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Members are reminded that payment of the current year's subscription (10s.) entitles them to the immediate receipt of the Vol. of "Proceedings" or other publications for the year; also that payment of arrears entitles to previous volumes, issued in those years for which the arrears are due.

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The Dorset Natural History
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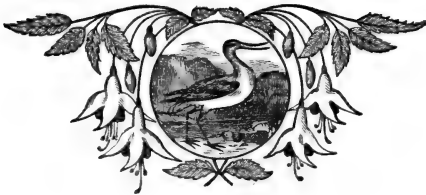
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The above list contains the New Members elected in 1891, up to date of publication.

The Proceedings
OF THE
Dorset Natural History and Antiquarian
Field Club

DURING THE SEASON 1890-91.

By M. G. STUART, M.A., F.G.S.

The work of the Season 1890-1891 has comprised the Annual Meeting at the County Museum, Dorchester, on Thursday, June 5th, 1890; a meeting at Portland on Wednesday, July 16th; a Two Days' Meeting at Sherborne on Thursday and Friday, August 28th and 29th; a Meeting at Rushmore on Tuesday, September 23rd; a Meeting in the County Museum, Dorchester, on November 28th; and another in the Museum on February 24th, 1891. During this Season 35 new members have been elected to the Club, and three members have been lost by death—viz., Colonel Hambro, M.P., of Milton Abbey; the Rev. Edward Dayman, of Shillingstone; and the Rev. J. H. House, of Winterborne Anderson. The total number of members on the List of the Club at the end of the Season stood at 268. The Eleventh Volume of "Proceedings," owing to difficulties in completing some of the plates, was not issued until January, 1891.

THE ANNUAL MEETING AT DORCHESTER, June 5th, 1890, was well attended. The Treasurer, the Rev. O. P. Cambridge, read the Financial Report for the year 1889-90. He said that their position was a satisfactory one, inasmuch as they commenced the year with a balance of £15 0s. 9d. and ended it with one of £26 5s. 10d., whilst the heavy bills for printing the last volume of the "Proceedings" (Vol. x.) had been discharged. He wished to thank the Members for the greater regularity they had shown in paying their subscriptions. During the year the Club had lost two honorary members by death, two ordinary members by death, and seven by resignation, leaving the total number of ordinary members at 252. During the year a sum of £22 7s. had been received by the sale of surplus copies of the "Proceedings" of the Club, which showed, he thought, that their publications were appreciated.

ELECTION OF OFFICERS.—The President, Treasurer, and Secretary, proposed by the Rev. Sir Talbot Baker and seconded by N. M. Richardson, Esq., were re-elected for office for the ensuing year.

ELECTION OF NEW MEMBERS.—Seven new members of the Club were elected.

THE PROGRAMME FOR THE YEAR.—After a prolonged discussion the following meetings were arranged :—Portland and Pennsylvania Castle for July, Sherborne and Cadbury for August, Bokerly Dyke for September.

REPORT OF THE CURATOR OF THE MUSEUM.—Mr. H. J. Moule made his report on the additions to the Museum during the past year. First, the non-Dorset Department; in the Library many of the more valuable books had been bound, the Collection had been enriched by British Museum Catalogues granted by the Governors, by a set of the Journal of the Archæological Institute presented by Mr. T. Bond, by the Novels of Mr. T. Hardy given by the Author. In the Galleries the additions to the collection had been chiefly of an Oriental nature. To the Collection confined to Dorset alone, amongst the books the Curator drew attention to the loan by Mr. J. S. Udal of his valuable collection of books relating to Dorsetshire, 241 volumes in all. Amongst gifts to the Library were—Vol. x. of the Transactions of the Dorset Field Club, Crowe's Poems, two Maps and Accounts of Dorset in 1610 and 1749 respectively, given by Mr. L. G. Boswell Stone and Mr. H. Symonds, and the "Description of the Church Plate of Dorset;" lastly, the acquisition of the Ordnance Map of the County, which would greatly enrich the Library. With regard to the Dorset Collections in the Museum itself, Mr. Moule stated his conviction that with the small funds at their disposal their ambition should be more and more strictly limited to making the collections illustrative of the County as complete as possible. With regard to the progress of the Collection during the year, the most important fact to record was that of the purchase of the valuable collection of local Antiquities formed by Mr. Cunnington, which was represented by the three cases occupying the centre of the room. There was another loan which it was most desirable to purchase—viz., the collection formed by Mr. Hogg of Dorset Antiquities, most of which belonged to Dorchester itself. A valuable collection of coins had already been purchased by the Museum from Mr. Hogg. Many valuable gifts had been made during the year. Amongst these were an interesting group of coins and relics from a Roman well at Kingston by Mr. Mansel-Pleydell, several worked flints and two polished celts by the Rev. O. P. Cambridge; several objects found near Cranborne, especially a very

