed together without any earth, which continued to the depth of four feet from the apex of the barrow. In the centre of this, was a deposit of skeletons. The first was doubled up, with one knee nearly touching the chin, the other three inches from it. The head was towards the south-south-east, but resting upon the left shoulder, and the face looking to the west. The teeth were much worn. It is very remarkable that the lower jaw lay at the back of the skull; and by it the frontal section from the central orbit of a skull of a child: it appeared precisely as if it had been sawn off, and resembled a shallow bason. We could find no further portion of this skull, with the exception of a few teeth of a child of about seven years of age, and also some small leg or arm bones. It will be remembered that I mentioned at page the discovery of the section of a skull; and Sir R. C. Hoare also mentions the circumstance of finding, in a barrow near Stone Henge, "a piece of a skull, about five inches broad, that had been apparently sawn off."

But to proceed with the description; immediately beneath, if not between the legs of this last skeleton was a skull, which seemed to be without any other bones, and near it the leg bones doubled up of another skeleton, lying with the head towards the north west; the skull of which was protected by a sand-

stone, and closely resembled in its great length from the forehead to the back those figured in the "Crania Britannica" as "ancient British." The thigh bone of this skeleton measured fifteen inches in length.

The resemblance between the deposits contained within these barrows, points strongly to the probability that, in each instance they have reference to two races of people; the one, of the native Briton, the other, of his conqueror the Saxon. This may appear at first sight a bold assertion; but I think that the evidence which we already have, will eventually be found to bear it out.

JOHN H. AUSTEN.



Vertical and curved Strata, at Ballard head. (p. 7.)

GEOLOGY.

The section of Purbeck strata exposed in Durdleston Bay, which I published in 1852, (see p. 9,) was unavoidably incomplete. I am now enabled to supply some of the measurements which were then omitted. For the section of the Marble bands, I referred to the one taken at Woody-Hyde Quarry, (p. 8.) which is correct at that locality, but does not accord with the strata developed at Peverel Point, where the following measurements have been carefully taken by Mr. Lester.

		Character of Rock.	Thickness	Organic Remains.	Quarry List
			ft. in.		
A	Cypris shales	1 Blue shaly clay			
		2 Bands of marble	4 0	Paludina, Teeth, Palatal teeth, Scales of fish	Marble Rag
		a Light gray clays sparingly interspersed with hard shales	4 0	Cypris	
		b Impure sandy limestone	0 1½	Cypris and a Bivalve	
		c Pale clay	0 6		
		d Coarse marble band	0 2½	Paludina, &c.	
		e Yellowish shales and marls say	5 0	Cypris	
		f Bands of marble	4 6	Paludina, &c.	Marble Rag
		g Dark gray shales			
	B	Marble bands	Hard sandy shales highly tinged with iron		
		Shaly marls with very hard thin bands of beef	5 3	Cypris	
		Yellow gray marls			
		Coarse marble band			
		h Hard greenish rock 6 in			
		Softer ditto, friable 5 in	0 11	Unios	
		i Thin sandy whitish band, passing into dark gray shales	2 6	Cypris	
	k Band of marble	1 6	Paludina	Marble	
	3 Dark gray shales with thin bands of impure sandy limestone say	6 6	Cypris		

		Character of Rock.	Thickness.	Organic Remains.	Quarry List.
C	Unio beds	4 Band of impure sandy limestone	0 3		
		a Light sandy marls, passing into dark gray shales	1 10	Cypris	
		b Blue limestone with crystalline fracture	0 6		
		c Light shales	1 3	Cypris	
		d Band of limestone, the lower part highly tinged with iron and separated from the upper by a layer of indurated marl	0 9	Vegetables, Unios	
		5 Sandy clay	1 7		
		6 Irregular limestone with vegetable remains, (Crocodile bed)	0 6	Vegetables, Unios, Turtle, Teeth, &c.	
		7 Sandy marls	1 0		
		8 Unio bed	0 6	Unios	
D		9 Comminuted shell limestone			Soft Burr

The beds from 47 to 51 are still concealed by the debris of those above, but the latter part of the section has been completed by Mr. Fisher.

L	Insect beds	115 Hard shaly band	2 0	Serpula	
		a Rubbly bed	1 6		
		b Laminated green clay with sharp white sand say	0 8		
		c Rubbly calcareous marl, sandy at bottom	5 0		
		d Brown marly stone, conchoidal fracture	2 0		
		e Blue & brown shaly clay, some sand and cherty nodules	4 6	Carbonaceous specks	Plaster
		f Cream coloured marl stone, streaked with sand	2 0		
		g Blue and brown shaly clays	3 6		
		h Brownish rubbly sand, marl and clay with hard bands	2 8		
		i Blue clay, streaked with sand & marls	18 0		
		116 Cream coloured marly limestone	3 0	Small Cardium, Vegetables, & Insects	

For the next twelve beds some of which are much disturbed, he has substituted the following section.

		Character of Rock.	Thickness.	Organic Remains.	Quarry List,
			ft. in.		
M Broken bands	a	Blue shales, with occasional hard bands	22 0		
	b	Ditto, harder	8 0		
	c	Blue cypris shales	13 0	Cypris,	Archæo-
	128	Olive brown marlstone	4 0	Archæoniscus	niscus
	129	Hard yellowish calcareous shales, about	16 0		

The continuation of the section down to the Portland Oolite, can be best obtained at the edge of the cliff beneath the western extremity of Round down, over what the fishermen denominate "Cunner's hole." At page 15, I suggested the probability that the Portland dirt-bed and fossil forest extended eastward beyond Kimmeridge. I have since ascertained that such is undoubtedly the case. About the period of my making the above statement, I observed, in a stone pit situated to the south of Kingston, several blocks of a lithological character with which I was at that time unacquainted, but upon visiting the dirt-bed at Lulworth, I recognized its identity with the porous limestone of that deposit, which Mr. Fisher describes in the following terms: "The stumps of the trees sometimes remain in a silicified state, but more frequently they have disappeared. The spot where each stood is surrounded by a dome-shaped swelling of the bed of porous limestone which covers the dirt-bed. These domes have generally a pit in the centre where the trunk protruded, but some have not. Such perhaps may have covered *Zamias*. Other swellings of the bed are long and trough-shaped, having accumulated about fallen trees. The surface of this bed of stone is very irregular, and it has much the character of the deposit from a petrifying spring on moss. No carbonaceous matter is present, except in the ancient soil beneath." At Round-down, the surface presents a like character: it was its peculiar and rugged appearance which first attracted my attention, but no stumps of trees occur *in situ*, although I found amongst the

debris a piece of fossil wood similar to those mentioned at page 15. The following measurements are as nearly correct as the state of the cliff will allow of their being taken.

		Character of Rock.	Thickness.	Organic Remains.	Quarry List.
N	Chert beds				
	Portland dirt bed	Tufaceous sandy rock, containing chert say	ft. in. 15 to 20		
		Δ band of yellow sand, about	0 9		
		Masses (some of which are dome-shaped) of cellular tufaceous rock, containing thin courses of chert, covered by a bed of sandy shales	3 0		
		A vein of dark coloured slaty shale, about	0 1		
		Freshwater strata, resting upon the uppermost bed of the Oolite, or Red-Head, about	1 0		

JOHN H. AUSTEN.

ON THE PLEISTOCENE TUFACEOUS DEPOSIT, AT
BLASHENWELL.

[Read at St. Aldhelm's Head, July 2nd, 1857.]

A traveller passing through the Isle of Purbeck, must be struck with the variety of its agricultural features: rich pasturages, and wall-bound fields, with soil so shallow as to render their cultivation scarcely profitable, is the general character of the district. This succession is interrupted in a field adjoining Corfe Common, where a bed of flint gravel, over-lying the Hasting's sands, interferes with the usual fertility of that deposit. When the district is more carefully examined, and science applied to develop its capabilities, much that is supposed to be profitless may be turned to some account, either for agricultural or manufacturing purposes. These remarks are applicable to a spot near the village of Kingston, whose rich calcareous substratum may not only be made useful as an auxiliary for imparting luxuriance to its less fertile neighbours, but, by the aid of this key, other localities possessing similar beds, may be employed for the same good office.

At Blashenwell, the clays which intersperse the Purbeck beds, form an impenetrable barrier to the drainage of the hill, forcing the water to the surface through the disturbed strata of these beds. I conceive this spring in bye-gone days, had much to do with the formation of a tufaceous bed near the farm house, and which probably extends over a considerable area.

My attention was attracted by the white appearance of the subsoil through which a road was cut for the convenience of the farm. Upon examination, I found it consisted of four distinct

and marked divisions. The lowest appears to be Carbonate of lime, with a small admixture of iron: above this is a bed less pure, of a purplish hue, owing probably to a change in the condition of the water at the time of deposition, or to the introduction of vegetable matter: the third is a narrow stratified band of indurated concretion, resembling limestone, and interspersed with singular amorphous cavities; and is surmounted by a bed of brown loam, varying from six to eighteen inches in thickness. The deposit throughout is plentifully supplied with shells of various kinds, in a sub-fossilized state; also bones, but in too fragmentary a state to decide to which genus of mammalia they belong, without the assistance of a Professor Owen. I picked up the molar tooth of a horse among the debris lying by the side of the road, but it is open to doubt whether or not it belongs to the bed. A scanty supply of flint and stone occur in the lower portion.

The following is a list of shells

Terrestrial.		
<i>Helix nemoralis</i>	abundant	throughout.
„ <i>virgata</i>	do.	loam.
„ <i>pulchella</i>	do.	do.
„ <i>ericetorum</i>	rare	do.
„ <i>lapicida</i>	rare	do.
„ <i>sericea</i>	abundant	throughout.
„ <i>rotundata</i>	rare	Bed, No. 1.
<i>Zonites cellarius</i>	abundant	Beds, 1 & 2.
<i>Cyclostoma elegans</i>	do.	throughout.
<i>Zua lubrica</i>	rare	Bed, No. 1.
Fresh Water.		
<i>Limnæus pereger</i> ?	rare	loam
<i>Valvata piscinalis</i>	do.	Bed, No. 1.
„ <i>cristata</i>	do.	do.
<i>Succinea oblonga</i>	do.	loam.
Marine.		
<i>Litorina litorea</i>	frequent	Beds, No. 1 & 2.
<i>Patella athletica</i>	do.	do.

To account for the phenomenon of the association of fresh water, marine, and land mollusca, as well as bones, flints, and stones of various formations is doubtless, difficult, and I trust the following solution may neither be considered visionary nor opposed to the principles of science.

The perfect condition of the shells at Blashenwell, evidences the peaceful and gradual deposition of the bed, such as is likely to occur under the undisturbed waters of a pond or lake, and is distinct from the coarse, heterogeneous beds of marl and chalk, which occur on the high lands of the county, leading the casual observer to suppose that they are detached portions of the tertiary period, but when possible to obtain a section of the part, it is found to be merely a large cavity filled with an aqueous deposit, which some violent disturbance, such as the upheaval of land would occasion. Both are subsequent to the tertiary period, both are the result of mechanical, and not chemical action; but they differ in the conditions under which they were deposited — the former during a period of tranquillity, the latter of disturbance.

The configuration of the surface over which the tufa extends, was favorable to the formation of a lake, where fresh water mollusca may have lived and died, and on whose margin terrestrial mollusca may have subsisted, which after becoming associated with their aquatic brethren in this calcareous cemetery, by means of floods and other causes, would contribute towards the general debris of animal life.

That the district under review has been upheaved, since the formation of the bed, is probable, from the occurrence of a bed of cockles, periwinkles, and oysters, (C. e. L. l., and O. e.,) in the church yard, at Arne, about thirty feet above the level of the sea. The shells there lie embedded in the usual mud or silt of Poole harbour, and do not approach the surface within several feet, owing probably to a change of the tide or eddy which had collected them there. Previous to this upheaval, the surrounding country might have been subject to transitory inroads of the sea, by which means the marine shells would gain access into the lake, after forcing their way through the gorge at Corfe Castle, fragments of flint from the chalk range, would be introduced by the same agency, and the bones, and portions of the Purbeck beds, by the drainage of the surrounding high grounds.

We must now direct our attention to the probable origin of the bed, which, being tufaceous, leads to the supposition that the water issuing from the spring, was highly charged with car-

bonate of lime, which after precipitation, has left a calcareous deposit, of a purity in proportion to the absence or presence of vegetable matter.

During the deposition of No. 1, the lake was probably of considerable depth, as the tufa appears unmixed with any other body. No. 2, is darkened with vegetable matter; and No. 3, appears to have been formed when the lake was extremely shallow, and favorable to the growth of aquatic plants, around decayed portions of which the lime accumulated, occasioning the singular cavities with which it is interspersed. Upheaval and accumulation would in process of time raise the bed, and compel the stream to find out for itself a new channel, leaving the area a marshy swamp, favourable to the habits of *Helix sericea*, *Succinea oblonga*, &c., and to the formation of the loam which surmounts this extraordinary bed.

To us, who live in these days of enquiry and investigation of natural phænomena, is given the task of accounting for the association of fresh water and terrestrial shells in a valley bounded by two ranges of hills, and several feet above the level of the sea, (from which it is four miles distant;) and I trust the subject may attract the attention of scientific men, whose powers of deduction may satisfactorily solve this interesting problem. Mr. Bristow, an eminent geologist, who has worked up the Purbeck and Wealden fresh water and fluvio-marine strata of Dorsetshire, and added considerably to our acquaintance with the geology of the district, has examined the Blashenwell bed, and agrees with me as to its tufaceous character, but he considers the introduction of the marine shells to be caused by sea fowl, in which opinion the Rev. J. H. Austen shares; but, as the lake was comparatively small, and the periwinkles and limpets are abundantly distributed, I think upon further examination, they will be induced to alter their opinion.

JOHN C. MANSEL.

ON THE MARINE SHELLS

IN THE

BLASHENWELL DEPOSIT.

[Read at St. Aldhelm's Head, July 2nd, 1857.]

As it is often difficult to arrive at a correct understanding of the original causes which have produced phenomena existing at the present time, and since different individuals will consequently view them in different lights, and form upon them different opinions, it becomes advisable that those who have severally given their attention to any one object, but whose opinions are not in unison, should individually lay them before the society, not as antagonistic to each other, but simply aiming towards the same point, namely, a satisfactory result of their labours. With this desire then, and as Mr. Mansel, in his "paper upon the Blashenwell Deposit," has done me the honour of referring to my opinion in conjunction with that of a gentleman who ranks amongst the first of the Members of the "Geological Survey," I think, that without incurring the risk of being deemed uncourteous to him, I may state that opinion fully, although in some points it differs from his. I completely agree with Mr. Mansel in respect of the origin of this deposit, namely, its being composed of tufa and travertine, precipitated by the Blashenwell spring; whether in form of a lake, or pond, or merely as flowing over a limited space, is unimportant. I am however induced to conceive, that the space must have been constantly covered, although probably at times, only by shallow water, from the

circumstance that the deposit throughout presents no appearance of stratification.

Springs derived from water which percolates through the earth, always become more or less charged with matter characteristic of the strata from which they issue. If from limestone rocks, such as the Purbecks, the water as it passes through, becomes impregnated with lime, held in solution by carbonic acid gas, which is thrown off when in contact with the atmosphere, and the free lime precipitated. This occurs in many localities both in this and foreign countries. In Scotland, for instance, several of the lochs are remarkable for the production of a calcareous marl; and in the cliff of Tollard's bay on the south coast of the Isle of Wight, is a bed of calcareous tufa. Sir Charles Lyell describes an extensive deposit in the Valley of the Rhine, provincially termed *loess*, which in some instances presents a close analogy to that at Blashenwell, being of freshwater origin, and containing calcareous concretions enclosing land shells of the same species as those which exist at the present time in the immediate neighbourhood. After heavy rains, much surface water would flow into the stream, bringing land shells from the hills and conveying them down its course, until some check to the current allowed them to sink to the bottom; and thus they became embedded in the constantly increasing deposit, in company with the freshwater testacea which inhabited the lake. But although the agency to which the presence of these shells are thus to be attributed, must of necessity be termed *mechanical*, it does not follow that the same term must, or even can be applied to the production of the calcareous mass in which they are enclosed. On the contrary, the visitor at Blashenwell will at once perceive that, with the exception of the shells and flints, it contains nothing which in any probability was conveyed there in a solid state, not even as silt. There is no vein, however thin, of any foreign matter, nothing appears besides the calcareous tufa, which is evidently of *chemical* origin. The upper portion indeed may be more correctly termed *travertine*, it being much harder and more stalagmitic in its character. This has been accounted for by a supposition that the stream, which is made use of for irrigating the super-imposed meadows, continues to deposit the carbonate of lime with which it is highly impregnated. I cannot however agree in this opinion, although

specimens of incrustation are reported to have been obtained from its source, I have been unable to detect anything of the kind, in either the water-courses or the soil over which it flows.

The problem then which has to be solved is the presence and consequent introduction of marine shells. Mr. Mansel endeavours to do this through an argument which maintains the probability of the occurrence of frequent changes of level, such depressions and upheavals of the district, as to admit and throw back, alternately, the estuary waters of Poole harbour, through the gorge at Corfe. Now I contend that there are insuperable difficulties in the way of the establishment of such a theory. In the first place, if this varied change of level be admitted, we expect to find, agreeably not only with the laws of geological science, but also with those of natural evidence, a series of strata, fresh water and marine, alternating with each other. Resting upon the Hasting's sands there would be a certain thickness of tufa containing land and freshwater shells only; then would succeed evidence of the influx of the sea, in a stratum of silt containing for the most part marine exuviae: then again, when the sea retired and the fresh water obtained repossession, there would be another bed of tufa, and so on, if indeed it can be supposed that these sudden upheavals, and equally sudden depressions would have been so equal and regular in their action, as to permit so complete an integrity of the general features of the surface, that after each, the same spring should reform a lake over precisely the same area as it had previously done. But there is not the slightest indication of stratification: on the contrary, the bed presents a uniform mass of concretion, and the marine shells occur *intimately mingled* with the land. Mr. Mansel suggests that the land shells might have been picked up by the sea as it passed over what had previously been dry land, and hence conveyed. Still, if we grant this to be possible, we should expect to find a difference both in the composition and colouring of the matrix in which they became embedded, which is not the case. And they would be discovered, not only in one isolated spot, but frequently over the whole district which the sea must have inundated, including all the low lands of the Isle of Purbeck, and the tertiary valley as far as Dorchester; Blashenwell being upwards of a hundred and ten feet above its level. The lenticular deposit lately discovered in the Church-yard, at

Arne, of two species of *edible* estuary shells embedded in a stiff mud, extending over an area not exceeding twenty three feet by seven feet in diameter, and eighteen inches at its greatest thickness, is not analogous to this, excepting the circumstance of the occurrence of a portion of a bone.

Having thus far given an opinion against the theory that these marine shells were introduced through the agency of the sea, it becomes necessary that I should also state what I conceive to be a more probable solution of the mystery. I would observe, that the marine and the land shells are intimately associated in one and the same matrix: both therefore, must have been deposited by one and the same agent, whatever that agent may have been. I believe that I am not speaking incautiously in asserting it to have been the Blashenwell stream. Mr. Mansel referred to my suggestion, stating it to be also the opinion of Mr. Bristowe, that the marine shells might have been conveyed inland by sea-birds to the open plains, whence they were washed down by the surface water into the stream. I do not wish, however, to advance this opinion as a decided one; for I apprehend difficulties in such a theory, which I cannot reconcile with natural results. The shells in question are those of the limpet and the winkle: the first is well known to adhere most tightly to rocks which are covered by the sea at high water, and unless the knife is cautiously inserted beneath the shell at a time when it is raised by its inmate, who, immediately upon the approach of danger, retightens it, its separation from the rock is not easily effected, and, in fact, it can seldom be displaced without injury to the shell. Nor do I think that any of our sea-fowl, with the exception of the oyster catcher, which seldom flies inland, have the power of separating the limpet from its native rock, without first breaking the shell. The winkle, a univalve abundant at low water, especially upon the mud-lands of the north shores of the island, may be obtained by birds, but even then the prize would be beyond their reach. In this case, the bird must necessarily break the shell, before it could devour the winkle contained within. The thrush, for instance, betakes itself to a stone, and, with the help of this breaks the shell of the snail upon which it feeds.

It is, however, a remarkable fact that the shells which are embedded in this deposit, are, for the most part, uninjured. We must, then, look around for a more satisfactory solution of the mystery. Hitherto, the evidence advanced has tended towards a conclusion that the age of the Blashenwell deposit is attributable to the period known by the term Pliocene.

Now I am going to advance a somewhat bold suggestion, but in which I think there are not so great difficulties to be overcome, as in those which we have considered. It is that the deposit is *Post Pliocene*, if not more correctly recent, namely, coeval with man; and that he was the agent which conveyed the marine shells from their native localities, not perhaps to the lake itself, but inland, whence they were washed into the stream, as previously suggested. It should be remarked that they are both of edible species, as is the case also with those at Arne; and it will be observed that the limpet is found, not only frequently, but in abundance, in many of the tumuli of the ancient Britons, as well as amongst Roman remains, and may consequently be presumed to have been a material article of food. I would argue also, a greater probability that, with a sharp edged flint, or piece of bone, the native would be more successful in inserting his rude weapon beneath the shell of the unsuspecting limpet, than would a pliocene sea-bird, with his bill, or even a modern fisherman, with his knife. That there is nothing scientifically opposed to the theory that such a deposit may have been produced at a recent period, I take an extract from Sir Charles Lyell's *Manual of Geology*; "in the West Indies," he says, "in the island of Guadaloupe, a solid limestone occurs at the level of the sea-beach, enclosing human skeletons. The stone is extremely hard, and chiefly composed of comminuted shells and coral, with here and there some entire corals and shells of species now living in the adjacent ocean. With them are included arrow-heads, fragments of pottery, and other articles of human workmanship. A limestone with similar contents has been formed, and is still forming, in St. Domingo. But there are also more ancient rocks in the West Indian Archipelago, as in Cuba, near the Havanna, and in other islands, in which are shells identical with those now living in corresponding latitudes; some well preserved, others in a state of casts, all referable to the *post-pliocene* period."

At Blashenwell, I have searched in vain for satisfactory traces of human remains, such as pottery. There are however, scattered throughout the mass, minute pieces of a black substance, which presents the appearance of being burnt wood. Occasional fragments of mammalian bone and teeth, have been also found, two of which have proved to be those of a young pig, having internal evidence of being recent, their mineral condition being as modern as that of some of the bones thrown out of a fresh dug grave. The presence of fragments of chalk flints having sharp edges, may be referable to the same agency: although decidedly not arrow-heads, they nevertheless are nearly allied in form to many of those flint chippings which are frequently found in the tumuli of the neighbourhood.

At Arne I was unable to detect any absolute traces of human agency, but nevertheless the mass presented every appearance of having been collected by the hand of man, inducing the impression that it must have originated in the refuse cast from a native hut. There can be little doubt that the shells are recent. It has been objected that they are perfect, that is, both valves are together as during life; but in this state they may be frequently observed upon the shore, and when opened are found to be filled with sand. Neither is the supposition that they were drifted to this spot whilst living, in accordance with their natural habit of burying themselves in the sand or mud, an instinctive protection from the effects of the tides. This view of the origin of the deposit is much strengthened by what has been related to me by my friend the Rev. F. Fisher, who resided during several years in New Zealand. He says that "pipi shells, or cockles, are found in large beds far inland, not fossilized, but in a state of decay from lapse of time. These shells, there is no doubt, are brought from the sea coast by the natives: whole tribes returning from the fishing season always carry back hundreds of baskets of cockles, which they consume in their inland pas or villages. The further in land, the greater treat is the cockle, and so greater the refuse of empty shells. Time and age and custom have produced these phenomena: and why should not the old Britons have done the same in our land?"

JOHN H. AUSTEN.

Since writing the above it has been pointed out to me, that Mr. Mansel does not expressly name "land shells": as, however, he speaks of "fragments of flint" &c., from the chalk range, I had inferred he would thus account for the land shells as well.

NATURAL HISTORY.

1856 — 1857.

BIRDS.

The winter having been unusually mild has afforded very few of those rarer species which occasionally visit our shores during that season.

A Cinereous Eagle, *Aquila albicilla*, was seen near Langton in November, by Mr. Lester.

A flight of Bar-tailed Godwits, *Limosa rufa*, appeared early in the autumn, one of which was obtained for the Museum.

The Crested Shag, *Phalacrocorax cristatus*, has bred on our shores this spring.

The Additions to our list are

15. The Rough Legged Buzzard. *Buteo lagopus*.
One was shot at Rempstone, in November, and is there preserved.
25. The Tawny Owl. *Syrnium Aluco*.
In the Grange woods.
89. The Cirl Bunting. *Emberiza Cirlus*.
I observed a pair of these birds at Steeple, in August.

J. H. A.

FISHES.

The past year has been unfavorable for fish; but few Mackarel or Herrings were taken on our coast, and other kinds have been proportionably scarce.

The following are a few notes on species already in our list.

The Streaked Gurnard, *Trigla lineata*,

is called the Piper on our coasts, as it also is at Weymouth, as Mr. Thompson writes me; the true Piper, (*Trigla lyra*,) is scarce.

The Sea Bream, *Pagellus centrodontus*,

has again visited us after many years absence. It was taken in considerable numbers over the Ledges at Swanage, in August, 1856; nearly all were young fish of the first year, wanting the dark patch at the origin of the lateral line; they only took the bait well before sunrise and after sunset.

The Butter-fish, *Murænoïdes guttata*.

Is common in tide pools: local name, "Nine Eyes," (Studland.)

The Salmon. *Salmo salar*.

I have taken one of 10lbs, another of 3½lbs, besides several smaller ones this year. (1856.)

The Green Cod. *Merlangus virens*.

Has been obtained several times during the past year: they were also taken in some numbers about twenty-seven years ago in Worbarrow Bay, and sold at Wareham under the name of "Winter Whiting."

The Three Bearded Rockling. *Motella vulgaris*.

Is with us called the "Tansy Fish."

The Bimaculated Sucker. *Lepidogaster bimaculatus*.

I have taken this fish in a prawn pot off Durdlestone Head; the white streak between the orbits was very broad in this specimen.

The Small-Spotted Dog-Fish. *Scyllium canicula*.

The local name of both the kinds of *Scyllium*, is "Nurse," they are used as bait for prawn pots, &c.

The Angel Fish. *Squatina angelus*.

A large one, 4ft, 6in, in length, was taken in Swanage Bay last July, several of its young 10 inches long, were also in the net, these were marbled on the upper surface with white streakings, marks which are not present in the adult fish; they are probably analogous to similar white spots in the young of the allied species, the Picked Dog-Fish and Smooth Hound, vide Yarr: II. 513.

The additions to our list of Fishes, are

The Black Goby. *Gobius niger*. Yarr: I. 281.

One specimen in prawn pot, Swanage bay this May.

The Sand Eel. *Ammodytes Tobianus*. Yarr: II. 424.

Dug out of the sand at low spring tides with the Sand Launce; the fishermen distinguish between the two species, calling the former the "Brown-back Riggle," the latter the "Green-back Riggle," from its more transparent colour.

The Common Sturgeon. *Accipenser Sturio*. Yarr: II. 475.

A large one was taken in Studland Bay in September, by White, fisherman of Poole.

The Common Tope. *Galeus vulgaris*. Yarr: II. 509.

Several large ones were taken in Swanage Bay, during December. As the forms of the teeth of sharks are always of importance in identifying the fossil remains of the family, I may here notice that, in examining the jaws of two large female specimens of this fish, I found that, besides the usual form of teeth, viz: those obliquely triangular, and denticulated on the outer edge alone (see fig. Yarr: II, p. 510,) there is a second distinct form; these are much smaller, very concave, the point being much curved inwards, not oblique, the apex being perpendicular to the centre of the base, and with five to seven strong denticulations on either side; they formed a small outer row. I also observed a character not mentioned either by Yarrell or Jenyns, a

shallow groove runs along the mesial line of the back from the second dorsal fin to the origin of the caudal.

The Smooth Hound. *Mustelus levis*. Yarr: II. 512.

Two were taken in my trammel net this July 3ft. 6in, and 3ft. 9in, long; they have not been before noticed in our bay.

The Sharp-nosed Skate. *Raia ocyrrhynchus*. Yarr: II. 556.

A large specimen was brought to me that had been taken in a herring net in Swanage Bay, December 6.

L. L.

CRUSTACEA.

Mr. J. C. Mansel has taken *Euryome aspera* in Kimmeridge Bay.

Prawns are with us only called "Prawns" when in berry, others are termed "Shrimps;" whilst the true Shrimp is called "Sand Shrimp," and is principally used for bait.

The additions to our list are

Pennant's Ebalia. *Ebalia Pennantii*. Bell, 141.

Kimmeridge Bay. J. C. Mansel.

Hairy Porcelain Crab. *Porcellana platycheles*. Bell, 190.

Most abundant under stones at low water.

Minute Porcelain Crab. *Porcellana longicornis*. Bell, 193.

Swanage and Durdlestone Bays, dredging.

Common Spiny Lobster. *Palinurus vulgaris*. Bell, 213.

A fine specimen was forwarded to me by the Rev. N. Bond, which had been taken in Worbarrow Bay, in May, 1856. It is the only one I can hear of being taken on this coast. Local name, "Cray fish," or "Jersey Lobster."

Three Spined Shrimp. *Crangon spinosus*. Bell, 265.

I have lately taken this in Swanage Bay.

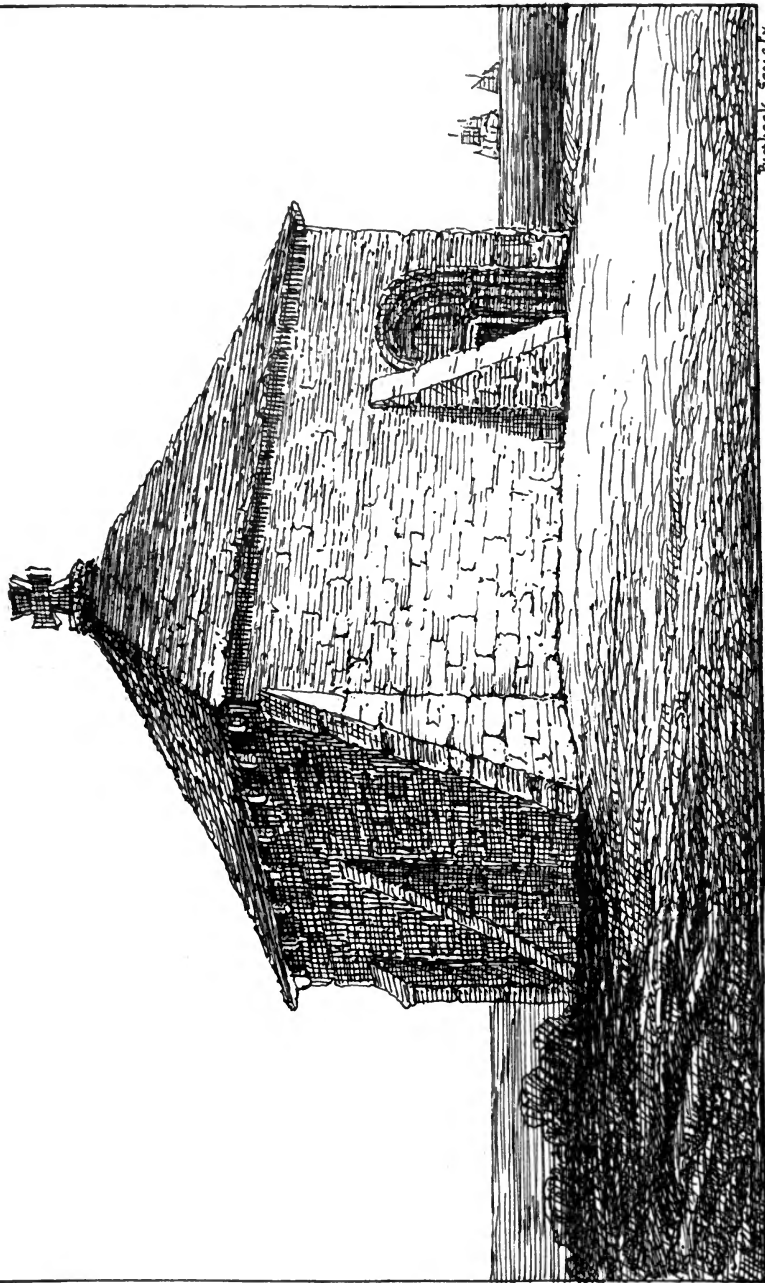
" " " *Nika* . . . ?

A few weeks ago whilst dredging, I took two specimens of a Crustacean, which I was unable to refer to any of the species described by Bell; I sent them to Mr. Thompson, who thinks they are an undescribed species of *Nika*.

" " " *Athanas nitescens*. Bell, 281.

One specimen in the keel dredge in Swanage Bay, April, 1857.





V.M. Colson, del.

St. Adhelm's Chapel, Purbeck.

Purbeck Society.

ON THE CHAPEL AT ST. ALDHELM'S HEAD.

[Read at St. Aldhelm's Head, July 2nd, 1857.]

St. Aldhelm's Head can scarcely be described in more correct terms than those of Sir H. Englefield, who calls it a "promontory which makes a very conspicuous appearance, and whose dangerous rocks have been so often fatal to mariners;" unless indeed we add a line from the immortal poet, and represent it as

" A cliff, whose high and bending head
" Looks fearfully in the confined deep."

It is necessary that I should remind you, that the sea, affected by the ebb and flow of the tide over a rocky bottom, is not often calm, but more frequently the reverse; because the subject which I purpose speaking upon, is of the Chapel in which we are now assembled, whose origin tradition affirms to have been connected with these stormy seas.

Hutchins is incorrect in stating the perpendicular height of the cliff to be 147 yards, or 441 feet. The government survey have determined the altitude of the ground at the Coast Guard flag-staff, to be 354 ft. 9 in., and at the top of the cross at the chapel, 379 feet. Near the edge of this precipice stands this small chapel dedicated to, and taking its name from St. Aldhelm, the first Bishop of Sherborne. But few records remain respecting it. The County history merely states that "it is styled in the valor, 1291, the Chapel of St. Aldhelm, and rated 20s, but no institutions to it are found in the Sarum registers."

I therefore recur again to Sir H. Englefield. He describes it as an exact square of about thirty two feet, and judges, from the forms of the arches and mouldings, that it is of very high antiquity. The door-way is of the simplest kind of Saxon architecture, having pilasters and semicircular arches, ornamented with square studs that are placed at equal distances. The cornice

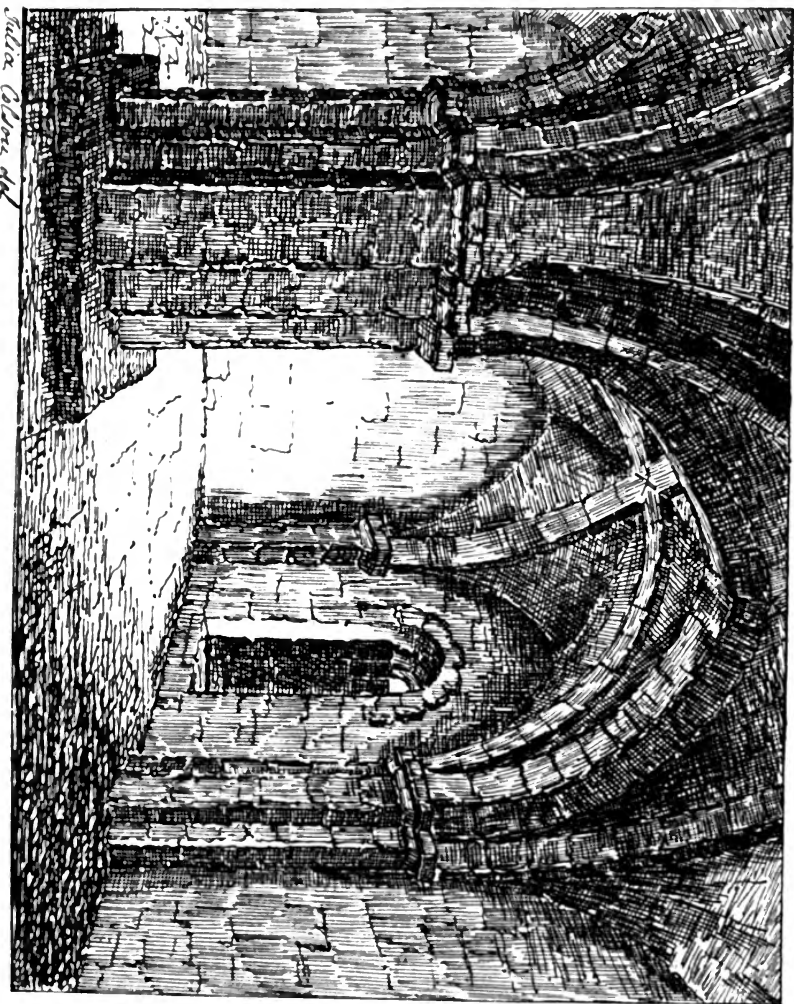
surrounding the building is composed simply of a fillet supported on one side only by corbels. The ancient roof must have been pyramidal, and was covered with thick slates, but at the time of his visit it was so ruined and overgrown with grass that it could not be traced with certainty. Parts of the groins, however, having fallen in, its proprietor, Lord Eldon, had directed it to be repaired; and the workmen who were employed had just discovered on the top of the building, a cylindrical foundation of three feet in diameter, which had no doubt been the base of some erection.

The inside is extremely simple, yet elegant in its design. In the centre, a square pier ornamented with pilasters, having the angles chamfered, support the ends of four arches, which extend to similar pilasters on the middle of the walls. These arches are obtusely pointed; they have their centres a little above the level of the springing, and consequently approach, in a slight degree, to the form of the Moorish arch. Had I examined them less carefully, I might have supposed that this was owing to a slight failure in the arch; but it was evidently the original design. Two other similar, but higher pointed arches, cross each other in each of the squares so formed, extending from the middle pier to the angles of the building; and in each intersection of these ribs, a small cross is cut in the moulding. There are no remains of carved work in the chapel. The only window is a loop-hole, splayed inwards, and finished with a semicircular head. This looks to the sea.

It is said that this edifice was anciently a chantry, where masses were performed for the safety of mariners that passed by the shore, who left some gratuity at the first port they landed at for the maintenance of the priest, the building not being endowed.

Its form and situation indeed strongly favour the idea of such a destination. The square pillar in the centre seems to have been originally designed to support some weighty superstructure, of which the cylindrical base on the top, is a part, and might have been a beacon, or some species of light-house.

The window looking to the sea no doubt must have afforded the view of many a dismal scene, and excited the fervour of its religious inhabitant by the contemplation of the dangers to which the passing vessels were exposed.



Julia Adams del.

Interior of St. Adhelm's Chapel, Purbeck.



On the north side, where the door is placed, there has been an enclosure, as the foundations of a wall are still visible; I should conceive this to have been the dwelling place of the priest. As the chapel evidently takes its name from St. Aldhelm, it will not be irrelevant, perhaps not uninteresting, if I give a short outline of his history. All accounts represent him as having been an eminent man for the time in which he lived. He was a pupil of Adrian, abbot of Canterbury, who died A. D., 710, and was one of the royal family of Wessex; afterwards abbot of Malmesbury, and bishop of Sherborne. He conferred great benefits upon his countrymen, the West Saxons, and his memory was honoured in a life of him written by King Alfred, but which is not now extant. We have therefore only such accounts as the monks of later ages have mixed up with too much of legendary tales. He was a founder of the abbey of Malmesbury, and of the town adjoining; and at different periods of his life he built other churches in Wessex, particularly at Dorchester. He died A. D., 709.