fine leaf-shaped arrow head, by Dr. Wake Smart ; a fine Roman amphora found in the Weymouth Backwater presented by the family of the late Mr. Damon ; a bronze socketted celt by Mr. Fetherstonhaugh Frampton ; a fine worked flint by Mr. Cunnington. Of mediæval relics, the stones of the Greyhound-yard Tudor Archway given by Mr. Fossett Lock, which it was proposed to erect in the place of one of the plastered arches of the Hall of the Museum ; two encaustic tiles from Dorchester Friary given by Mr. Hogg. Of Legal Documents relating to Dorset, a lease of Melbury Bubb by Alande Plunkett in 17 Ed. II. from Mr. A. M. Luckham, and several grants of Stuart times relating to Buckland Newton and other places in Dorset given by Mr. J. Batten. In the Natural History Department of Dorset a great acquisition would be found in the collection of local fossils of the late Mr. Damon, which contained some excellent specimens, amongst others a fine *Ophioderma Weymouthiensis*, a species discovered by a brother of Mr. Groves, of Weymouth. The task of setting up and labelling the Damon fossils necessitated moving every Dorset specimen in the cases. Amongst Liassic fossils two good specimens had been acquired through Mr. Cunnington. The discovery by the President of a new Saurian amongst the mass of bones brought to the Museum from Gillingham was remarkable. The three bones which led him to this Cuvier-like identification were now under lock and key. Of recent Natural History Specimens they had received not a few, chiefly Skins and Birds, procured through the zeal of Mr. Groves. Of these three had been set up, one, a puffin with its winter bill, was specially interesting. Mr. Moule closed his report with the hope that a larger portion of objects of Dorset interest might find their way to enrich the Collections of the County Museum.

An adjournment at 2 p.m. was made for luncheon, after which the President delivered his Annual Address, which will be found at p. 1 of this volume.

Subsequently two papers were read, viz. :—

“ On Castle Hill, Cranborne,” by Dr. Wake Smart.

“ On Holme Priory,” by T. Bond, Esqre., of Tyneham.

These two papers are printed in Vol. XI. of the “ Proceedings.”

THE PORTLAND MEETING.—This Meeting was held on Wednesday, July 16th. The weather was most favourable, a party numbering upwards of a hundred arrived at the Portland Railway Station at 11 a.m. Thence the route led to the Verne Citadel, where, by the kindness of Colonel Russell, R.E., was exhibited a collection of antiquities discovered during the construction of that fortress. These

consisted of human bones and crania found in stone coffins, flint implements, coins, and many fossils. Outside the building several stone coffins were exposed to view. Dr. McLean exhibited a very perfect specimen of the left jaw of a *Lepidopterus* found in the railway cutting near the Portland Breakwater; also a block of crystallized Manganese dredged during the Challenger Expedition from the bottom of the sea at a depth of from three to four miles. From the Verne a short walk brought the party to an ancient grave, which had been opened by Mr. A. M. Wallis, containing a human cranium, bones, and fragments of pottery. Close by lay two fine querns and some rounded stones, probably used for slinging; or for crushing corn, as some antiquarians suppose. The President here delivered a short address on the geological character of the Isle of Portland. He said it represented one of the most interesting districts of the Kingdom. Portland, long before these kinds of graves had been made, had suffered denudation, and at least a depth of 500 feet had been washed away. The raised beach, near Portland Bill, was of great interest, since it bore evidence to the oscillations to which the Island must have been subjected. The highest point of this raised beach was 56 feet, and the lowest 36 feet above the level of the sea. It is composed of rolled pebbles and stones, some of which came from the East, some from the West. He was of opinion that the grave before them was a more recent place of burial than that found by Colonel Russell last year.

A walk of a few yards brought the members to a Dene hole, or prehistoric underground hut. With regard to it the President said that about three years ago Mr. Wallis wrote to him stating that a Dene hole had been discovered, but owing to the working of the quarries it had been destroyed. He then wrote to Mr. Wallis to ask him to endeavour to find another, and the Dene hole before them was the result of his search; it was unfortunately not so perfect now as when it was first discovered. He invited a discussion on the part of the members as to the origin of these Dene holes. Some people supposed they were reservoirs or granaries for corn of the prehistoric inhabitants. Others considered they were constructed as places of sepulture; or even as memorials to the dead. The late Mr. Damon figured two of these Dene holes in his work on the Geology of Weymouth and the Isle of Portland; they were side by side, and there was a communication two feet broad, and one foot high between them.