It is highly probable that his name is not incorrectly connected with the building of this chapel. Nor was it uncommon for even monasteries to be built upon islands, or near dangerous coasts, which often became places of refuge to ship-wrecked men. The bell-rock on which a light-house is now erected, near the Frith of Forth, is said to owe its name to a *bell* formerly fixed upon it by the monks of the abbey of Aberbrothock, or Arbroth, and thus alluded to by Southey:

“When the rock was hid by the surges swell,
The mariners heard the warning bell;
And then they knew the perilous rock,
And blessed the abbot of Aberbrothock.”

These lines suggest what in reality might have been the use of the superstructure mentioned by Sir H. Englefield as having been discovered here, and which appeared to require considerable support, viz: that it was a tower adapted to the suspension of a heavy bell, which the priest continued tolling during dark weather. Had it contained a light, there must have been a stair case leading to it, which does not appear to have existed.

In reply to some enquiries made of Mr. T. Bond upon the subject of this paper, he says, “From the general character of

the architecture, the building would appear to have been erected in the latter part of the twelfth century, and a conjecture may be hazarded that it owed its foundation to one of our monarchs who made Corfe Castle his temporary residence. Certain it is, that in the reign of Henry III, the chapel was served by a chaplain paid by the crown, through the hands of the Constable of the castle,¹ at a salary of fifty shillings a year, the usual stipend of royal chaplains; and it was not then dependent either on the parish church, or on any other religious establishment. I think it very probable it was rather in the nature of a hermitage, and that the officiating chaplain lived either in, or immediately adjoining the present building. From this connexion with the crown it may fairly be supposed to owe its foundation to objects of a public or national, rather than of a private or personal character; and the situation of the building, crowning the summit of a wild and lofty promontory which commanded to the right and left extensive views along the whole range of this rugged and dangerous coast, with the boundless ocean in the front, clearly indicates what its object was, namely the safety, temporal as well as spiritual, of the seafaring subjects of the realm. As the monks of St. Bernard are placed on the summit of the Alps for the purpose of aiding the traveller in his passage across that dreary and inhospitable region, so no doubt the chaplain of St. Aldhelm's inhabited this lonely cell, not only to pray for the souls of shipwrecked mariners as suggested by Hutchins, but to keep watch on the stormy deep, and to warn the struggling helmsman by bell and beacon to keep far aloof from this dangerous coast. He was also to give the earliest intelligence of the occurrence of a wreck upon the coast, and call for the prompt assistance of the hardy inhabitants of the neighbouring village of Worth. The frequency with which lofty promontories overhanging the sea still bear the names of some tutelary saint, is no doubt owing to the fact that chapels of this kind have once existed there. In foreign countries they are still very frequently met with, and by their means the very last, and very first sight of land is associated with his religion in the mind of the passing sailor. In the one

¹ This appears from the Great Roll of the Pipe, or the Chancellor's roll, which contains returns by the Sheriff of the County of the receipts and disbursements of the revenue of the crown. The castles of Corfe and Sherborne were frequently committed to the custody of the Sheriff.

case he is reminded to invoke a blessing on his voyage, and in the other to offer up his praises and thanksgivings for his safe deliverance from the perils of the sea. The glittering church of Nossa Senhora do monte, at Madeira, the late Pena Convent at Cintra, and the numerous churches that crown the spurs of the Maritime Alps, are all of the character alluded to, and are well known as objects of supreme interest and devotion to the sailors who frequent those shores.

“It has been suggested to me that there is no appearance of the chapel of St. Aldhelm having ever contained an altar, and if this be so, it may be a question whether it was, strictly speaking, a chapel at all: I think however, some traces of an altar, or rather of the platform on which it stood, are discernible near the small window towards the east; at all events we have documentary evidence that such a chapel did exist in the thirteenth century, and there can be no reason to doubt that this is the one alluded to. If your conjecture respecting the use of the cylindrical base, which is said to have once existed on the summit is correct, there must have been an opening through its vaulting to admit the rope or chain of the bell, and traces of this opening might still perhaps be discovered.

“In conclusion, I will only remind you, that the very fact of the building having obtained the designation of the “Devil's chapel” amongst the rural population of the neighbourhood, is an evidence of how little is known of its origin and use, for whatever is strange and unintelligible, is commonly attributed by the vulgar and superstitious, to an exercise of Satanic power.”

In the latter part of the above letter, Mr. Bond has glanced at the popular name and superstition connected with the subject of this paper; but it should be added on this point, that there is a peculiar veneration which has continued to be attached to the chapel to the present time, for still it is the custom with the young women of the neighbourhood, to drop a pin into a hole in the centre pillar, and wish for a husband, or at least the happy consummation of whatever they have most at heart. I conceive that this may be the remnant of a probable custom of presenting offerings to the priest for the purchase of his prayers, by those who desired the success or safety of their relations or friends who

were absent at sea. As the storm gathered and increased, and howled wildly around this lonely cell, we may picture to ourselves the priest, clad in his robes, kneeling before the altar and offering up his prayers to Him who alone can calm the winds and bid the waves be still, that he would protect their barque and restore them to their homes; whilst at a little distance we may suppose an aged matron, urging her supplications for the welfare of a son, a young bride for her husband, or a maiden for her betrothed.

This was indeed a sacred shrine. No wonder therefore, that something of its sacredness, even though in the form of a superstition, should yet remain. As long as the priest continued at the chapel, the offering was doubtless a piece of money in anticipation of the fee which afterwards might become his due. But when at the dissolution of monasteries, the maintenance for the priest ceased, or the chantry was suppressed, it is not likely that those who had been accustomed to frequent the place under circumstances of so great interest, would suddenly desert, or cease to value it. It is rather to be supposed that for many a year, the wild deserted chapel would be visited and venerated, although at length the prayer degenerated into a simple wish, and the substantial into a nominal offering; whilst the place itself became apparently ranked in that class with accounts of which our British topography abounds.

Although it was chiefly to wells and fountains that virtues were attributed, and which were usually dedicated to some saint, and honoured with his name; still in many instances the proceedings at them, and the offerings made, are similar to those at St. Aldhelm's chapel. Mr. Pennant in his account of St. Winifred's well, in North Wales, mentions that near the steps, two feet beneath the water is a large stone, called the wishing stone; it receives he says, many a kiss from the faithful, who are supposed never to fail in experiencing the completion of their desires, provided the wish is delivered with full devotion and confidence. On the outside of the great well, close to the road, is a small spring, once famed for the cure of weak eyes. The patient made an offering to the nymph of the spring of a *crooked pin*, and sent up at the same time a certain ejaculation by way of charm.

In Borlase's Natural History of Cornwall, is recorded another,

named Modern well, into which it was the custom for those who wished to settle any doubts and inquiries, to do so by dropping *pins* or pebbles into the water at a certain time of the year.

At St. John's well, Balmans, in Scotland, the presents generally given were *pins*, needles, and rags taken from the dress of the visitors. At Bede's well near Newcastle upon Tyne, the offering was a crooked *pin* put into it. In the Isle of Skye is a well at which after drinking, the party makes a tour, and then leaves an offering of some token, such as a *pin*, needle, farthing, or the like, on the stone cover which is above the well; so that this wishing, and at the same time the offering of a *pin* at the shrine of St. Aldhelm, evidently represents a superstitious custom formerly, if not still prevalent, throughout Britain, and therefore at least, being harmless, claims our interest.

The meetings which were held at these, thus designated, holy places, were usually entirely devoted to festivity and mirth, and possibly may have taken the place of the village wakes, when they were discontinued to be kept in the church yard.

There is mentioned in the Gentleman's magazine for 1791, vol. xix, p. 991, a custom which existed in the north of England from time immemorial, for the lads and lasses of the neighbouring villages to collect together at springs and rivers on some Sunday in May, to drink sugar and water, where the lasses gave the treat; they afterwards adjourned to the public house, and the lads returned the compliment in cakes, ale, punch, &c. Similar meetings are recorded as taking place in other countries, usually in the month of May, which appears to have been the favorite month for these merry makings. Various rites appear to have been performed at many of these spots on Holy Thursday; such as decorating them with boughs of trees, garlands of tulips, and other flowers.

I find upon enquiry, that here likewise is a semblance of a like custom. On Whit Thursday annually, the Villagers of Worth proceed with music to the Head, dress the Chapel with flags, and dance within it, when many an offering is, doubtless made, accompanied by many a whispered wish.

WRECKS ON THE PURBECK COAST.

[Read at the Grange, February 10th, 1858.]

It may at first sight seem foreign to our purposes that papers should be written, read, or printed such as that which is now offered for the attention of our Society. But in attempting to put on record a slight sketch of some of the most remarkable wrecks which have for a time before now invested our shores with a transient notoriety, I believe that I am meeting the wishes of many of our members, and think even that the subject falls within our legitimate scope. The rareness of the occasions, fortunately, on which such visitants as Mail Steamers of two thousand tons throw themselves on our rocks and our hospitality, might justify us in treating their advent as a subject of curiosity, just as we investigate the visit of the Lesser Bustard or the Bottle-headed Whale; or again, excuse may be found in the examination of the geological character of the strata on which the vessel may have lodged, the current which may have drifted her to danger or destruction; or further, we may dwell sarcastically on the deficiency of art which may have left a noble vessel for weeks an apparent sacrifice to the waves, to be rescued at last, a mere hull, from her marvellous position: or we may more charitably narrate and laud the science which transferred the "*robur et æs triplex*" from the breast of the builder to the ribs of the vessel, examine the advantage of iron over wood, and tell the means by which the metal frame, beaten but not destroyed by wind and waves, may have been lifted from her conspicuous rock, and again sent to cross the mighty waters.

I do not however claim attention on any scientific grounds, real or assumed, but enter upon the subject as a matter of history. The interest which the antiquarian feels in the most trivial details of a particular locality, cannot but be rightly extended to

the tragedy of the "Halsewell," or the serious drama of the "Tyne."

The Antiquary does well in treasuring what is in itself light, because, in the march of time and the destruction of more important records, the trifle acquires weight. We shall do not less well in attempting to sketch events of the day, no trifles in themselves, but which, amid the thousand accidents by flood and field which our restless age of iron enterprise incurs, must needs owe their chief interest in our eyes to the place of their occurrence.

So far as I am aware the Coasts of Purbeck have not been so much signalized by sea disasters as might have been expected. The number of vessels that from the days of the Romans, if not of the Phœnicians, have navigated the neighbouring waters must have been always large; and the frequent use of the highway does not under such circumstances tend to its safety. The rugged, hopeless inhospitality of the precipitous shore from Peverel Point to St. Aldhelm's Head, and the more concealed and treacherous danger of the Kimmeridge ledges, towards which, it seems, a current, little known, sweeps fatally with the ebb tide, might well have made Purbeck, exposed as it is to the S. and S. W. gales, a name as well known to the underwriter as to the geologist. But such does not appear to have been the case; and the oratory of St. Aldhelm would not of late years have very frequently resounded with vain supplications. Doubtless the very danger of our embraces leads to their avoidance, and generally night and fog, coupled with the dangerous current to which I have alluded, have been pleaded in excuse for the approaching of our shores.

How decided is the set of the current was well illustrated by the arrival, one can hardly call it the wreck, of an American ship, the "Robert S. Shaw," on December 10, 1847. She was struck by lightning off Ushant, the cargo became ignited, the crew escaped; she, in a fresh S. W. gale, drove up the Channel, one mass of fire, into West Bay, (the western side of the Chesil Bank,) near Weymouth; thence borne out by the strong out-draft she ran up, still a mass of flame, to St. Ald-

helm's, or in the vulgar, St. Alban's Head: again the current at the spring ebb catching her, she was sent back, against the gale, and finally was driven ashore by the cross action of wind and tide, under the tower at Kimmeridge.

Again, on the sad occasion of the loss of the *Amazon*, not only was one of her life boats, on the eighth day after the fire, drifted to the shore between Freshwater and High-ledge, but many pieces of burnt wood, and a large quantity of her cabin candles, all reached the same place.

From information kindly given me by my friend Lieut. Smith, R. N., the Chief Officer of the Coast Guard at Kimmeridge, I find that ten vessels from the year 1836, have become total wrecks along the southern coast.

On only two occasions out of these ten was there a sacrifice of life: those were on the loss of the "*Samuel*" Schooner, on November 14, 1836, off St. Aldhelm's Head, when three men were drowned; and on that of the "*Edouard*," which struck at eleven, p. m., of November 29, 1842, on High Ledge. A violent gale was blowing, and the darkness combined with the tempest made attempts to get out to her impossible. With the early dawn it was hoped the attempts might be more successful, but as morning began to break she went to pieces, and, though a boat came on shore not stove in, no living thing except one Newfoundland dog ever reached the shore: ten men, one woman, and a child perished in the vessel.

But though life was on the remaining occasions preserved, it was not without, in many instances, much risk on the part of those who were the means of preserving it. In a very heavy gale on November 28, 1838, a French *Chasse Marée*, the "*Joseph Desirè*," taking the Clavell tower for a beacon, ran on shore in Kimmeridge Bay. Her crew of eight men and one boy, were saved by the Coast Guard; and evidence of the gallantry shewn may be seen in the gold medal awarded by the French government to the officer, Lieut. Smith, and the silver ones given to the preserving crew.

Not less again was their courage evinced, on the loss in April, 1845, of H. M.'s Brig, "*Skylark*," with Supernumeraries,

making with the crew, a total of one hundred and two. She struck on Cuttle Ledge, near Kimmeridge; and again the same Officer had the gratification of saving the Crew of her four-oared galley which had been swamped. The risk was indeed great, and the action was no doubt its own reward: at the same time it cannot but be regretted that, according to official rule, the British authorities were precluded from marking, by honorary distinction, the well-earned thanks they freely expressed.

During the same period of twenty two years, about eleven vessels are recorded to have been stranded on the same line of coast. I purpose hereafter at some length to notice the "Tyne," grounded in 1857; and the escape of the "Sarah Park" also deserves a separate record. That vessel, an American bark, sailing from Dieppe with Emigrants, and holding, I believe, considerably upwards of three hundred souls on board, got on shore early in the morning of October 3rd, 1854. She lay about three hundred yards west of the Freshwater Steps, and a like distance south of the shore. As she was said to have been seen by the Coast Guard on St. Aldhelm's Head, before striking, the fog could hardly have been such as to excuse the accident. The wind at the time was S. or S. W. It was strongly urged on the Captain by those locally acquainted with the coast and its dangers, that the passengers, consisting chiefly of emigrants of a poor class of French and Germans, should be landed. Should the wind, it was said, remain in this quarter, and increase, the vessel which must be already damaged will suffer severely, and with a heavy sea may well go to pieces: and how then on this shore can the living freight be saved? It was offered that the passengers should be either landed or left in safety afloat till the afternoon's high tide should decide whether she should float or stick fast. But certain loss of money prevailed over the probable danger to life, and the Captain declined to "break bulk," and should any of the passengers leave the ship, he declared he would not again receive them on board. As it happened fortune favoured the audacious; the south wind on shore became northerly and off shore, the tide rose high, and, hardly crediting our happiness in witnessing the retreat of our unwelcome visitors, the inhabitants of Encombe Valley saw the great vessel slowly warped off the nearly fatal ledge. So purely mercenary seemed

to have been the line of conduct adopted that few could regret that the vessel, found on her arrival at Southampton to have been seriously damaged, was subjected, after all, to the payment of considerable salvage. Had the wind not shifted, had the sea arisen, with the sick and crowded polyglot passengers still on board, one cannot but feel that a very different result might have attended the refusal to place them in safety, and that Encombe, in 1854, might have witnessed a tragedy such as that which gave to Seacombe a sad celebrity in 1786.¹

The "Halsewell" East Indiaman, of 758 tons burden, left the Downs on January 1st, 1786, carrying as passengers on the commencement of her third voyage to Bengal, seven young ladies, including two daughters of the Commander, Capt. Pierce, and one gentleman. The total amount of persons on board, is supposed to have been about two hundred and forty, among whom were a number of soldiers going to India.

On the 2nd. she was becalmed off Dunnose, the south east point of the Isle of Wight; but a south breeze, snow, and frost set in at night. On the 3rd, a gale from E. N. E., began, but the wind shifted at night to the south, and damage was done to the ship. It was now found that a leak had been sprung, and the pumps were set to work. On the 4th, the water had gained from five to seven feet in the hold, the mizen and main masts were successively cut away, and the fore top-mast lost. At eleven, a. m., Berry Head, the S. E. point of Torbay, was seen at a distance of four or five leagues, and the ship bore up for Portsmouth.

On the 5th, at noon, Portland was seen bearing N. by E., distant two or three leagues. At eight p. m., it blew a strong

¹ For the account of the loss of the "Halsewell," I am indebted through the kindness of our Patron, Mr. Bond, to a "Circumstantial Narrative" published at the time, and which seems to have excited much interest, if it truly reached, according to its title page, a seven-teenth Edition. The facts of the Narrative are most touching, its sentimentality worthy of a place in any museum of stuffed platitudes. "Thus perished the Halsewell, and with her, worth, honour, skill, beauty, amiability, and bright accomplishments; never did the angry elements combat with more elegance; never was a watery grave filled with more precious remains!"

gale at south, and at this time the Portland lights were seen, bearing N. N. W., distant four or five leagues. They then wore the ship and got her head westward, but finding they lost ground on that tack, they wore her again, and kept stretching eastward, in the hope of weathering Peverel Point, and anchoring in Studland Bay. At eleven p. m., the weather cleared, and they saw St. Aldhelm's Head some mile and a half to the leeward. Upon this they took in sail, and let go the small anchor. She rode for an hour, but then drove. The sheet anchor then kept her riding for about two hours, when she drove again. There was now no hope of keeping her off the rocks, and about two o'clock she struck violently. All rushed on deck; the sailors, of whose conduct the narrative does not speak in those terms which sailors generally deserve, and the soldiers, whose activity and discipline had been as conspicuous as has been the case on numerous occasions of recent disaster. The officers and passengers were mostly collected in the round house.

Meanwhile, the ship continued to beat on the rocks, and fell with her broadside against the shore.

The spot is still known by the name of the ill fated vessel. About four hundred yards to the west of the place where the water drains, in flood, from the valley of Seacombe, and not distant from the grand ledges of Winspit, a quarry yet remains, called the Halsewell Quarry. Its floor has much fallen in, but at the time of which we are speaking, that floor overhung the sea, and seems to have formed an arched roof to the cavern, athwart which the vessel lay, broadside on.

The sailors, soldiers, and others made their way in considerable numbers into the cavern from the rigging of the ship, and by spars placed from the vessel; but in justice to those who did so escape, including as it would seem a large proportion of the officers, it must be said that in the darkness they were unaware of the comparative shelter which the cavern afforded, seeing as they did from the vessel nothing but the bare precipices.

Thus no doubt it occurred that no attempt was made to rescue the women from their position in the round house. The sea broke more and more heavily on the ship: two of the officers, one of whom, by name Rogers, eventually survived, were washed

off, and with difficulty reached first a rock and then the cavern. Scarcely arrived there the final crash was heard: Ship and women, with one fearful cry, were buried in the waves.

All was done with them: and to those who were in comparative safety, life was indeed hanging by a thread. Many never saw the morning; falling, numbed with cold or worn out with fatigue, from the perches scarcely out of reach of the surf, which they had been able to gain in the cavern.

The morning dawned after about three hours, but brought with it little to cheer those who yet remained in the cavern. The overhanging cliff must be hiding them from the view of any on shore, even if their guns of distress should have been heard amid the storm. No boats could be passing in that sea on their own occupation, or indeed live in it if a search could have been made for possible survivors: nor finally did any portion of the ship remain, to suggest that sufferers might be discoverable.

But one chance afforded itself; to creep along the side of the cavern, and turning its corner to clamber up the nearly perpendicular precipice. Two men, the cook and the quarter master, by name James Thompson, first succeeded in reaching the top, and with all haste made known the danger at Eastington, the residence of Mr. Garland, whose quarrymen, under his direction, hurried to the spot. Others of the crew had been following, and one gentleman, Mr. Meriton, the second mate, was rescued, in the very act of falling, by the lowering of a rope at that critical instant. Others were less fortunate, and though eventually seventy four were saved, an equal number were supposed to have perished of those who had escaped with their lives from the vessel itself.

From the quarry now called the Halsewell Quarry to the cavern, must have been a height of not less than one hundred feet, of which perhaps ninety would be sheer precipice, the remaining distance forming a slope from the quarry floor to the edge of the cliff. On that edge stood two men, fastened with a rope to an iron bar fixed in the ground above; behind them, in like manner, bound with the same rope, two other sets of men. Thus planted, they lowered a rope with a noose fixed,

athwart the cavern: this became accessible to the prisoners who had crept to the edge of the cavern, or was sometimes blown within the reach of those farther in, by the force of the wind; the noose being fixed, the rope was drawn up, and though in this perilous transit presence of mind and strength of body failed many, a large proportion seem to have reached the quarry in safety before the close of day.

The loss of the *Halsewell* is yet remembered by some few aged people of the country, who relate how the surviving sailors created astonishment as they marched towards London, unaided by Steam or Ship-wrecked Mariner's Societies. The quarry still tells its tale in its name, portions of the ship timbers and copper are from time to time washed up, or discovered wedged in the rocks; many guns were recovered, and many remain at the foot of the cliffs, but covered with the debris. One other sad memorial remains; on the little patch of flat ground where the cliffs divide, and the stream, when there is a stream, descends to the sea, may yet be seen the traces of four long graves. The spot is indeed appropriate. As you stand by the almost obliterated mounds, the eye wanders over little but sea and sky, and the wild solitude of the spot accords with the sadness of the tragedy here played out. Yet the thought will occur that the charity, which we know to have cheered the survivors, might well have honoured the sufferers. Many a barrow in Purbeck attests the pious care which the old inhabitants paid to their dead. And one could have wished that in the eighteenth century, the bodies of Christian men and women, might have met with Christian burial in the neighbouring ancient church-yard of Worth Maltravers.¹

The stranding of the "Tyne," Royal West Indian Mail Packet Ship of upwards of two thousand tons, three hundred and twenty feet in length, which took place on the morning of January 13th, 1857, happily led to no such fatal results as those on which we have been dwelling. She was bound from Pernambuco

¹ The Register of Worth, notes but one burial connected with the *Halsewell*, that of the body of a man thrown up a month subsequent to the catastrophe. A note entered in the register gives a succinct notice of the wreck. It reports the number of those saved as eighty-two.

in Brazil, to Southampton, touching at Madeira, and Lisbon. She performed, up to the moment of the disaster, a favourable voyage; and, on the evening of the 12th, the passengers, about fifty three in number, passed a vote of thanks to the captain for his care on the voyage. Ushant had been sighted early in the morning of the 12th. At 8, p. m., of the same day, they sounded in 36 fathoms, going at half speed, about seven and a half knots. They then supposed themselves to be forty miles from Portland. At 11 30, p. m., the Portland lights being observed N. E. and E., the course, which had been E. by N., half N., was altered eastward. At midnight, the Portland lights were N. E., and soundings 30 fathoms in gravel. This was the last time of sounding, and the distance from Portland was supposed to be twelve miles, the wind S. S. E.

At 1, a. m., of the 13th, the lights bore N. N. E., half E. At 1 40, N. At 2 18, the lights blended, bearing N. N. W., half W. At 2 25, a. m., the lights dipped, the weather being thick and foggy. The Captain soon after half past 3, having reference to his supposed position, was meaning to lie to in about half an hour, but finding the weather very hazy, on going down to consult his chart, had determined to stop at once, and was proceeding to the engine room to give the order to that effect, when he heard the cry of one of the officers of the watch "Hard-a-port!" His impression being that a collision with some other vessel was at hand, he rushed up on deck, heard the breakers, holloed the tardy "Stop her!," and found the ship a-ground, "bumping" heavily. Confusion from that moment there could not but be: Passengers of both sexes rushed on deck in their night clothes, and gradually as their eyes became accustomed to the light, or rather to the darkness, found that the cliffs were looming as it seemed over them, at a small distance; that the ship was a-ground, was all that was certain; where, was absolutely unknown, though the confident assertion of some made the rest partially or entirely believe, that they were over against Black Gang Chine, under St. Catharine's Down, on the South Coast of the Isle of Wight.

The interval between the striking and the daylight, was employed on the part of the Captain and Officers, in calming the

fears of the passengers, in which their efforts were more than seconded by the cool and thoughtful self-possession of one of that body, Dr. Acland, and in doing what they could by putting up the fore and top sail, to get her off the ground. As, with the effect of the sail, the ship partially swung round, the order was given to go a-head; but the steam pipe bursting, the engines became unavailing. Had it not been so, she might have been forced off the rock in safety, into deep water. On the other hand, she might have already received the fatal injury, and might even have got into deep water, only to sink.

By the passengers, the time, long as it was, was not as a general rule shortened by the most natural employment, it might have been thought, they would have found; that of making ready their several bags, portmanteaux, and the like, either for carrying off, or for forwarding in a packed state to their port, when the opportunity should occur. The subsequent inspection of the cabin shewed that very few had thus employed the slow hours; even the toilette of some was not during this time entirely completed. Their time dragged along, (as in THE great Shipwreck, when two hundred three score and sixteen lives depended, under Providence, on their obedience to the advice of the Jewish prisoner) "in wishing for the day." Nor is a further analogy wanting in the persuasion by the chief of the passengers, that they all, crew and passengers, should take food; which, in the shape of biscuits and brandy and water, proved a very valuable precaution against the fatigue and cold which they could not but have to experience. At the suggestion of the same gentleman, guns were fired as a signal, and rockets and blue lights sent up. Their effect was important. They brought off at the earliest moment, (I believe some time after 5, a. m.,) a preventive boat, with Bath, the chief boatman of Bottom, who gave all information as to the time and places where a landing might be effected, thus calming the passengers, and giving good reason for their not seeking to leave the ship at a time when it would have been very dangerous to do so. Bath at this time reached the steamer, though not without difficulty, without the danger that would have been incurred later on, and he remained

on board, the boat being after a while sent off with the Admiralty agent taking the mail bags, who was not only justified in taking precedence of the other passengers in leaving the ship, but was bound to do so, and another gentleman. From Bath was learned the name of the spot on which the disaster had occurred. It was about half a mile south of the cliffs, which, at this part of the coast are of the Kimmeridge clay, a formation which is shaly and crumbling when exposed to the air, but is an actual rock under water. In the blue clay, are layers of a very hard yellow white limestone, the inclination of which at the spot in question, is from west to east. The dark blue colour causes an effect not dissimilar to that of Black Gang Chine; and a stream, giving the name of Freshwater to the little inlet, comes down the cliff, draining the Encombe valley. Further to the east, the yellow masses of Portland sand, resting on the blue clay, form the summit of cliffs of some four hundred feet in height, receding from the shore steeply; and the same colour and class of rock, capped with precipices of Portland oolite, stretch along, broken with an occasional short swarded valley, till they end, at the distance, in a straight line from the place of the misfortune, of about two miles, in the perpendicular rock of St. Aldhelm's Head. The only available inlet to the land, as seen from the steamer, was that of Freshwater, where the massive stone steps built by the late Lord Eldon lead up from the shore.

The vessel had been steering due East, when she struck upon the ground. With the way upon her, with her sails, and with the effect of the tide, she advanced some hundred yards to the north, and slewing half round, her stern, (for her length is three hundred and twenty feet,) became another hundred yards nearer the shore. Her position was nearly north and south, her stern to the shore: her bows being seaward, she was placed as favourably as under the circumstances could be the case, for resisting the violent action of the sea, which as the tide rose unusually high from the effects of the strong south westerly gales, set in with a heavy swell towards the shore. The officers speak in the highest terms of the general behaviour of the passengers, but with the mixture of nations, and the real, together with the imaginary danger, it was not unnaturally feared that they might seek to use the boats at a time when to do so would be destructive to themselves. All, therefore, with the exception of

one life-boat, and I believe one or two small ones, were moored a short distance from the vessel. As the sea rose, a surf broke between the ship and these boats, and they remained during the day useless.

As the day advanced, a small fishing boat belonging to the Encombe Estate, was most gallantly brought along from Chapman's Pool across Egmont Bight, to a point beyond Freshwater steps where the cross sea is less violent than elsewhere, and where the two Tatchells, cousins, who manned her, knew from experience they could best reach the vessel. This was about eleven o'clock. She was reached at the same time by the Kimmeridge Coast Guard boat, and by a six-oar from Bottom and St. Aldhelm's Head. A second boat from the same Station, approaching her from the Chapman's Pool side, was most unfortunately swamped, and though three or four men in her were saved by their comrades in the six-oared galley, one poor fellow was, with the boat itself, swept away.

Now it was considered safe to commence the landing. Dr. Acland, who had been personally requested, in a note brought to the vessel by the Tatchells, to come on shore, did so, with two or three other gentlemen, in the Encombe boat, not without a good deal of danger; the life-boat being kept for the women and children who were on board. The lowering, by ropes, of the passengers into the boats, was no easy matter. The life-boat, in the first instance received its freight on board, (which consisted of the women and children, and the Belgian Consul General at Rio Janeiro,) and was lowered, bodily. The landing of the passengers, valuables, and eventually of the crew, proceeded, not rapidly, both by reason of the difficulty of the task, and of the small number of boats, owing to the inefficacious position of those of the ship. However, by five o'clock all were landed, and almost all the passengers had proceeded to Wareham. Exercising what they subsequently considered to have been, considering the immense strength of the vessel, and her comparatively safe position, an almost unnecessary prudence, the officers determined on leaving no one on board during the night; but, at an early hour in the morning, the sea having then moderated, a return was made to the vessel. The cargo, baggage, &c., having been speedily removed, an examination was made of her state. The

rudder post was broken away, and she had evidently suffered much at her stern. The water at high tide filled the hold, and coming over the lowest or orlop deck, nearly reached the under-side of the lower, or saloon deck; beneath a hole cut in which, a strange variety of bottles, provisions, boards, candles, chesnuts, and all sorts of indescribables, were to be seen floating along with the tide.

The ship is made in compartments, which run up through the hold and orlop deck, nearly, but not quite, to reach the lower deck, and, since the tide flowed through, it was supposed that the compartment nearest to the stern was broken. On examination however by the diver, it was reported that the first compartment was sound, and that the water was flowing over the interval between the top of the compartment and the next deck. It was conceived therefore, that if this compartment could be heightened, so as to prevent the flow beneath the lower deck, the water might be pumped out of the fore part of the vessel, and as the water-logged portion would thus be only the stern compartment, the vessel, lightened to the fullest practicable extent by the removal of paddlewheels, coals, &c., would at spring tide be capable of being floated. The scheme was furthered by the lightening of her as far as was possible, and the water from the compartment was kept from flowing to the fore part, by making a double bulk-head of boards, a foot apart, filled with clay, reaching to the under surface of the lower deck. At four o'clock on the morning of the 25th, one hundred and fifty men set to work at the pumps, some twenty seven in number, and after working for two hours and a half, instead of lowering the water in the fore part about two feet, as they had confidently anticipated, by the removal of from a hundred and sixty to a hundred and eighty tons of water, the reduction did not amount to three inches, clearly proving that there must be leaks of which they were unaware.

Continued attempts were made to remove the vessel. Much that was scientific was talked of and recommended; but no particular amount of science was apparently applied. She was lightened to the utmost extent; every part of her machinery that could be removed, was so; a second bulk-head was built across her, further from the stern; and a small steam engine was

rigged to pump the water from the leaking compartments. At each spring tide it was hoped that she would be capable of being floated. On the morning of the 25th of February, at the height of the tide, she was moved by the force of the waves alone, but the sea was too violent for the tug steamers to get along side, and she was rather worsened than bettered in position by the movement, being brought some sixty yards nearer in shore.

But at the next spring tide, being yet further lightened, and the sea being calm, the *Tyne*, or her hull, was actually floated, almost without the assistance of the tug. The weather was, most fortunately, calm; and she reached Southampton on the 12th of March, without additional mishap, whence she has since that time, crossed and re-crossed the Atlantic.

The official enquiry, always instituted on the occasion of such wrecks, pronounced the Captain wrong, in not having kept his lead going. It is indeed yet a puzzle, making full allowance for the slowness of the pace, and the violence of the current, how she could have got on shore where she did. But it cannot be denied that the omission to sound, was the omission of a precaution, which might, indeed probably would, have saved the ship: nor could the very high character for care and skill borne by the Captain save him from a censure, which would, under other circumstances, have been much more severe. Happy indeed was it that the place of the misfortune was not further Eastward or Westward. Even the iron frame of the vessel might have been unable to stand in safety the dangers she would there have encountered; and the story of the *Tyne* in 1857 might have been as sad as that of the *Halsewell* in 1786.

We all heartily rejoice that no life in the ship was lost. We rejoice, that inhospitable as have been, on the occasions mentioned, the rocks and shores of Purbeck, the inhabitants have shewn a different character; that at all times of danger, life has been freely ventured to save life. We trust, that those who have been cast on our shores, may, (not to speak profanely,) say of Purbeck, as was said eighteen hundred years ago of the Island of Melita, "The barbarous people shewed us no little kindness."

NOTE.

The following I believe to be not very far from a correct list of the important casualties on the coast, from the year 1836, to the present time.

1. "Samuel" Schooner, under St. Aldhelm's Head, November 14th, 1836.
2. and 3. French Brig, and Chasse Marée, together, at Pier Bottom, April 7th, 1838.
4. French Chasse Marée, "Joseph Desirè," in Kimmeridge Bay, November 28th, 1838.
5. "Fortitude," of London, Brig, under St. Aldhelm's Head, January 14th, 1839.
6. "Renaud," French Brig, on Egmont Rocks, January 27th, 1841, Valuable Cargo.
7. "Don Pedro" Schooner, of Belfast, on Ropelake Ledge, March 14th, 1841.
8. French Brig "Edouard," on High Ledge, November 29th, 1842.
9. H. M. Brig "Skylark," on Cuttle Ledge, April 25th, 1845.
10. 'Caernarvon Castle' Cutter, on Clavel's Hard Ledge, Sept. 25th, 1856.

VESSELS STRANDED, BUT GOT OFF.

11. "Olive Branch" Brig, on Clavel's Hard Ledge, April 20th, 1838.
12. Brig, Coal laden, on Clavel's Hard Ledge, April 11th, 1840.
13. "Elinor" Brig, of Beer, on Ropelake Ledge, June 27th, 1842.
14. "Saucy Jack" Fishing Smack, on Long ebb Ledge, under Gad Cliff, December 10th, 1850.
15. "Sarah Park," Emigrant Ship, October 3rd, 1854.
16. Brig of Hamburg, on High Ledge, April, 1855.
17. "Fox," Smack, on Clavel's Hard Ledge, July, 1855.
18. "Emma" Brig, of London, September, 1855.
19. "Tyne," Royal West Indian Mail Steamer, on Freshwater Ledge, January 13th, 1857.

ON THE TUMULI, &c., OF THE CHALK RANGE.

[Continued from page 115.]

BALLARD DOWN. At the western extremity of the hill, immediately over the village of Ulwell is situated a Barrow, especially interesting on account of its conspicuous position, being visible, not only from the towns of Poole and Swanage, but from distant high-lands, and also from the sea. For the sake of distinction I will designate it the Ulwell barrow. Its original height must have been considerably greater than at the present time; the top is now flattened, a boundary trench passes over, and probably some land-mark might have been set up upon it. It measures about eight feet above the surrounding level, seventy feet in diameter, and seventy-six paces in circumference.

In company with my friend Mr. Lester, I commenced its examination on the 24th of June, 1857, with six labourers. We began simultaneously at the east and west sides, cutting a nine feet wide trench completely through. Amongst the material of which the upper portion was composed, we observed bones of animals, and horses' teeth, many small pieces of sandstone, a winkle shell, one valve of a common cockle, which was blackened by the ashes of burnt wood, two pieces of Kimmeridge shale, frequent small pieces of pottery of the early British type, a blue pebble, and many chippings of flints, amongst which was an arrow-head very similar to one which is preserved in the museum at Dorchester. At a foot beneath the turf, we observed a continuous layer, three inches in thickness, of the accustomed mouldy earth, evidencing the fact that the barrow had not been previously opened. At four feet beneath the apex we came upon

a deposit of burnt bones, with a few pieces of a broken urn, over which had been placed a stone. The clay of which this urn was composed had been mixed with small freshwater shells, instead of the quartz sand which was customarily made use of in the manufacture of British pottery. Immediately beneath this, about the centre of the barrow, was a disunited, if not disturbed skeleton, with the head towards the east. The upper portion consisted of a few vertebræ, an arm perfect with the shoulder, upon which lay a large human double tooth, worn, and evidently long since separated from the jaw, and also a part of the hip-joint. Upon removing the arm we came upon the ribs, and also the skull, (No. 1.) which was broken on the right side.¹ On the west side of the centre were portions of the leg bones, associated with scattered pieces of a broken urn. At this level was a stratum, nine inches thick, of a clay-like earth, which must have been brought up from the south foot of the hill, containing veins of a black unctuous mould.

The barrow now presented, at the depth of seven feet beneath its apex, the same formation as those upon Bucknowle and the Grange hills. First rubbly chalk, and then lumps packed with-

¹ During these researches, I had not only the pleasure of the company of T. H. Beckles, Esq., of St. Leonards, Sussex, but also his valuable assistance in examining the skulls which were exhumed, and of which he has supplied me with the following phrenological descriptions. He speaks of them as heads of a superior order, and representing a race, or races with intellectual endowments higher than those of the Australian and New Zealander.

Some features are common to them all; the organ of veneration, for instance, is large, and would, in a dark age, be susceptible of superstitious impressions. The region of the propensities is also more or less expanded. Some of the best skulls are characterised by an horizontal frontal depression, which implies a faulty condition of mind, but is not necessarily inconsistent with great mental power.

No. 1. This organization implies not only great intellectual powers, but immense vigour and decision of character. The perceptive and reflective organs are both well developed. Amongst the moral sentiments, veneration and firmness are conspicuous; conscientiousness is not the most active of the sentiments, and caution is comparatively small: an extreme fullness of the basilar region, shows that all the propensities were active; destructiveness in particular is very large. The development of the posterior organs, agrees with the rest of the configuration. From the position, as well as the relative size of these organs, and from the thinness of skull and consequent great activity of temperament, I infer that this was the head of an individual who always took a prominent and leading part, whose influence was instinctively felt, and, in a word, one whose power and daring could not be put down.



Fig. 1

Size $\frac{1}{3}$.

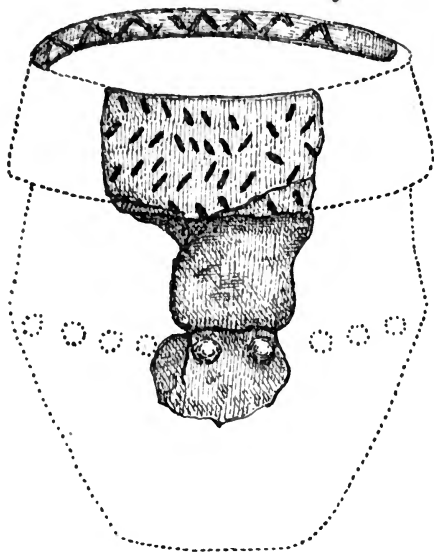
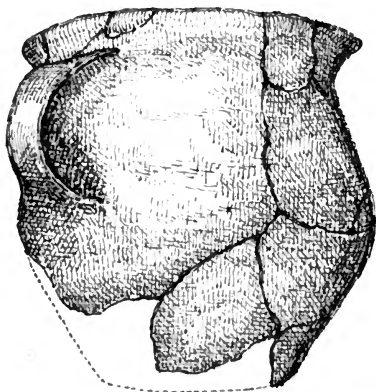


Fig. 2

Size $\frac{1}{4}$.



out admixture of other material, and occupying a space of about nine feet in diameter. It was however remarked, that at the centre the black mould continued to descend, as filling a shaft through this stratum. Upon clearing away the whole area to the further depth of two feet, we found that it rested upon and covered a cist, sunk still deeper in the native chalk, which measured eight feet from east to west, by five feet from north to south, and five feet deep, making a total depth from the top of the barrow of fourteen feet. It was immediately on the south side of the centre, and was filled with large lumps of chalk packed as above described, amongst which occurred many pieces of stag's horn, and at the bottom we discovered a skeleton, (No. 2,) with the knees gathered up, the head towards the east, and lying upon the left side, consequently looking to the south. The position of the arms differed from those described at page 111, the right arm being folded across the breast, the left bent inwards with the hand resting upon the thigh bone. In the angle thus formed by the arm and leg, between the knee and elbow was placed a small drinking cup, (pl. xv, fig. 2,) which had been broken by the settlement of the barrow. It must have measured about eight inches high, and seven in diameter at the brim, which bent outwards, the side bulged at the middle; from thence to the hollow formed by the spreading of the brim, is affixed a

No. 2. The individual represented by this head was not so influential and conscientious as the last. The combination however is excellent, and, although less powerful than No. 1, is, for some reasons more useful. The character is that of a thoroughly practical man.