Dr. McLean thought they were used as granaries, since corn in a parched condition had been found in them, which pointed to this purpose.

Mr. Wallis exhibited a bottle containing some of the corn which had been so discovered. Dr. Watts said at Grays, in Essex, was a wood in which were hundreds of these holes, of which most had been filled up, but some had been kept open. These holes were 80 to 100 feet deep, sunk through the sand into the chalk beneath. These holes grew narrower as they descended, and at the bottom were four curious chambers of a rose pattern. They had been most carefully examined, and the earth around sifted, but nothing had been found to determine their use; the surroundings, however, led to the conclusion that the spot originally formed an ancient village and that these holes were the storehouses of families for preserving their food for long periods, and against the attacks of enemies. Some of the famous stone quarries close by were then inspected, where several specimens of trees (*conifers*) and cycads were exhibited. The President here read a paper, which had been prepared by Mr. A. M. Wallis, on the subject of the economic value of the various beds of Portland stone, the mode of quarrying in vogue, and an historical account of quarrymen's rights in Portland. This paper will be found in full at p. 187 of this volume.

After a cordial vote of thanks had been given to Mr. Wallis for his valuable paper, a start was made for Pennsylvania Castle. The route lay along the top of the cliffs, from which a grand view was obtained, the cuttings of the new Church Hope Railway, now in course of construction, were passed, and soon after, the party was met by Mr. Merrick Head (the owner of Pennsylvania Castle), who conducted them inside the grounds, and gave them a most cordial welcome. Subsequently Mr. and Mrs. Merrick Head entertained the whole party at luncheon in a marquee, which had been erected for the purpose in the garden. After luncheon the President returned thanks to Mr. and Mrs. Merrick Head, on behalf of the company, for the hospitality which they had received. He said he was old enough to recollect when Governor Penn used to cross the ferry, where there is now a bridge, in a carriage and four. In Portland, those who are not natives are called "Kimberlins," and no "Kimberlin" is deemed a true Portlander, but he felt certain from the enthusiastic way in which Mr. Merrick Head advocated the interests of the people of Portland at the County Council and elsewhere, although not a native, he is not considered a *Kimberlin*.

After luncheon, the members proceeded to the ruins of the old church; where Mr. Merrick Head read a very excellent paper on the history of the Castle, the Church, the Vicar's House, and Tithes. This paper will be found in full at p. 115 of the present volume.

Twelve new members of the Club were subsequently elected, and Mr. A. M. Wallis was elected an honorary member on the proposal of the President.

Considerable time was afterwards spent in examining the various objects of art and historical interest contained within the Castle, whilst some members availed themselves of the fine entomological field afforded by the rough ground of the undercliff, and specimens of a spider new to Britain, *Neon levis*, Sim., were here discovered by the Treasurer during the afternoon. Pennsylvania Castle was built during the reign of George III. It is stated that its erection was due to the following incident:—The king was one day riding with Governor Penn across the island when His Majesty stopped at what is now Pennsylvania, and exclaimed "What a delightful spot for a house." Upon which Penn replied "Your Majesty, it shall be built," and soon after the present Castle was commenced, Wyatt being chosen as the architect. The Castle was opened by the Princess Elizabeth, daughter of George III., who inscribed her name on the occasion in a book of etchings. This, as well as several paintings, engravings, and relics of the Penn family collected by Mr. Merrick Head, was exhibited to the members. Amongst the paintings the most highly prized is the portrait of William Penn, the founder of the Colony of Pennsylvania in the United States. Here Penn is represented in armour, the picture having been painted just after the siege of Carrick-fergus. Beneath is the inscription, "Pax quæritur bello." An engraving represents an engagement fought by Admiral Sir William Penn, the father of William, with the Dutch fleet. Another engraving of great historical interest represents William Penn's treaty with the Indians, when he founded Pennsylvania in 1681, the land being bartered for a piece of cloth. A copy is preserved here of the famous treaty made under the great elm tree at Shackanaxon in 1682. The original was presented by John Penn to the Historical Society of Philadelphia, and is known as "the Belt of Wampum" (delivered by the Indians to William Penn). There is also a valuable painting of the Penn family, supposed to have been touched up by Sir Joshua Reynolds, and engraved by Turner. In the hall are some portraits of the family, one of the most interesting being that of John Penn, M.P. for Stoke, Bucks, who was appointed Governor of Portland, in 1805. This was painted by Sir William Beechey, who at the time was President of the Royal Academy. In a glass case are the dress swords of the Governor. A portrait of the poet Gray hangs in one of the rooms. In addition to these there are some valuable old engravings of Portland and the vicinity, and some fine oak carving. The large party left the Castle about

4.30 p.m., after thanking their host and hostess for their hospitality. They returned to the village, where tea was provided at the Soldiers' Institute, after which they left the Island by the 5.30 train.

THE SHERBORNE MEETING.—A two days meeting was held at Sherborne, on Thursday and Friday, August 28th and 29th, and fine weather attended the proceedings, which was a rare advantage in this wet season. The programme had been arranged so as to enable the members to meet the Somersetshire Archæological Society on the second day across the borders of the County at Cadbury Castle, and as this Society had made all the arrangements and undertaken to provide the information in that locality, the first of the two days (Thursday) was the only one for which the Dorsetshire executive was responsible. A large party was present on each of the days, and the Digby Hotel, at Sherborne, formed the head-quarters during the visit. At twelve o'clock on Thursday, a start was made for the Abbey. The monument erected to the memory of the late G. D. Wingfield Digby Esq., who restored the building, was noticed, and then the party assembled in the Vestry, where Mr. R. D. Carpenter, a leading ecclesiastical architect of London, narrated the history of the building, elucidating his statement with the help of coloured diagrams and ground plans. He observed that a portion of the Roman pavement found on the site of the Abbey sometime ago, carried the history of the Church back to a period anterior to the Anglo-Saxon time of the commencement of the Eighth Century, but it was not until then that the architectural and documentary history began. In A.D. 705, Ina, a West Saxon King, appointed St. Aldhelm to the bishopric of Sherborne, then it was separated from the Diocese of Winchester. In the same year he founded a small nunnery at the mouth of the Frome, at Wareham, and probably also built the Church of St. Martin there. He most likely had his Cathedral at Sherborne, which was served by clergy and not by monks. St. Aldhelm was bishop for four years, and died in 709. It is probable the monks of Glastonbury rebuilt the wooden church of Doulling as a memorial to him. Sherborne had 26 Bishops in all, the last being Herman, chaplain to Edward the Confessor. On his decease in 1072 A.D., the bishopric was removed to Old Sarum. In A.D. 1125 Pope Honorius II. conferred large grants of land and endowments on the Abbey. The whole of the Anglo-Saxon Cathedral, with the exception of the western doorway of the north aisle of the nave and some adjoining walls, were pulled down by Bishops Rogers and Thurston. This doorway, which is in the early Anglo-Saxon style, is now blocked up. The Lady

Chapel was built in the 13th century, about the same time as Salisbury Cathedral, and probably, from the resemblance of the mouldings in the two, by the same person. At the end of the 14th century the Church of All Hallows was built adjoining the west end of the Abbey. The Vicars of this Church were appointed by the Abbots, who as Rectors held the great tithes. A dispute, arising between the Vicars and Abbot, led to a riot, during which a burning arrow was shot into the thatched roof of the choir, which was ignited and consumed. The walls of the choir and tower still showed the marks of this conflagration. Abbot Bradford set to work to rebuild the whole church on the style of his new choir, leaving some of the old burnt stones as witnesses of the harm which had been done, and on some of the bosses were carved representations of the burning arrow. After the death of Abbot Bradford, the old Norman clerestory was pulled down. In 1475 Abbot Ramsam actively pushed forward Bradford's plans for the nave. Ramsam died in 1504, and in little more than 30 years after, the last Abbot, John Barnstaple, surrendered the Abbey to the Crown on the dissolution of the Monasteries, and it was then granted to Sir John Horsey, of Clifton Maybank. All Hallows Church at that time was in a very ruinous condition; the parishioners sold the roof and the aisles, and by bargaining with Sir John, bought of him by degrees the nearly new Abbey Church and part of the contiguous buildings for the princely sum of £230; and it was a curious fact that the lawyer's bill for drawing up the necessary agreements only amounted to 14 pence. The windows in the choir in the time of Hutchins were described as fitted with heraldic glass; this had been removed. In 1848 repairs were commenced on the tower, nave, transepts, the south porch, and alterations of the west window. A sum of £4,000 was spent on the fabric. In 1856 Mr. George Wingfield Digby, of Sherborne Castle, restored the choir at his own expense as a memorial to his uncle, Earl Digby. On leaving the west door of the Abbey the curious fragments of buttresses were noticed, which protruded from the wall, and which originally pertained to the contiguous All Hallows Church. The mural tablet to the memory of Benjamin Vowell, his wives and daughters, on this external wall also attracted attention. The Rev. C. H. Mayo read extracts from an old deed, which showed that an ancestor of the Vowell family there buried was embroiled in the disturbance in which the roof and the choir were burnt. The conduit was next visited, which was stated by the Head-Master of Sherborne School to belong to the Governors of the School. It once stood in the Benedictine quadrangle of the Monastery; there it was supplied with water by the Newell stream. At the present its water came from a copious fountain at Kennel Barton.