The canine tooth, as well as the incisors are worn down by attrition, the result perhaps of vegetable diet. This peculiarity I have before observed in heads unequivocally British; a fact of much interest, as it adds to the characteristic mode of sepulture, fresh evidence of these being the teeth of early Britons. These skeletons are not in the same mineral condition, and are evidently referable to two different periods; an inference in accordance with deductions drawn by Mr. Austen from a difference in mode of burial. The bone of No. 1, is more recent than that of No. 2. The dental evidence is also in favour of the idea of different tribes: the fangs of the teeth of No. 1, also, are somewhat connate, or more European in structure, while those of No. 2, shew the Australian. Another peculiarity in the jaw of No. 1, is a decayed tooth, a fact worthy of notice. I am not aware that there is an instance of a decayed tooth in the jaw of an early Briton, while in at least one or two undoubted Saxon cases, evidence of disease has been found.

well formed broad handle, a circumstance extremely unusual, if not unique in British Pottery. It is of finer and harder texture than the cinerary urns, and burnt red both inside and out. The bottom however was much decomposed.

This skeleton occupied a space of three feet, by one foot nine inches in diameter. The knees were a short distance apart, and the heels close to the pelvis. There were flint stones carefully set around the skull for protection, and the like care had been observed around the body. The thigh bone measured in length eighteen and a half inches, which gives to the man an average height of about six feet four inches. There is one other circumstance in this burial to which I wish especially to call attention, namely, of the back having been intentionally broken. The vertebral column, though bent in a curve, lay undisturbed, with one exception, where by pressure from the outside, which must have taken place before the burial, two vertebræ are so separated that their inner edges gape apart to the extent of two and a half inches, whilst the outer touch each other. I almost hesitate to hazard an opinion respecting this funeral custom, for such I deem it to have been, of the race of people who raised these memorials to their dead. The back may have been broken to facilitate the deposition of the body in an arch; but for that purpose I think it would not have been necessary.

The chalk range is here divided by a ravine, through which passes the road leading to Studland, on the west side of which a valley, running at a right angle to it, splits the hill; hence its name of Forked down. At the head of this valley are two low barrows, one of which, from time immemorial, has been known as the Giant's grave,¹ probably on account of its oblong shape, for no tradition exists of the origin of its name. In the year 1851, I dug into them, but without discovering any reliques. On the northern fork of the down are the remains of a once large barrow; upon examination I found it to have been of the same character as those already described. I suspect that it had been opened by Mr. Miles, for I find at the eighth page of his description of "the Deverel barrow" this note: "I explored" he says, "a small barrow between Studland and Swanage, in the Isle of

¹ An oblong enclosure is in Ireland, popularly termed "a Giant's grave."

Purbeck; the interment, consisting of the burnt bones of a young person, was placed on a flat stone, protected by another flat one of larger dimensions, laid on and over-hanging the under one. This deposit was accompanied by no ornaments or weapons."

Following the ridge of the hill eastward, towards the Ballard head, immediately over Punfield, and scarcely observable from a distance, we find two bowl-shaped barrows, and a pond barrow, about six paces distant from each other, and, together, forming an equilateral triangle; the latter placed at the north angle. On July 16th, 1857, I commenced an examination of the smallest of these barrows, which is situated at the western angle. It measured forty paces in circumference, but only about three feet in height above the true level, although, the surface immediately surrounding having been taken for the purpose of forming the tumulus, it appeared higher. It was composed of chalk rubble mingled with earth, to the depth of two feet, where was a stratum of mouldy earth, and a skeleton, (No. 3,) lying upon its back, with the feet towards the east; it was that of either a young person, or a woman, about four feet in length, laid out straight, with the heels touching each other. The thigh bone measured eleven and a half inches in length. The skull was at the centre, and the skeleton in the east segment of the barrow. Having ascertained that there were no further remains in this direction, I returned to the shaft, and, at the depth of eight feet beneath the apex, came upon the now customary carefully packed lumps of chalk, covering a skeleton, (No. 4,)

No. 3. This is an interesting head; although smaller than the last, it is characterised by more intellect and greater force of character.

The basilar region, although large, is not disproportioned to the intellect and moral sentiments, which are finely developed; veneration, caution, and firmness, are all full. The reflective organs, large; destructiveness, which is active, and the sexual organs are amongst the most prominent of the propensities. This was the head of an individual who was cautious, thoughtful, conscientious, and well fitted for an intellectual and responsible position. He was sensitive of distinction, but not stooping to servile means to obtain it. His opinions were not hastily taken up, but once formed, they were not easily relinquished.

It was the skull of a youth, and I should say, a male.

No. 4. This head, was much damaged, but enough was present to shew that it represented a man of intellectual superiority. I should say that here were high endowments, but not so harmoniously blended as those of No. 3, and the head which succeeds this. The back is relatively more depressed.

which lay on its left side, with the head towards the north, the face consequently looking to the east, the arms were folded across the body, so that the hands rested at the knees which were so tightly gathered up that the skeleton occupied a space of only thirty five inches in length by sixteen in width. The thigh bone measured eighteen inches in length, giving a height of six feet one inch. Upon a careful examination of the vertebral column, I found it to be nearly straight. The six lower vertebræ were undisturbed, and at regular distances from each other of a quarter of an inch, which is the thickness of the cartilage. But between the sixth and seventh there was an interval of an inch, and between the seventh and eighth of an inch and a quarter. The three next vertebræ touched each other, and from the eleventh, the column became evenly curved. Near the head was placed a piece of the antler of an old stag, which bore the mark of a cutting tool, and several other pieces were amongst the lumps of chalk. I did not observe any pottery.

On the 25th of August, I proceeded to examine the second barrow, which is situated at the east angle of the group. It measured fifty paces in diameter, and appeared to have been previously opened; but, upon sinking a roomy shaft, the stratum of mouldy earth occurred at a short depth beneath its apex, which proved that it had not, and at the depth of three and a half feet was the skeleton of an infant, which occupied a space of only one foot in diameter. It rested upon the native chalk, at about one foot east of the centre of the barrow, and at the edge of (what seemed to be) a cist, of four feet diameter from east to west, three feet from north to south, and three feet deep beneath the surrounding level. No remains were discovered in it, although at a short distance, on the north side of the centre, at two feet deep were a few human bones, with a jaw bone, and portions of a broken urn, (pl. xv, fig. 1,) which had evidently been of large dimensions, about twelve inches high, by ten in diameter. Three inches below the lip, was a shoulder half an inch in depth, the intermediate space being ornamented by incisions or scratches half an inch long. Similar scratches, in a zigzag, ran round the edge of the lip, which was three quarters of an inch thick. Three inches below the shoulder there was a bulge ornamented with a single course of the thumb and finger pattern. Nearer to the surface, beneath several thin sand-stones were portions of

a skull and jaw bone, with other bones of a child. Having thus far failed in discovering the primary deposit, I made a cutting from the centre towards the north, and found that the loose rubble, with its sub-stratum of chalk lumps, and in fact the cist, continued in that direction. Upon this having been cleared, a skeleton, (No. 5,) became exposed, resting upon the native chalk on the north side of the centre. It lay in the direction of east and west, with the head towards the east, but upon the left side, with the face consequently looking towards the south. The knees were gathered up to within four inches of the chin, the heels being placed at six inches from the thigh bone. The right arm was doubled back, so that the hand rested upon the neck, the elbow of which was below, or under the thigh bone; the left hand was under the face. The sixth, seventh, and eighth vertebræ appeared to have been displaced. The thigh bone measured seventeen inches, which gives a height of five feet eleven inches. The whole deposit occupied a space of two feet four inches long, by fourteen inches wide. The cist measured seven feet from east to west, by six feet from north to south, and six feet in depth from the apex of the barrow. The only other reliques observed, were two oyster shells.

The pond barrow was excavated at the centre to the native chalk, but nothing was discovered to induce a further exploration.

No. 5. This, like No. 3, is of a youth. It is highly organized, but in general form relatively longer, and differs somewhat in phrenological development. It is of an individual who was less thoughtful and not so cautious, and possessed more confidence. Philo-progenitiveness is larger, and the feelings generally strong; but the sentiments are harmoniously combined; the temperament was evidently good.

JOHN H. AUSTEN.

DESCRIPTION OF ANTIQUITIES

exhibited at a Meeting of the Purbeck Society, held at The Grange, February 10th, 1858. In a Letter to the Secretary, from the Rev. J. M. Gresley.

2, Ashley Cottage, Bournemouth.

Dear Mr. Austen,

We have had much pleasure in making for your Society, Anastatic drawings, the size of the originals, of the Antiquities you left in our hands: respecting which I would submit the following observations.

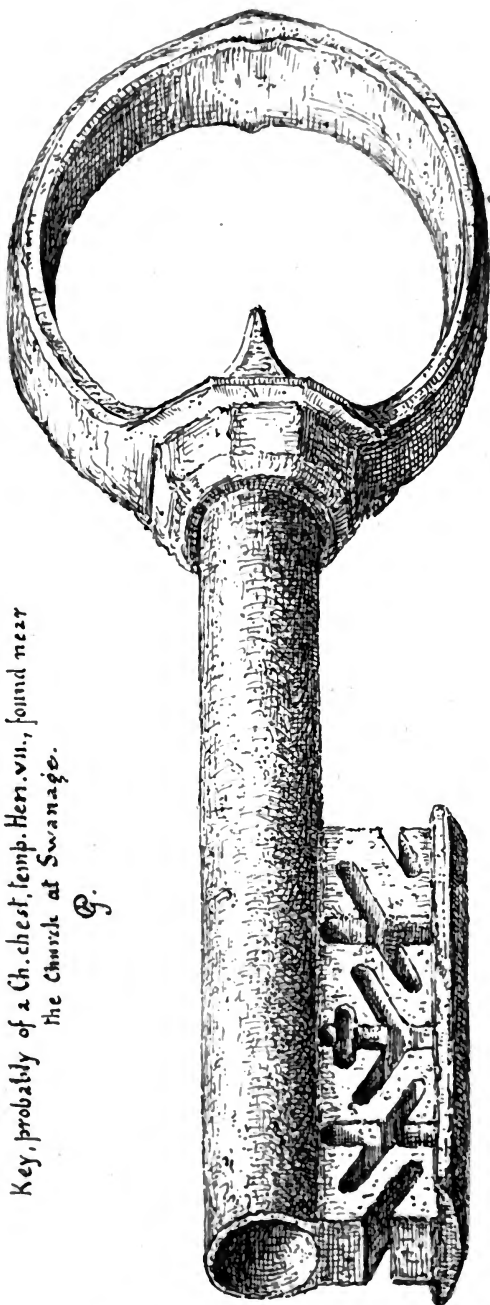
The Key was found near the Church, at Swanage, and is now deposited in the Purbeck Museum; presented by J. Taylor, Esq.

The bow is slightly oval: the ends of it, which rise to a point within the loop at the stem, make the interior almost heart-shaped. The stem is tubular, terminated at the bow by an octagon base, in shape not unlike the foot of a chalice. The web, or bit, has a broad convex edge spreading on either side of it. Its date may be assigned to the reign of Henry VII, and probably it belonged to a hutch, or Church-chest, wherein the Sacramental Vessels, &c., were preserved.

Fig. 1., on the other page, is a specimen of an Apostle's Spoon, found in a cottage-garden at Studland in 1856. It is of copper or latten, slightly coated with a green *patina*, such as is much admired upon ancient coins. The back of the figure and handle is filed quite flat. The date of it may be the early part of the 16th century. It was presented to the Purbeck Museum by the Rev. Eldon S. Bankes.

Key, probably of a Ch. chest, temp. Henr. VII., found near
the Church at Swanage.

G.





Apostles' Spoons are probably best known to us from the custom of God-parents giving them as Christening presents in sets of twelve, or of the four Evangelists, or a single Saint. Allusions to this practice occur in Shakespere and our old poets. There is an engraving of three such spoons discovered at Christchurch, in Ferry's Antiquities, &c., of that Monastery, (plate 17.) Initials, probably of the donors, are engraved upon two of them, and one has the date 1638; but they appear to be of earlier manufacture, or else an ancient traditional pattern has been followed. It is not unlikely that in giving these spoons, some allusion was intended to the benefits which the infants baptized might receive from the Saints: a belief which we still trace the existence of among ourselves in the first prayer often taught by the poor to their children,—

"Matthew, Mark, Luke, and John,
"Bless the bed that I lie on:" &c.

With respect to the specimen here drawn, the Saint at the top of the handle appears at first sight to be St. John the Divine, holding a chalice, one of his usual emblems, in his left hand; but upon closer inspection it would seem, from the drapery from the head, to represent a female, perhaps St. Mary Magdalene with her alabaster box of ointment: and if so, it may have been used as a chrism-spoon by the parish priest of Studland, for anointing the sick in the Sacrament of Extreme Unction.

Fig. 2. How the Seal of the Prioress of Ivingho in Buckinghamshire came to be lost at Langton Matravers, in the Isle of Purbeck, I am at a loss to conjecture: but it was found there in 1846, when the foundations of the new School-room were being dug, and is now in the possession of Mr. Wilcox of Wareham.

This Priory was a House of Benedictine Nuns. Leland says it was founded in 1160, by Henry de Blois Bishop of Winchester: but an earlier document shows it to have existed before 1129. In the charter of protection and confirmation granted by Archbishop à Becket, temp. Hen. II., its inmates are called "*Sanctimoniales de bosco de Ivingho*," Nuns of the wood of Ivingho. In pat. 35 regis Hen. III., it is called "*St. Mary's Ivingho*:" but in cart. 8 regis Edw. I., num. 32, "*of St Margaret of*

Ivingho." In 26 Hen. VIII. we find it as "*the Priory of St. Margaret within the Deanery of Mursley;*" and in 28 Hen. VIII. as "*the Priory of Mursley, or of St. Margaret.*" In 1740 there remained in the glass of a window in the Conventual buildings a dragon pierced in the back with a sword, and in his mouth a Crucifix; a fragment, most likely, of a painting of the Patron Saint. The names of ten ladies who held the office of Prioress, are given in the *Monasticon Anglicanum*, of whom the last, Margaret Hardwyc, lived at the time of the dissolution of the Monastery in 1539. The House had then five nuns, three of whom desired "capacities," i. e., permission to betake themselves to some other mode of life. Its annual income was £19 18s 9d, and it had no debts.

These particulars are derived from the last edition of the *Monasticon*,¹ where, however, no mention is made of a corporate or other Seal. The Seal discovered at Langton Matravers has the legend, SIGILLU : PRIORISSE : DE : IUYNHGO; and the bust and head of St. Margaret, crowned. The stem of the brass matrix is sexagon, above which is a trefoiled head with three small circular perforations; and at the top of this was another hole for suspension, which has been flattened by a heavy blow. It may be assigned to the latter part of the fourteenth century.

Fig. 3. This massive Gold Ring was found, as the Rev. N. Bond, its present possessor, informs me, at East Holme, about five-and-twenty years ago, by a man digging in a garden, who turned it up with a spade-full of earth. The place adjoins an old Monkish fish-pond, surrounding an island, and was probably part of the garden or pleasure-grounds of the Cell or Priory of East Holme, which existed as early as 1291, and belonged to the alien Cluniac Priory of Montacute, in Somersetshire.

From the religious subjects with which this ring is ornamented, we may reasonably conjecture that it once encircled the fore-finger of a Prior of this Cell,—that the lion rampant, langued, armed, and crowned, engraved upon it as a seal, was his armorial bearing,—and that his name was indicated by the initials,

¹ Vol. iv., pp. 268 - 272.



1. Spoon found at Studland in 1856.
2. Seal of the Prioress of Ivingho, found at Langton-Matravers, AD. 1846-8.
3. Gold Ring, found at East Holm Priory, c. 1899.



† in front of the lion, and † within the curl of its tail. Provokingly, the names of only two Priors are recorded,—William Pope, A. D. 1444, and John Wales, 26 Hen. VIII., so that we cannot appropriate the ring to its original possessor, who flourished most likely in the 14th century.

The ornamental engravings upon its otherwise plain exterior surface are much worn away. On one side, near the seal, is a representation of the three Persons of the Holy Trinity. The First Person appears as an old man,—“the Ancient of Days:” the Second, on a Crucifix held before him by the Father: the Third, descending upon the Son in the form of a Dove. On the other side of the seal is the B. V. Mary with the infant Jesus. The third compartment, on the lower and narrowest part of the hoop, is almost obliterated; but from what remains of it we may see, without any great stretch of the imagination, that it contained St. Christopher, carrying our Lord upon his shoulders, as in the many well-known paintings and engravings of him.

I remain, Dear Mr. Austen,

Yours most truly,

JOHN M. GRESLEY.

Feb. 3rd, A. D. 1858.

At the Domesday survey Holme, or Holn as it was anciently written, was held in two separate parcels, the larger, which was taxed for two hides and a virgate was the property of Walter de Clavill, whilst the latter, held by Brictuin one of the King's Thanes, contained but one hide. Both however were valued at 20s. As West Holme continued for several generations in the Clavill family, it is not improbable that the land held by Brictuin may be East Holme. We have no evidence as to who were its possessors immediately subsequent to the time of the survey, nor by whom it was given to the Priory of Montacute. Neither has

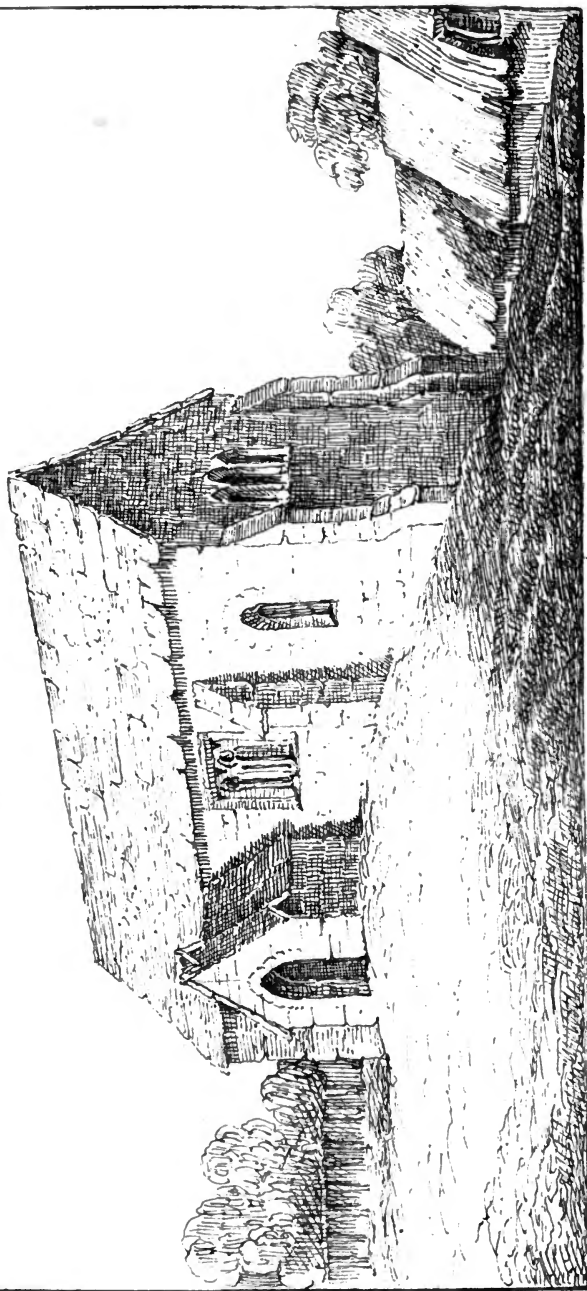
it been ascertained how soon a Priory or Cell was established here. Its earliest Prior whose name has been preserved was "Hada,"¹ who was Prior in 2. H. III. The Priory however was no doubt founded many years previous to this date, for some of the arches which formed part of the church, and which are still preserved in Mr. Bond's private chapel at Grange,—having been removed thither by Dennis Bond, Esq., in 1746,—are of an early Norman character. Some fragments of shafts and capitals have also been found on the site of the priory church which are of the Early English style, and a coffin-lid of Purbeck marble bearing the effigy in low relief of a priest with a chalice in his hands, was disinterred several years ago. It was of an early period, but having been unfortunately left exposed to the open air, the sculpture has entirely perished.

East Holme was a manor, and is still a separate parish, the whole of the tithes of which were impropriated by its ecclesiastical owners. After the dissolution, the site of the priory was granted by King Ed. VI, a. r. 1, to the Protector Somerset, that great devourer of monastic property. On his attainder, it reverted to the crown, and was given in 1 & 2 Ph. & Mar., to John Hannam, Esq. in whose family it continued till the reign of Wm. III. After this it became the property of Gabriel Odengelles, Esq. who in 1722 sold it to Dennis Bond, Esq. of Grange, from whom it has been transmitted through four generations to its present proprietor, Nathaniel, eldest son of the Rev. Nathaniel Bond, of the Grange.

The Rectory, or parsonage impropriate, of East Holme, passed through various unknown hands after the dissolution, and was at length sold by Robert Frampton, of Bere, to Dennis Bond, Esq. above mentioned, and thus it became once more united to the rest of the estate.

¹ Fin: Conc: Dors: 2, H. III.





Drawn by the Lady Katherine Scott.

Anne Chapel. MS. 1858.

CHAPELRY OF ARNE. ¹

This Manor and little Vill, consisting of about fourteen houses, lies four measured miles east of Wareham, and is a Tything of itself, in the hundred of Hasilor. Its soil is sand and Heath. That part which lies near the river, is marshy. The Vill is a mile distant from Poole bay, almost opposite to Poole. *Arne*, ² or *Cold Point*, is a bank of gravel, or small pebbles, and extends north-west into the bay towards Poole; *Russel Point* also shoots out to the north-west; *Arne Bay* is included between *Arne* and *Shipstal* Points.

It does not occur in Domesday-book, being probably included in the Survey of Wareham. It belonged to the monastery of Shaftesbury before the time of Richard the Second; when or by whom it was given does not appear. In the rental of Shaftesbury register, *Arne* is said to be two hides divided into fifteen parts; there were twenty-four tenants, all of which had *plumbi*; *plumbum* signifies a ticket, properly called *mizallus*, and by reason of the matter of which it consisted, *plumbum*; the tenants, producing their tickets, were admitted upon one or more public days to a dinner in the abbey.

This Manor and *Slepe* were granted, 1. and 2. Philip and Mary, to Edward Neville, Esq. 20 Oct. 7. Eliz: he had licence to alienate it to Nicholas Cadbury and his heirs, valued at 6*l.* 14*s.* 4*d.* 13 Eliz. it was held by Eleanor Bruggs, late wife of William Cadbury; 20 Eliz. Nicholas Cadbury, at his death, 6 November, was seized of it and twenty messuages, &c., and a messuage and sixty acres of land in Worgret and Westport. He left three daughters his co-heirs, viz. Joan, Agnes, and

¹ This account is partly extracted from Hutchins' Hist. of Dorset.

² The name Arne is derived from *arn*, the Celtic word for water.

Edith. 22 Eliz. *Joan*, one of the co-heirs of Nicholas Cadbury, held it, value 7*l.* 8*s.* 8*d.* In 26 Eliz. *William Pitt*, in right of Edith his wife, held it. It was granted to William Pitt, &c., value 7*l.* 16*s.* 3*d.* who seems to have bought the right of the other co-heiresses, and this grant might be procured to strengthen his title to the whole. It seems to have remained in the Pitt family till the year 1850, when it was purchased, with other property, of George Pitt Rivers, fourth Baron Rivers, by John Scott, second Earl of Eldon.

Near the centre of the Vill stands a small Chapel, dedicated to *St. Nicholas*, almost at the foot of a steep hill. It consists of a nave and chancel under one roof. The architecture is Early English, i. e. the style prevalent in the 13th century. On the south side is a porch and buttress, between which is a square-headed window of two trefoiled lights, a Perpendicular insertion. The remaining windows, including that at the east end, which is a triplet, are Early English of a very rude description, which seems to mark the date of the building to be about 1220. It is worthy of remark, that the heads of each of these windows are hewn out of single stones, and that the arch of the porch is formed of two stones only; at the east end there are two modern buttresses. There is no tower; the small bell which hung up at the west end, having round the top this inscription,—

ID RRT 1025, (for 1625,) LOVE GOD,

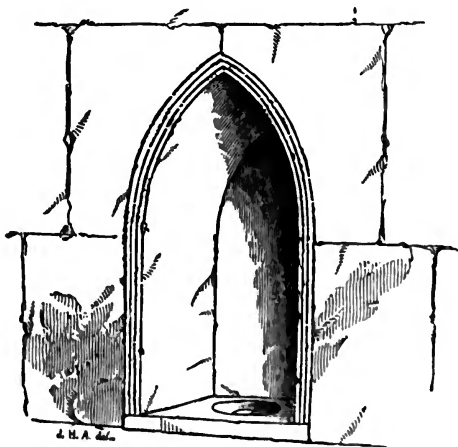
has long since been taken down. The inside of the chapel contains nothing of especial interest. Over the altar is a bracket, and on the south side, a piscina. A linen altar cloth is still preserved, which was given to this chapel by Mr. William Wake, Rector of Holy Trinity and St. Michael's, Wareham, father of William Wake, of Shapwick, Esq., grandfather of Dr. Wake, Archbishop of Canterbury, and distinguished by his loyalty and sufferings during the rebellion. It is wrought with the emblem of the Trinity (pl. xviii,) with blue silk, very evenly and beautifully, in a curious stitch.

This Chapel was anciently called a Chantry, but has been above three hundred years annexed as a Chapel of Ease to the church of the Holy Trinity in Wareham, the rector of which



officiates here once every sunday. In the calendar of evidences belonging to Shaftesbury abbey is mentioned a deed, whereby the rector of Wareham was obliged to find a chaplain to officiate in the chantry. The inhabitants of the chapelry repair it, and maintain their own poor. The register begins 1589, but contains nothing remarkable. Here is at present no ground consecrated as a chapel-yard; nor does a small piece of ground, which seems levelled and dug out of the hill, appear ever to have been used for that purpose, nor is there any such tradition. A space round the chapel is however now fenced off, and may perhaps at some future time be consecrated. Part of the east end of the church-yard at Wareham was anciently allotted to the inhabitants of Arne. It is not mentioned in the old valor; in the present, and also in the archdeacon's books, it is styled a rectory, though it never appears to have been one, nor does it ever occur as such in the Salisbury registers. The Rector of the Holy Trinity in Wareham, pays yearly to the archdeacon, 4s. Here is no glebe.

JOHN H. AUSTEN.



Piscina in Arne Church.

GEOLOGY.

On the discovery of Fossil Mammalian Remains,
in Durlleston Bay.

[Read at Smedmore, November 9th, 1857.]

It was in the year 1854, that Mr. W. R. Brodie made the first very interesting and important discovery of Mammalian remains in the Purbeck series, in Durlleston bay. It consisted of portions of the lower jaw, with teeth, of the *Spalacotherium Tricuspidens*, Owen, a small insectivorous animal, resembling, as to the shape of its teeth, the Cape mole, *Chrysochlora aurea*. Previous to this date only six species of fossil mammalia had been discovered in the whole world, from rocks older than the Tertiary; four of which had been obtained from the inferior Oolite of Stonesfield. The discovery therefore, of Mammalia in the Purbeck beds was most interesting, on account of its demonstrating their existence about midway between the older oolitic and the oldest tertiary periods. Mr. Brodie obtained them from the bed which I have denominated, from its general character as exposed in the cliff, the "Dirt-bed," No. 93. (see p. 13.) He continued his researches during the years 1855-56, and discovered some other specimens. But it was not for a single hand fully to develop the riches which this bed evidently contained. This was reserved for Mr. Beckles, so well known from his geological researches in other rocks, who during the summer and autumn of 1857, gave his sole attention to the work, and at a considerable expense removed a vast mass of the cliff, thus exposing an area of forty feet in length, by ten feet in width, from which he obtained the remains of five or six new species

belonging to three or four distinct genera, varying in size from that of a mole, to that of a hedge-hog, besides the entire skeleton of a crocodile, the shell or carapace of a fresh-water tortoise, and some smaller reptiles. I had the pleasure of witnessing the disinterment of many of these specimens, but, as I did not feel myself at liberty to make private notes at the time, I subjoin a short account of them from Sir Charles Lyell's Supplement to the fifth edition of his "Manual of Elemental Geology," to which I refer for a more minute description. Including those obtained by Mr. Brodie, "there were, besides reptilian remains, three lower jaws of three mammalian species, and upon one slab was seen the upper portion of a skull, consisting of the two parietal bones in a good state of preservation, with the sagittal crest well marked, as also the connection with the frontals and the occipital crest. Enough of this cranium remains to show that it agrees with the ordinary type of living warmblooded quadrupeds.

"In the same slab with the cranium is one entire side of a lower jaw of a quadruped, for which Professor Owen proposes the generic name of *Triconodon*. It contains eight molars, a large and prominent canine, and one broad and thick incisor. This creature must have been nearly as large as the common hedge-hog.

"Several other jaws with similar tricusped teeth of larger dimensions, found by Mr. Beckles, indicate the existence of another species of *Triconodon* of a more elongated form, and about one third larger in size. These two species, from the cutting character of their teeth, and their comparatively formidable canines, together with the form of the ascending ramus, are more like small ferine animals than mere insectivorous marsupials. It is more probable that they fed on prey less minute than insects.

"Among the jaws of many smaller insectivora is one allied to the Stonesfield *Amphitherium*, but generically distinct.

"Besides these mammalia belonging to nine or ten species and to five or six genera, all of them insectivorous or predaceous, Mr. Beckles discovered the remains of another genus, related to the living Kangaroo-rat, which inhabits the prairies of Australia. Dr. Falconer has proposed for this fossil the generic name of *Plagiaulax*.

“Only two specimens have been found, but evidently referable to two distinct species, unequal in size and otherwise distinguishable. The largest *P. Becklesii* was about as big as the English squirrel or the flying phalanger of Australia (*Petaurus Australis*.) The smaller fossil *P. minor*, was probably only 1-12th of the bulk of the other. It is perhaps the more interesting of the two, as Dr. Falconer has recognised in its two back molars an unmistakeable resemblance to those of the Triassic *Microlestes antiquus*.

“The general resemblance of the jaws and teeth of the *Plagiaulax* to those of the living Kangaroo-rats raises a strong presumption in favor of its having been both marsupial and herbivorous.

“On a review of all the fossils collected by Mr. Brodie and Mr. Beckles, including the original *Spalacotherium*, together with a lower jaw belonging to the Rev. P. B. Brodie, it appears that we now possess the evidence of about fourteen species of mammalia from the Middle Purbecks, to say nothing of numerous remains of the highest osteological interest. They belong to eight or nine genera, some insectivorous or predaceous, others having affinities as yet doubtful, and one of a purely herbivorous species, allied to the Kangaroo-rat of Australia. Some of the predaceous species were marsupial, some of them probably placental.

“As all of them have been obtained from an area less than 500 square yards in extent, and from a single stratum not more than a few inches thick, we may safely conclude that the whole lived together in the same region, and in all likelihood they constituted a mere fraction of the mammalia which inhabited the lands drained by one river and its tributaries. They afford the first positive proof as yet obtained of the co-existence of a varied fauna of the highest class of vertebrata with that ample development of reptile life which marks all the periods from the Trias to the Lower Cretaceous inclusive, and with a gymnospermous flora, or that state of the vegetable kingdom when cycads and conifers predominated over all kinds of plants, except the ferns, so far at least as our present imperfect knowledge of fossil botany entitles us to speak.”

JOHN H. AUSTEN.

GEOLOGY.

THE BLASHENWELL DEPOSIT.

[Read at Smedmore, November 9th, 1857.]

I am reluctantly obliged to make the following remarks upon the Blashenwell Deposit, in consequence of Mr. Austen's reply to a Paper I read upon the subject to the Society last year.

Mr. Austen inadvertently states at page 126 in the Society's publication of last year, "the problem which has to be solved is, the presence of marine shells. Mr. Mansel endeavours to do this through an argument which maintains the probability of the occurrence of frequent changes of level; such depressions and upheavals of the district as to admit and throw back, alternately, the estuary waters of Poole harbour, through the gorge at Corfe." Also at page 125, "after heavy rains, much surface water would flow into the stream, bringing land shells from the hills, and conveying them down its course."

My remarks upon this part of the subject are the following: "That the district under review has been upheaved since the formation of the bed is probable, from the occurrence of a bed of cockles, periwinkles, and oysters, (C. e., L. l., and O. e.) in the church yard at Arne, about thirty feet above the level of the sea. Previous to this upheaval the surrounding country might have been subject to transitory inroads of the sea, by which means the marine shells would gain access into the lake." By

using the term "transitory inroads," I meant to imply high tides, — unusually high. The sea might, under these circumstances have forced its way into the lake by the ancient river course, accompanied by such light materials as limpets, pieces of flint, &c. This does not involve the necessity of a stratum of silt, as much of the lighter portions of the foreign matter would return by the reflux tide before it had time to settle to the bottom. There is an evidence of change in the tufaceous character, where the marine shells are found; the tufa is less pure and is of a pink hue. Mr. Austen's objection to my hypothesis of the river at unusually high tides becoming a tidal stream, namely, the absence of a stratum of silt, would equally apply to the cause he assigns for the introduction of land shells; for, he says, "after heavy rains, much surface water would flow into the stream, bringing land shells from the hills and conveying them down its course." If no indication of foreign matter is met with at Blashenwell where the tufa is of the purest character, what has become of the soil, mud, and other bodies which, coming under the the influence of the surface water, flowed into the stream, "bringing land shells" from the neighbouring hills?

I never spoke of a depression, but merely of an upheaval, of which there are various evidences around the coast, especially in the neighbouring county of Devon. The raised beaches at Torquay and Bideford, are too well known to require description. The Red Sand formation is favorable for the preservation of animals of bye-gone days: the blown sand, in combination with oxide of iron or lime acting as a cement, bind the shells into a kind of conglomeration, from which it requires a sharp blow of the hammer to dis sever them.

It is universally admitted, that in a portion of our island there have been great movements of *elevation* subsequent to the creation of existing mollusca. If we ascend the estuary of the Severn as high as Shropshire, we find sea shells of existing species from three to six hundred feet above the level of the sea. The character of the rocks which form the Dorsetshire coast is not favorable to the preservation of the old coast line, and it is difficult to trace it. On one side, the limestone rocks are too

precipitous, and on the other, the clays and chalk too easily acted upon by the atmosphere and sea, lose all traces of their ancient forms excepting in a few spots where circumstances have favoured their preservation. In Purbeck, Gad-cliff has evidently been subject to the action of the waves during a gradual emergence or upheaval: sea-worn caverns occur almost at its summit. The western side of Kimmeridge bay is another instance of a change which has taken place at a comparatively recent period, where limpets, winkles, &c., are abundantly distributed. At one period of the history of this coast, these mollusks appear to have been the principal proprietors of the district. The common periwinkle and mussel are found on our raised beaches in the boulder clays and mammaliferous crags, and as far back as the red crag: but the common edible cockle and pecten, (C. e., and P. o.,) occur, not only in these successive beds, but in the coral crag also. Wherever cockles are met with they abound. As is well known, their habitat is a sandy bed, which the violence of the sea may and does frequently break up. On the Paignton sands near Torquay, I witnessed such a catastrophe; the unfortunate mollusks lying helplessly on the shore, were raked up and conveyed away as manure by the neighbouring agriculturists: a tide would convey many of them to a favourable position for entombment in a bed then in course of formation.

Hunter, in the Geological Journal, speaking of the Devon coast says, that the movement which effected the elevation was either gentle, or that a great area had been simultaneously raised *en masse*, so that the present position is due to an elevation, and not to a depression of the level of the sea.

Mr. Austen says, at p. 126, "Mr. Mansel suggests that the land shells might have been picked up by the sea, &c;" "still, if we grant this to be possible, they would be discovered not only in one isolated spot, but frequently over the whole district, &c." I have the authority of Mr. Wilcox, an eminent naturalist and observer of nature, that such a deposit as the one at Blashenwell has been met with in the neighbourhood of Swanage, by workmen who were digging a well some time since, and I have no doubt that others may eventually be discovered after further investigation.

The present configuration of the land at Blashenwell puts the possibility of a lake, out of the question: a gradual declination from the spring to the clays near the gate, proves that a change of level must have taken place, causing the destruction of this ancient lake, of which no trace remains visible except by a careful examination of the site of the hypothetical lake.

I now come to the last portion of my rejoinder, with regard to my assertion that the deposition is mechanical, and not chemical. I merely made use of the term incidentally, without intending to convey to the reader that I was prepared to go into the scientific cause of the deposit. It is well known, that if lime is added to water already charged with lime, the carbonate becomes a bi-carbonate. Under these circumstances, it is not unreasonable to suppose that during the introduction of seawater, the lime, which gives the testacea their solid houses, and the fish their bones, passing through the limestone rocks would precipitate itself to the bottom in the shape of a bi-carbonate.