The conduit had been quite recently restored, and its position slightly altered. For many years the conduit was used as a savings bank for the town. The present mullions were not as they were originally. In Hutchins' History of Dorset they were represented as being carried down to the pavement and glazed. The Rev. E. M. Young also called attention to the date, 1561, carved over the small window of the room which formed Dr. Lyon's study. He stated that the curious Elizabethan building had been constructed out of the remains of the Lady Chapel of the Abbey, by the help of Bishop Jewel, of Salisbury. The handsome south front was then inspected, after which the members entered the precincts of the School; the various buildings of interest around were pointed out. The library was visited. The Head-Master said that many of the documents were of great interest. For over 300 years the greater part of them had been stowed away in the muniment room at the Almhouses, and this accounted for the splendid state of preservation of their charter. The library was well supplied with curious editions of the Bible in various tongues, including Syriac, Anglo-Saxon, Gothic, and Erse. One very remarkable testament was in a now extinct North American Indian dialect, and bore on the title page the date of 1662. Amongst interesting MSS. was that of the prize poem of 1850, by Lewis Morris, the author of the "Epic of Hades," who was an alumnus of Sherborne School. "Thermopylae" was the title of the poem, which commenced thus,

"Thermopylae is silent
The stern rocks frown no more."

The party next were conducted over the Chapel, which was much admired, and subsequently proceeded to the schoolroom. They afterwards broke up for luncheon preparatory to starting on the excursion arranged for the afternoon. At 2.30 carriages were in readiness to convey the party, then numbering about 50, to Bradford Abbas; there the parish church formed the chief centre of interest. The building was at the time in the hands of the builder undergoing a process of restoration. It is built in the Perpendicular style, dating from the 15th century. Its most striking feature is its tower, which according to the authority of Hutchins, "is esteemed one of the best in the county." It is loftier than the generality of church towers in Dorset, and is flanked at the corners with octagonal graduated buttresses crested at the top with fine pinnacles. In the west front are eleven canopied niches, two of which, the furthest from the ground, contain statues, the others are empty. Within the building little could be seen with advantage, owing to the alterations in progress. Some time ago it was found that the fine oak

ceiling was seriously decayed, and it was decided, while the whole building was put in thorough repair, to replace the moulded rafters with new ones precisely similar, so that the original character of the edifice might not be debased. The fine pulpit, pews, and admirable font, the rare stone screen, and mural tablets, all received due attention. The repairs are being executed by Mr. Andrews, of Thornford, under the supervision of Mr. Benson, architect, of Yeovil.

Leaving Bradford Abbas, another ride brought the party to Clifton Maybank, a fragment of the fine dwelling-house of the Horsey's, a family of much importance in Tudor times, but whose prosperity suffered severely in those of the Stuart dynasty. Authorities consider the original house was at least three times the size of the existing building, which was reported to have extended all across the court at the rear, and to have been situated on the present garden, facing the old pleasance. The octangular trussed buttresses and frieze pierced cusp work in the south front of the existing structure indicate the date of its erection to have been the latter part of the fifteenth or the beginning of the sixteenth century. The most beautiful feature of the west façade is the oriel window, near the apex of the gable, with panels at the base bearing the sculptured allusive badge of the house—a golden horse's head, flanked by the double rose of the Tudors. According to Hamilton Rogers, the style of architecture and ornament are of the Early-Transition period, and are not sufficiently leavened with the Classic to date its construction to the days of Elizabeth or her immediate predecessor. This archæologist considers the house was erected in the first quarter of the sixteenth century by 'Squire John Horsey and his wife. The Rev. O. P. Cambridge read an extract from Hamilton Rogers' work—*Memorials of the West*. It ran as follows:—"After the death of the unfortunate Sir G. Horsey, in 1611, the noble old house appears to have been held intermediately by Heale, whose heiress, according to Hutchins, brought it to Hungerford, who sold it to the Harveys, of Comb, in Surrey, and they were its possessors in 1661. Notwithstanding this fifty years' vicissitude of ownership, and passing from hand to hand, it had probably suffered little change structurally up to the date of its purchase by the Harveys; we now get an ominous glimpse of its preparatory declension. Writing in 1773 Hutchins continues, 'The mansion house is a large and stately pile of buildings, repaired, sashed, and otherwise modernised by the Harveys.' Then, doubtless, all the rich oak Tudor carved work and stone-mullioned windows, radiant with sparkling armories, were ousted, to make way for the bold monotony of deal panelled parallelograms, lit by the dingy

bottle-green sashed transparencies of good Queen Anne—a style so devoutly worshipped by budding architects of the present day. In addition to the mansion there had also been erected a “very beautiful ancient gateway leading into the court, and ascribed to Inigo Jones.” Purely Classic in style, it was doubtless built by the second race of the Harveys. This was also remaining in 1773.” The Rev. O. P. Cambridge added that the person who had humiliated the house to its present “felon-like” appearance was unknown ; but that from extracts from the MS., “Anecdotes of My Life,” compiled by Edward Phelps, an ancestor of Mr. Phelps, of Montacute House, it was gathered that in 1786 the house was being pulled down, and that various materials were bought by this Edward Phelps, and used in the erection of Montacute House. The house was then examined by the party, and the old pleasaunce garden and bowling alley, at the corner of which stood the customary music room, were visited. The exterior of the house was also shewn by the courtesy of the tenant, Mr. W. Whittle, where the broad oak staircase with carved ballustrades, the oak panelling of one of the rooms, and the fine oriel window, all excited much admiration. Leaving Clifton Maybank, the party next visited Yetminster church, where they were welcomed by the Vicar, the Rev. R. S. MacDowall, who conducted them over the church and pointed out the many objects of interest. The building is dedicated to St. Andrew ; the style of architecture is Perpendicular, it has recently undergone restoration under the direction of Mr. G. R. Crickmay. A paper on the subject of this church, which had been prepared by the Rev. C. H. Mayo, to be read here, was postponed, through pressure of time, to the evening meeting at Sherborne.

Leaving Yetminster the route next led to Thornford, where the party were received and hospitably entertained at tea on the Rectory lawn by the Rev. Wilfred Roxby. The church was afterwards visited. In the churchyard the Rector pointed out a hole about the size of a man’s fist in the top of one of the tombstones, which formerly contained a copper receptacle, into which were paid on St. Thomas’ Day the modus in lieu of prebendal tithes. The church, which dates from the 14th century, was restored about 25 years ago. An interesting feature of the interior is the stone screen, which used to support a solid wall of masonry, giving the chancel end of the church a heavy and dark appearance. This has now been removed.

After leaving Thornford the members returned to Sherborne. Dinner was provided at the Digby Arms Hotel, after which five new members of the Club were elected. The company then repaired to the King’s School. Here coffee was provided in the large dining hall, after which the Head-

Master conducted them over the Laboratory and Museum. Here were exhibited *Ichthyosaurian* remains and the jaw of *Megalosaurus Bucklandi*, which is described by Sir R. Owen in the Q.J.G.S., a fair collection of oolitic fossils, and plants of the Carboniferous epoch, an excellent entomological collection, and various weapons of primitive tribes. A formal meeting was then held, the President, J. C. Mansel-Pleydell, Esq., being in the chair. The Rev. C. H. Mayo read the first paper on "Yetminster Church," which will be found in full at p. 146 of this volume. The Head-Master, the Rev. E. M. Young, then read a paper on "The History and External Growth of Sherborne School." The President rose to return thanks to the writers of the above papers, and to the Rev. E. M. Young for his kindness and hospitality in entertaining the Society at Sherborne School. He said it might not be known that Mr. Young was taking his holiday across the water, and had left his family in Brittany and crossed the Channel in order to give the Club the benefit of his company and experience that day. A vote of thanks to the Rev. E. M. Young was most cordially responded to, after which the party broke up at about eleven o'clock.

The next morning, Friday, at about half-past nine, a party of members left the Digby Hotel and drove to South Cadbury, a distance of about eight miles. The weather was very fine and warm, and the day was much enjoyed. On arriving at South Cadbury the members of the Dorset Club, now numbering about 80, joined a party of 120 members of the Somersetshire Archæological and Natural History, under the leadership of their President for the year, H. Hobhouse, Esq., M.P., and of their Secretary, the Rev. J. A. Bennett. The first place visited was Cadbury Castle, a fine earthwork which rises very abruptly behind the little village of South Cadbury. It is a Romano-British hill fortress, or entrenched camp of refuge, whose only rival in this part of the country is Maiden Castle, near Dorchester. The latter camp covers more ground than Cadbury, is more regularly shaped, and possesses three trenches, whilst Cadbury has but two; but whilst the embankment or outer trench of Maiden Castle slopes gradually upwards, Cadbury Camp rises abruptly from almost level ground, and would therefore present far greater difficulties to an enemy attacking it than Maiden Castle. Many of the Somerset Archæologists, including the Secretary, consider, and not without foundation, that Cadbury is the Camelot of King Arthur. Certainly to the archæologist, Cadbury and its neighbourhood is very attractive. The Fosse-way passes not many miles distant; almost every hill, spring, and wood bear names derived from British and Saxon roots, which tell of conflicts which have formerly taken place in the vicinity,