J. C. MANSEL.

Barometer.		Thermometer.				Rain G.	Direction of Wind.	Weather.	
1857.		Max.	Min.	Mean.	Max.	Min.	In.		
Feb.	16 to 23	30.18	29.81	39	47	31	2.35	sw. Light	Fine.
	24 to 25	30.10	30.00	34	45	31		E.	Fog.
	26 to 28	30.34	30.31	36	44	28		sw.	Very fine
March	1 to 5	30.34	30.14	37	48	28		E. NW. SE. Light	Fine.
	6 to 7	29.86	29.85	41	48	34		W.	Cloudy, dry.
	8 to 11	29.86	29.50	33	45	23	2.43	E. N. NW. SE.	Snow storms.
	12 to 15	29.82	29.24	39	47	27	2.75	SW. NW. High	Storms.
	16 to 19	29.80	29.54	41	48	32	2.86	W. S. NE. Light	Fine.
	20 to 25	29.68	29.10	36	48	24	3.33	SE. E. NW. Gales	Fog, storms.
	26 to 31	29.78	29.45	38	43	26		E. Light	Fine.
April	1 to 8	29.75	29.94	54	56	34	6.04	SE. SW. W.	Rainy.
	9 to 10	29.40	29.38	45	48	35	6.05	SE.	Fine.
	11 to 15	29.36	28.94	41	52	27	6.23	NW. High	Fine, storms.
	16 to 23	30.12	29.32	40	56	26	6.60	SW. SE. NE.	Fine, storms.
	24 to 30	29.87	29.50	32	47	26	6.85	E. Light	Dry.
May	1 to 11	30.06	29.48	47	57	30		E. Strong	Cold and dry.
	12	29.85		47	58	43	6.92	SW. Fresh	Rain.
	13 to 19	30.00	29.77	56	61	38	7.03	E. Light	Hot and dry.
	20 to 23	29.73	29.44	49	53	43	7.57	S. SE. SW. Light	Foggy.
	24 to 31	29.86	29.28	55	65	42	8.15	S. SE. E. Variable	Fine.
June	1 to 4	29.87	29.67	57	65	45	8.48	E. W. E.	Damp.
	5 to 6	29.90	29.83	67	73	50	8.49		Sultry.
	7 to 11	29.90	29.66	57	66	40	8.09	NW. Strong	Rainy.
1856.									
March	1 to 5			37	47	32		E.	Dull.
	6 to 8			32	44	27		NE. E.	Fine.
	9			40	41	30		W.	
	10 to 15			37	45	26		NE. E.	Wind.
	16 to 19			42	49	31	6.42	SE.	Rain.
	20 to 31			37	52	25		N. E.	Dry and cold.
April	1 to 13			45	56	31	8.71	SW.	Wind and rain.
	14 to 24			43	55	30	8.80	NE. E.	Wind, fine.
	25 to 30			46	55	32	10.43	W.	Rainy.
May	1 to 5			42	49	29	10.52	NE.	Cold wind.
	6 to 7			41	49	34	11.42	SE. NE.	Gale.
	8 to 10			41	48	34	11.43	NE.	Cold wind
	11 to 14			52	60	44	11.78	W.	Fine and hot.
	15 to 19			39	58	41	12.24	W.	Wind and rain.
	20			49	55	43			Very fine.
	21			55	57	40		E. SE. SW.	Wind and rain.
	22 to 29			51	60	42	13.92	W.	Showery.
	30 to 31			47	58	41	13.96	NE.	Wind, rain.
June	1 to 4			53	63	38			Very fine.
	5			54	60	40		NE.	Wind, cold.
	6 to 11			54	63	44		W.	Very fine.
1855.									
Mar.	10 to 12						5.84		Snow and hail.
	13 to 19						6.25	sw.	Rainy, wind, & fogs.
	20 to 27						7.10	E. SE. E.	High wind.
	28								Sleet and snow.
	29 to 31						7.14	NE.	Dry and cold.
April	1 to 2							NE. E.	Dry and cold.
	3 to 4							sw.	Rainy.
	5 to 7						7.34	W.	Fine.
	8 to 12						7.41	NW.	Wind and storms.
	13 to 30						7.48	E. NE.	Fine and dry.
May	1 to 19						8.48		
	20								Rainy.
	21 to 22								Fine.
	23 to 28						9.26	SE.	Fine and warm
	29 to 31						9.80	NE.	Rainy, wind.
June	1 to 12						10.00	W.	Unsettled.

Barometer.		Thermometer.			Rain G.	Direction of Wind.	Weather.	
.1857.	Max.	Min.	Mean.	Max.	Min.	In.		
June 12 to 19	30.10	29.68	58	63	42	9.27	E. Fresh	Unsettled.
20	29.75		69	70	54	9.86	S.	Thunder.
21 to 27	30.20	29.81	71	79	51		SE. Light	Very hot.
28 to 30	29.70	29.41	63	78	53	9.93	SW. W. Fresh	Cloudy, rain.
July 1	29.58		60	70	54		S, NE. Fresh	Thunder.
2 to 11	29.95	29.54	59	68	46	10.97	NE. S. SW. W. Strong	Stormy.
12 to 21	30.16	29.86	67	76	50	11.15	SW. S. Light	Very hot.
22 to 31	29.98	29.82	61	70	47	11.18	W. SW. Fresh	Rain, sultry.
Aug. 1 to 6	29.98	29.61	63	72	46		E. W. SW. Light	Fine.
7 to 11	29.88	29.57	56	64	47	11.46	N. Fresh	Rainy.
12 to 14	29.98	29.60	61	66	50	11.77	SW. SE. NW. Light	Thunder storms.
15 to 31	30.15	29.58	61	73	47	11.80	SW. N. NW. NE. E.	Very fine.
Sept. 1 to 4	29.82	29.40	56	66	45	12.39	W. SW.	Rainy, thunder.
5 to 12	29.87	29.40	58	61	48	13.58	SW. S.	Stormy.
13 to 14	29.83	29.72	56	61	49	13.94	E.	Hot, showers.
15 to 23	30.95	30.02	56	66	43		E. Fresh	Hot.
24 to 30	29.91	29.68	56	60	42	14.34	SW. NW. W. SE.	Showers.
Oct. 1 to 3	30.10	29.90	56	62	48		W.	Fine.
4 to 13	30.00	28.62	51	60	44	16.72	W. NE. High	Changeable.
14 to 31	29.99	29.32	49	58	36	20.46		Changeable.
1856.								
June 12 to 23			55	62	42	14.28	SW. NW. W.	Unsettled.
24 to 30			63	69	46		W.	Very hot.
July 1 to 6			60	68	42		NE. SE. SW. N.	Hot.
7 to 14			55	69	44	15.10	SW. NW. SW.	Showery, wind.
15 to 17			57	63	49	15.23	NW.	Fine.
18			57	62	46		SW.	Wind and rain.
19 to 31			62	71	48	15.43	W.	Hot.
Aug. 1 to 13			64	77	47	15.73	SW.	Hot.
14 to 28	30.10	29.13	57	65	43	19.29	SW. SE.	Wind and rain.
29 to 31			59	64	55			Fine.
Sept. 1	29.74		55	62	45		S.	Rain.
2 to 14	30.14	29.60	58	64	49	19.77	NE. E.	Fine.
15 to 20	30.13	29.78	53	60	42	19.95	N.	Changeable.
21 to 30	29.90	29.08	54	56	49	22.70	SW. NW.	Heavy gales.
Oct. 1 to 5	29.70	29.52	53	58	52	24.08	SW.	Rainy.
6 to 8	29.81	29.77	51	61	49	25.41	E.	Wind and rain.
9 to 30			48	56	30	26.24	NE. E.	Fine.
31			50	53	42		S.	Rain.
1855.								
June 13 to 18						10.50	W.	Rainy.
19 to 30						10.85	NE.	Fine.
July 1 to 2								Foggy.
3 to 16						11.43	SE. SW.	Very fine.
17							NW.	Thunder.
18 to 31						12.11	NW.	Foggy.
Aug. 1 to 22						13.54	W.	Fine.
23 to 24	29.76	29.66	60	64	57	13.55	E.	Thunder, rain.
25 to 31	30.13	29.70	60	64	50	13.67	W.	Fine.
Sept. 1 to 6	30.20	29.88	55	65	43	13.70	E.	Windy, fine.
7 to 21	30.32	29.84	59	61	42	14.13	NW. W.	Very fine.
22 to 27							NE. E. SE.	Very fine.
28 to 30							SW.	Rainy.
Oct. 1 to 2							W.	Fine.
3 to 8						14.54		Rain.
9 to 10	29.60	29.40	51	58	48	14.62	NW.	Fine.
11 to 17	29.69	29.30	50	58	39	16.09	NW.	Storms.
18 to 20	30.10	29.79	50	56	45		W.	Fine.
21 to 31	30.07	29.00	48	59	33	18.11	SW. E. NE.	Rainy.

Barometer.			Thermometer.			Rain G.	Direction of Wind.	Weather.	
1857,	Max.	Min.	Mean.	Max.	Min.	In.			
Nov.	1 to 3	29.82	29.51	51	55	43	20.65		Rain.
	4 to 7	30.02	29.61	48	58	45			Wet.
	8 to 18	30.57	29.93	45	50	31	21.13	E. fresh	Fine and dry.
	19 to 20	30.14	30.08	44	53	38	21.14		Rain and fog.
	21 to 22	30.20	30.08	46	51	41	21.29	NW. E. strong	Fine.
	23 to 26	29.48	29.10	42	50	34	22.62	SW.	Wet.
	27 to 30	30.01	29.70	35	49	30		E. strong	Dry and cold.
Dec.	1 to 5	30.01	29.61	46	51	37	22.80	SW. NW.	Fine and mild.
	6 to 8	30.48	30.21	48	51	35	22.87	SW.	Rain and fogs.
	9 to 13	30.49	30.27	42	49	34		SE.	Fine.
	14 to 31	30.99	29.88	48	49	30	23.46	SW.	Cloudy.
1856.									
Nov.	1		43	55	41				Fog.
	2 to 16		38	44	26	26.70	E. N. NE.		Fine.
	17 to 18	30.00	29.97	37	44	33	26.90		Wet.
	19 to 28	30.16	29.55				27.73	N. NW.	Changeable.
	29	29.77	29.62					NW. N.	Frost, snow.
Dec.	1 to 13	29.99	28.75	43	51	23	30.88	NW. SW.	Wind, and rain.
	14 to 16	30.36	29.38	36	46	27	30.95	NE.	Frost.
	17 to 22	30.32	29.75	38	46	26		W.	Damp.
	23 to 24	29.90	29.38	39	43	30		N.	Fine.
	25 to 27	29.15	28.73	28	49	24	31.04		Snow.
	28 to 30	30.12	29.35	35	45	23			
1855.									
Nov.	1 to 17	30.08	29.40	43	56	31	18.67	NE. E.	Fine.
	18 to 22	30.07	29.78	42	46	33	19.01	NE.	Rainy.
	23 to 30	30.23	29.75	36	43	29		NE. E.	Fine.
Dec.	1 to 14	30.04	29.48	33	47	23	19.10	E. NE.	Cold.
	15 to 17	30.26	29.92	41	47	35	19.11	W. SE.	Damp.
	18 to 22	30.03	29.54	29	41	17	19.19	E. SE.	Gale, frost.
	23 to 25	29.59	29.49	42	46	19	19.33	SW.	Storms.
	26	29.03		42	46	41			Very rough.
	27 to 29	29.80	29.37	45	47	42	20.25	SW.	Damp, mild.
	30 to 31	30.08	30.02	41	46	31	20.33	NW. SE.	Fine.

NATURAL HISTORY.

1857 — 1858.

BIRDS.

THERE are no additions to be recorded. I observed in September, several specimens of the Dartford Warbler, *Melizophilus provincialis*, at Arne.

A flight of Gray Phalaropes, *Phalaropus lobatus*, visited Kimmeridge during a gale of wind in October. The weather was so extraordinarily mild in the month of February, that several fresh-built birds' nests were reported to have been found. I received a notice of one of a Hedge-Sparrow which contained four eggs, having been taken at Creech.

On February 2nd, a pair of Ravens were building a nest upon the ivy tower of Corfe Castle. They are doubtless the same birds as those mentioned at p. 65, and very probably descendants of the pair which were the subject of the following note, taken from an interesting manuscript diary of Dennis Bond, Esq., of Lutton, now in the possession of The Rev. N. Bond, of the Grange.

"1638. Raven bred in Corfe Castell at Christ id, & did kill yonge lambs to feed 5 yonge ones w'h he had; W. Brown ye keeper did kill yose 5 yonge Ravenes."

A Ring Ouzel, *Turdus torquatus*, was shot at the Grange, on the 7th of April.

Land Rails, *Crex pratensis*, have been very abundant during the past season. Upon the manor of Langton alone, between the eighteenth of August, and the thirteenth of October, as many as a hundred and twenty two were killed. On one day, the sixth of September, the number amounted to thirty eight. At Studland, seventeen were killed in a single field. Their favorite haunt is in clover seed, especially in wet weather, where they feed upon a small white slug. They appear to arrive in two distinct flights, the last being composed of smaller birds, probably the females and birds of the year.

There can be no doubt that Purbeck is one of their resting places upon their migration eastward. It is however, a curious fact, that they do not thus occur at any other part of this coast. An old sportsman residing at Broadway, near Weymouth, informs me that he does not remember ever to have seen or killed more than a brace in any one day; and upon my own land which is situated about two miles from the sea at Bournemouth, and which is regularly visited by the Ring Ouzels in spring and autumn, the largest number killed in any one season during the last twenty-five years, has been seven, and frequently only one. But Yarrell mentions thirteen couple to have been killed in one day in Devonshire, in the month of September; and fifteen, and seven couple, upon two successive days during the third week of September, in the neighbourhood of Battle, near the coast of Sussex.

I have been informed that they are abundant in the Isle of Wight, where they appear in large numbers about the first week in September. I am enabled to give a correct account of the average usually killed, with the total during the last season upon three estates; viz: upon Sir John Simeon's, of about six thousand acres, from twenty-five to thirty-five couple annually; the last season forty and a half couple. Upon about five hundred acres, belonging to W. Popham, Esq., at Shanklyn, ten to twelve couple annually; the last season, sixteen couple. And upon Sir H. Oglander's, at Brading, of about three thousand acres, from sixteen to twenty couple, annually; the last season, twenty-five and a half couple.

Mr. Thompson, of Weymouth, informs me that they breed in Portland, but have never been observed there in quantities. At all events it seems probable that they

leave the main land at Swanage, and cross over to the Isle of Wight, whence, finding their progress checked by the open sea, they return to the coast somewhere about Hayling Island, and continue their flight towards the Straits of Dover, whence they take their final departure. This is further corroborated by a communication from a former occupier of the manor of Hayling Island, during a period of six years, which states, that he usually killed from fifteen to twenty Land Rails a year; they generally arrived in the first week of September, on or about the eighth: the greatest number being killed from the tenth to the twenty-fifth of September. He said that he had heard there had been a great many this year on a farm near Selsey Bill, about twelve miles further east: where a party had killed eight brace in one day, but he did not know if the Land Rails regularly landed there.

A Gannet, *Sula Bassana*, was caught in a field near Tyneham on 25th September, 1858.

A Glossy Ibis, *Ibis Falcinellus*, was shot in the Stoborough meadows, in the last week in September, and passed into the possession of C. O. Bartlett, Esq.

J. H. A.

A LIST OF
ANIMALS AND REPTILES

HITHERTO OBSERVED

IN THE ISLE OF PURBECK.

CLASS I. — MAMMALIA.

ORDER I. — FERÆ.

2. Badger, *Meles Taxus*.

This animal appears to have been abundant in the Island at a comparatively recent date, and is by no means uncommon at the present time. There were several in a wood at Dunsay in the summer of 1855. They are frequently observed at Kimmeridge. One was killed at Arne, and two at West Hill in the year 1852; and a third at the latter place in March, 1858, in which month an old female also was killed in the Grange woods, and presented to the Corfe Castle Museum. In the year 1856, one frequented the Rectory garden at Studland; and in 1857, one was seen by the Rev. G. V. Garland, near Whitecliff.

5. Polecat, *Mustela Putorius*.

Common, formerly.

7. Weasel. *Mustela vulgaris*.

Common in the woody districts. The female is known by the name of 'Beal.' See White's History of Selborne.

8. Stoat. *Mustela Erminea*.

Common.

9. Otter. *Lutra vulgaris*.

Frequents the river Frome and Wareham harbour. A fine specimen was killed near Stoborough, in the month of November, 1852, which measured three feet ten inches in length, and weighed twenty six pounds twelve ounces. Fishermen now living, remember to have seen them on the coast at Arishmell, and Sharnell.

12. Fox. *Canis Vulpes*.

Is not very common, but is found still in the Grange woods. In an old Churchwarden's book, at Tyneham, entries are made annually, of from eight to ten being killed, and paid for out of the rates.

15. Common Seal. *Phoca vitulina*.

One was found dead by the Rev. M. Colson, many years ago, on the north side of Swanage bay.

18. Mole. *Talpa Europæa*.19. Common Shrew. *Sorex Araneus*.

Common.

20. Water Shrew. *Sorex fodiens*.

I have occasionally seen specimens at Langton. Mr. Lester has seen it in the stream which runs down the valley in that neighbourhood.

22. Hedgehog, *Erinaceous Europæus*.

Common.

ORDER II. — PRIMATES.

23. Greater Horse-shoe Bat, *Rhinolophus Ferrum-equinum*.

Abundant. In the Winspit quarry. In roofs of houses at Swanage.

29. Noctule, *Vespertilio Noctula*. ?32. The Pipistrelle, *Vespertilio Pipistrellus*.

Common at Langton. L. L.

36. Greater long-eared Bat, *Vespertilio auritus*.
Studland, &c.

ORDER III. — GLIRES.

39. Common Squirrel, *Sciurus vulgaris*.
Frequent, though less common upon the south, than on the north side of the chalk range.
40. Dormouse, *Myoxus avellanarius*.
The Grange woods. One was seen by the game-keeper in the last spring, in a coppice at Studland.
41. Field Mouse, *Mus sylvaticus*.
Common
42. Harvest Mouse, *Mus messorius*.
Frequent.
43. House Mouse, *Mus Musculus*.
Common.
45. Brown Rat, *Mus decumanus*.
Common. They literally swarm upon the shore, at Kimmeridge, where they feed amongst the sea-weed. During high tides and storms, however, they leave the cliffs, and proceed in land, over-running the fields and homesteads where they commit great havoc.
46. Water Campagnol, *Arvicola amphibia*.
In the Frome and Corfe rivers.
47. Field Campagnol, *Arvicola agrestis*.
Common. L. L.
50. Common Hare, *Lepus timidus*.
Common generally, but surprisingly rare at Arne.
51. Rabbit, *Lepus Cuniculus*.
Abundant.

ORDER IV. — UNGULATA.

57. Stag, or Red Deer, *Cervus Elaphus*.
Extinct.

ORDER V. — CETACEA.

63. Common Dolphin, *Delphinus Delphis*.
One caught upon the coast in November, 1853. L. L.
65. Porpesse, *Delphinus Phocæna*.
Frequent on the coast.
70. Bottle-head Whale, *Hyperoodon bidens*.
One was taken in Swanage bay, Oct. 26, 1855.
(see p. 76.)
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CLASS III. — REPTILIA.

ORDER II. — SAURIA.

3. Sand Lizard, *Lacerta Stirpium*.
On the second of June, 1856, a specimen was shewn me which had been obtained from the Stoborough heath. I have no doubt that it is as common upon the Heathy districts of Purbeck, as upon those between Poole and the valley of the Stour.
4. Common Lizard, *Lacerta agilis*.
Common upon the heaths.

ORDER III. — OPHIDIA.

5. Blind Worm, *Anguis fragilis*.
Common.

6. Ringed Snake, *Natrix torquata*.
Common.
7. Common Viper, *Vipera communis*.
Frequent in the vale.
8. Red Viper. Var. *b*.
I have seen specimens in the vale between Langton and
the chalk range. The Grange woods, &c.

CLASS IV. — AMPHIBIA.

ORDER I. — CADUCIBRANCHIA.

2. Common Toad, *Bufo vulgaris*.
Common.
4. Warty Eft, *Triton palustris*.
In a pond between Worth and Renscombe, &c.
5. Common Eft. *Triton punctatus*.
Corfe common. In a pond between Worth and Renscombe.
Quarry farm. Near Ulwell, &c.

JOHN H. AUSTEN.

THE MARBLERS

OF PURBECK.

[Read in the Museum, Corfe Castle, 1859.]

The traveller along the line of the South Western Railway may observe many a conspicuous object that will call to his mind historical events, whether of ancient or of more recent occurrence. The pile of Lambeth Palace, and the single relic of Wolsey's abode at Esher,—the ruins of Basing house,—the lofty entrenchments overhanging the silver Itchin,—the park-like glades of the New Forest,—may arouse many an association of authentic history;—while as he proceeds in our own regions the steep escarpments of Flower's Barrow, and the tumuli of bygone ages dotted about the wild heaths, may launch him into speculations more or less capable of proof.

But in passing along the borders of our so-called Isle of Purbeck, he must not depend on the information of his eyes to become aware that he is in the region, which is, I fear, better known as the former parent of "Purbeck Marble," than by any distinction of the present day. The traces of modern enterprise in the working of stone or marble are only "conspicuous from their absence." Our traveller will, perhaps, if charitably disposed, conclude that the absence of stone traffic on the railway, arises from the superior facilities and accommodation afforded by

the port of Swanage for the water carriage of the former staple of the island. But the charitable supposition will hardly be borne out by actual inspection; and though piles of stone, technically called "bankers" which at present line the beach in that beautiful bay, certainly shew but too evident traces of the quarry, their size and their position are not suggestive of a highly flourishing state of trade.

Their size is unfavourable as showing the mass in the market awaiting purchasers; their position, as intimating an un-re-munerative trade, if it cannot command the capital requisite for improving the mode in which those masses must be removed for shipment. It is perhaps a not irrationally sanguine hope for one to entertain, that this form of shipment is likely to become one of past things; that future quarriers, driving a more prosperous trade than that which at present supplies the pocket of Swanage, may consider the fashion of 1859 as a curious antiquarian study. It may be that under the influence of increased convenience, it will soon seem to have been an odd way of doing business to have had to lead the stone in waggons to the shore—there to deposit it in heaps—to cart it thence through the water to barges (with the waves at times coming nearly over the horse,)—and finally, to convey it in the barges to the vessels that should carry it away.

The custom itself, so far as carts, barges, and vessels are concerned, has the merit of picturesqueness; though its parent the "banker" is a woful disfigurement to the pretty shore of the bay; and perhaps it may even at this moment claim the rank of antiquity; for, unless the science of carriage has gone backward in Swanage, the present way of loading the vessels must be coeval with the earliest beginning of the trade.

I do not however propose now to investigate this curious practice, but to draw attention to the existence of the institution under which the Stone trade of Purbeck is still carried on.

The Quarriers or workers of stone, otherwise called "Marblers," form a Company. Its chief officers are Wardens, two in number, one of whom is appointed to act for Corfe Borough, and is called the Town Warden; the other for the parts of Purbeck out of the Borough, who is called the Country Warden. On Shrove Tuesday, which is the great day of the company, the

officers are nominated by the out-going ones, subject to the approval of the general meeting; and should the nominee be considered an unfit person, as by reason of living out of the way or the like, another is regularly nominated and elected by the majority.

The duty of the Wardens is at the present day to give authority to the Stewards to act in calling meetings of the Master Quarriers, where there is any question of infringement of rules; such meeting is held at the spot where the trespass is alleged; and the Quarry master *must* attend: the men *may* do so also. The Warden also presides at the general meeting. Formerly the wardens used to manage the Stock of the Company; but no joint stock now exists. There are also two Stewards appointed: they too are one and one for Borough and Country, and are appointed by the out-going steward, subject to the approval of the Company.

The Steward acts under the authority of the superior officer, and is in effect, Vice Warden. He gives personal notice of intended meetings, warning the master-quarriers to attend. The place of assembly is always out of doors, generally at the quarry mouth; and the members of it sit around, the speaker of the moment generally using the capstan or some elevated ground or stone for his tribune. No particular length of notice is required.

Corfe Castle is the proper metropolis of the Quarrier's country, though Swanage being the place of shipment of the stone, the business tends more to that quarter. At one time, some thirty years ago, the box of the Company containing the Articles and other papers was removed to Swanage: the general meeting was then opened at Corfe, and adjourned on to Swanage. An alteration again took place, and since that time the town meeting, and that for the country, have always been regularly held at Corfe and Langton respectively.

On Candlemas Day, February 14th, all persons who wish to take out their Freedom of the Company assemble, and with a band, headed by the Stewards of the Marblers, used to parade the streets of Corfe and Swanage. At the present time Corfe has but very few marblers resident.

The Neophytes go by the name of "free boys," and they

claim, and exercise the misletoe-like privilege of kissing all women whom in their parade they may meet. The qualification of the "free boy" is, that he must be son of a freeman.

Objection may be made by any existing freeman, and if it is decided by the meeting that the objection is valid, admittance to the Company is refused. The admittance takes place on Shrove Tuesday, when the Roll of Apprentices is made up; for the Borough, at the Town-Hall, Corfe,—for the Country, at Swanage. The Mayor of the Borough of Corfe Castle used formerly to be present at the meeting, but his presence has of late years been discontinued. The Bailiff of Corfe Castle Borough still attends, and receives a fee of two shillings and sixpence. On being admitted into the roll of freemen, each new member has to pay six and eightpence, the old time-honoured fee of half a mark. He provides also a penny loaf, still made on purpose by the bakers of the place; and two pots of beer.

On the occasion of the marriage of any member, he pays a marriage shilling. This is received in acknowledgement of the right, in case of his death, of his widow to have an apprentice to work for her.

At the same meeting on Shrove Tuesday, a foot-ball is to be provided by the last married man, who thereupon is freed from the payment of the marriage shilling. In the event of no free-man having been married during the year, the old foot-ball is used. The foot-ball is used, but not much so by the quarriers, being generally seized by others than quarriers. It is however carried on Ash Wednesday, together with a pound of pepper, the acknowledgment to the Lord of the manor in respect of the right of way to Owre, by the Steward of each body down to that place. The cottager at Owre generally provides pancakes for the stewards who have brought the pepper and foot-ball.

At what time the Company of Marblers was first formed, is not apparently known: but articles of agreement are extant, drawn from their ancient records, and renewed and confirmed in the year 1551. These Articles run as follows:—

ARTICLES

which are to be performed used and kept by the whole Company of Marblers inhabiting within the towne of Corfe Castle in the Island of Purbecke in the Countie of Dorset ffor the good and well ordering of the company which they have generally with one consent agreed upon to fulfill performe and keep and now to be ordered and governed by under the penalties and forfeitures in the articles expressed as they are drawn out of the auntient records and the same renewed and confirmed by them at their accustomed day of meeting on Shrovtewsday yearly this Shrovtewsday it was done being the Third day of March In the year of our Lord one thousand five hundred fyfty one as their hands and seales doe witnes.

Ffirst That no man of the Company shall set into his fellow-trademan's Quarr to worke there without his consent within twelve moneths and a day nor to come into any part of that ground within a hundred foote of his fellow tradesman's Quarr upon the forfeiture of ffive poundes to be paid unto the owner of the quarr unto whom the offence shall be dun Neither shall no man in this company worke partners with any man, except it be a freeman of the same company, upon the forfeiture of ffive poundes.

Seconly That no man in the company shall take any Apprentice but that he shall keep him in his owne house uprising and downe lying for the terme of Seaven years upon the forfeiture of ffive poundes to be paid unto the Wardings of the company for the use and benefitt of the whole Company.

Thirdly That no man after his Apprentice shall take any other Apprentice in the whole terme of seaven years upon the forfeiture of ffive poundes for every moneth for as many moneths as he shall keepe him: and to be paid to the Wardings for the use of the Company.

Ffowerthly That no man in this company shall sell or make sale of any Stone within this Island but by his owne proper name, upon the forfeiture of ffive poundes To be paid unto the Wardings for the use of the company That no man of our Com-

pany shall under-creep his fellow tradsman to take from him any bargaine of work of his trade upon the forfeiture of ffive poundes To be paid to the Wardings of the Company for the use and benefitt of the whole Company.

ffivethly That every man in our Company upon notice from the Wardings of the Company by the Stewards To appeare at any place appoynted and doe not there appear according to order shall paie for his neglect Three shillings fflower pence To be paid unto the Wardings for the use and benefit of the Company, without a very Lawful excuse. And that noe man of our Companie shall take any Apprentice that shall be base born or of parents that are of loose lyfe upon the forfeiture of ffive poundes To be paid to the Wardings of the Companie for the use and benefit of the whole Company: or that the said servant or apprentice is or have been a Loose liver.

Sixthly That upon any acceptance of any apprentice into the Company He shall paie unto the Wardings for the use of the Company Six shillings eight pence a penny loafe and two pots of beere. That no man of the said Company shall set a Laborer worke upon the forfeiture of ffive poundes.

Seaventhly That any man in our Company the Shrovtewsdaie after his marriage shall paie unto the Wardings for the use and benefit of the Company twelve pence and the last married man to bring a foot-ball according to the Custome of our Company.

Eightly That upon any appointed meeting at any time or at any place together ther shall any noyse, hindrance, or disturbance to the Company, upon the command silence from the Wardings and not observed, the man in default shall paie twelve pence to the wardings for the use & benefit of the Company.

Ninthly, That the Wardings of the country shall have the Company's Stocke: always provided that the Warding of the towne shall have securytie for ye use and benefit of the Company.

Tenthly, That if any of our Company shall at any time reveale or make knowne the secrets of this Company or any part thereof, upon notice given and just prooffe be made, he shall pay for his default to the Wardings for the use and benefit of the Companie five poundes.

WE, whose Names are hereunder written being a Company of Marblers or Stone Cutters doe by theis presents binde ourselves and every and either of us respectively joyntly and severly, and the heires executors and assignes of us and every and eyther of us respectively joyntly and severly in the sum of Tenn Poundes of Lawful English money, To allow and maintaine All the said Articles above mentioned And upon the breach of any one of these Articles we doe all consent and allow uphold and maintaine that the Offender or Breach-maker of any of theis Articles shall pay according unto the ffyne of the article for his offence, or shall be putt by his trade, and no man in our Company to deale with him, untill he shall give satisfaction for his faulte down unto his Company of Marblers or Stone Cutters. And we doe likewise binde ourselves, our heires, executors, and assignes for ever, That ye Offender shall paie according to the breach of the article agreed on for his offence, or be put by his trade, and no man in the Company to deale with him untill he shall give satisfaction for his fault soe down unto his Company of Marblers or Stone Cutters To these and every and eyther of these Articles Clauses and agreements before mentioned and expressed we doe binde our selves our heires executors and assignes and every and eyther of us respectively in the forfeiture of Tenn Poundes of good and Lawful English money for the use and benefit of the Company of Marblers or Stone Cutters To allow uphold and maintaine all these Articles agreed on

IN witsesse whereof we have hereunto putt our hands and seales, the day and yeare above written.

[Here follow names. And about a hundred years later, the signature is added of

Antho: ffurzman,
Maior, a^o. 1655.]

It will be observed, that the Purbeck Marble seems to have been the early subject of the trade of the Island. This one would expect to be the case from the very general use in England of that Marble, for Ecclesiastical Buildings. Accordingly, the Company takes its name from that branch of the Stone Trade;

and the local habitation of the body is, according to the articles, within the town of Corfe Castle; near to which the vein of Purbeck marble seems mainly to have been worked. In a later set of articles, provision is made for the foot-ball to be carried to Owre, "as also a present to be made of one pound of pepper as an acknowledgment in order to preserve the company's right to the way or passage to Owre key according to antient and usual custom." This is still done, though the value of the passage, along which the marble used to be drawn in sledges from Wilkswood to Owre can hardly be worth, in a commercial point of view, even the pound of pepper.

The Articles in question are entitled, "Articles of Agreement made on stampt parchment according to a late Act of Parliament which are to be performed used and kept by the whole Company of Marblers Inhabiting within the Towne of Corfe Castle and the Island of Purbeck in the County of Dorset," &c. Dated at Corfe Castle this Shrove Tuesday the Eighth day of March Anno Dom. 1697-⁰/₈

Their provisions are the same in substance with those of the older ones above set out. The carrying of the foot-ball is also therein directed.

The ninth article speaks of the "Stock" of the Company. That the Wardens which are to be chosen yearly according to usual and ancient practice, shall have power, by and with the consent of the said Company, to put out any part of the Company's Stock remaining in their hands from time to time, at interest, upon good and sufficient security, for the advantage and benefit of the said Company. *

At the close of these articles is an interesting set of provisions, intended to meet the difficulties under which the trade laboured from being in the hands of so numerous small dealers possessed of no capital. It was therefore attempted to place the whole trade on the footing of a Joint Stock Company, securing to the smaller Quarriers, a fixed payment per foot for their Stone; the larger dealers feeling assured of their power

* This Stock, here named, so far as I have seen for the first time, would appear to have been the proceeds of the fines and payments on entrance and marriage.

to obtain that settled price from the London purchasers. These provisions run as follows:—

And for the future improvement and better management of the decaying Trade of the said Company and to prevent the many greate and growing Evills that have and doe dayly attend the severall dealers in the Stone Trade who by reason of the deadnesse of the said Trade have of late yeares made it their practice to carry their said Stone to London in Small Quantities having but little Stocks And in order to dispose thereof have and still doe Endeavour to undersell one another to the infinite prejudice of the Stone Trade by meanes whereof the price and vallue of the said Stone is soe lessened and beate downe that scarce any thing can now bee gotten by it and consequently the wages for labour in drawing and working the said Stone is reduced soe very lowe that many of the members of the said Company are thereby rendered incapable to support their ffamilys by the said Trade Which mischeifes and inconveniencyes if not timely prevented will tend to the greate impoverishment if not the utter Ruine of the said Company* Wherefore it is hereby further agreed and consented unto as followeth (viz:)

Imprimis. That from henceforth all and every the Members of the said Company which now are or hereafter shall bee made appeare to bee worth in substance ffifty pounds and their Debts paid shall from time to time bee obliged that what Quantity of Stone shall bee by them provided or made in order to send to London shall be brought into a Joynt Stock to be agreed and

* There is a curious document bearing date 1687, ten years previous to the Articles last set out, by which certain persons "being inhabitants of severall Pr'shes of Sandwich and Lanckton within the Isle of Purbeck & County of Dorset Marblers and Merchants in the said Trade" bound themselves to resist an imposition, as they thought it, on the part of the London buyers. These latter claimed to have the stone examined and to deduct the cost of the searcher from the price of the Stone delivered. The necessity of searching seems to intimate a deterioration of the stone supplied, which indeed the allusion in the Articles of 1697, of breaking the stone by the manager if unmerchantable, would seem to confirm. It may be, that this was as much the cause of decay in the trade, as the underselling recited above as threatening impoverishment and ruin to the Company.

settled at Sandwich in the Isle of Purbeck and that no paving or other Stone shall bee by any of the Members of the said Company sent to London but what is sent in the said Joynt Stock which is hereby intended to bee erected and sett upp upon the forfeiture of Twenty pounds to be paid by every such Member as shall offend herein (whether such Member be Quallified to come into the Joynt Stock or not) unto the Wardens of the said Company for the use and benefitt of the Company.

2^{ly}. That the said Joynt Stock soe erected shall bee managed by Seaven Persons that shall be chosen at the Generall meeting of the Company upon Shrove Tuesday next *By the name of the Managers of the Joynt Stock for the more Effectuall carrying on of the Stone Trade in the Isle of Purbeck*, which persons shall bee men of known integrity and honesty and being so chosen shall continue to bee managers of the said Joynt Stock Trade for five yeares to come before any others shall bee chosen in their roomes unlesse in case of the death of any of them when a new person shall be chosen to supply his place on the Shrove Tuesday that shall then next happen: And the Wardens & Company having mett this present Shrove Tuesday, in pursuance thereof have unanimously chosen Thomas Chapman James Hall Charles Weeks Joseph Hort the Elder Samuel Prestly Alexander Potton and Henry Serrell to bee the Managers of the said Joynt Stock Trade accordingly, who shall bee and are hereby declared to bee the persons wholly empowed to Manage and Govern the said Joynt Stock Trade for the benefitt & advantage of the Company and every member concerned therein, and the said Managers shall have power to receive any quantity of Stone that shall be made good and merchantable (and if otherwise to cause the same to bee broke) into the said Joynt Stock from any member of the Company quallified as aforesaid delivering and tendering the same att the waterside where the price of the said Stone shall be allwayes taken and accounted to bee of the vallue of Sixteen shillings for every hundred foote of paving stone soe delivered, which price is hereby declared to bee established and meant to bee the selling price of the said paving stone and of all other sorts of stone after the same rate at the waterside, for the better support and maintenance of the poore labourers employed

in the drawing and working the said stone, and the said managers shall cause the same immediately to bee charged in the Company's Joynt Stock Books to bee kept for that purpose and may and shall order the shipping of the said stone for London att what tymes and seasons they shall think fitt and there sell and dispose of the same or any part thereof att such prices and rates only as shall bee agreed and settled by the said Company to bee the selling price of the said Stone and shall allsoe receive the monyes arising and growing due for the same, which monyes and every part thereof shall as soon as received bee applied to every particular member's account in equall proportion to the Quantity of Stone such member had and then stood charged on his account in the Joynt Stock Bookes of the said Company at the time of the sale of such Stone in London.

3^{ly}. And for the better carrying on of the Joynt Stock Trade and the making it more effectuell for the good and benefit of the Company the managers shall have full power and authority to order and direct the contracting & paying for all freights wharfeage and other reasonable and necessary expences as well as the settling of Clerkes and Servants and paying them their wages All which things (except freight and the charge of shipping) shall not exceed in the whole upon every hundred foote of Stone above Two shillings which the Managers shall deduct from each member's account out of every hundred ffoote of Stone in proporc'on to the Quantity sold & disposed of in the Joynt Stock for his use, as also the ffraight and charge of shipping according to the Contract made and paid for the same And upon the paying and cleering of every member's account which shall bee done twice in every yeare at least, the Clerke shall make out and deliver to each member a Duplicate of his p'ticular account as it shall then stand in the bookes of the Joynt Stock Trade that such member may bee apprized of all the deduc'ions out of his account and what the ballance that remaines does amount unto and all the contracts for ffraights and agreements for wharfeage with the other expence and charge shall bee daily entered into a booke to bee kept separte and apart from the other books and accounts of the said Joynt Stock Trade all which books and accounts shall and may be viewed and examined

by every member concerned therein att all seasonable times for the Information and Sattisfaction of all and every the members of the said Company.

4^{ly}. That if any member of the said Company shall att any time or times refuse to come into the said Joynt Stock Trade, and such member bee proved to bee worth in substance fifty pounds (when his debts are paid) that then in every such case none of the members of the said Company shall worke for him or sell him any Stone under the forfeiture of paying for the same the sum'e of Ten pounds for every such offence to be paid to the Managers of the Joynt Stock Trade for the use and benefit of all the persons concerned in the said Joynt Stock and that noe person shall bee admitted to take his freedome in the said Company untill such person shall give his consent to this agreement by first signing the same

5^{ly}. That every one of the Managers chosen to manage the said Joynt Stock Trade shall before his being admitted to act give Security in the penalty of one Thousand pounds to the Wardens of the said Company (for the time being) by his owne Bond faithfully to performe and discharge the trust reposed in him without favour or affection and make due and true accounts of all his proceedings in the management of the said Joynt Stock Trade to bee rendered to the Wardens for the time being and their Successors and the said Company att the generall meeting every Shrove Tuesday if thereunto required,

6^{ly}. And lastly, because It is intended that neither the Members of the said Company nor any other Persons whatsoever shall have it in their power to send any paving or other stone to London but what shall bee sent in the Joynt Stock It is further agreed noe member shall sell any paving or other stone to any Master of a Shipp or vessell or any other person which shall pretend to shipp the same but every such member of whome such stone shall bee soe bought shall bee obleidged that the party agreeing for the same shall enter into sufficient Security to the Managers of the Joynt Stock Trade that such stone soe to bee ship'd nor any part thereof shall bee carryed within Thirty miles of London upon the penalty that every member of the said

Company offending herein shall for such his offence pay to the Managers of the said Joynt Stock the Sum'e of Ten Pounds for the use and benefitt of the said Joynt Stock Trade.

Wee whose Names are hereunder written being Members of the said Company of Marblers Doe by these presents bynd ourselves and all and every of us Respectively Joyntly and Severally in the Sum'e of Twenty Pounds of lawfull money of England, that wee and every and either of us will observe performe maintaine support and abide by the above menc'oned Articles and uppon the breach of them or any of them wee doe hereby agree consent uphold and maintaine that the offender or offenders shall bee punished according to the severall ffynes in the severall Articles menc'oned and expressed for such his or their offence or offences and further such person thall bee putt by his Trade and noe Member of the Company shall deale with him untill hee shall submit himselfe to the said Wardens and Company and give Satisfaction for such his offence as aforesaid for the p'formance of all which Clauses Articles and Agreements as before menc'oned and expressed wee doe by vertue of these p'sents bynd ourselves our heires Executors Admm'ors and Assignes and all and every of us respectively to the Wardens of the said Company for the time being and their successors to performe fullfil and keepe the same according to the true intent and meaneing hereof in the penall Sum'e of fifty pounds to be levyed uppon our goods and Chattels *In Testimony* whereof wee have hereunto putt our hands the day and yeare above said (the Seal of the said Company of Marblers being hereunto first affixed.)