whilst the locality derives additional interest from being connected with King Alfred, as is indicated by the proximity of Athelney and Alfred Tower. The view from Cadbury Castle is very striking, and if there were any among the party assembled there on this occasion who were unable to appreciate the archæological interest which the place possesses, they must have been amply repaid by the fine landscape which lay outstretched before them. After pointing out to the party King Arthur's Well and the probable position of the Gates of Gold, which, according to tradition, led into the hill, the Rev. J. A. Bennett led them to the other side of the hill, where from a mound he pointed out the various features of the surrounding country, such as Glastonbury Tor, Whitcombe Valley, Penselwood, Sigwell Camp, Brentknoll, Alfred's Tower, Cook's Peak, the Hills of Bratton and Creech, Musbury Camp, Paget's Tower, and Wellington's Pillar. The Secretary further narrated various interesting stories and folk lore connected with the camp, and he mentioned that he had discovered many hut dwellings five feet in diameter and four feet deep, floored with pebbles, and often containing bones of oxen and fragments of Romano-British pottery. The philology of Sigwell, which was situated on the hill opposite, was "victory well," and he thought it was the place where the Saxons refreshed themselves after having defeated the Britons, and from which they shortly after advanced and took Camelot. The cottagers maintained that King Arthur's burial place was in a field at the foot of a hill not far distant, where many bones have been exhumed. Leland, who had visited Cadbury, was firmly of opinion that it was the Camelot of King Arthur. In a corn field at the base of the hill on the other side many Roman coins had been turned up by the plough, as well as many old English coins.

In answer to various questions addressed to him, the Rev. J. A. Bennett said the bones before mentioned were considered to belong to Saxons; the bodies appeared to have been thrown into a pit in a careless and contemptuous manner. The derivation of the word "Camelot," he thought, was from "Camulus," the god of war, analogous to the Roman god Mars. The name "Cadbury," as well, signified the hill of war. Sir Talbot Baker observed that the slope of the banks was steeper here than at Maiden Castle, but the trenches shallower. Alluding to a remark of Mr. Bennett's that the stone walls under the turf were put, in his opinion, for the accommodation of slingers, he mentioned that the Rev. Prebendary Scarth had held the opposite view. A cordial vote of thanks was then given to the Rev. J. A. Bennett for his address, after which the party proceeded to South Cadbury Church, which was also described by the

Rector, Mr. Bennett. This was the last occasion on which Mr. Bennett was thus officially engaged ; his sudden and unexpected death occurring not long after. The Somerset Society have lost, in Mr. Bennett, a most efficient secretary, and we ourselves have to regret the loss of one who gave us so hearty a reception, and expressed himself as looking forward to other re-unions of the two Societies in the near future.

Luncheon was provided in a tent close by, after which the entire party, composed of members of the two Societies, proceeded in a long line of carriages to North Cadbury House, the front of which is a good example of Elizabethan architecture ; the rear was, however, taken down some years ago and rebuilt in the Italian style by the owner. The house was once the residence of the Earls of Huntingdon ; their arms with quarterings may still be seen in the windows of the hall. It now belongs to Mr. F. Wentworth Bennett, but is at present occupied by Lord Hobhouse.

Here the party broke up, and the two-days' pleasant meeting was brought to a conclusion.