I am not aware how long this Joint Stock was kept on foot, but probably to it we are partly indebted for the practice of keeping masses of stone ready on the shore for shipment at such times as there may be a demand for it.

Such were the old Articles of Agreement which bound the Company; and the same are still signed and adopted by the Quarriers of the present day, with the exception of the provisions about the Stock.

So lately as the last summer a person was employed in a quarry at Swanage, who was neither a freeman nor son of a freeman. Objection was made to his employment, and no attention being paid to the objection, it was intended to put in force the penalty, and the other freemen purposed boldly to carry off five pounds worth of stone from the stock of the delinquent. The proceeding was one which could certainly not have been legally justified at the present day in that form of distress. But the old custom prevailed, and the employer, himself a freeman, withdrew the obnoxious labourer.

It is not within my present purpose to examine the politico-economical bearing of a Company so interesting from its antiquity, but so little in accordance with the modern doctrines of Free Trade. We cannot but feel that if the trade were worth much cultivation, the Company would hardly find it worth its while to maintain its existing rigour of law. But as a curious instance of an ancient establishment keeping up its customs and actually enforcing them (as in the instance I have named) down to the present date, it is worthy of observation.

It is probably no unkind wish to form for the well conducted body of men who support themselves by the trade, that the advance of iron and steam may render that trade a subject of more competition than has hitherto been the case; and that they may find it to their advantage to let the real working of the Association, with its companion the Truck-System, which still practically exists at Swanage, find a place solely among the antiquities of Purbeck.

O. W. FARRER.

METEOROLOGICAL TABLE

Showing the height of the Barometer (in doors,) and Thermometer, (out of doors,) at 9 A. M., and the maximum and minimum temperature during twenty-four hours, recorded at Encombe, by O. W. Farrer, Esq.; with the quantity of rain, recorded at Bucknowle by Mr. Voss; and the direction of the wind and state of the weather, recorded at Swanage, by the Rev. J. M. Colson, for the year 1858.

Barometer.		Thermometer.				Rain G.	Direction of Wind.	Weather.	
1858.	Max.	Min.	Mean.	Max.	Min.	In.			
Jan.	1 to 2	30.31	30.30	40	44	30		S.	Very fine.
	3 to 4	30.28		35	42	34		E. Strong	Dry, cold.
	5 to 6	30.19	30.02	21	35	19		E.	Hard frost.
	7	30.04		34	35	21			Lowering.
	8 to 10	30.12	30.00	44	47	34		SW.	Heavy rain.
	11 to 12	30.42	29.97	36	47	26		N. NW.	Fine.
	13	30.19		42	43	29			Rainy, p. m. fine.
	14 to 16	30.26	30.22	36	43	27		N.	Fine.
	17 to 18	30.52	30.39	24	45	29		E.	Fine, cold.
	19 to 23	30.40	29.93	34	48	23		NW. Strong. N.	Fine and dry, cold.
	24 to 26	30.43	29.99	31	37	22		E. SE. E. Strong	Clear and dry, cold.
	27 to 29	30.13	29.35	41	43	30		SE. S. SW.	Damp and rainy.
	Feb.	30	29.98		44	46	43		SW.	Thick fog, rainy.
31		29.30		35	45	33	1.41	NE.	Dry, cold.
1		27.79		31	39	29		NE.	Fine, slight fall of snow
2 to 4		29.70	29.39	38	44	26		SW.	Rain and fog.
5		29.80		41	43	34		SW.	Fine and clear.
6 to 10		29.84	29.73	37	46	32		E.	Fine and dry, cold.
11 to 14		30.00	29.78	33	40	25		NE. E.	Thick fog and rain
15 to 26		30.10	29.34	31	42	20		E. NE. E. NE. E. stro.	Fine and dry, cold
27		29.73		27	32	25		E. Strong	Heavy snow, Moon ecl.
28		29.64		28	33	23	1.95	E. Strong	Dry, cold.
March 1 to 3		29.32	29.30	27	31	23		NE. E. Strong	Snow.
4 to 5		29.68	29.53	27	33	22		NE.	Fine.
6 to 8		29.34	29.00	33	38	23		N. NE.	Rain and snow storms.
9 to 11	29.73	29.57	29	40	20		N. Strong	Hail, snow.	
12 to 14	30.05	27.40	35	42	20		N. NW. W.	Rainy.	
15	29.76		40	45	35		W.	Eclipse of the Sun. *	

* An Annular Eclipse took place on March 15th. Several members of the society ascended the Castle Hill for the purpose of watching its progress. The sky was, however, overcast with clouds from the s. w., the sun having been visible only a few seconds at 1.25, until 1.46, after which time it appeared through the broken clouds like a crescent moon, until about 2.17 the shadow had passed away and it shone out with almost redoubled splendour. In consequence of the state of the atmosphere, none of the remarkable phenomena attending an eclipse could be seen at Corfe Castle. About 12.45, an unnatural, hazy dimness was observable upon the landscape, and for a few minutes the Daws collected upon the castle towers, and, in seeming uncertainty, ceased their flights. The thermometer, which at 11 A. M. was at 52° at 1.10 P. M. had sank to 48° from which time it gradually rose until 2.17, when it again stood at 52°.

Barometer.			Thermometer.			Rain G.	Direction of Wind.	Weather.	
1858.	Max.	Min.	Mean.	Max.	Min.	In.			
Mar.	16 to 20	30.23	29.95	41	48	33		W.	Fine, Mild.
	21 to 29	30.35	29.86	41	53	29		E. SE. E. Light	Very fine.
April	30	29.58		40	44	31			Foggy.
	31	29.15		42	44	40	.90	SW.	Heavy rain.
	1	29.20		40	46	36		NE.	Raw.
	2 to 3	29.72	29.44	38	44	31		SE. E.	Rain.
	4	29.60		46	49	37			Very fine.
	5	29.68		40	51	35		E.	Fearful gale.
	6 to 10	29.56	29.27	33	50	32		SW. S. SE. Strong	Rain.
	11 to 15	29.90	29.70	39	47	35		E. N. E.	Fine, dry, cold.
	16 to 17	29.80	29.77	51	56	40			Mild, damp, fog.
	18 to 22	30.18	29.90	52	56	33		SW.	Very fine.
May	23	30.10		52	57	44		E. Fresh	Hot
	24	30.02		51	56	43		WSW. Fresh	
	25	29.92		48	54	41			Heavy rain.
	26	29.92		45	52	37		E.	Fine, dry.
	27	29.90		50	54	37			Raw fog.
	28	29.90		46	47	43		SE.	Rain, thund. & lightning
	29 to 30	29.50	29.07	46	52	39	2.13	SW. WSW. Strong	Heavy rain.
	1 to 2	29.20	28.98	45	52	35		N.	Heavy showers.
	3	29.28		46	52	35			Fine.
	4	29.70		44	49	33			Storm.
	5 to 9	30.18	29.85	49	56	31		E.	Fine and dry.
	10 to 12	29.92	29.64	47				NE.	Fresh, occasional rain
	13	29.60		50	55	40		WSW. Strong	Fine.
	14 to 15	29.55	29.26	49	54	41		SW. W.	Wet.
	16 to 19	29.84	29.50	49	55	42		W. WSW. W. Strong	Wintry.
June	20	29.94		53	54	38			Fine.
	21	29.73		54	58	43			Evening wet.
	22	29.70		55	57	44		SW. High	Unsettled.
	23	29.64		55	57	42		W. Strong	Fine, cold.
	24	29.73		53	57	43		W. Strong	Evening wet.
	25	29.75		51	57	40		NNW.	Gale.
	26	30.32		51	56	40			Fine, cold.
	27	30.12		46	57	43		WSW. Strong.	Foggy.
	28 to 31	30.00	29.88	56	61	41	1.89	SW.	Very fine, mild.
	1 to 3	29.98	29.93	58	63	45		SE.	Very fine, hot.
	4 to 6	29.98	29.88	57	66	46		SW. W. SW.	Fine.
	7 to 8	29.95	29.73	59	65	49		SE.	Very fine and hot.
	9	29.72		60	65	50		SW.	Fine.
	10	29.84		61	64	51			Fearful thunder storm.
	11 to 14	29.85	29.75	59	64	46			Fine and calm.
15 to 16	29.80	29.80	66	70	50		E.	Thundery.	
17	29.65		57	72	53			Rain.	
18 to 25	30.20	29.87	60	68	45		W.	Fine, hot.	
26 to 30	30.04	29.94	60	65	44	1.44	N.	Fine, hot	
1 to 5	30.10	29.67	53	65	40		NE,	Unsettled.	
6	29.60		55	60	46		N.	Storms, cold.	
7 to 8	29.55	29.50	53	61	43		S.	Thunder, rain.	
9	29.70		55	57	44		NE. Strong,	Dry.	
10	29.90		54	57	43		N. Strong.	Unsettled.	
11 to 12	30.00	29.94	55	64	45			Fine, hot.	
13	29.92		55	65	53			Unsettled.	
14 to 15	29.82	29.66	59	63	49			Fine.	
16	29.72		58	65	53			Rain.	
17 to 19	30.00	29.88	60	64	48			Fine, hot.	
20	29.94		58	62	49		SE.	Dry.	
21 to 22	29.78	29.72	60	62	47		NW.	Squally, rain.	
23	29.80		58	63	46		N.	Fine.	
24	29.66		58	64	48			Rain.	
25 to 26	29.84	29.30	58	64	49		NW. Hard.	Squalls.	
27	29.75		58	63	48		SE. Strong.	Heavy rain.	
28	29.65		53	59	50		NE.	Rainy.	
29	29.84		56	62	47		E.	Very fine.	
30	29.97		58	61	43		S.	Fine.	
31	30.00		59	63	44	3.89	NE.	Very fine.	
Aug.	1 to 2	30.08	29.95	58	65	46		E. SE. Strong.	Hot and dry.
	3	29.75		59	62	50		N.	Fine.
	4	29.86		60	64	48		SW.	Rainy,

Barometer.		Thermometer.			Rain G.	Direction of Wind.	Weather.			
1858.		Max.	Min.	Mean.	Max	Min	In.			
Aug.	5 to 6	30.05	29.84		57	62	50		NW.	Fine.
	7 to 10	30.24	29.95		60	63	45		SE. E.	Fine
	11 to 12	29.90	29.89		59	69	54			Fog.
	13	29.89			61	65	50		SW.	Fine.
	14 to 15	29.88	29.83		55	63	47			Heavy rain
	16	29.92			58	59	53		SW. SE.	Dry.
	17 to 18	29.61	29.55		58	60	52		S. SE.	Rainy.
	19 to 21	29.81	29.72		56	62	49		NW. N Strong.	Very fine.
	22 to 29	30.04	29.70		59	61	44		SE. N. NW S.	Very fine hot
	30 to 31	29.68	29.64		53	57	46			Stormy
Sept.	1	29.59			51	57	50	1.75	N. Hard.	
	2 to 11	30.04	29.65		51	60	56		SW. W Hard	Rainy.
	12 to 13	29.97	29.30		59	65	49			Dry, hot.
	14 to 17	30.05	29.66		60	65	44		E. SE.	Fine, hot
	18	29.97			49	59	44		W.	Fine.
	19	30.03			50	52	45			Rain.
	20	30.04			55	58	43		E.	Fine.
	21 to 22	30.04			55	58	54		SE.	Rain, gale at night
	23	29.43			57	61	52		S. Hard.	Wild.
	24	30.04			57	58	49		N.	Stormy.
25	30.41			51	58	42		W.	Fine, calm	
26 to 28	30.37	30.11		59	59	46			Dull.	
29	29.89			55	56	49				
30	29.57			57	58	54				
Oct.	1 to 6	30.01	29.77		52	59	39	3.18	SE. Fresh.	Very fine.
	7	29.32			51	53	47		NW. Fresh.	
	8	29.57			43	55	38		SW.	Gale, rain.
	9	29.33			47	49	34		NW.	Fine.
	10	29.38			46	51	45		NW.	Stormy.
	11 to 14	30.11	29.50		47	55	32		S.	Much rain.
	15 to 16	29.97	29.70		52	56	44		NW. Hard.	Unsettled, rainy
	17 to 18	29.72	29.63		46	58	43		SE.	Fine.
	19	29.40			46	48	43		NE. Strong.	Dry.
	20 to 22	29.87	29.52		47	53	41		E. NE.	Gale, with rain.
23	29.90			46	52	42		SE. E. Strong.	Dry.	
24 to 27	30.17	29.92		45	51	38		E.	Thick and hazy	
28	30.00			34	50	31		NE. E.	Fine and dry.	
29 to 30	30.42	30.20		33	41	30	3.65		Thick and rainy	
31	30.41			34	43	28		NE. Fresh.	Fine and dry.	
Nov.	1	30.35			36	40	31		S. E.	Cloudy.
	2	30.29			36	43	30		E.	Fine and dry.
	3 to 4	30.14			40	44	36		NE.	Thick and foggy.
	5 to 6	30.16	30.07		33	46	30		NE.	Very fine.
	7 to 12	30.36	29.90		35	47	27		E. Strong.	Fine, dry and cold.
	13 to 14	29.41	29.17		37	41	34		NE. Hard.	Heavy rain.
	15 to 16	29.40	29.20		32	37	28		E.	Fearful gale.
	17 to 18	29.20	29.18		39	32	24		NE.	Rainy, very cold.
	19 to 20	29.28	29.25		29	35	21		E.	Fine and clear.
	21	30.00			28	33	25		NE.	Cold, dreary.
22 to 23	30.00	29.74		28	37	24		E. Strong.	Dry, cold.	
24 to 27	29.60	28.82		40	47	28		SE. S. SE.	Thick and rainy.	
28	29.00			43	46	39		W.	Fine.	
29	29.10			45	46	41		S.	Dark, stormy.	
30	29.20			42	48	37	2.57	NW. N	Fine, cold.	
Dec.	1	29.65			37	40	34		NW.	Fine, wet evening
	2	29.48			43	45	38		N. NW	Fine and dry.
	3	29.96			40	45	30		W.	Fine.
	4	29.80			45	46	39		SW.	Thick and rainy.
	5 to 6	30.12	29.72		34	45	28		E.	Fine and dry.
	7 to 11	30.12	30.04		32	38	24		NE.	Damp and raw
	12	29.98			32	34	30		SE. S.	Thick, rain.
	13	29.76			36	42	31			Bright.
	14	30.02			32	41	28			Thick fog.
	15	30.06			33	34	26		F.	Fine, wet evening.
16	29.93			35	37	32		SE.	Wild, rainy.	
17	29.82			37	37	35		E.	Dark and chilly.	
18	29.36			40	42	35		S.	Gale, hard rain.	
19	29.40			40	53	38			Lightning, hail	
20	29.52			38	42	35			Calm	

Barometer.		Thermometer.				Rain G.	Direction of Wind.	Weather.
1858.	Max.	Min.	Mean.	Max.	Min.	In.		
Dec.	21	29.63		44	45	34		Thick fogs.
	22	29.57		41	45	39	NW.	Squalls.
	23	29.33		43	44	39		Heavy rain.
	24	29.44		37	45	36	NW.	Fine.
	25	29.33		38	46	32	SW.	Heavy rain.
	26	29.28		40	43	37	NW.	Storms.
	27 to 29	29.83	29.35	36	44	32	NW. N.	Fine and dry.
	30 to 31	30.04	29.90	38	42	33	S.	Rain and fog.
						4.52		
						29.28		
1859.	Max.	Min.	Mean.	Max.	Min.	In.		
Jan.	1 to 3	30.51	30.20	34	44	26	N.	Foggy.
	4	30.42		33	37	30		Fine.
	5 to 6	30.35	30.44	32	38	29		Foggy and cold
	7 to 8	30.50	30.34	30	36	24	E.	Dry and cold, frost
	9	30.60		30	32	23	N.	Fine.
	10 to 12	30.66	30.43	36	40	24	S. SW.	Very fine.
	13 to 14	30.38	30.33	34	43	31	NE.	Very fine and mild.
	15 to 22	30.19	29.79	37	48	27	S. SW.	Changeable.
	23 to 25	29.93	29.50	39	42	32	SW. W.	Blowing hard.
	26	29.76		37	44	34		Fine.
	27 to 30	29.77	29.44	39	42	34	SW.	Rainy.
	31	29.44		32	41	31	W.	Snow storm.
Feb.	1 to 3	29.91	29.53	33	44	30	NW	Fine, wind.
	4 to 7	29.98	29.16	37	43	33	SW. W.	Rain and wind.
	8	29.28		37	39	33	SE.	Rain.
	9	29.36		39	42	37	S.	Wet and rough.
	10 to 11	29.51	29.47	40	45	35	SW.	Rain and wind.
	12 to 13	29.78	29.75	41	43	35		Fine.
	14 to 16	30.23	30.06	41	46	34	NW.	Damp.
	17	30.06		44	48	41	SW.	Fine.
	18 to 19	30.29	30.23	36	45	31	NW.	Fine, dry, cold.
	20 to 21	30.23	30.21	39	46	30		Fine, Mild.
	22 to 25	30.50	30.25	39	47	28	NW.	Bright, cold.
	26	29.85		40	41	29	SW.	Gale at night.
	27 to 28	30.19	30.00	37	45	28	NW.	Fine, dry.
Mar.	1 to 2	30.21	30.11	40	45	34		Fine, dry.
	3 to 5	30.29	30.14	45	52	40	W.	Fine, mild.
	6	30.22		42	51	37		Thick raw fog.
	7 to 8	29.76	29.70	41	49	36	N W.	Dry, cold.
	9	30.26		36	45	31	W.	Dry, cold.
	10	30.27		37	43	26	S.	Bright, cold.
	11	29.85		41	41	32	SW.	Clondy, wind and rain.
	12	29.74		44	44	41	SW.	Wet, thick, gale.
	13	29.67		43	45	42	SW.	Rain, gale at night.
	14	30.50		43	46	43	SW.	Wet, gale all day
	15 to 16	29.82	29.23	42	46	36	NW.	Dry cold wind.
	17	29.61		43	47	41	SW.	Wind, and rain at night
	18	29.51		41	47	36	W.	Fine, storm of sleet.
	19	30.07		38	47	30	S.	Fine and dry.
	20 to 21	30.21	29.81	40	45	38	SW.	Cold showers.
	22	30.19		34	44	28	NE.	Dry, cold.
	23	30.12		40	41	30		Damp, mild.
	24 to 29	30.00	29.13	43	52	37	NE.	Dry and cold.
	30	29.23		38	45	32		Fine, cold sleet.
	31	29.39		31	44	25	2.41 NE.	Fine, strong wind.

		Barometer.		Thermometer.			Rain	Direction of	Weather.	
		Max.	Min.	Mean.	Max.	Min.	G.	Wind.		
1859.							In.			
April	1 to 4	30.12	29.87	42	50	21		w.	Wind strong, cold.	
	5 to 7	30.06	29.80	51	56	37			Very fine, warm.	
	8	29.78		46	56	43		sw.	Fog, rain.	
	9	29.58		47	47	44		w.	Dry, rain at night.	
	10 to 11	29.27	29.13	45	49	38			Dry, cold.	
	12	29.58		43	50	33		NE.	A. m. dry, p. m. wet.	
	13	29.29		42	47	32		N.	Dry, cold.	
	14	29.36		42	46	30		sw. w. NW.	Rain, a gale.	
	15	29.33		33	48	32		N.	Heavy snow storms.	
	16 to 17	29.72	29.54	39	44	29		NW.	Strong cold winds.	
	18	29.76		39	44	27		sw. NE.	Fine.	
	19 to 22	29.59	29.36	39	47	27		E. NE.	Wind fresh, dry and cold	
	23	29.69		38	47	27		E. SE.	Heavy rain, a gale.	
	24 to 25	29.56	29.43	43	51	33		sw.	Rainy, mild.	
	26	29.92		49	51	39		E.	Mild.	
27	29.76		43	52	40		SE.	A gale, very cold.		
28	29.37		45	48	42			Heavy rain.		
29	29.61		49	52	42		sw.	Fine, mild.		
30	29.64		41	54	41		SE.	Strong wind, heavy rain		
May	1	29.63		41	45	38		NE. E.	Dreary, cold.	
	2 to 4	29.74	29.60	40	49	33		E. NE.	Wind and rain.	
	5 to 6	29.90	29.76	42	47	31		S. SE.	Very fine.	
	7	29.88		46	50	38			Dry, p. m, rain.	
	8 to 9	30.06	29.96	48	52	37		E.	Fine, dry.	
	10 to 12	30.05	29.94	46	53	40		SE.	Dry, strong wind.	
	13 to 16	29.93	29.80	49	56	36		N.	Dry, strong wind.	
	17	29.72		50	57	43		E.	Rain.	
	18	29.65		52	57	47		NE.	Dry.	
	19 to 20	29.62	29.60	51	61	45		NE,	Thundery, squalls.	
	21 to 22	29.90	29.72	45	55	40		NE. E.	Fresh wind, cold.	
	23 to 25	29.92	29.80	47	56	35		E. S.	Dry, hot.	
	26 to 27	29.80	29.77	54	59	45		S. E.	Very fine.	
	28	29.63		52	61	45		NE.	Damp, fresh wind.	
	29 to 30	29.55	29.52	55	61	44			Fine, hot.	
31	29.54		58	59	46		E.	Thunder storm.		
June	1 to 2	29.70	29.43	54	62	48	1.43	E.	Fine.	
	3 to 8	29.90	29.60	60	64	46		E.	Very fine, hot.	
	9 to 10	29.58	29.55	52	65	39		NE.	Dry, fresh wind.	
	11	29.46		51	57	48			Thick rain.	
	12 to 19	30.05	29.76	56	64	49		N. sw.	Very hot.	
	20 to 21	29.86	29.78	54	65	44		sw. N.	Rain.	
	22 to 24	30.02	29.92	57	65	45		NW.	Fine, dry.	
	25 to 26	29.87	29.72	57	62	43		SE.	Thunder at night.	
	27 to 28	30.00	29.92	55	63	44		NE.	Rain.	
	29 to 30	29.98	29.96	57	60	45		w.	Bright.	
	July	1	29.96		54	63	46		NE.	Very fine.
		2	29.96		60	61	51		SE.	From 7 to 10 p. m. a fear-
		3	29.98		57	64	52		SE.	Hot. [ful thunder st.
		4 to 17	30.22	30.00	63	70	43			Extremely hot.
		18	29.70		66	68	50			Hot, thunder storm.
19 to 23	29.84	29.74	62	69	52		sw.	Hot, rainy, thunder.		
24 to 31	30.92	29.82	62	66	63	1.46	sw.	Very hot, breeze.		
Aug.	1 to 2	29.95	29.80	59	64	52		sw.	Fresh breeze.	
	3 to 8	30.97	29.65	58	63	51		sw.	Rainy.	
	9 to 10	29.83	29.77	55	63	49		NE. E.	Rain and wind.	
	11 to 14	29.92	29.76	59	62	50			Extremely fine.	
	15 to 16	30.04	29.69	58	61	46		NW.	Strong wind, cool.	
17 to 28	30.21	29.66	60	67	48		sw. SE. E. SW.	Hot, very fine.		
29 to 31	29.77	29.54	55	61	46	1.61	sw. w. NW.	Unsettled, storms.		
Sept.	1	29.52		54	56	47			Stormy.	
	2	29.64		52	58	46		sw.	Rainy.	
	3 to 5	30.00	29.73	51	60	42		NE. E.	Fine.	
	6 to 9	29.78	29.71	53	60	45		sw. w.	Stormy.	
	10 to 12	30.23	30.05	52	58	41		NW. w. SW. SE.	Fine, strong wind.	
	13	29.73		52	56	47		NW. SW.	Thunder storms, rain.	
	14	29.42		43	53	40		NE.	Stormy, strong wind.	
	15	29.36		45	54	39			Fine, mild.	
	16 to 17	29.62	29.32	48	56	38		NE.	Strong wind.	
	18	29.90		46	55	38			Cloudy, rain.	

Barometer.		Thermometer.			Rain G.	Direction of Wind.	Weather.		
1859.	Max.	Min.	Mean.	Max.	Min.	In.			
Sept.	19	29.73		47	55	42	NE.	Fine.	
	20	29.80		52	55	41	W.	Fine, p.m, hard rain.	
	21 to 23	29.59	29.34	51	55	45	NW. W.	Wind, rain, fog.	
	24 to 25	29.73	29.72	55	59	54	SW.	Dry, fresh wind.	
	26	29.90		56	59	52	SW. SE.	Heavy rain.	
	27	29.90		52	57	47	N. SW.	Fine.	
	28 to 29	29.70	29.58	52	58	47	NE.	Blowing, storms.	
	30	29.66		52	53	49	SW.	Thick, wet, windy.	
	Oct.	1 to 2	30.05	29.67	59	58	51	SW.	Thick, wet, windy.
		3 to 12	29.99	29.40	53	61	44	S. NE. S. E. NE.	Fine, hot.
13 to 15		29.61	29.38	49	57	41	NE. SE.	Thick, rain.	
16 to 18		29.78	29.52	53	56	49	SW.	Storms, unsettled.	
19		29.81		50	56	49	W.	Very fine.	
20		29.50		52	57	43	SW.	Wind, storms.	
21 to 23		29.43	29.20	32	53	26	NE.	Dry, cold, frost.	
24		29.28		30	36	24	SE.	Sleet and snow.	
25		29.27		38	38	28	SE.	Tremendous gale.	
26		29.22		40	45	38	NW.	Blowing hard.	
27 to 28	29.60		44	44	29	SW.	Rain.		
	29	29.22		40	50	38		Fine.	
	30	29.27		39	46	33	SW.	Rain, wind.	
	31	29.19		34	46	31	SW.	Heavy gale at night.	
	Nov.	1	28.80		36	48	34	N. W.	Fearful gale.
		2	29.66		42	50	39	N. SW.	Storms.
		3	29.63		43	47	40	N. SW. S.	Fine, gale at night.
		1 to 6	29.33	28.98	44	50	39	SW.	Wind and rain.
		7 to 14	30.45	29.52	37	51	24	SW. NW. E. NE.	Fine.
		16 to 17	30.11		29	40	25	NE.	Raw fog.
18		30.16		37	37	23	E. NE.	Fine.	
19 to 21		29.86		36	41	35	SE. S.	Damp and cold.	
22 to 23		29.86	29.77	41	45	37	S. SE. S.	Fine.	
24		29.78		44	46	38	SE.	Thick fog.	
25 to 26	29.74	29.69	42	47	36	SE. SW.	Fine.		
	27 to 28	29.87	29.76	39	46	36	NW.	Thick and rainy.	
	29 to 30	29.76	29.39	34	44	28	NE.	Fine, cold.	
	Dec.	1 to 3	30.01	29.62	24	34	21	NE.	Wind and rain.
		4	29.78		33	33	20	SSW.	Hard frost.
		5 to 7	29.75	29.34	42	47	35	SW. NW. SW.	Rain, a gale.
		8	29.97		42	42	37	SE.	Foul.
		9	30.49		31	44	31	SE.	Fine, cold.
		10						SE.	Thick and dark.
		11	30.42		25	26	24	E.	Fine.
12 to 13		30.32	30.20	30	35	21	S. NE.	Fine, cold and frosty.	
14 to 17		29.59	29.49	18	32	12	NE.	Thick, damp.	
18 to 19		29.53	29.52	18	24	14	S.	Very hard frost.	
20	29.64		28	28	13	S.	Snow.		
21	29.22		39	41	28	W.	Thaw and rain, a gale.		
22	29.40		32	41	26	SW.	Cold and frosty.		
23 to 25	29.32	28.42	31	42	29	NE. SW. S. SE.	Mild.		
26 to 28	29.16	28.30	52	41	30	NW.	Thick, rain.		
29 to 31	29.59	29.22	57	46	32	SW.	Showery.		
						3.61		Thick, rain and wind.	
						30.24			

METEOROLOGY.

COMET.

Corfe Castle, 25th, June, 1860.

ON going out of my house at 10. 45., last night with Mr. Austen and Mr. Bradley, my attention was called by Mr. Austen to a Comet near the horizon, in the N. N. W.

It was situated so that the nucleus appeared to be a little above a line drawn through alpha and beta *Aurigæ*, its distance to the west of beta *Aur.*, being rather greater than that of beta from alpha *Aurigæ*. The nucleus was not much less brilliant than beta *Aur.*, and the tail was distinctly traceable in a vertical direction for about 15°

I roughly estimated the position of the nucleus R. A. 6^h. 50^m. Dec. 43° N.

R. E. RICHARDS.

NATURAL HISTORY.

1859.

BIRDS.

FOUR specimens of the Glossy Ibis, *Ibis Falcinellus*, were shot in the Arne marshes in September, and several others are stated to have escaped.

Ring Ouzels, *Turdus torquatus*, were seen by the Rev. J. Cooke, upon the brushwood which grows upon the under cliff west of Chapman's pool, on the 14th of October.

The additions to our list, are

41. The Golden Oriole, *Oriolus Gallbula*.
 Seen by Mrs. Tracey at Winspit, on the 6th of May.
 A second specimen was also seen by the Rev. Eldon S. Bankes in the Rectory Garden, at Corfe Castle.
95. The Common Grosbeak, *Tringilla Coccothraustes*.
 Found (dead) about the 13th of February, 1860, at Bottom, near Worth, and passed into the possession of Mrs. Tracey.
312. A Leach's Petrel. *Procellaria Leachii*.
 Picked up at Arne, near the River Frome, on the 6th of November.

J. H. A.

TRIGONELLITES LATUS.

(Woodward's Recent and Fossil Shells, p. 80. Von Buch, on Aptychus: Geological Journal, Vol. vii, p. 32.)

[Read at the Museum, Corfe Castle, Feb. 20th, 1860.]

THE Trigonellites are among the few well preserved Fossils of the Kimmeridge Clays of Purbeck: they seem to have escaped the decomposition to which other organic matter was subject. With the exception of Saurians and Vertebrate Fish, impressions only remain of the various forms of life which inhabited the seas during the deposition of these beds. The Kimmeridge Clays, which sink into the sea at Gad Cliff, do not again appear until after an interval of eight miles, at Ringstead Bay, where they form the transition from the clay into the Oxford Oolite.

The fossils are well preserved, and do not crumble away as those at Kimmeridge. The bone-like structure of the Trigonellites may possibly be the cause of their preservation, for Saurian and Fish bones are plentifully distributed, uninjured by the decomposing property of the shales.

The form of the Trigonellites as their name represents, is triangular, two of its angles are pointed, one is gibbous; the sides abutting the latter have sharpened and bevelled edges, the other is truncated. Distinct lines of growth appear on the concave surface, the convex is spotted and has the appearance of shagreen. Naturalists are not unanimous as to their position in the organic world. Agassiz and D'Orbigny rank them either among the bivalves or the cirripides, but after a slight examination the absence of an adductor muscle, palial sinus, and umbo, will show the erroneousness of this view. With greater probability they might be assumed to be the operculum of a Cephalopod which nature supplied with a peristomal defence to overcome difficulties which some members of this family had to encounter. They must be viewed in pairs, and acting as folding doors to preserve the mollusc from harm either when drawn within, or protruded

from, its chamber. On the former supposition a cartilage may have attached the bevelled edges to the peristome, admitting free action for closing or opening the aperture at the will of the animal. The truncate thickened edges when closed, would lie at right angles to the dorsal edge: such an appendage is not unusual to Cephalopods of the present day—the mouth of the *Nautilus pompilius*, a recent species, is closed by the connection of its two dorsal arms. If it was employed for protection when the animal was protruded, it was probably used as a defence of the branchiæ which laid immediately beneath the mantle. The Ammonite swam by forcing out the water used for respiration from the branchial sac, which if torn, the animal could no longer direct its movements; some such means to preserve it from harm was therefore necessary. The opening and shutting of the mantle for respiration, would be much facilitated by the division of this appendage, and there could not be a more beautiful adaptation for the purpose: at the same time it offered no hindrance to the withdrawal of the animal within its chamber.

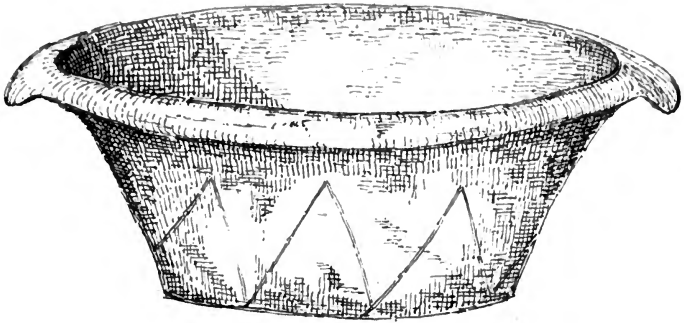
Another view has been taken by some naturalists, that it formed a part of the internal organization of an invertebrate animal, acting as the framework of a fleshy envelope; a development from a lower to a higher type of animal life. That they belong to some part of an ammonite, however, there is little doubt.

The repetition of the same beds by a series of faults at and in the neighbourhood of Kimmeridge Bay, favour their examination as they emerge from the shore, and I have every reason to believe the *Trigonellites* belonged to the *Ammonites longispinus*; both of which abound in a narrow zone beneath the Kimmeridge coal, and are invariably associated together.

If these plates were attached to the animal, they would naturally fall out of the shell at death, which may account for their being scarcely ever found in pairs, being invariably separated from the ammonite. The *Trigonellites* are not confined to the Kimmeridge Clay Shales; they occur as low down as the Lias. Mr. Sharp figures six British species in his Monograph, from the middle of the Upper Chalks of Norfolk, and three from the Chalk formation of Meudon in France. Mr. Braun enumerates forty five kinds, alleging that they occur in every stratum in which *Ammonites* are found.



Fig 1



Size $\frac{1}{2}$

Fig 4

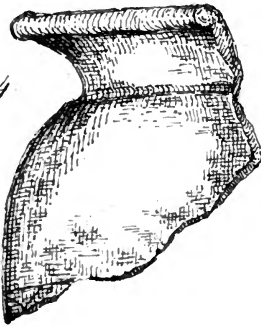


Fig 3

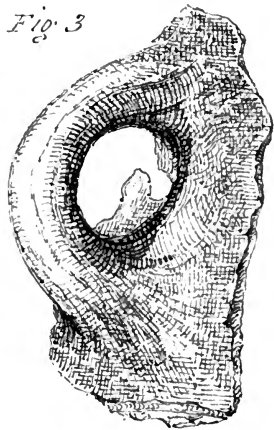
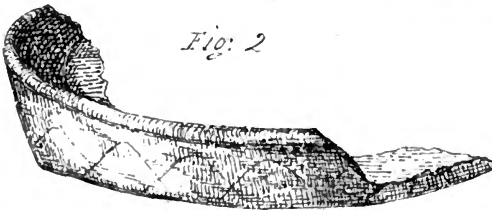


Fig: 2



Size $\frac{1}{2}$ diameter.

ON ROMAN POTTERY

DISCOVERED IN PURBECK.

[Read at the Grange, February 10th, 1858.]

At the conclusion of a paper upon the subject of the Kimmeridge "Coal Money," which I read before the Society in November of 1856, I spoke of the pottery which is usually found in the same localities as a sister manufacture. I stated also that the specimens which had fallen under my notice bore a close similarity to those from other acknowledged Roman stations, and it was upon these data that I partly rested my argument in favour of the "Coal Money" being of Roman origin. But I have since received from the Rev. N. Bond, many fragments of a considerable variety of fictile vessels, which have been discovered during the last year within the premises of the Grange.

Comparison with specimens and drawings of others, obtained from various undoubted Roman sites, establishes their identity.

The many fragments of pottery which have been found at the Grange are chiefly of two colours, red, and grey. Much of the latter bears a black glaze; the former a red, in imitation of Samian ware, and upon one fragment it is white. On

the inside of some fragments are the markings of a brush; on others of the fingers of the potter. Most are exceedingly well burnt, and the vessels have been formed upon the lathe: many are ornamented with the cross-lined pattern, so common upon Roman Pottery. The whole present the character of the Upchurch ware; they are in the full sense of the word, fragments, and of vessels of almost every imaginable size and shape. *Patera*, *Pocula*, *Lagenæ*, are perhaps the most abundant. The ware is generally coarse, and contains a large proportion of sand, though some is fine and hard. The vessels appear to have been of that class which were manufactured and used for domestic purposes, but it is very difficult to recognize their original forms. I shall not therefore attempt to classify, but simply describe their general character.

One fragment only of true Samian ware has been discovered, but it must be mentioned with especial interest from the circumstance of its bearing the mark of Genitor, a well-known Samian Potter; it is stamped GENITORF, as it is mentioned in Mr. Neville's list of Potter's Marks, in the 10th Vol., p. 233 of the *Archæological Journal*, the letter F being added for *fecit*. It is the same in Mr. Wright's List in "The Celt, the Roman, and the Saxon." And in Mr. Roach Smith's List of Marks found in London, in "Collectanea Antiqua," Vol. i, p. 152.

This discovery may not possibly be deemed conclusive in favour of the Grange being a Roman site, on account of the necessarily admitted fact of Samian ware having continued through the Romano-British period, even as late as the cemeteries of the Anglo-Saxons. But it at least proves that, intimately mingled as these remains are with the "Coal Money," they are not of earlier date than the Roman, and I think we have here ample evidence in proof of their being undoubtedly attributable to that people.

In addition to the pottery which has been brought to light at this spot, are a considerable quantity of stones of various

Fig. 1

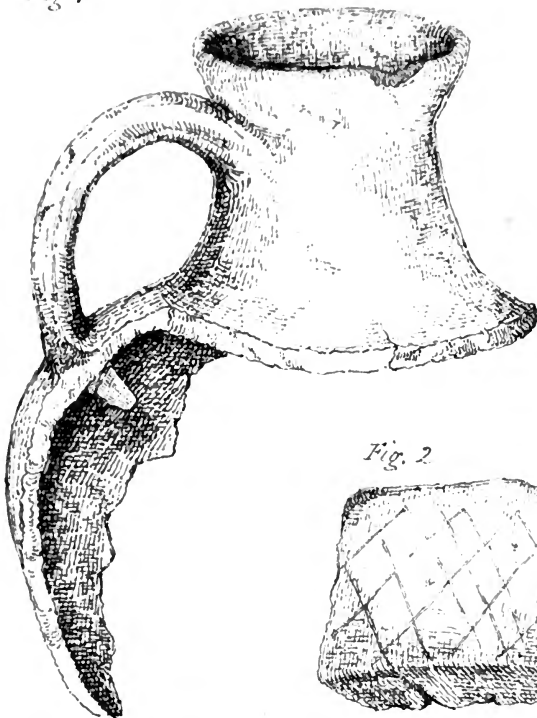


Fig. 2

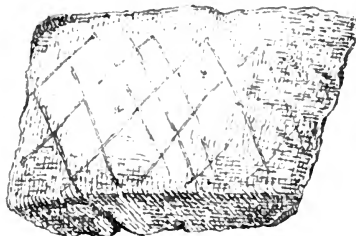


Fig. 3

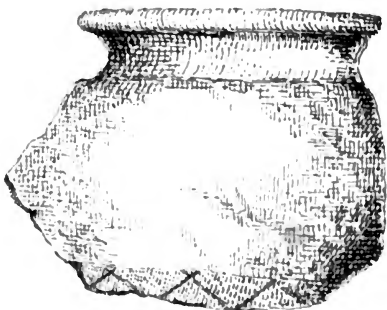


Fig. 4



Size $\frac{1}{2}$ diameter



lithological characters, which would seem to be the remnants of ancient buildings, and amongst them, three, which have been hewn in the form of pillars or pedestals, tapering towards the top, and measuring two feet six inches in height. Six inches at the bottom is left rough, evidently intended for insertion in the ground, so as to leave the exact height required at which the perforated floor of a kiln should be supported.

From the fact that these stones do not present any appearance of having been exposed to the action of fire, I think it probable that the space beneath was a hot-air chamber, whence the heat was evenly distributed to the pottery which was stacked above to be dried only, preparatory to being baked in a *clamp kiln*.

There are also two or three pieces of hard baked clay, an inch, and an inch and a half in thickness, which appear to be fragments of perforated fire bricks, of which the floor of the kiln may have been made.

Another article which has been found at the Grange, is the quern, or hand-mill for grinding corn. It was an adjunct of the Roman kitchen, and has been frequently met with at Roman sites, as at Aldborough, (the ancient Isurium,) in Yorkshire, and at Bath, where several are preserved in the Museum. A complete specimen has been also found at Poole, which consists of two stones precisely similar to those from the Grange. Pottery of the same character as the above, occurs at Povington, associated with "Coal Money," as also at Encombe and Kimmeridge. And at Ecclestone, in a mound which was partially removed, some years since, were discovered a quantity of clumps of clay, which bore the impression of the fingers during the process of moulding, or plastering down with the hands, the alternating layers of clay, in stacking the ware, preparatory to burning.

Whether or not, the Romans carried on the manufacture of Pottery in Purbeck to any great extent, the evidence which

I have adduced may not, perhaps, be sufficiently conclusive. But if they did so, the Grange is a site which they may be supposed to have chosen, since it contains every requisite for the purpose, viz.—the best quality of clay near the surface, an excellent sharp sand, water, and an inexhaustible supply of fuel. The supposition that Britain supplied an export trade in Pottery during the Roman occupation, is borne out by the circumstance of many urns and vessels, precisely similar to the Upchurch ware, having been found among the Roman Pottery dug up in the neighbourhood of Boulogne. In the same place I am informed by Mr. Albert Way, have been found ornaments of “Kimmeridge Coal.” I may therefore suggest the probability, that comparison with remains discovered abroad would prove that much had been obtained from Purbeck, and that further investigation may afford evidence of Roman location and manufacture of no mean consideration.

LIST OF THE MORE REMARKABLE SPECIMENS.

1. A basin or bowl, (Pl. xix, Fig. 1,) measuring in diameter at the top, 8½-in. by 3-in. deep. It is of grey ware, glazed red in imitation of Samian, and is inscribed upon the side and bottom with crossed lines.
2. *Patella* or plate, (Pl. xix, Fig. 2,) dark brown. Diameter at the bottom 7-in. by 1½-in. deep, ornamented with foliating lines.
3. A handle (Pl. xix, Fig. 3) of a black vessel, apparently a *lagena*.
4. Fragment of the neck of a *Lagena*, (Pl. xix, Fig. 4,) of a yellowish grey, unglazed ware. Diameter at the mouth, 5 inches.

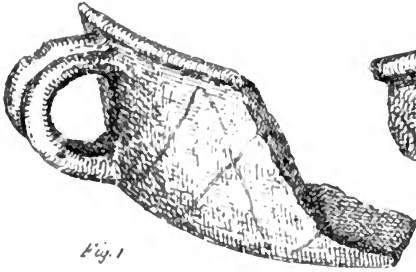


Fig. 1

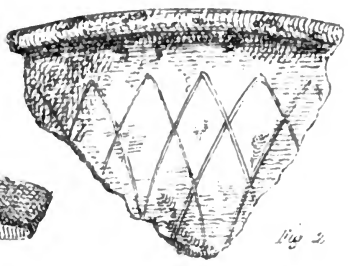


Fig. 2



Fig. 3



Fig. 4

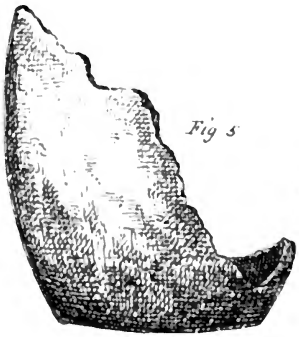


Fig. 5

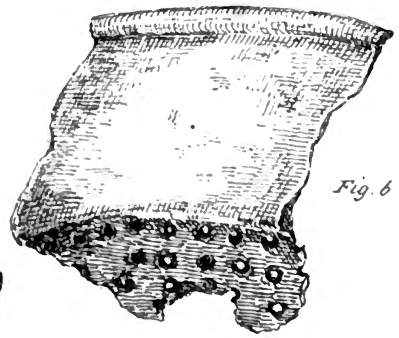


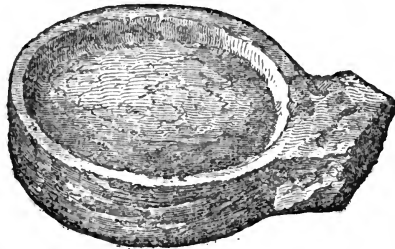
Fig. 6

Size 1/2 diameter

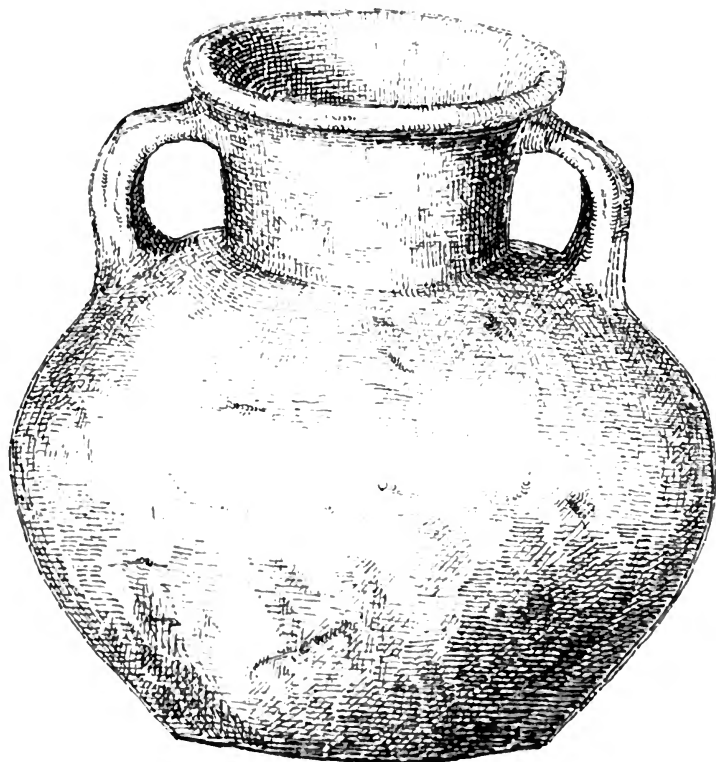


5. A similar handle, but of a vessel with a wider mouth, and of a light red colour.
6. Three fragments of *pocula* or cups of black ware, (Pl. xx, Fig. 4, and Pl. xxi, Fig. 5.) Diameter at the mouths $2\frac{1}{2}$ -in. and 2-in.; at the bottom of the largest (whose height may have been about 5-in.) $2\frac{1}{2}$ -in. Perfect specimens similar to these have been found at Dorchester, and are preserved in the County Museum.
7. Fragment of a basin or bowl of coarse grey ware. Diameter at top $10\frac{1}{2}$ -in. by 5-in. deep.
8. Several fragments of pans of hard coarse ware. Diameter at the top 11-in.
9. Neck with handle of a *Lagena* , (Pl. xx, Fig. 1,) measuring in diameter at the lip $2\frac{3}{4}$ -in., at the bulge 6-in., and in height probably 8-in. The manner in which the handle is inserted in this specimen is especially worthy of remark.
10. A fragment, unglazed, of a dish, (Pl. xx, Fig. 2,) measuring $2\frac{1}{2}$ -in. deep, bears a cross-lined pattern.
11. Several fragments of *Vases* , (Pl. xx, Fig. 3,) having the lip rolled out, and about 2-in. wide. They are smoothed or rather polished, one bearing remains of a black glaze, to the depth of 2-in., and below this depth the surface is roughed, and ornamented with the cross lines. Inside are markings of a hard brush.
12. Similar forms of coarse thick pottery.
13. Fragment of similar form, with a yellowish white glaze.
14. A fragment, (Pl. xxi, Fig. 1,) 2-in. deep, has a handle and cross-pattern.
15. Fragment, (Pl. xxi, Fig. 2,) showing a cross-lined pattern.
16. Fragment of the neck of a bottle, *Lagena* ? (Pl. xxi, Fig. 3.)

17. Handle of a vessel, precisely similar to others found at Sturminster Marshall, Dorset; at Southampton, and in the New Forest, Hants. (Pl. xxi, Fig. 4.)
18. Fragment of a perforated bowl. (Pl. xxi, Fig. 6.)
19. A two-handed bottle, or small Lagena, measuring 7-in. high, with a mouth 4-in. in diameter. Found near Lynch. (Pl. xxii, Fig. 7.)

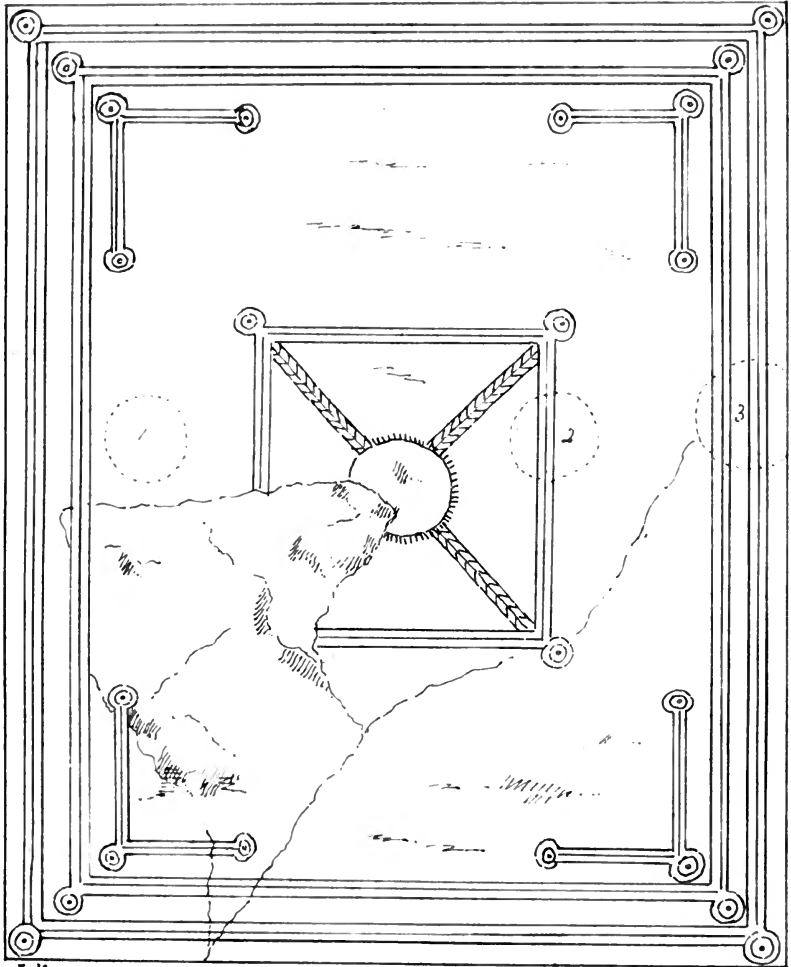


Saucer, or Stand of Kimmeridge Coal found at Porington.



Size $\frac{1}{2}$ diameter.





E. N.

*Slab or Disk of
Kimmeridge Coal.*



ON KIMMERIDGE "COAL-MONEY."

[Read at the Museum, October 12, 1859.]

In March last, in company with the Rev. N. Bond, I again examined the locality at Povington, which is mentioned at page 91. After digging in several spots, which from the paucity of relics appeared to have been previously examined, we alighted upon a portion of the area defined by the blackness of its soil undisturbed, and containing a surprising number of "Coal-money." From two holes, each of about a yard in diameter, were obtained from 600 to 800 pieces, besides many broken portions of armlets. Flint chippings occurred, some of which were perfect points, suitable, and evidently prepared for the purpose of turning. I observed that the specimens thrown out of the different holes, though only three or four yards apart, were by no means uniform. In one the pieces were nearly all small, as if the refuse from turning links for the formation of chains; whilst in the other, they were of the common size, such as would be cast from armlets. It would seem that at these several spots, separate lathes were set up, each probably adapted to only one species of work.

Amongst the many pieces were a few only, unturned, but prepared for the lathe, two to three inches in diameter, cut exactly round; some presenting no trace of the manipulation of the turner, and others only the first process, viz.—the cutting or drilling the hole, or holes for the reception of the chuck, in which some had been broken. In one piece a

square hole had been cut, but the sides of which had partially split away; it had however been re-adapted by drilling the three holes for a treble chuck. In another, two sets of holes have been drilled. I remarked that, although very many minute pieces of coal, chippings from the lathe, were mingled with the soil, scarce any other refuse occurred. These circumstances materially lead to the conclusion that the coal was not conveyed to this spot in its rough state, but that the "buttons," so to speak, were prepared at the quarry, which we may suppose to have been at Kimmeridge, and thence supplied to the manufacturers. Hence their care not to waste them.

The chief novelty discovered was of considerable interest. It consisted of a vessel, (Fig. p. 220,) roughly cut out of shale; the form is a rude circle, the longitudinal diameter being about $\frac{1}{2}$ -in. longer than the transverse. The diameter of the interior averages about $4\frac{1}{2}$ -in., of the exterior $5\frac{1}{2}$ -in. the thickness of the rim being about $\frac{3}{8}$ -inch; the handle, which is truncated and broken off, is 2-inches broad. The thickness of the whole vessel, including rim, varies from less than $\frac{1}{2}$ -in. to $\frac{7}{8}$ -in., and the depth of the cup is about $\frac{3}{8}$ -in. It was turned up in a mass of "Coal-money" and broken flints, conglomerated by the presence of iron matter. At first I thought that it had been made for, and served the purpose of holding, by the turner's side, the flint points which he used in his work. Mr. Albert Way has however suggested a more probable use. He writes in the following words. "The stand closely resembles certain shallow one-handled stands, as, I believe, for a lamp. Either the lamp was placed therein, or some little cup or other object used for burning a light; or else fat, &c. was put in the stand itself and burned with a wick. The stone Druidical Patoræ of the North, of which much has been fabled, were certainly for such uses. And my friend, Sir Walter Trevelyan found them still in use as hand-lamps, in the Faroe Isles. They are just the size of yours, but the wide area in your case gives more the aspect of a



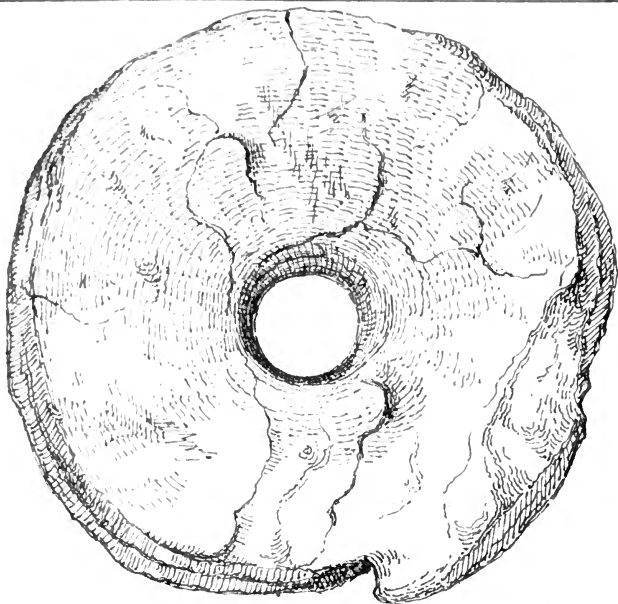


Fig. 1.

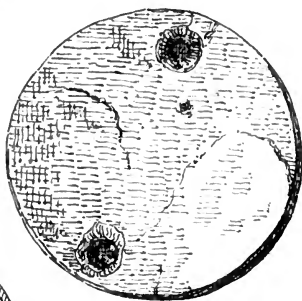


Fig. 3.

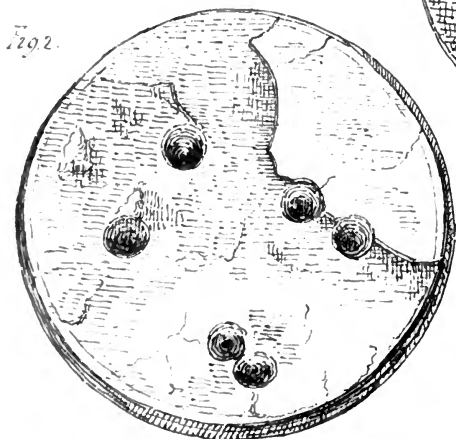


Fig. 2.

stand. For a light, we find small rude crucible-like vessels of baked clay, which are suited for the lamp purpose, and would conveniently stand in such a receptacle." Hutchins mentions a bowl made of Kinmeridge coal, which had been found upon the shore at Kinmeridge. It measured "about six inches in diameter, but shallow, and six inches high; in it were several pieces of Coal-money." This must have nearly resembled mine. I also found at Povington the half of a small vessel, which might have been the lamp itself, or rather the vessel, which contained the wick and fat which was placed in the larger one. It measured 3 inches in diameter and $\frac{3}{8}$ of an inch deep.

The remaining specimens of interest were—Several pieces of "Coal-money," with portions of rings attached to them;

A piece roughly rounded with a cutting instrument $3\frac{3}{4}$ -in. in diameter, and $\frac{7}{8}$ -in. thick, having a square hole of $1\frac{1}{4}$ -in. in diameter, it appears to have been split off from the bottom of a large, perhaps, conical piece, such as is figured at (Pl. ix.)

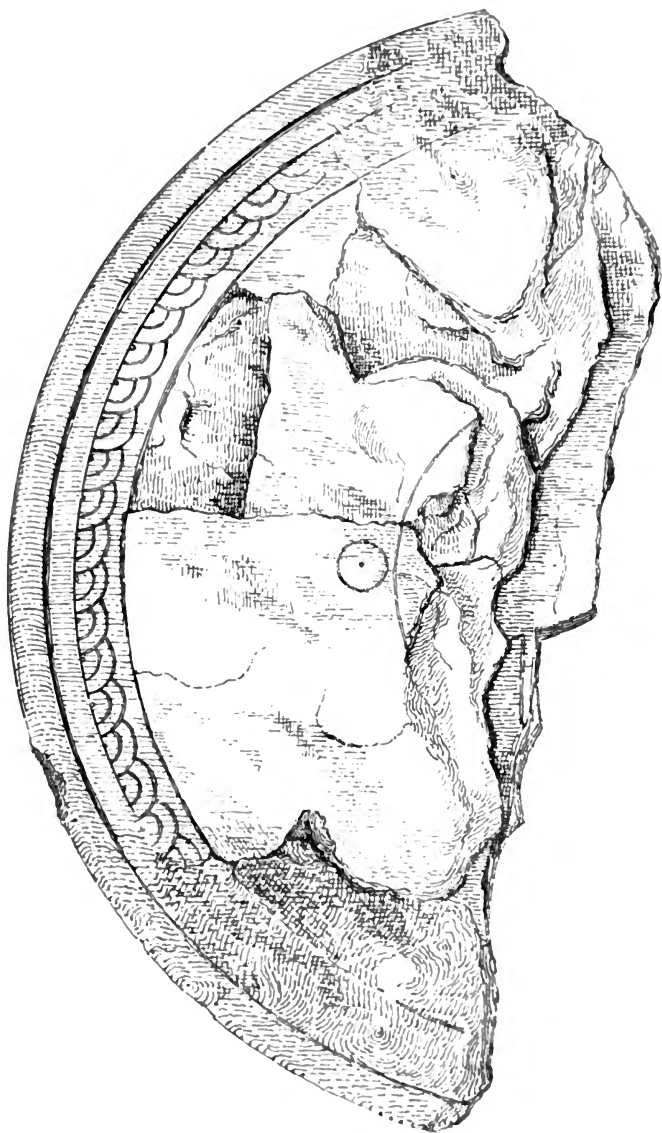
A portion of a circular piece of coal of $2\frac{1}{2}$ -in. in diameter by $\frac{1}{2}$ -in. thick, which presented no markings of the lathe upon either surface, but the edge was smoothly turned, having three parallel incised lines running round.

I have found also at Povington, embedded with the "Coal-money" at the same depth, as many as four small smoking pipes. Not to insist upon any precise period at which such may have been manufactured or used in Britain, I nevertheless would suggest the probability that smoking may have been practised previously to the commonly accepted date of the introduction of tobacco. In fact many of our antiquaries insist upon very early smoking of something unknown, although others believe them to be of Elizabethan antiquity at earliest. These pipes are precisely similar to some figured in Mr. Wilde's "Catalogue of the Antiquities in the Museum of the Royal Irish Academy," which he describes

as "of a very primitive fashion, small in the bowl, and thick in the shank, and have been found in great numbers in Ireland." From the fact, "he says," of many of them having been found in caves and subterranean passages, ignorantly supposed to be the work of our Scandinavian visitors in former times, they have improperly been denominated "Danish pipes." Another interesting notice of their occurrence, I quote from "Wilson's Archæology of Scotland."

"A class of relics found in considerable numbers at North Bewick, as well as in various other districts, are small tobacco pipes, popularly known in Scotland by the names of *Celtic* or *Elfin pipes*. To what period these curious relics belong, I am at a loss to determine. The popular names attached to them manifestly point to an era long prior to that of Sir Walter Raleigh and the Maiden Queen, and the objects with which they have been discovered, would also seem occasionally to lead to similar conclusions, in which case we shall be forced to assume that the American weed was only introduced as a superior substitute for older narcotics Mr. C. K. Sharpe informs me that even in his younger days it was common for the old wives of Annandale to smoke a dried white moss gathered on the neighbouring moors, which they declared to be much *sweeter* than tobacco, and to have been in use before the American weed was heard of."

The following examples of the circumstances under which these Elfin pipes have been found, taken from the Scottish statistical accounts are analogous to those in Purbeck. "Many of the ancient British encampments appear in the parish of Kirkmichael, Dumfrieshire. Upon some of these being opened ashes have been found, likewise several broken querns or hand-mills, and in one of them there was dug out a sword having a basket-hilt." There was also seen a number of pipes of burnt clay with heads somewhat smaller than that of the tobacco pipe now in use." "An example is also noted of the discovery of a tobacco pipe in sinking a pit for coal at





Thisk, in Ayrshire, after digging through many feet of sand."

About the year 1851 I was shown, in a cottage at Langton Matravers, a pipe of like character, which was represented as having been brought from the clay works at either Creech or Norden; where, in moving surface earth, so vast a number were discovered as to suggest the probability that they had been manufactured at the spot. However, I here leave the subject for further investigation.

It is evident, from the result of this day's exploration, that the whole area which I have previously described, must have contained many thousands of "Coal-money." Off each piece, at least one ring must have been turned. We find only a few broken ones, and the records of four or five perfect armlets amongst Roman remains elsewhere. And considering, the question naturally suggests itself, for what market were they manufactured? Doubtless there must have been an export trade, but its direction has yet to be discovered.

Pl. xxiv. Represents additional varieties of "Coal-money" from the Grange.

Pl. xxv. Represents a circular ornamented disk of Kimmeridge coal, found whilst lowering the hill, North of King Edward's bridge, at Corfe Castle. It is in the possession of Charles Wilcox, Esq., of Wareham.

Pl. xxvi, Fig. 2. Represents the portion of an armlet ornamented with notches, found at Kimmeridge. It is in the possession of the Rev. O. L. Mansel.

Since my last paper (Page 82) upon this subject, I have obtained also from other sources some additional information, which is worthy of notice. In Vol. xiii, Page 407 of the *Archæological Journal* is a notice of some reliques found in Ireland, near Donaghadee, in the County of Down, supposed to be Roman. Amongst them were two armillæ, one of purple glass cast in a mould, the other of Kimmeridge shale. They each measured $2\frac{3}{4}$ -in. in diameter. At Hod Hill in Dorset,

Mr. Durden of Blandford informs me, that armillæ of Kimmeridge Coal have been found with Roman remains.

The following is extracted from a letter from T. W. Wake Smart, Esq., of Northiam, in Sussex.

“In digging the sunken fence at Moreton House, an urn filled with “Coal-money” was brought to light;* and for the following fact I was indebted to my friend the late Mr. J. F. Pennie, who in a letter to me, dated 1846, thus writes; “about 58 years ago as some men were digging for stone near the lodge, which leads to Encombe House, they came to two very large flat stones set up edgeways, very like the early Christianized Saxon tombs: beneath these stones they found a perfect skeleton, and close by its side was a large urn, (vulgo earthen crock,) which would have held at least a gallon, filled to the brim with pieces of ‘Coal-money’.” Mr. Pennie assured me that his informant, an old man, was a credible authority for the fact. The “Coal-money” has indeed been but very rarely discovered in the exploration of tumuli; which is not very remarkable perhaps, as the Romans did not usually raise tumuli over their dead, though they sometimes availed themselves of those which the Celts had previously constructed. Hutchins relates that “at Bradford Peveril was found in barrows opened there, urns, burned bones, ashes, *leathern money*, or rather such “Coal-money” as is found at Kimmeridge, which, when long exposed to the air, looks like leather, and is sometimes marked with yellow marcasite spots, which appear like the remains of gilding.” † It was reported at the Congress of the British Archæological Association at Wells in 1856, that a Celtic tumulus had been opened at Sulwood, Somerset, in which a flint arrow head and “Coal-money” were found. ‡ It would seem that pieces of “Coal-money” had been sometimes carried about the person, and valued either as

* On the authority of C. Warne, Esq., F.S.A.

† History of Dorset, Vol. i, page 445.

‡ Journal, March 31, 1857, page 52.



Fig. 1.

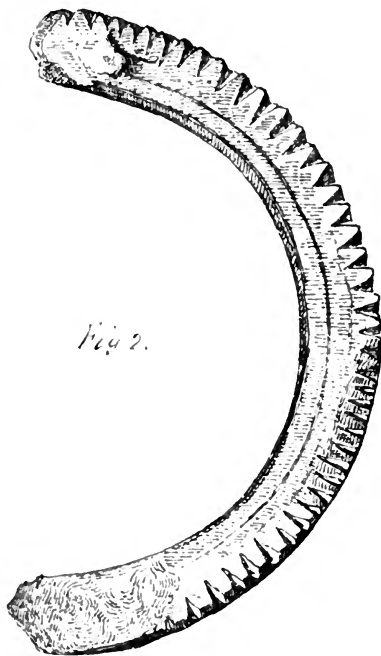


Fig. 2.



objects of curiosity, or as being supposed to possess certain talismanic virtues: in this manner we might account for the discovery of solitary specimens in remote localities; thus, in 1852 three pieces were found in breaking up Down land at Charlton, near Blandford;* Mr. Rolfe found a large specimen 8½-inches in diameter, at the Roman station of Richborough; one was found during excavations at the Roman cemetery at Preston, near Weymouth. The proofs of its Roman character are numerous and strong enough from its association with Roman remains; the wonder is that Miles, with the evidence before his eyes, should have so completely mystified himself, Sir Richard Hoare, and others, with the hypothesis of its Phœnician origin; that illusion, however, has been satisfactorily dispelled by the light that has been thrown on the theory of its fabrication.

“Such facts as the following are corroborative evidences, and they have a local interest attached to them; a bead¹ or amulet, manifestly turned in the lathe, was found at the Roman villa discovered at Tarrant Hinton in 1846; two² with Roman remains at Charlton, in 1846; one³ at Iwerne with a small Roman bell in bronze, &c.; one⁴ at the Roman cemetery, near Preston; one⁵ with a small ring of the shale at Winchester, with Roman remains; one⁶ at Pevensey Castle in the excavations there in 1854; armillæ⁷ have been found at Stroud, Colchester, London, Chesterford; a piece of ring⁸ apparently of Kimmeridge clay, about seven inches in diameter, with Roman remains at Newhaven; a ring of the shale⁹ connected with a bronze ring was found lying upon the breast of a skeleton at Litlington, and suggests that such rings, called armillæ, may have been used in some instances to fasten the dress.† Indeed we may say that wherever

* One of these pieces had *five* holes.

† 1, 2, 3. in Mr. Durden's collection; 4. in Mr. Medhurst's; 5, in Mr. Warne's; 6, Sussex Archæological Collection, Vol. iv, p. 275; 7, *Collectanea Antiqua*, Vol. 3, and *Journal of Archæological Institute*; 8, Sussex Archæological Collection, Vol. v, p. 264; 9, *Publications of the Cambridge Antiquarian Society*, Vol. i.

objects of the shale have been found, manifesting in their make an advancement in the mechanical appliances of art, they have always been associated with indubitable proofs of Roman occupancy.

“I will now detail a few other facts of a different kind bearing on the same point, which are worth recording, I think, as additions to our stock. In excavations made on the site of a Roman villa, in the meadows adjacent to the cemetery near Preston, in 1845, were found several slabs of shale 8 inches square and 2 inches thick, with blocks of hard chalk of similar dimensions, which had probably been used in the flooring of some apartment. The resemblance which it bears to wood in its hard compact nature, was likely enough to suggest its applicability for the construction of articles of household furniture, and we have, I think a proof, of its having been so applied.

“In the collection of Charles Hall, Esq. there is a piece of shale about one foot in length, rudely carved with a leopard's or lion's face, which undoubtedly had formed part of the support of a chair or table. This very interesting relic was found at Frampton, near which place a magnificent Roman pavement had been many years previously discovered. From the Preston Cemetery was obtained a piece of shale, six or eight inches long, having a smooth surface with linear and semicircular markings upon it, evidently drawn with rule and compass, which seemed to be a fragment of some larger piece of ornamented furniture, or cornice. From the same depository was disinterred a most curious and unique panel or tablet of the shale, (Pl. xxiii,) which was found in a grave with a skeleton; the skeleton lay on its right side, and near the shoulders was placed this tablet; standing on its surface were found a small cup of black ware with handle, a bowl of black ware, and a small dish of Samian ware with the Potter's name; round its outside were placed five other small bowls of black ware and an earthen bottle stood near the

knees of the skeleton. The tablet or panel is 20 inches by 16 inches, ornamented with small circular figures at the angles connected by two sets of triple rectangular lines, and a third set which after proceeding some way terminates in a circular end; the centre is occupied by a rectangular figure containing a circle connected with the angles by four sets of lines with a herring-bone ornament. It is not easy, we presume, to conjecture with any accuracy the use for which this curious object was designed.

“In 1841, Charles Warne, Esq., F. S. A., discovered the site of a Roman Pottery on Bagber Farm, in the Parish of Milton Abbas. No perfect vessel, but numerous fragments of coarse grained ware were found, with small angular pieces of oolitic shale, having sharp edges and which had been probably used as tools in ornamenting the vessels under the process of manufacture; a bone knife handle, and coins of Philippus Junr, Alexander Severus, Gordianus, and Antoninus Pius; but the most interesting relic was a semicircular piece of Kimmeridge shale, having a radius of 7 inches and thickness of $1\frac{3}{8}$ -inch, which was most probably part of the Potter's wheel, as it presented marks of contrivance for giving it a rotatory motion. In the adjoining parish, Dewlish, a tessellated pavement was discovered many years ago, and other Roman relics more recently. With reference to vases and vessels of this material, the examples known are of very great rarity, and give to that part of your paper the highest possible interest.

“The “small vessel of oak” which was found in the Stoborough Tumulus, and was subsequently in the possession of Mr. Gough, may have been formed of the shale, for you may remember that the vases described by Mr. Henslow were at first supposed to be formed of oak; very small earthen vases have been sometimes found in tumuli, as in those opened at Lulworth by Mr. Milner.

“The box in the Museum of Antiquities at Boulogne, which

in the opinion of Mr. Way and other competent antiquaries is made of shale, our Gallic friends consider to be of ebony, "un coffret d'ebene." It is about 3-in. in depth when shut, and consists of two parts, the receptacle and its cover. The former is $2\frac{1}{4}$ -in. in depth, and rather less than 4-in. in diameter; the latter is $\frac{7}{8}$ -in. in depth and $4\frac{1}{4}$ -in. in diameter, it is much decomposed. This curious relic was found in 1826 in the course of excavations in the Roman cemetery at Brequerecque, and it contained 19 small brass coins of Constantine and his sons, a bracelet, and an ear-ring.

"I am quite of your opinion that under the general denomination of jet, for which this island is reported to have enjoyed a high celebrity, ancient historians very probably included articles made of Kimmeridge shale, from its great resemblance to jet, properly so called. And if the numerous objects in jet to be met with in public collections were to be strictly examined, I doubt not that their true nature would in some instances be more correctly ascertained. In the Museum of the Dublin Academy there are numerous articles in jet, which it were desirable to examine with especial reference to this point. In the Museum of Antiquities at Edinburgh there are armillæ of a bituminous substance resembling jet, but which are possibly formed of shale. In the Museum at York, are amulets of jet and an armilla decidedly of Kimmeridge shale; and there are also two very remarkable ornaments, the one in jet, the other in shale, consisting of two small medallions, about $1\frac{1}{2}$ -in. in diameter, with heads most exquisitely carved in relievo, perfect gems of ancient art."

JOHN H. AUSTEN.

TUMULI OF THE CHALK RANGE.

[Read at the Museum, November 27, 1860.]

Continued from p. 163.

Dr. Thurnham has kindly supplied me with the following craniological memoranda of the skulls which are phrenologically described in a foot note at p. 158.

1. From the *Ulcwell* barrow, is that of a male of the age of 70, or more: very remarkable for size and great breadth: great erosion of the teeth. It is probably Anglo-Saxon, but the great breadth is exceptional.
2. From the same barrow, is a of skeleton which was doubled up: a male of perhaps 60 years,—a marked example of an Ancient British skull.
3. From Punfield, is the skull of a young person about 15: very remarkable for its short form. He thinks this to be “probably that of an Ancient Briton,” but it will be seen, by referring to (p. 161,) that the deposition of the skeleton was Anglo-Saxon.
4. From the same barrow, a skeleton which was doubled up: a male of the age of 60, or more. Doubtless of an Ancient Briton.

5. From a second barrow at the same place, is of a child of 7 or 8 years. The skull is apparently ovoid—but possessed of rare characteristics. Is probably Anglo-Saxon.

A skull from one of the cists in the Afington barrow, (see p. 41,) he describes as being “that of a young person of 12 or 14 years: form oval: possessing rare characteristics, but not at all marked.” Probably Anglo-Saxon.

The above opinions as to the probable race of people to which these burials may be ascribed, accord with the view which I expressed to the Society in a paper which I read at Encombe in January, 1857. (See p. 115.)

In August, 1859, Dr. Thurnham accompanied me at an examination of the ancient burial-place situated on the crest of the hill, at a spot called “Bare Cross.” Some of the graves are exposed in the cutting, through which the road passes, and others in an adjoining chalk-pit. The graves are 2 or 2½-feet deep, about 20-in. wide, scooped out of the native chalk, and range East and West, the feet of the skeletons being towards the East. The graves are placed side by side as regularly as, (if possible more so than,) in a modern cemetery. The spaces between each is one foot or eighteen inches.

1. (The most Northern) Was the skeleton of a young person of about 15 years. The femur measured 15¼-in. The Epiphyses not united. The Wisdom-tooth on the left side lower jaw had protruded, but not the others.
2. The skeleton of a young person of about 18 years. The thigh-bone measured 16 inches, Tibia 13¼-inches, Humerus 11¾-inches, Epiphyses nearly consolidated. The Wisdom-teeth were all present. This is the most perfect skull of the series—of small capacity—tolerably ovoid form—the occiput equally bulging—the facial bones small, clearly female.

3. Of a child about 12 years. Femur very small. Epiphyses not united. The Wisdom-teeth seen within the substance of the jaw, but of course not protruded.
4. From a grave situated to the East of the three former, is of a female of probably not less than about 40 years. No measurements of the thigh-bone were taken. The skull rather small. Its Sutures partially obliterated—Teeth all in place, very much eroded, leaving smoothly *flattened* surfaces of crowns. The lower jaw, like those of the immature skeletons, is shallow, and has the ascending ramus placed obliquely.

Dr. Thurnham expresses himself as being “inclined to think these skulls to be Anglo-Saxon, of the early Christian period, say the seventh or eighth century, when few churches had been built, and Ecclesiastical cemeteries were scarcely established.

It is remarkable that, of the half-dozen graves which we examined, the skeletons were either those of women, or very young persons. No ornaments, pottery, or other remains were discovered.

* * * * *

Leaving for a time the interesting memorials of by-gone generations, which hitherto have engaged our attention in the sepulchral remains scattered about the Purbeck hills, it now becomes my task to commence a series of descriptions of interments, differing so much in character from those which have been previously investigated, as to induce the supposition that they are the relics of a different race of people, if not of a different age. Judging from my own experience, borne out by the recorded discoveries of other investigators, I should identify them with the aboriginal population of the South-East of Dorsetshire, namely those who inhabited the moors and plains which lie between Poole harbour and the river Stour in one direction, and the river Frome and the chalk in the other.

With scarcely an exception, the tumuli of these districts contain burials by cremation with or without an urn, whilst upon the limestone districts urn-burial is rather of rare occurrence, unless indeed the urns have been destroyed by subsequent interments.

I have therefore divided the sepulchral remains of the Island into classes, according to the districts in which they are situated, trusting that at some future period a chronological arrangement may be completed.

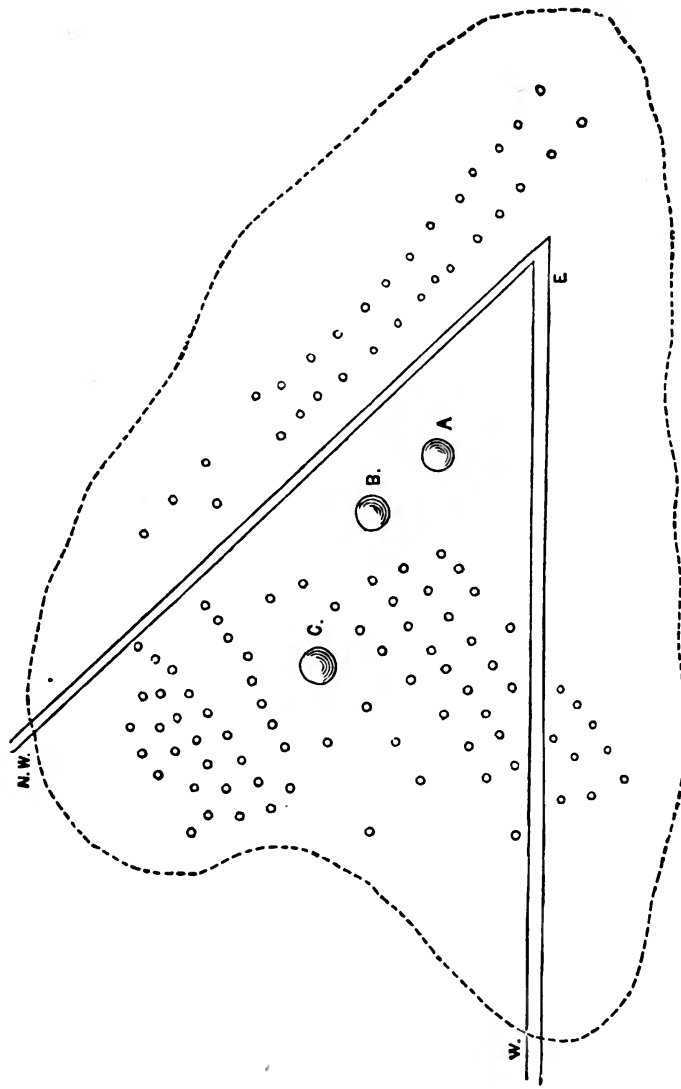
On the month of May, 1857, I accompanied the Rev. N. Bond to see some barrows and small mounds which are situated upon his property at the north extremity of Holme Heath, where a bank divides it from a fir plantation.* On the following day the examination of them was commenced. It was observable that those trees which had been planted upon any of these mounds, were of much larger size than the generality of those upon the level ground, hence indicating the presence of some genial soil beneath.

I counted as many as a hundred and twenty systematically arranged in parallel rows, which averaged from three to four paces apart, the mounds also being about that distance from each other, in some they were three paces, in others four; their size was about six feet in diameter and one foot high. Upon digging into many of them, I found that they all alike contained the remains of burned furze in the state of charcoal, the stems and thorns being preserved in a carbonized state.

A reference to the plan will give a better idea of their position than can be given by description.

The three rows which commence on the south-side of the bank are four paces apart, and run a distance of sixty-six paces direct towards the barrow, B, from S.S.W. to N.N.E. Those to the North-West are greater distances from each other, varying from six to nine paces apart. The two on the North-

* The labourers employed in the formation of this bank some years ago, came upon a deposit of bronze celts.



PLAN OF TUMULI UPON HOLME HEATH.



East which are at a right angle to the others are four paces apart. In the easternmost barrow, A, I found no remains. B, situated at nine paces from A, five feet in height and thirty-six in circumference, with a trench round it, contained only ashes; c, a much smaller barrow, twenty-one paces west of the last, is covered with fir trees. In this I sank a shaft, and at the depth of three feet came upon some small thin sand stones, such as are obtainable from the neighbourhood. The largest of these covered a cist sunk in the native sand, which contained an inverted urn wedged round with flints. It measured about a foot in height, but was much injured by the roots of the trees.

About a foot and a half south of this deposit, and one foot from the top, I found another small urn unprotected, which measured about six inches in height and the same in diameter, and was of the coarsest kind of manufacture without any pattern.

These tumuli occupy a limited space of about three hundred yards in diameter, which may be denominated a plateau, being the flat top of an irregularly shaped knoll.

What could have been the intention of those who raised them? is a question to which there appears to be but one answer, namely, that they are the memorials of only one funeral solemnity. The barrow c was the sepulchral mound, B and A perhaps funeral piles, and six score lesser mounds, stretching away towards the South-East and South-West, were undoubtedly fires placed with great care at regular intervals, agreeably to the dictation of some funeral rite. And the ashes, when the flames had died away, or been quenched by some sacred fluid, were covered with earth, to be a record to future ages of the grand and important, perhaps, sacred event which had been enacted there.

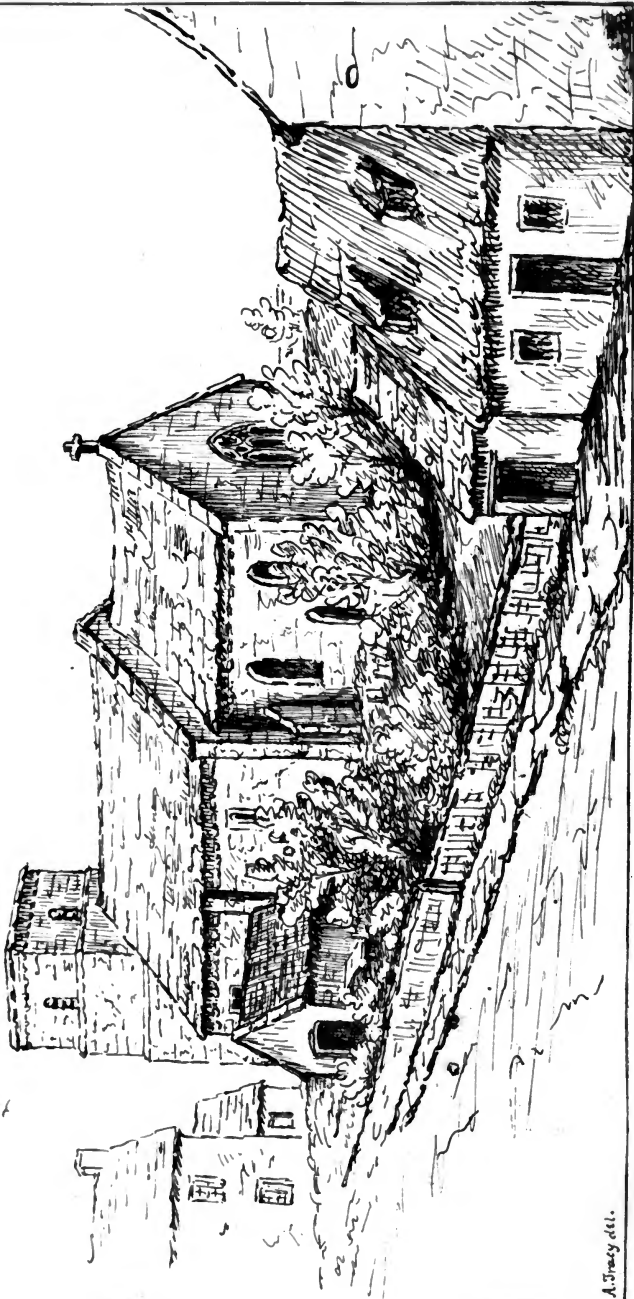
I think this conclusion a fair one, although I can refer to no record of similar remains which might corroborate it. Sir

R. C. Hoare however, in describing the "twin barrows" which are figured in his work, concludes that one was honoured with the sepulchral deposit, and the other only with the ashes of the funeral pile.

In the year 1854, in the course of breaking up some rough heath land for cultivation, about half a mile from the Grange, it was found desirable to remove an old Barrow, and cart the contents over the ground. On arriving at the extreme outside towards the North-East, and with not more than eighteen inches of earth covering them, the labourers unexpectedly came upon three urns placed triangularly about a yard apart. Two of them were very much broken, either from the effect of time, or the proximity to the surface, to which the inadvertence of the workmen also contributed. These urns appeared to be of much the same size, about twenty inches in height, composed of black, sun-dried pottery, and full of burnt bones, in which the roots of the heath had grown, making the whole mass extremely hard. The third urn was nearly perfect when it was taken up: there was no ornament of any kind upon it. Between the urns was a deposit of bones, unburnt, principally the leg and arm bones; these were covered over with thin Purbeck paving stones, not shaped in any form, but laid flat over them. The whole rested on a rough paved floor of large flints, laid carefully flat over the space occupied by the urns. The barrow was about six feet high, and of considerable size. It was composed entirely of earth brought from the adjoining heath. The centre showed no symptom of any burial having taken place there." The circumstance of the sepulture having been made at the extreme North-East side is worthy of remark.

JOHN H. AUSTEN.





A. J. Gray del.

Parish Church of Worth Maltravers,

WORTH MALTRAVERS.

[Read at the Corfe Museum, February, 1860.]

The parish of Worth, or Worth Maltravers as it is sometimes called, is in the Isle of Purbeck and Hundred of Rowbarrow, in the County of Dorset. It has an area of about 2,646 acres, and contains about 400 inhabitants; the greater part of these find employment either on the land or in quarrying the well-known Portland stone, which is of very fine quality.

In the hamlet of Woody-hide there is a quarry of the celebrated Purbeck marble, from which was obtained the stone used in the restoration of the Temple Church, and in the embellishment of our Cathedrals, including Salisbury, and many other Ecclesiastical edifices. To these we may now add with pleasure, the Churches of Swanage and Corfe.

The parish has the English Channel on the South, its extreme point being St. Aldhelm's, or as it is more commonly termed, St. Alban's Head. On the summit of this Cliff stands an ancient chapel dedicated to the Saint. It has been described in a former page.

The Church, though it may not be the most ancient in the Island, is nevertheless of great interest to the antiquary and claims some distinction as the Mother Church of Swanage. Its structural characteristics bespeak a design at once simple

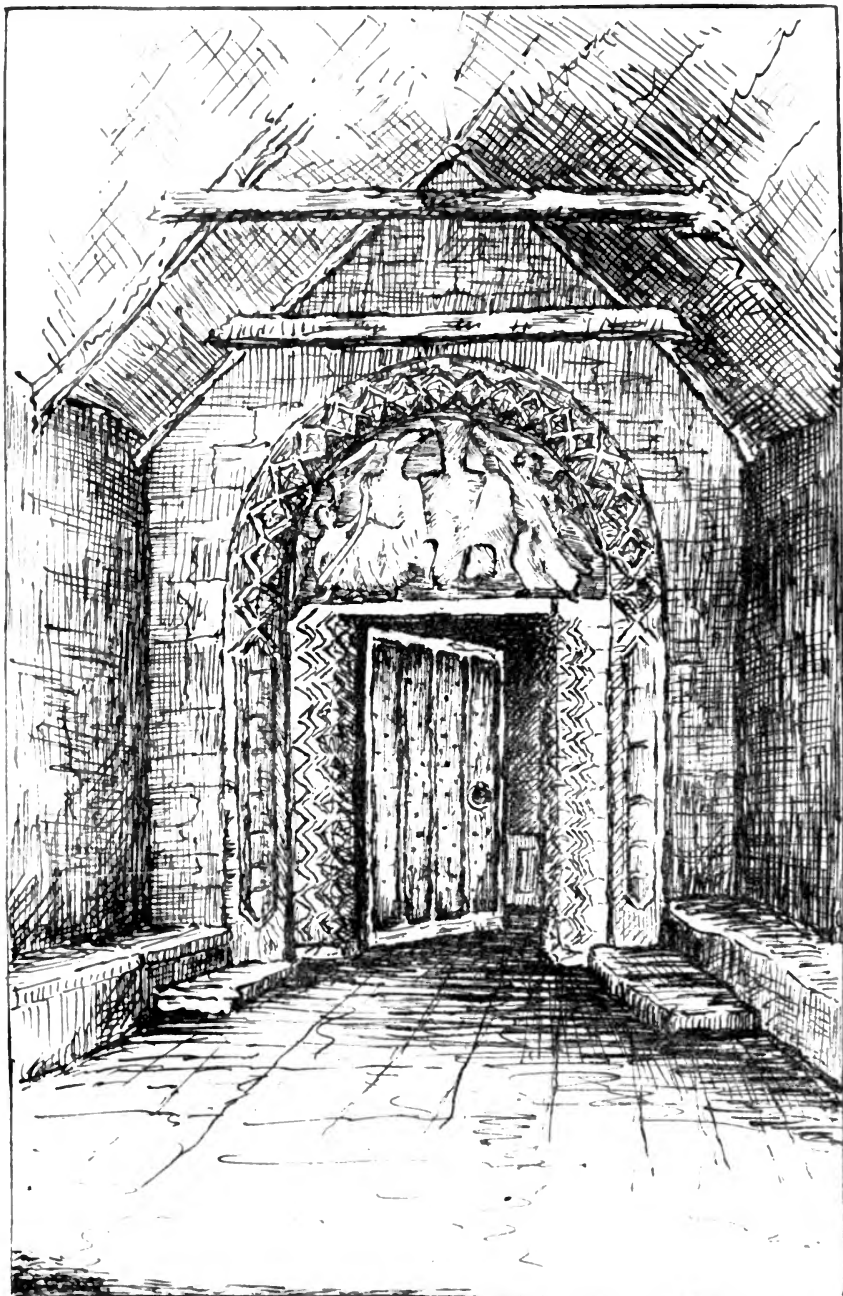
and pure, and so far as its internal arrangement is concerned, well adapted to the worship of a Christian congregation. Like most other churches of its date, which are situated on the sea-coast, it is dedicated to Saint Nicholas,* and is conveniently situate in nearly the centre of the parish. It is built of Portland stone, and the style is Transition Norman; the chancel is probably Early English. The nave and tower are Norman, supposed about the time of King Stephen. In the north wall of the nave there are two original Norman windows, and also, close to the chancel arch, and low enough down to reach out of, an ancient window, out of which the sancte bell was most likely rung at the elevation of the host, a signal to all within reach of the sound to fall down and worship. Over this last mentioned window, is another, a square Elizabethan, inserted to give light to the pulpit. Just opposite the south entrance there are the remains of a doorway of unusual construction placed in the centre of a shallow, arch-formed buttress; these northern doorways are supposed by some to have been intended for the special use of the evil

* Said to have been Archbishop of Myra, in Lycia, to which office he was appointed by Constantine about A.D. 342, whose patronage he is reported to have gained by his exemplary piety. Historians aver that he was born at Pattera, a city of Lycia, of respectable parents; and it has been stated that when quite an infant, he insisted on fasting every Wednesday and Friday, and hence was spoken of as "a pattern to all future infants," whose patron saint he became. He was called "the boy Bishop," and the Popish farce of the "same name" is said by some to have originated from this Saint's infantine piety. Dean Collet required the scholars of St. Paul's school, "to go to Paull's church and hear the Childe Bishop's sermon." A Boy Bishop lies buried in Salisbury Cathedral, at all events the effigy of one is to be found there. In the Salisbury Missal of 1534, fol. 27, we find a prayer of St. Nicholas, before which is an engraving in wood (see Pl. 28) of the Bishop and two boys rising from a tub. The following account is given of it. "He raised to life two boys whom the host of the Inn at which they lodged, had killed, cut in pieces, salted, and put into a pickling tub. The boys had been ordered by their father to call upon the Bishop, on their way to Athens for education, and ask his benediction."

Many more legends are recorded, such as of his recovering from the bottom of the sea, a child who had fallen into it; delivering sailors by his prayers from a dreadful storm; raising to life a sailor killed by the fall of a mast, &c. He is said to have died at Myra, A.D. 342. His relics were kept with great honor, till carried off by some merchants into Italy and deposited in one of the Cathedrals there A.D. 1087.







South Porch.

A. Tracy. del.



spirit, who was asserted to take himself off at baptism. In the south wall we find two more Norman windows answering to and opposite those mentioned before. The framework of the one near the chancel arch is evidently a restoration. In the west corner there is also a rude modern square window, after the true churchwarden taste of darker days, placed there no doubt to give light to a gallery.

The porch (Pl. 29) is plainly a modern erection. The doorway within it, has a carving on the semi-circular tympanum. It is however so much damaged that the subject cannot be made out. There are the remains of angelic figures having scrolls in their hands, but the centre one is wholly obliterated. The adoration of the Magi, or the crowning of the Virgin "Queen of Heaven;" have each been suggested as the subject, but nothing can be stated with any degree of certainty. This portion was probably disfigured by Cromwell's creatures, or by some of like mind in the time of Elizabeth.

Around and beneath the eaves of the church is a corbel table, and there are shallow buttresses placed at the north and south corners of the nave.

The tower which is the original one, is a plain square, with light square headed belfry windows and a corbel table at the top. There is also a window low down on the south, instead of being, as more usual, on the west side. The tower contains three bells, two only being sound. Their dates and dimensions are as follow:—

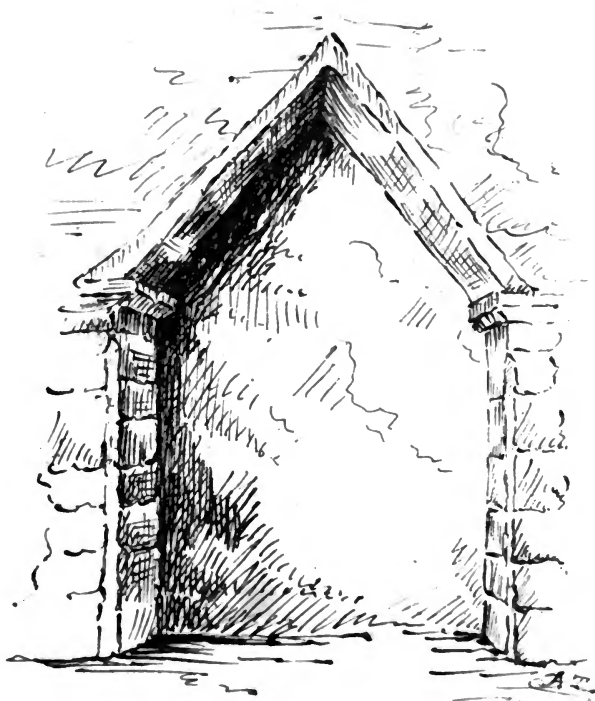
The smallest and most ancient which is injured	is 20in. high—25in. in diam. at base,	1634
The next largest	is 23in. „ —27½in. „ „	1719
The third „	is 25in. „ —30in. „ „	1736

I conclude this notice of the tower, with the mention of a plain pointed arch on the inside, of the same period with that of the remains of the corbel table at the summit, and a water tabling unskilfully put up.

The most ancient feature in the whole building (Pl. 30) is probably the angular arched doorway in the southern wall of the nave. This is manifestly Anglo-Saxon. These doors are described* as "either semicircular or triangular arched headed; in those considered the most ancient, the semicircular arched heads are faced with large flat bricks or tiles closely resembling Roman work," but "triangular arched," such as that under notice are to be met with of a very simple and rude construction; "two long blocks of stone are made to incline towards each other, and thus to form a straightened triangular headed arch; the lower edges of them sometimes rest on plain projecting imposts, which surmount two other upright blocks composing the jambs, it is generally considered characteristic of the Anglo-Saxon style; but instances of it, though not frequent, are to be found in the Norman and subsequent styles; and arches of this description of late date may be generally known by some moulding or other feature peculiar to the style in which it is used." Doorways of this description are found forming the entrance to cylindrical shaped turrets, attached singly to towers perhaps as entrances to belfrys. But in the case of our church such a doorway occupies a very unusual position, i.e. near the S.E. corner of the nave; on the outside are traces of a low roofing, this, taken in connexion with a tradition in the parish as to a comparatively recent removal of a semicircular foundation, is well nigh conclusive that a building of some kind, probably an apsidal chapel, was anciently attached to the church. (Ground Plan.) This view is strengthened by the fact, that there still remains just inside the chancel arch, the "hagioscope† or squint (Pl. 32, Fig. 1) filled up on the inside with some elegant pieces of carved stone screen work of the 15th century, placed there by a former vicar, the Rev. A. Kemp, a name still gratefully remembered amongst the people; should Worth

* Bloxam's Architect. 7th Edit. p.p. 56—59.

† The hagioscope was an opening through which the ceremonies of the high altar could be witnessed.



Worth



church ever happily come in for a share of that interest now so largely and generally taken in the restoration of our Parish churches, it would be desirable to rebuild this interesting part, and thus at the same time supply the pressing want of accommodation for the Sunday-School children during Divine Service. The church scarcely seats 200 people and there are 80 children in the Sunday-School.*

The roof of the church is as I am informed by an experienced architect, very ancient and most probably the original Norman one. It is in perfect condition, and owing to its having a "tie beam" is very strong. The presumption of its great antiquity is supported by the fact that its timbers have no mouldings. There is a satisfactory specimen of the same kind at Swardeston Church, Norfolk, and also at the Bishop's Palace, Hereford. This portion of the structure is entirely hidden by a flat plaster ceiling, which it would probably be a satisfaction to all to see removed.

The chancel, as has been before said, is Early English, i.e. of the fourteenth century. It is 28-ft. high, 21-ft. 6-in. wide, and 26-ft. long.

The East window is the Decorated of reticulated pattern. The four windows, three of which are closed, are Early English of the Lancet form; if all four were open there would be light enough in the church to justify stopping up the two square churchwarden windows in the nave. The chancel arch (see Plate 33) a beautiful specimen of the Norman, is stilted semi-circular with zigzag and chevron moulding (12th century work) wrought in soft burr stone, obtained I believe near Langton. The Northern impost has been sadly disfigured by a longitudinal cutting made to admit a wooden support for a sounding board, this I have removed, and present experience proves that it was never really needed except to gratify the peculiar tastes of the day. In the Southern chancel wall there

* Since writing the above, I have consulted Mr. Wyatt, the Diocesan Architect: he considers the hypothesis of a *semi-circular* building, doubtful, he thinks it was more probably, square.

is a low circular headed Priest's doorway, doubtless original, five feet high and one foot nine inches wide. There is also a piscina, without a shelf at the S. corner of the East end, and above it a niche adorned with Early English work (Pl. 32, Fig. 2), from the appearance of the plaster there may be a similar one the other side? There are no altar tombs.

In the Church-yard is the grave of Benjamin Jesty who was formerly an occupier of Downshay Farm, within the parish. I transcribe the inscription on the head-stone of the grave:—

Sacred
To the Memory
OF
Benjⁿ. Jesty (of Downshay)
who departed this Life
April 16th, 1816,
aged 79 Years.

He was born at Yetminster in this County and was an upright honest man: particularly noted for having been the first Person (known) that introduced the Cow Pox by inoculation, and who, from his great strength of mind made the experiment from the (Cow) on his wife and two sons in the year 1774.

The above is authenticated in the following interesting note, which I have the kind permission of the Rev. J. M. Colson, of Swanage, to insert.

Feb. 16, 1860.

“My dear Sir,

“I have a perfect recollection of old Jesty coming to our house at Corfe, the one now inhabited by Mr. Bradley, to borrow of my father a pair of saddle bags—to contain his clean shirts when he was going to London to give evidence on his discovery of Vaccination,—and being vice the saddle bags,

(a thing of by-gone ages, now quite an extinctum genus) supplied with a portmanteau as the more convenient vehicle.

“On his return he gave a very unfavourable report of the Metropolis, but *per contra* said there was one great comfort there indeed, viz. that he could be shaved *every day* instead of wearing his beard from Saturday to Saturday, on which day alone when he rode into Wareham market was he relieved of that *encumbrance*, (as it was *then* thought, *now tempora mutantur*).

“I cannot precisely date this event. We lived at Corfe from May, 1800, till October, 1810, and my belief is that it must have been about 1805—6 or 7. Some years before this he had lived at a farm in the neighbourhood of Cerne, in this County, (Dorset), and there he first practised vaccination on his own children. Fever ran high with his patients, and he called in Mr. Trowbridge the medical man at Cerne, (whom I full well remember in later years when *we* lived near that place,) and told him what he had done. Trowbridge said, “you have done a bold thing, but I will get you through it if I can”—treated it as fever and was successful. I should have said that old Jesty not being equipped with a lancet, performed the operation with a stocking needle!!”

Believe me truly yours,

J. M. COLSON.

REV. F. F. TRACY.

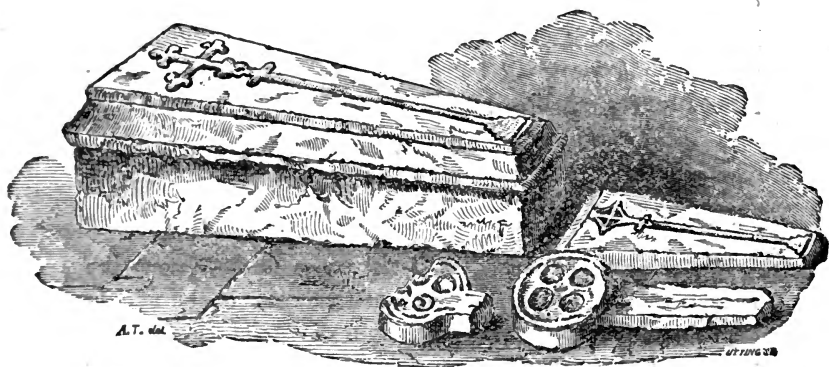
In closing these papers, do I not pay a fair tribute to the revived Church feeling and Antiquarian taste of the age, in expressing the hope that 'ere long a successful effort will be made to restore this ancient structure? I would add the suggestion, that whenever the work be undertaken, great care and study will be needed to preserve the existing archaeological features intact, to renew those impaired through the decay of age, and as far as possible to restore what rude hands have spoiled in touching.

I subjoin a translation in modern English of St. Aldhelm's version of Psalm lxxxiv. ver. 1—5.

“Lord to me thy minsters are
Courts of honour passing fair ;
And my spirit deems it well
There to be, and there to dwell ;—
Heart and flesh would fain be there,
Lord, thy life, thy love to share.

There the sparrow speeds her home
And in time the turtles come,
Safe their nestling young they rear,
Lord of Hosts, thine altars near ;
Dear to them thy peace ; but more
To the souls who there adore.”

F. F. TRACY.



RELICS PRESERVED IN THE CHURCH OF WORTH MALTRAVERS.

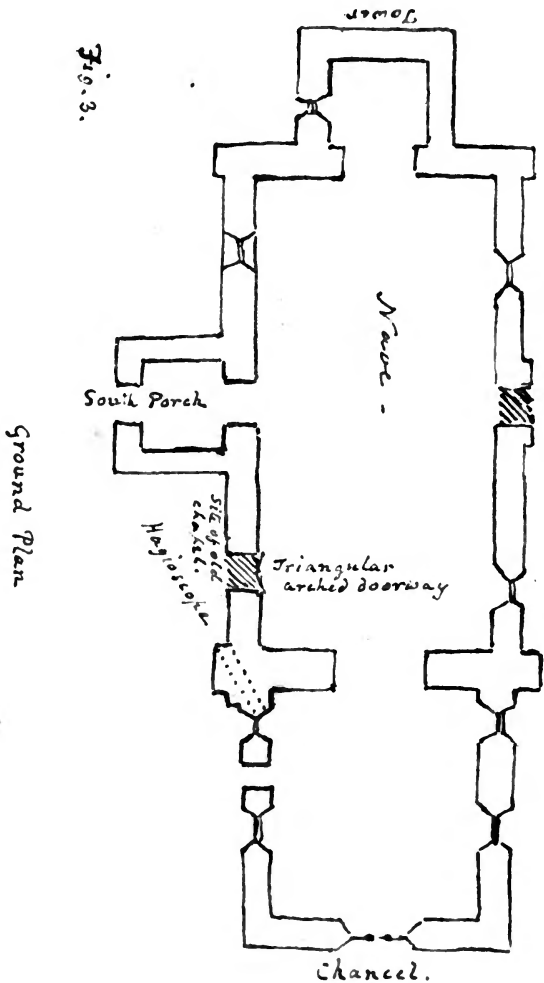


Fig. 3.

Ground Plan



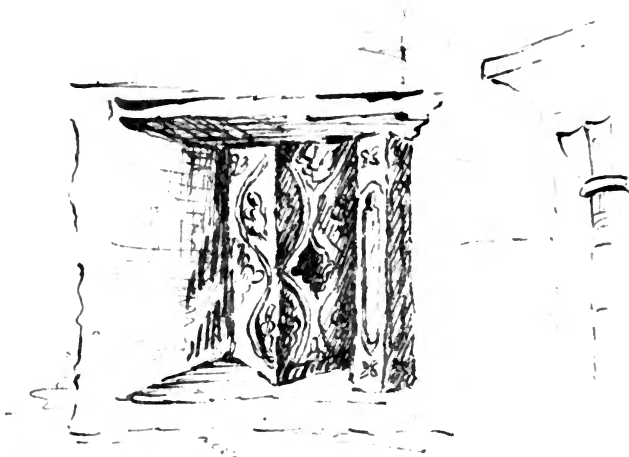
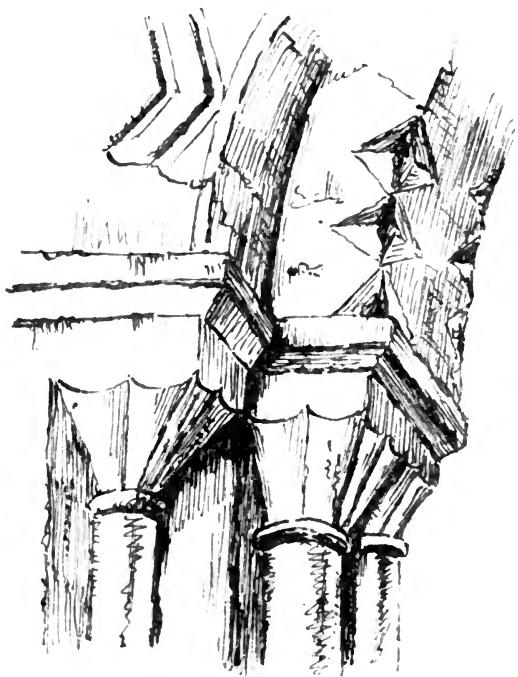


Fig. 1.

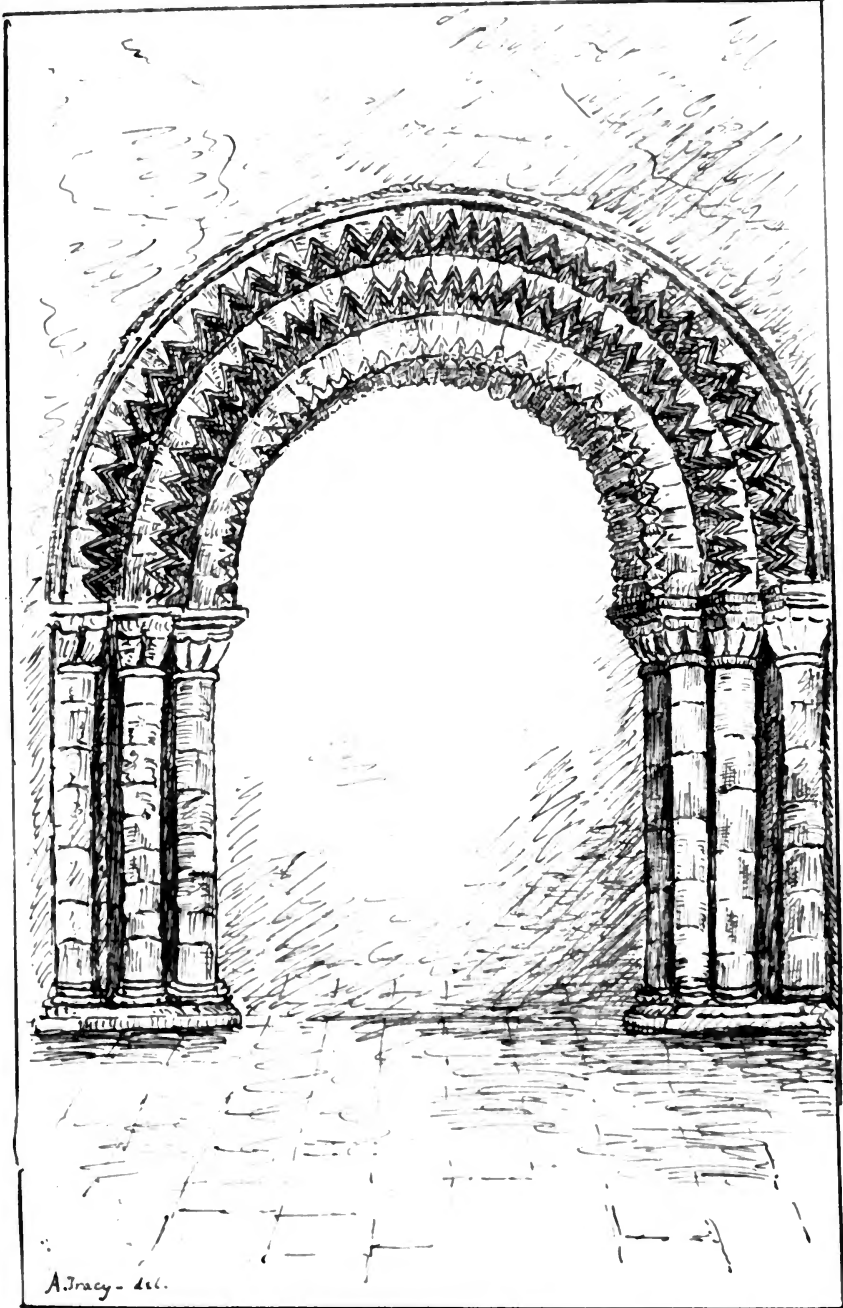


Fig. 2.





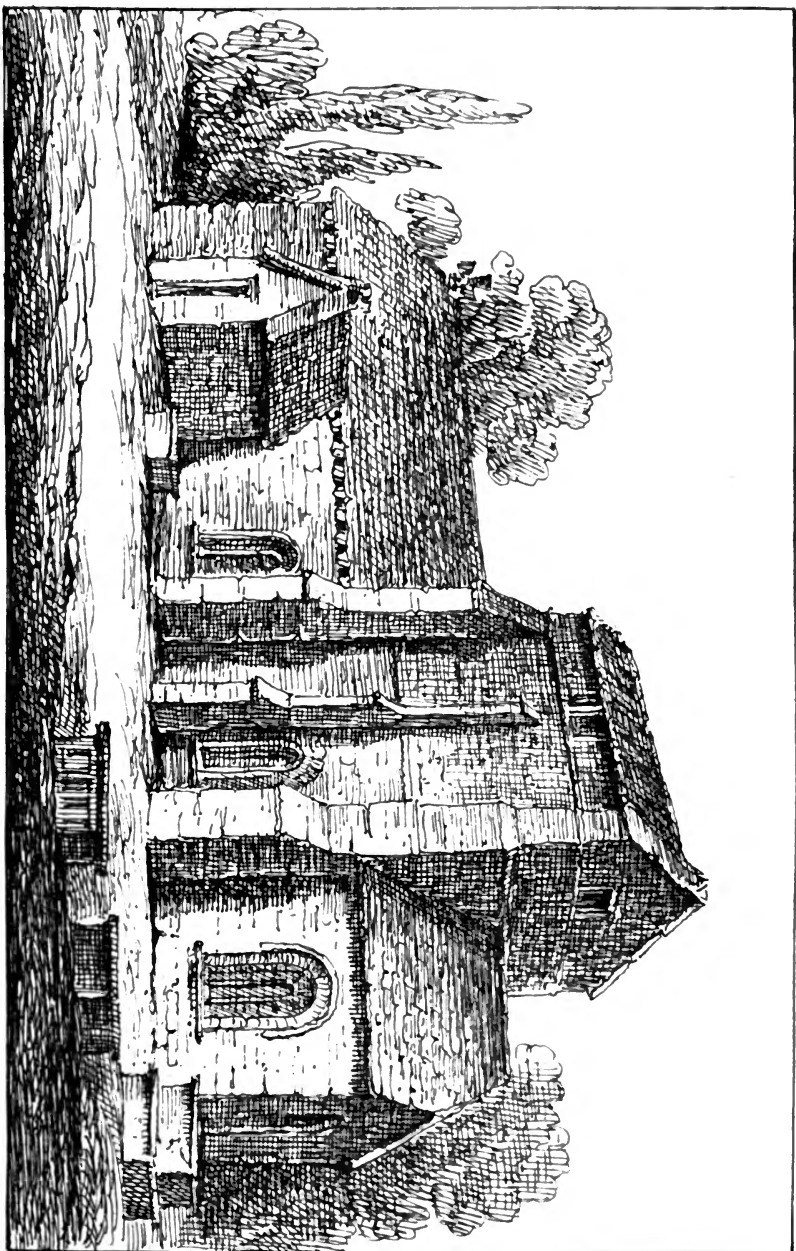




Chancel Arch. (As it would be restored.)

BRITISH MUSEUM

The



Studdland Church. N. 1858.





Julia Colson. 91.

Interior of Studland Church. H. 1888.



RECORD OF THE PARISH, MANOR, AND
CHURCH OF STUDLAND.

[Read at the Museum, November 27th, 1860.]

The following notices have no claim to originality. The historical portion, (in itself very scanty,) is derived from Hutchins' History of the County, and for the description of the Church I am indebted to the kindness of the Rev. Wm. Gray.

The parish occupies the North-East part of the Isle of Purbeck, and contained in 1774 about fifty or sixty houses, many of which were, as at the present time, scattered about upon the common. In 1851 the population amounted to 303.

The soil of the Eastern portion is mostly arable, and of good quality, but the Western, which lies on Poole Bay, is a dark-coloured barren heath.

“In Domesday Book, *Stollant* was held by *Haimo*, of the Earl of Moriton. Here were then thirty-two salt-pits. The difference of this name from the present may be owing to an error of the Norman scribe.”

“In the year 1205, King John, (intending an expedition against France,) fitted out a fleet at Portsmouth; but altering his resolution, he landed at Stodlandt,” and thence proceeded to Corfe Castle, which he had made a Royal residence.

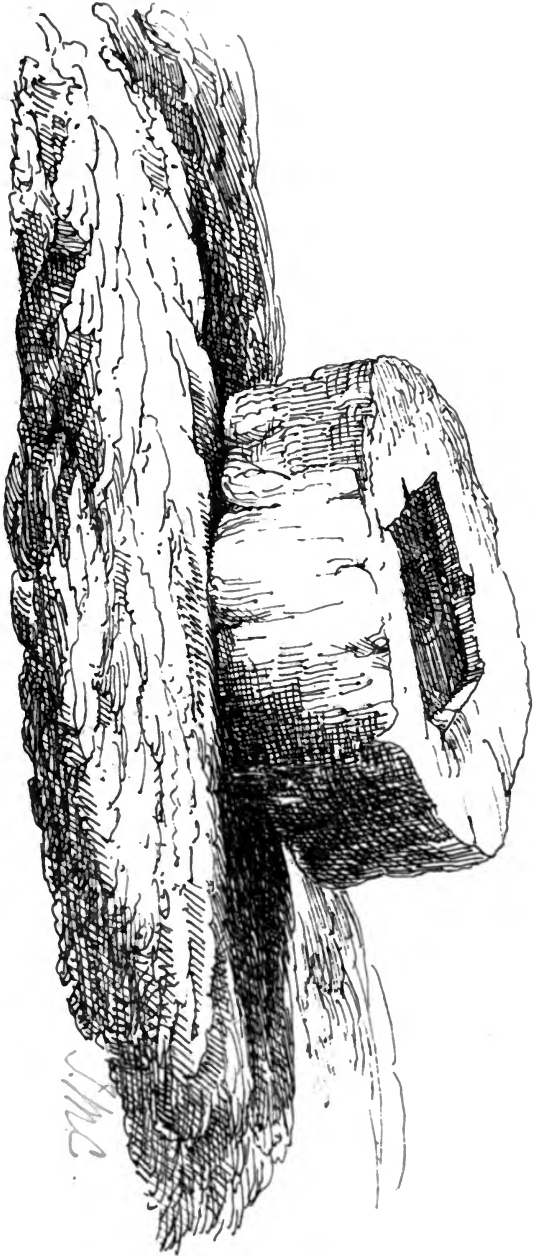
“In after times it became part of the possessions of the *Abbey of Tarent*, founded about 1230. When or by whom it was given is uncertain, no mention being made of it in the

charters relating to that house, in the Monasticon. In 1293, the lands of the Abbess of Tarent, were valued at 13*l.*; and 49 Ed. III. a commission was issued to enquire concerning malefactors in this and other manors belonging to that abbey."

"After the dissolution, 37 Hen. VIII. this manor and lands, and Stodland Wood, (eighteen acres, val. six pounds thirteen shillings and four-pence,) were granted to *Sir George Delalind*, who held it at his death, 3 and 4 Phil. and Mary, of the King and Queen in chief, by one-tenth of a fee, value six pounds. He seems to have given it to his lady and her heirs; and she died seised of it 5 Eliz. *Henry Goring* was found to be her brother and heir, 43 years old. She seems to have given it to him, who had livery 6 Eliz., of this manor and twenty messuages, and three hundred and twenty acres of land, and common of pasture for a thousand sheep, and six shillings rent. He was possessed of it 30 Eliz. Then it passed to *Sir Christopher Hatton*, who died seised of it, 34 Eliz. and it was afterwards extended, value six pounds, thirteen shillings, and four-pence. 37 Eliz. it was granted, with other of *Sir Christopher Hatton's* lands to *William Tate*, &c. for twenty-one years; and 14 Jac. I. to *Nathaniel Rich*, &c. Hence it passed as Corfe, to *Sir Edward Coke* and his lady; of whom it was purchased, 7 Car. 1. by *Sir J. Bankes*, and now belongs to H. Bankes, Esq. Yet the *Morton's* of Milborne St. Andrew were seised of it, 33 Eliz. and 8 Jac. I., perhaps as lessees under *Sir Christopher Hatton* and the crown. In 1645, the old rents of this manor, belonging to Lady Bankes, (value twelve pounds, seven shillings, and three-pence,) were sequestered."

"On Studland Heath, which is bounded by the sea on the East, and by Poole Bay on the North, are many barrows; some of them large and oblong, most of them round and rude. Mr. Treswell's map of this parish takes notice of four; three of which lie in a line from N. W. to S. E., viz.—*Adlingstone*, *Black-down*, and *Rycroft*; and W. of *Adlingstone* is

Remains of a Stone Cross at Studland. MS. 1858.



J.M.C.



another called *Puketon*. Adlingstone is the most northerly of all, and seems to be the same now called Agglestone, or *Stone-Barrow*, from a vast stone on it." (See page 79.)

Towards the Eastern extremity of Studland Heath, and near the shore of one of the small bays of Poole Harbour are a quantity of "Hut Circles," commonly called "Fairy Rings." Similar works occur in several places in Dorsetshire, as at Fern Down, in the parish of Hampreston; upon Red Hill, beneath which the River Stour enters Hampshire, in which county also the South-Western Railway cuts through a great number of them at about two miles West from Ringwood. In Vol. xvi. p. 157 of the *Archæological Journal*, some fifteen of these circles are mentioned as occurring upon Walton Down between Bristol and Clevedon, in which were found broken pottery with burnt earth and bones. These upon Studland Heath are about 30-ft. in diameter. Associated with them are a number of short low mounds, bearing the appearance of graves, but each evidently thrown up from a hollow on the West side, so that the mound sheltered from the East. I have met with mounds of a precisely similar character upon Pizzle-down, between Verwood and Fordingbridge. At both places I have dug into several, but without finding any remains. They were probably fire-places.

From the situation above alluded to, I conceive that these circles are reliques of a tribe of the Early Britons, who resorted to and erected their huts upon this shore of the Bay during the Summer for the purpose of fishing. It is worthy of remark that here a small "lake" runs up through the mud, which at low tide, is sufficient to float a boat. Fishermen or Smugglers of our own age have added an artificial landing-place. From it runs a well defined ancient trackway, in a southerly direction, to a crossing through a peat-bog, apparently towards the Agglestone.

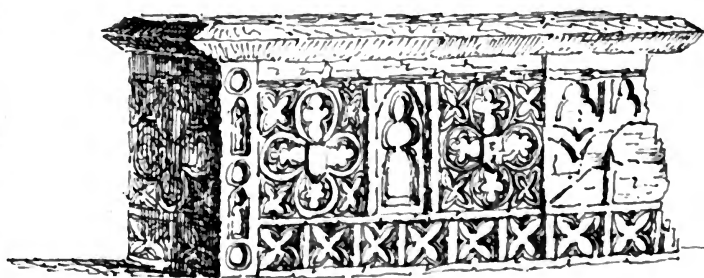
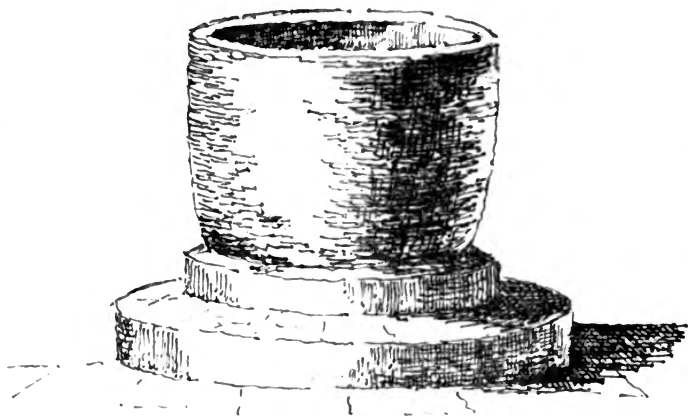
The small and very picturesque village which is situated at the North-West angle of the Bay, (with the exception of its

Church,) contains little of antiquarian interest. At a spot which may be considered its centre, whence three roads branch off, beneath a noble elm tree is a large circular stone, (see Plate,) the basement of an ancient cross. So various were the purposes for which crosses were erected, it would be difficult to suggest the true one in the present instance, unless it was as a memorial of designation, or boundary mark in respect to property. It is recorded that a "cross was constantly erected by bishops and abbots, on their glebes, and that within these districts called *crocea*, or cross-lands, they exercised civil and spiritual jurisdiction." This idea would seem to be borne out by the fact, that at several other places, once belonging to Crawford Abbey, are still to be seen the remains of small crosses, as at Tarrant Crawford, and Gussage All Saints.

The Church which is dedicated to St. Nicholas, standing in a most secluded spot, is a small but singularly perfect and un-altered specimen of the Norman style, and may well rank with the well-known churches of Iffley and Stewkley, though, in comparison of those famous buildings, utterly lost among the Purbeck hills. Its date is somewhat earlier than Iffley, perhaps about 1180. The whole is of this period, with a very few exceptions, consisting of modern alterations. The plan of the Church is (as at Iffley and Stewkley) a nave, central tower, and chancel; the two latter with stone-groined roof.

The *Chancel* consists of one square of groining. The cross springers are carried by circular shafts with square abaci. The East window is an insertion of three lights of late date, perhaps Jacobean. Above is the original window between the two roofs. There are original North and South windows, each a narrow light with good exterior mouldings, and a wide splay. On the North side of the Altar is a Purbeck marble altar tomb (probably used as an Easter Sepulchre) of the 15th century. (Pl. 35.)

The *Tower*. The groining is of the same character as that of the chancel. Its Eastern and Western arches are both





semi-circular, carried by shafts with square abaci; but it is to be observed that in the Eastern, the central abacus on either side is semi-circular, while the flanking abaci are square. The North window is original, the South modern. The tower has never been finished; but is carried only half way up the jambs of the belfry windows, where it is finished off with a gablet roof. Owing to the settlement of the tower, a buttress has been added to the middle of the North and South faces. There are four bells, one of which professes to be of great antiquity. It bears a date of 1065 with the inscription DRAWE NEARE TO GOD, and what may be considered the trade mark of the founder, viz. the initials C. P. with the figure of a bell between them. How far the accuracy of this date can be strictly made out, is a question of great interest. The other bells bear date 1736 with the founder's name, Wm. KNIGHT.

The *Nave*. The roof is a modern erection. On the exterior there is a good corbel table. The lowest window is a bad modern insertion, as are the two South windows. Between these is the South porch, a late erection without any character. The inner doorway is original, with semi-circular arch carried by shafts and square opening, and plain tympanum. The North doorway is of similar character without shafts, there are two North windows, both original. The original circular font (Pl. 35) remains. The interior fittings of the nave are without interest. Some modern painted glass windows have been inserted.

“The ancient patrons of the Rectory were the Lords of the Manor, who seem to have been lessees under the Abbess of Tarent, except it was alienated from that house before 1300, which yet does not appear. 23 and 37 Eliz., the *Morton's* of Milborne St. Andrew held two parts of the advowson, of the crown, clear yearly value 2*l.* and afterwards became possessed of the whole. Hence it passed to the *Pleydells* to whose representative it still belongs.

JOHN H. AUSTEN.

A LIST OF FUNGI

COLLECTED IN PURBECK BY

C. Broome, Esq., of Batheaston, near Bath.

1858.

- Agaricus (*Amanita*) *rubescens* Pers.
Common.
- A. (*Amanita*) *ceciliæ*. B and B.
Plantation at Leeson, a specimen 9-in. high.
- A. (*Amanita*) *vaginatus*. Bull.
Woods, Studland.
- A. (*Lepiota*) *procerus*. Scop.
Common on heathy grounds.
- A. (*Lepiota*) *clypeolarius*. Bull.
Swanage, on the open grass grounds.
- A. (*Lepiota*) *naucinus*. Fr.
A very elegant species, on the sandy banks by the sea,
Swanage.
- A. (*Armillaria*) *melleus*. Vahl.
Common on banks and about the roots of trees.
- A. (*Tricholoma*) *flavo-brunneus*. Fr.
Studland, in plantations.
- A. (*Tricholoma*) *rutilans*, Schœff, *crimson-red downy Agaric*.
Studland, in Fir woods upon stumps.
- A. (*Tricholoma*) *multiformis*, Schœff, *cinereous downy Agaric*.
Common in woods.
- A. (*Tricholoma*) *terreus*. Schœff.
Common, open meadows.
- A. (*Tricholoma*) *personatus*. Fr. *variable blue-stemmed Agaric*.
Common in meadows.
- A. (*Tricholoma*) *sulfureus*. Bull. *Brimstone Agaric*.
The Grange.

- A. (*Tricholoma nudus*, Bull, *naked-violet Agaric*.
Common woods.
- A. (*Tricholoma subpulverulentus*, Per.
Common, downs and meadows.
- A. (*Tricholoma sordidus*, Fr. ?
Common, downs and pastures.
- A. (*Clitocybe geotrupus*, Bull, *variable wood Agaric*.
Near Langton.
- A. (*Clitocybe phyllophyllus*, Fr. *white wood Agaric*.
Near Langton.
- A. (*Clitocybe nebularis*, Batoch, *new-cheese Agaric*.
Studland.
- A. (*Clitocybe laccatus*, Scop., *lake Agaric*.
Common in woods.
- A. (*Clytocybe fragrans*, Sow, *anise-scented Agaric*.
Studland.
- A. (*Collybia radicans*, Relh, *deep-rooting Agaric*.
Swanage.
- A. (*Collybia velutipes*, Curt, *velvet-stemmed Agaric*.
Common on felled trees.
- A. (*Collybia conigenus*, Pers., *mealy-stemmed fir-cone Agaric*.
Studland.
- A. (*Collybia tuberosus*, Bull, *small parasitic Agaric*.
Near Langton.
- A. (*Collybia stipitarius*, Fr., *small scaly Agaric*.
Near the Dancing Ledge.
- A. (*Mycena polygrammus*, Bull, *scored Agaric*.
Near Langton, on stumps.
- A. (*Mycena purus*, Pers., *rose Agaric*.
Common in woods.
- A. (*Mycena epipterygius*, Scop., *yellow fern Agaric*.
Near Langton, on dead twigs, &c.
- A. (*Mycena vulgaris*, Pers.
Near Langton.
- A. (*Omphalia fibula*, Bull, *small orange Agaric*.
Swanage, heathy places.
- A. (*Omphalia pyxidatus*, Bull, *box-like Agaric*.
Near Corfe Castle, heaths.
- A. (*Leptonia incanus*, Fr., *green mouse-scented Agaric*.
Common, on Downs and Pastures.

- A. (*Entoloma*) *placenta*, Batsch.
Near Swanage.
- A. (*Entoloma*) *Bloxami* B and B
Common on the downs and open fields.
- A. (*Entoloma*) *sericeus*, Fr.
Common on the downs and open fields.
- A. (*Nolanea*) *pascuus*, Pers., *Pasture Agaric*.
Common on the downs and open fields.
- A. (*Pholiota*) *aureus*, Matusch.
Amongst furze on downs, &c.
- A. (*Hebeloma*) *fastibilis*, Pers., Strong scented Agaric.
Common.
- A. (*Hebeloma*) *scaber*, Mull, Ragged-stemmed Agaric.
Amongst gorse on downs, &c.
- A. (*Hebeloma*) *geophyllus*, Bull. Earthy-gilled Agaric.
Common in woods.
- A. (*Naucoria*) *melinoides*, Bull. Yellowish Agaric.
Common on downs.
- A. (*Naucoria*) *semiorbicularis*, Bull.
Common.
- A. (*Panæolus*) *campanulatus*, Bull.
Swanage, dungy pastures.
- A. (*Crepidotus*) *variabilis*, Pers. Variable sessile Agaric.
Common on dead sticks.
- A. (*Psalliota*) *arvensis*, Schœff. White-caps.
Common.
- A. (*Psalliota*) *campestris*, L. Mushroom.
Common.
- A. (*Psalliota*) *arugimosus*, Curt. Verdigris Agaric.
Common.
- A. (*Psalliota*) *stercorarius*, Fr. Dung Agaric.
Common.
- A. (*Psalliota*) *albo-cyaneus*, Fr.
Abundant on the open downs and meadows.
- A. (*Hypholoma*) *lachrymabundus*, Bull. Weeping Agaric.
Swanage.
- A. (*Hypholoma*) *fascicularis*, Huds. Smaller fasciculate Agaric.
Common.
- A. (*Psathyrella*) *disseminatus*, Pers. Minikin Agaric.
Studland.

- Coprinus comatus*, Fr.
Near Swanage.
- C. atramentarius*, Fr.
The Grange.
- C. micaceus*, Fr.
Common.
- C. ephemerus*, Fr.
Common.
- Paxillus involutus*, Fr.
Studland.
- Hygrophorus cossus*, Fr.
Studland, in woods.
- H. pratensis*, Fr.
Common, downs and meadows.
- H. virgineus*, Fr., ditto.
Common.
- H. ovinus*, Fr.
Common, downs and pastures.
- H. coccineus*, Fr.
Common.
- H. conicus*, Fr.
Common.
- H. psittacinus*, Fr.
Common.
- H. ceraceus*, Fr.
Langton.
- H. puniceus*, Fr.
Langton.
- Lactarius vellereus*, Fr.
Wood, near Langton.
- L. deliciosus*, Fr. Orange-milked Agaric.
Studland, and near Corfe Castle.
- L. subdulcis*, Fr.
Studland.

- Russula adusta*, Fr.
The Grange Wood.
- R. rubra*, Fr.
Studland.
- Cantharellus tubiformis*, Fr. Trumpet-shaped Chantarelle.
The Grange Wood.
- Nyctalis parasitica*, Fr.
The Grange, parasitic on *Rumula adusta*.
- Marasmius oreades*, Fr. Fairy-ring Agaric.
Common.
- M. rotula*, Fr.
Langton.
- Boletus granulatus*, L. Milky Boletus.
Near Langton.
- B. bovinus*, L. Cow Boletus.
Near Langton.
- Fistulina hepatica*, Fr. Juicy *Fistulina*.
The Grange Wood, upon an oak tree. Rev. J. H. Austen.
- Polyporus lentus*, Berk.
On Gorse, Studland Heath, Rev. J. H. Austen.
- Polyporus squamosus*, Fr. Large scaly *Polyporus*.
Encombe, on the decaying stump of an Ash. Rev. J. H. Austen, June 3rd, 1859.
- Polyporus hispidus*, Fr. Ferruginous hispid *Polyporus*.
Near Leeson House.
- P. versicolor*, Fr. Party-coloured *Polyporus*.
Common.
- P. ubmarius*, Fr. Elm-tree *Polyporus*.
Upon an Elm in the Rectory Gardens, Church Knowle,
Rev. J. H. Austen.
- P. fraxineus*, Fr. Ash-tree *Polyporus*.
The Grange, at the foot of old Ash Trees, Rev. J. H. Austen.
- P. annosus*, Fr.
The Grange Wood, Rev. J. H. Austen.

P. Scoticus, Kl. Brown stratified Polyporus.

Near Leeson House.

A very pretty bright tawny Polyporus occurs on Gorse stems near the ground, both at Swanage and near Corfe Castle, it is probably an undescribed species.

There was also a curious excrescence on the stems of Gorse of a dirty flesh color, supposed to be an abnormal state of a Polyporus, a magnified section presented a cellular tissue, and the cells stuffed with round bodies, which were diffused in water; the mode of attachment was not discernible; it occurred on the Gorse between Swanage and Tilly-Whim in November, 1857. Tulasne describes a similar condition of a Polyporus in his *Fungi hypogæi*.

P. rufescens, Fr. (Sow, plate 191).

Encombe, on the stump of a felled tree, Rev. J. H. Austen.

P. dryadeus, Fr. False Amadou.

The Grange Wood, upon the rotting stump of an Oak tree.

Trametes Schweinitzii, Fr.

The Grange Fir Wood, under Scotch Fir trees, Rev. J. H. Austen. A very interesting addition to the British Flora.

Dædalea quercina. Pers. Oak-wood Dædalea.

The Grange Fir-wood, Rev. J. H. Austen.

Merulius corium, Fr. Coriaceous Merulius.

Common, on sticks.

M. fugax, Fr.

Ullwell, on dead wood.

Thelephora laciniata, Pers. fringed Thelephora.

Studland.

Stereum hirsutum, Fr.

Langton.

S. spadiceum, Fr.

Langton.

S. purpureum, Fr.

Swanage.

- Corticium quercinum*, Pers.
Langton.
- Clavaria fastigiata*, D. C.
Studland.
- C. muscoides*, L.
Woods, Studland.
- C. cinerea*, Bull.
Woods, Studland.
- C. cristata*, Holmsk. Crested Clavaria.
Woods, Studland.
- C. rugosa*, Bull. Wrinkled Clavaria.
Woods, Studland.
- C. fusiformis*, Sow.
- C. inæqualis*, Müll.
Downs.
- C. abietina*, Schum.
The Grange.
- Exidia Auricula*, L. Jews Ears.
Common.
- Tremella mesenterica*, Retz. Orange Tremella.
Common.
- T. albida*, Huds. Dirty-white Tremella.
Common. The Grange.
- T. epigæa*, Berk.
Common. The Grange.
- Coryne turbinata*, Schum.
Ullwell.
- Helvella crispa*, Fr. Pallid Hellvella.
Near Langton.
- H. lacunosa*, Afz. Cinereous Helvella.
Ullwell.
- Geoglossum glabrum*, Pers. Smooth Geoglossum.
Downs.
- G. hirsutum*, Pers. Hairy Geoglossum.
Downs.

- Peziza badia*, Pers. Large brown *Peziza*.
Studland.
- P. cochleata*, Huds. Whorled *Peziza*.
Near Tilly-Whim.
- P. aurantia*, Fr. Orange *Peziza*.
Swanage.
- P. trechispora*, B. & B.
Near Corfe Castle.
- P. granulata*, Bull. Granulated dung *Peziza*.
Common.
- P. stercorea*, Pers. Dull-scarlet dung *Peziza*.
Common.
- P. cinerea*; Batsch. Cinereous *Peziza*.
Ullwell.
- P. pallesceus*, Pers. Pallid *Peziza*.
Common.
- Leotia lubrica*, Scop. Shiny *Leotia*.
Near Langton.
- Bulgaria inquinans*, Fr. Pitch-black *Bulgaria*.
The Grange.
- Ascobolus vinosus*, Berk.
Near Chapman's Pool, on rabbits dung.
- Tubercularia vulgaris*, Tode. Common *Tubercularia*.
Common.
- Cordiceps alutacea*, Pers.
Langton, on dead roots of Gorse, hitherto only found
in fir plantations. November. A curious variety.
- Xylaria Hypoxylon*, L.
Common. Smedmore. J. H. Austen.
- X. polymorpha*, Pers.
- X. pedunculata*, Dickson.
On ant hills where rabbits dung lay scattered about.
Near Swanage. November.
- Poronia punctata*, L.
Common, on dried up patches of horse dung, near
Corfe Castle.

Hypoxylon concentricum, Bolt.

Common, on Ash trees. Rev. J. H. Austen.

H. fuscum, Pert.

Common.

Diatrype stigma, Hoffm.

Common.

Sphœria stercoraria, Sow. Simple dung Sphœria.

On rabbits dung, in company with *Xylaria pedunculata*; there is little doubt but that the latter is merely an exuberant growth of the former, as the fruit is precisely similar.

S. herbarum, Pers. Common stalk Sphœria.

On *Laminaria saccharina* Round Down; scarcely any plant is free from the attacks of this species.

S. graminis, Pers. Grass Sphœria.

Common.

S. Rusci, Waur.

On *Ruscus aculeatus*.

Depazea cornicola, Fr.

On *Cornus Sanguineus*.

Hymonogarter citrinus, Vitt.

Leeson House, under the surface of the ground, amongst dead leaves, &c.

H. tener, Berk, ditto.

Langton, Leeson House.

H. populetorum, Tulasne.

Leeson House.

Tuber puberulum, Berk.

The Grange, Studland, Nov., in sandy grounds in woods.

Hydnobolites cerebriformis, Tulasne.

A wood near Langton, November, underground.

Hydnangium carotæcolor, Berk.

On Ballard Down, November, 1857. A singular situation for this plant, the only other station in Britain being Leigh Woods near Bristol, it resembles bits of carrot lying on the ground.

- Bovista plumbea*, Pers. Lead-coloured Puff ball.
Downs.
- Lycoperdon Eccipuli-forme*, Pers.
Studland.
- L. gemmatum*, Fr. Studded Puff ball.
Downs.
- L. pyriforme*, Schæff. Pear-shaped Puff ball.
Langton.
- L. atro-purpureum*, Vitt.
Studland. This is at least the species occurring at
Clifton, &c., considered identical with Vittadini's plant.
- Elaphomyces muricatus*, Fr. Sharp-warted Elaphomyces.
The Grange wood.
- Asterophora Lycoperdoides*, Fr. Gill-less Asterophora.
The Grange, on *Russula adusta*.
- Myrothecium inundatum*, Tode.
The Grange, on *Russula adusta*.
- Leiocarpus vernicosus*, Lk.
Near Corfe Castle.
- Didymium farinaceum*. Schrad. Mealy Didymium.
The Grange.
- Arcyria punicea*, Pers. Splendid Arcyria.
Ullwell.
- Isaria farinosa*, Dicks. Mealy Isaria, on pupæ of insects
buried in the soil.
Near Langton.
- Pilobolus crystallinus*, Tode. Crystalline Pilobolus.
Ullwell.
- Trichothecium roseum*, Lk. Rose-coloured Trichothecium.
Common.
- Sepedonium chrysospermum*, Fr. Yellow Sepedonium.
Common.
- Torula æquivoca*, Corda. Growing on *Trametes Schweinitzii*.

WRECKS ON THE PURBECK COAST.

[Read at the Museum, February 15th, 1861.]

It is not without a good deal of hesitation that I tender to the Society a short piece of local history, the events of which have of late been causing to the inhabitants of the southern part of Purbeck a good deal of excitement, and, I may add, a good deal of trouble. Assuming that it is within our scheme to note any matters of local interest, and tempted by the indulgence shewn to me upon a former occasion, I bring before the Society some circumstances connected with the total loss of the Barque "Hardy."

From the "formal investigation" held in pursuance of the directions of the Board of Trade, at Wareham, it appears that the ship in question, of 374 tons register, left London on her intended voyage to Demerara, on January 7th in the present year. She had, besides her master, a crew of 16; and a Portugese gentleman his wife, and child, sailed as passengers in the "state cabin." The Captain had never previously navigated the Channel—the Mate had once sailed up the Channel. The ship appears to have been in every way in good condition—registered in 1857, A. 1. at Lloyd's, of Colonial build, and carrying a "general cargo." Of the meaning of this term the least commercial spectator must have become

aware, who had the opportunity of seeing at a later period the nature of the articles thrown ashore. Porter and beer casks, trusses of hay, ladies' boots, Government ammunition, corks, calico, cloth, brilliant kerchiefs for the Negro taste, cask heads, staves, sal ammonia, slates, soda water, cases of Geneva, looking glasses, champagne, casks of brandy, parasols, and casks filled with coal, were among the particular component items of this very general cargo.

Having parted with her pilot at Deal, the "Hardy" proceeded down channel without adventure, and the last occasion on which bearings were got, was on the evening of Saturday, January 19th, when the Needles Lighthouse bore N.E., and Durlstone Head N.W. She headed to S.E. till midnight, about which time foggy weather came on; and then N.W. till about 8 a.m. of the 20th, when, in the very act of going about, the vessel struck about midships, on one of the numerous Freshwater Ledges. The exact spot can hardly be ascertained, as the misfortune occurred at low water, and she may have somewhat drifted in-shore as the tide rose. But the distance was probably about from 300 to 400 yards from the land, and about the same distance from the reef on which the "Tyne" steam-ship struck in 1857. The first shock was of great violence; so as, in the words of the Mate, to lift him six inches off his feet, and with the heave of the sea, which was running, for that coast, high, she bumped and bumped so as rapidly to fill with water. The rudder was unshipped and the stern post started; so that from the first stroke there was no chance of saving the vessel, which rapidly filled some 7 feet. At this time the weather was very thick indeed, and no one had any idea what their position was. There was on board no gun, or any means of making themselves heard. A small revolving pistol was thought useless for that purpose. One cannot help regretting that its effect was not tried, since as matter of fact it was known to the shepherd at work among his lambs in the field opposite the wreck, that a vessel was on shore there; but

being able to see nothing from the fog, and hearing voices, he came to the conclusion that the voices he heard must be those of the Coast Guard, come to the assistance of those in difficulty, and continued his occupation. It is not easy to speculate on the amount of placidity which may exist in the pastoral mind; but possibly the sound of five or six pistol shots in succession might have aroused him into giving alarm to the Coast Guard—the Captain and Crew might have become aware of their real position, and in the end a considerable saving of the property might have been effected.

However that may be, the passengers first, and soon the whole of the crew, were, not without the Captain's consent, in the boats, expecting the masts to come over, and the vessel very probably to founder. Somewhere about three hours after the sailing, the Captain and the Mate left her, intending to stay by her till she should sink or the weather clear so as to shew their position; next to nothing seems to have been taken in the boats. According to the evidence adduced, sight of the ship was lost in the dense fog, and the boats then pulled away from the breakers. Entirely losing their way they got into the Race off St. Alban's Head, and were near being swamped. Eventually they were picked up by a schooner, whose crew was probably, like that of the "Hardy," quite ignorant of the existence of Swanage. So that they went on to the supposed nearest port, Southampton, which was reached on the morning of the 21st.

Meanwhile, about twelve o'clock at noon the fog cleared off, and the ship revealed herself to the astonished eyes of the Coast Guard on duty. The astonishment was not diminished when the boats coming alongside found that she was completely deserted—evidently recently, for the fire was yet a-light in the cabin. The absence of the boats explained that the crew had gone out to sea.

Possession was taken of the vessel by the Coast Guard, and she was placed as soon as practicable under the charge of the

Receiver of Wreck, the Collector of Customs at Weymouth. The Captain did not succeed in returning to the scene of his misfortune till the 23rd, the Agent for the Insurers at an earlier date. It is not very material to us how the unfortunate loss of time occurred; but it is too certain that the space of time between the 20th and the 24th was *not* by any means so fully employed in getting out the cargo, as subsequent events must have made all wish to have been the case.

On the morning of the 25th the sea and wind were high, and from the appearance of the ship, the waves breaking clean over her—the masts swaying on opposite sides, and large portions of her cargo being washed ashore, it was clear that she must be rapidly breaking up. The fact of the beer and porter casks, with cases of spirits, forming a part of that which came on shore, did not lessen the necessity to adopt such measures as could be adopted to keep order and avoid, so far as possible, the collection of unemployed people on the shore. In effect on this and the succeeding day, no small quantity of good liquor had to be given to the thirsty sand rather than be left to afford in its unguarded state too irresistible a temptation to the “thirsty souls” of Purbeck. At 6 p.m. the mainmast went overboard—and when later at night, on the receding of the tide, the shore could be reached, the ship was found to have been driven on near to the cliff, so as to be entirely high and dry at low water—a complete wreck, with a large part of the bottom torn off and turned over at a distance on the shore, while the galley was lodged at the very base of the cliff—the stove still occupying its own place. From that time, each tide effected more or less rapid destruction in the fabric, till comparatively little remained on the 9th of February to be offered for public sale.

With the moral reflections which that misfortune must naturally have raised, I will not trouble the Society. This only I will observe, that from the specimen now afforded of the inevitable unsettling, not to say demoralization, produced by

the excitement of such an occasion, it is easy to understand how grievously such occurrences must have in former days interfered with steady and honest work; and how little worldly wise were those Ministers of the Gospel, (happily not of English race), who are said to have been accustomed to pray that "Heaven would send plenty of wrecks on their coasts."* But we are concerned with the question whether anything can be done to prevent this constant grounding of vessels on the Purbeck shores; and certainly, were scientific investigation requisite, few objects could be held out that would offer a nobler aim for our Society than to aid in pointing out the means of avoiding the evil.

But in truth it does not appear that there is any unknown cause of disaster to be investigated, or any hitherto unknown remedy to be suggested. It seems to be quite well known to those at all acquainted with the coast that with the ebb tide there is a current more or less strong on the Kimmeridge Ledges.

And again, if there is any faith to be placed in soundings, a careful sailor should be able to know about where he is in these parts. Within the transit line from St. Alban's Head to Portland nothing like a large ship ought, it is said, to come; and within that line so much as 15 fathoms is only to be got, according to local evidence, in one spot.

It would seem then that these very unwelcome visitors, as the "Tyne" in 1857 and the "Hardy" in 1861, (within a week of each other in the time of year selected), ought to be able to avoid us. The loss of property in the case of the latter vessel is reported to be nearly equal to the sum supposed to have been expended in removing and refitting the former; since the ship is said to have been insured at £5000 and the cargo at not much less than 20,000. The formal investigation resulted in the expression of opinion by those called upon to

* Mc Culloch's Comm. Dict. "Wrecks."

investigate, that the loss had been caused by the omission to get proper soundings, and that such soundings might have been obtained by the use of the deep sea lead. How fallacious the lead used proved to be, was shewn from the alleged fact that immediately before the striking of the vessel a cast of 19 fathoms was obtained; which, (unless indeed the lead lighted in some unknown hole), appears to be a sounding not to be obtained within six miles of the coast.

But if there is ground for imparting any want of care to those who were navigating the "Hardy," what should be said of the blunderings of a coasting coal schooner, the "Dorothy," which subsequently to the writing of the former part of this notice came on shore in the same parts on February 14th. In broad day light, without fog, apparently without any cause, except the desire to "cheat the tide," this vessel chose to strike close into the spot where the relics of the "Hardy" were lying. No official investigation having been held into this piece of destruction, (we cannot call it "misfortune"), it is impossible to say where the blame deserves to rest. She was able to get off the reef in the first instance, but, becoming quite unmanageable, drifted eastward on to the ledge where the "Tyne" lay in 1857; at this time she might perhaps have been, with proper assistance, got off and saved; but the fear of "salvage" prevailed over the fear of loss, and she was trusted to the hope of fine weather and the chapter of accidents. Those accidents were not propitious. Heavy weather, clearly threatened, came on. The ship held together longer than might have been expected, but in the night of the 17th went into a thousand pieces, no attempt having been made to save a particle of her spars or rigging.

Thus at one time, intermingled, were to be seen the shivered remnants of two vessels along the usually deserted shore.

Writing as I do, after the dreadful visitation, that on Saturday, the 9th of this month, spread such ruin and called forth such heroism on the Eastern Coasts of England and

Ireland, it seems a light matter to have to record so comparatively uneventful a wreck as that with which I have occupied the attention of the Society.

Perhaps instead of grumbling at the apparent perversity with which vessels have latterly indulged, in the mania of coming too near our coast; we ought to indulge only the sincere feeling of gratitude that property alone, and not life, has been the subject of our anxiety.

OLIVER W. FARRER.



METEOROLOGICAL TABLE

Showing the height of the Barometer (in doors), and Thermometer, (out of doors), at 9 A.M., and the maximum and minimum temperature during twenty-four hours, with the quantity of rain, recorded at Encombe, by O. W. Farrer, Esq. ;* the quantity of rain, recorded at Bucknowle, by Mr. Voss ; and the direction of the wind, and state of the weather, recorded at Swanage, by the Rev. J. M. Colson, for the year 1860.

Barometer.		Thermometer.			Rain G.		Direction of Wind.	Weather.		
1860.	Max.	Min.	Mean.	Max.	Min.	En.	Buc.			
Jan.	1 to 3	29.51	26.00	43	46	39			SW.	Thick, foul, rough
	4 to 5	28.82	25.61	38	45	39			NW. SW.	Rain
	6 to 7	30.04	29.14	32	41	25			W. NW.	Cold, fine, frost
	8 to 10	30.18	30.00	33	42	27			S. SE.	Fine
	11 to 15	29.99	29.60	42	42	30			SW. S. SE. S. SW	Changeable, rainy
	16 to 17	30.10	30.07	30	43	27			W. SE.	Bright and fine
	18	29.59		30	38	27			SE.	Wind and rain
	19	29.59		32	39	34			W.	Fine
	20 to 21	29.11	28.96	38	41	28			SW.	Heavy rain and wind
	22 to 23	29.36	29.24	34	41	30			W. NW. W.	Dry, strong wind
	24	28.10		36	40	34			WSW.	Squally
	25	29.06		32	39	30			NW.	Clear, strong wind
	26	29.66		32	38	24			SE.	Wind and rain
	27 to 31	29.97	29.04	34	42	22	4.50	2.8.5	W. SW.	Very changeable
Feb.	1 to 5	30.18	29.62	29	33	21			NE.	Frost and wind
	6 to 8	30.10	29.70	34	42	26			N. NW. W.	Cold
	9 to 10	29.90	29.53	25	41	19			NE.	Cold
	11	29.58		33	33	20			SW.	Heavy rain
	12 to 18	30.37	30.04	26	38	11			NE. E. NE.	Dry, very cold
	19 to 20	29.70	29.47	33	41	33			N. NW.	Dry, cold, snow
	21 to 22	29.84	29.63	21	38	28			NE.	Fine and dry
	23 to 25								S. SE.	Fine, mild
	26								W. SW.	Rainy
	27 to 29							1.2.1	NW. SW.	Snow storms
March	1								W.	Fine
	2 to 4								SW. W.	Very fine
	5 to 8								N. NE.	Rainy
	9	29.87		43	50	25			E.	Dry, cold
	10 to 12	29.79	29.30	45	53	23			S. SE.	Dry, wind
	13	29.40		46	52	42			NE.	Change, rain
	14	29.34		49	59	44			SE.	Fine
	15 to 16	29.86	29.72	46	53	39			SW.	Rain, gale
	17 to 21	30.02	29.85	53	59	30			W. NW.	Finer
	22	29.68		49	54	43			SW.	Dull, Rainy
23	29.50		50	54	45			NW.	Cold, wind	
24 to 25	29.34	29.00	47	52	42			SW.	Wind and rain	
26	29.50		50	54	44			NW.	Storms	
27 to 28	29.00	29.62	53	56	43			SE.	Finer	
29 to 31	29.56	28.96	53	58	47	4.25	2.8.6	NW.	Dry	
April	1 to 3	29.37	28.98	49	57	43			W. SW.	Rainy
	4 to 6	29.65	29.54	49	57	41			NW. W.	Storms, cold
	7	29.73		50	56	46			E.	Fogs
	8 to 11	30.02	29.50	49	57	37			W.	Very fine
	12 to 18	30.12	29.90	47	53	38			NW.	Raw fogs
	19 to 22	29.98	29.64	64	54	38			SE. E.	Rain, wind, cold
	23	29.62		63	54	43			NE. N. NW.	Hail storms
24 to 30	30.24	29.60	49	57	34	2.00	1.5.1	SW.	Rain	
								NE.	Wind, cold	

* From Casella's "Gardener's Rain Gauge."

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Barometer.			Thermometer.			Rain G.		Direction of Wind.	Weather.		
1860.			Mean.	Max.	Min.	En.	Buc.				
	Max.	Min.									
May	1 to 2	30.14	29.98	60	63	46			E.	Blowing hard	
	3 to 7	30.05	29.65	55	65	43			NE. E.	Fine	
	8 to 12	29.68	29.48	54	60	45			SW.	Wet	
	13 to 15	29.72	29.65	56	64	51			W. NW.	Fine	
	16 to 18	29.70	29.25	54	61	51			SE.	Fogs, rain	
	19 to 25	30.17	29.58	60	64	43			W.	Very fine	
	26 to 28	29.68	29.30	55	62	51			W. NW.	Rain, gale	
June	29 to 30	29.94	29.82	55	62	51			W.	Stormy	
	31	29.58		55	61	50	4.20	3.63	SW.	Fog, rain	
	1	29.54		57	59	52			SW.	Rain	
	2	29.34		56	60	53			S. SE. SW.	Fearful gale	
	3 to 6	29.70	29.25	56	63	48			NW. W.	Finer	
	7 to 9	29.85	29.56	63	62	48			SW. W.	Wind, rain	
	10 to 11	29.68	29.62	57	64	45			W. S.	Dry, cold	
	12	29.35		55	60	53			SE. W.	Rain, gale	
	13 to 14	29.44		57	60	51			W.	Wind	
	15 to 16	29.58	29.52	57	60	49			S.	Finer	
July	17	29.52		56	61	46			NE.	Rain	
	18	29.65		56	60	45				Very fine	
	19	29.56		56	60	49			SE.	Rain	
	20 to 30	29.98	29.50	57	66	51	6.48	5.77	S. SE. SW.	Fogs, rain, wind	
	1	30.06		58	64	46			W.	Fine	
	2 to 6	30.24	30.04	61	68	46			NE. N.	Very fine	
	7 to 10	30.14	29.90	53	65	47			E.	Fine, hot	
	11 to 12	29.88	29.85	61	68	52			NW.	Fine	
	13 to 18	29.77	29.70	60	67	50			NW.	Fogs	
	19 to 20								SW.	Fine	
Aug.	21	29.52		57	64	52			W.	Gale, rain	
	22 to 23	29.71	29.49	57	60	50			W. SW.	Rain	
	24 to 26	29.89	29.67	59	63	49			NE.	Unsettled	
	27 to 31	30.02	29.59	58	63	47	1.82	1.50	SW. W.	Changeable	
	1 to 2	29.95	29.83	59	64	53			N.	Fine	
	3 to 10	29.77	29.50	57	65	46			NW. W.	Unsettled	
	11 to 12	29.60	29.50	60	62	53			NW.	Strong wind	
	13 to 17	29.65	29.22	58	63	42			SW. W.	Wind and rain	
	18	29.49		60	61	50			SW.	Gale, rain	
	19	29.77		55	56	51			SW.	Wind, rain	
Sept.	20 to 21								NW. W.	Finer, cold	
	22								SW.	Gale, rain	
	23 to 26								SW.	Wind, rain	
	27 to 31	29.74	29.26	57	61	52	4.95	4.45	W. SW.	Finer, wind	
	1 to 8	30.21	29.78	53	62	45			W. E.	Fine	
	9	29.95		48	61	48			E.	Wind, rain	
	10 to 15	30.20	29.40	52	57	38			E. SW.	Fine	
	16 to 20	29.67	29.62	53	58	44			SW. NW.	Wet	
	21	29.80		53	57	51			W.	Fine	
	22 to 23	29.60	29.58	52	60	51			SW.	Wet	
Oct.	24 to 25	29.58	29.58	49	55	41			NW.	Finer	
	26 to 27	29.62	29.62	53	56	41			SE.	Heavy rain	
	28 to 30	30.12	29.55	46	58	40	4.43	3.16	NE.	Rain, wind	
	1 to 8	30.28	30.05	50	57	41			NW. W.	Fine	
	9 to 10	30.05	29.93	47	54	43			NW.	Wet	
	11 to 23	30.08	29.43	47	56	32			SW.	Changeable	
	29 to 31	30.04	30.00	50	54	43			NE.	Mild, damp	
	Nov.	1 to 13	30.33	29.64	48	49	32	2.60	2.16	E. NE.	Dry, cold
		14 to 16	29.50	29.20	52	51	39			NW.	Showers
		17	29.88		40	50	42			SE. SW. NW.	Heavy rain
18 to 20		29.97	29.75	41	47	36			N. SW.	Fine	
21		29.60		47	48	48			S.	Gale	
22 to 23		29.39	29.38	45	51	41			NE.	Fine	
24 to 30		29.62	29.20	42	49	30	2.45	3.37	E. SE.	Gales	
1 to 8		29.63	28.65	49	53	38			S. SE.	Rain, storms	
9 to 16		30.10	28.76	42	49	31			NW. NE.	Fine	
17		29.69		39	46	37			N.	Snow	
Dec.	18 to 24	29.79	29.29	30	42	16			N.	Hard frost, snow	
	25	29.21		28	80	20			E.	Cold, wind	
	26	29.30		32	32	25			E.	Gale, with sleet	
	27 to 28	29.67	29.18	33	37	29			E.	Wind, snow, frost	
	29	30.10		34	40	20			SE.	Gale, rain	
	30 to 31	29.49	29.32	47	51	33	4.97	2.56	SW.	Rainy	
							42.65	35.03			