MEETING AT FARNHAM AND BOKERLY DYKE.—This meeting was held on Tuesday, September 23rd, the rendezvous being the Crown Hotel, Blandford, thence the party, numbering about 70, started in carriages for Farnham, where General Pitt Rivers, F.R.S., met them and conducted them over the Museum, in which the owner has placed some very important collections, selected and arranged by himself. In the first room of the building General Pitt Rivers explained that in 1852 he commenced forming a museum on the principle of selecting his subjects and then exhibiting objects to show the history and development of each. The collection arranged on the fore-mentioned system he exhibited at South Kensington and Bethnal Green for some years, and subsequently gave it to the University of Oxford, where £10,000 was voted for its preservation. As he had noticed people at museums usually took little interest in what they saw unless they knew something about them, the Museum at Farnham was a collection which he had arranged to illustrate those occupations which the inhabitants of the district were most familiar with—namely, agriculture and handicraft ; whilst the objects themselves were so well labelled that every one could soon find out what they wanted. On some shelves were pottery of various kinds, in one case jewellery and ornaments of the peasantry of different nations, whilst the various kinds and shapes of caps worn by the women in different villages in Brittany formed about the most interesting series of all. Each parish in Brittany had its own distinctive cap, worn by the women, the original type of which is maintained throughout. In an adjoining room would be

found some remarkably old wood carving, originally used for beds by the natives of Brittany. The ancient and modern work in this handicraft was well exhibited by these specimens. Another case was arranged to illustrate the implements in use during the stone, bronze, and iron ages. General Pitt Rivers then proceeded to describe the various models which he had prepared during the progress of the excavations at Rotherly Woodcuts and Bokerley. One difficulty which these ancient inhabitants met with was illustrated—viz., that of obtaining suitable flints for purposes of digging, and this they overcame by sinking deep shafts or mines to obtain the kind of flints they required. At Cissbury Camp there were numerous shafts, which went down 40 feet beneath the surface. The model of the village found on Woodyates Common was viewed. In another room of the Museum the models of the excavations at Bokerly Dyke were exhibited. General Pitt Rivers said the work here was more interesting than elsewhere as it gave larger evidence of the life of the people of that time, and because the Dyke was a defensive work, covering a large tract for the defence of the West of England. Near the Dyke was to be seen a portion of the Old Roman Road, which ran from Sarum to Badbury and which the President had traced much further towards the Estuary of Poole. At a curve of the Dyke was an important entrenchment which cut across the Roman Road. A great deal had been written about this Dyke; the chief point was to discover the date of it, and this was to be done by cutting through the rampart to find the surface lying beneath. One day the bandmaster, Mr. Laws, the leader of General Pitt Rivers private band, noticed a man taking soil from the top of the rampart, and whilst doing so, several Roman coins were found. Having obtained the consent of the landowner, Sir Edmund Hulse, to commence the search, he found several coins of Claudius Gothicus on the other side of the Dyke, nearly on the surface, and on the old surface as many as 600 coins of Honorius and Octavius were found. Honorius having left this country about A.D. 404, we have an approximate date for the age of the work. In the corner a skeleton was found lying so near the old surface that it had been evidently buried before the Dyke was made; therefore a settlement must have existed here anterior to that date. Relics of fires and skeletons were found, as at the village of Woodyates, and Roman coins were scattered about, proving the settlement to be older than the Dyke. Why the Romans scattered coins about in this way was not certain. It was evident that the people, who came after the Romans, dug into the foundation of their houses, and threw up the earth for the ramparts

without observing the coins, and these were thrown with the earth. General Pitt Rivers, in conclusion, said there was no doubt in his mind that Bokerley Dyke was Roman or post-Roman.

The party then drove to the Dyke, six miles distant from Farnham, but before they reached it a very severe storm of rain was encountered, which curtailed the pleasure of the visit very seriously. General Pitt Rivers, however, who kindly conducted the party over the work in spite of the weather, pointed out the place where he had cut through the rampart and found the escarps of the Dyke. Nothing Saxon, he said, had been found. He pointed out the way in which silting had rounded the escarps of the Dyke. With regard to supposing this to be the site of Vindogladia, he said that one reason in favour of this was that Vindogladia was twelve Roman miles from Sarum, which was the exact distance of this spot. Another reason was that the Roman Road ran in a direct line from Sarum to that point, and from there in a direct line to Badbury. At this particular spot, however, it turned, and as that was the only turn in the road from Sarum to Badbury it must have been a very important place. The name Vindogladia might have been derived from "*Vint*," signifying white, and "*Gladh*," a rampart, which must have been at the time of its construction a conspicuous white chalk object towering over the green sward.

The rain continuing to fall heavily the party was obliged to break up, and this most interesting meeting was brought to an unsatisfactorily premature conclusion.

THE FIRST WINTER MEETING IN THE COUNTY MUSEUM.—A meeting was held in the County Museum at Dorchester on Friday, November 28th, and although the weather was extremely cold there was a large attendance. The President was unable to attend, therefore his place was occupied by the Rev. O. P. Cambridge. Five new members were duly proposed and elected. After some matters of business had been brought to the notice of the members the various subjects enumerated on the printed programme for the day were taken in order. The first of them was a paper on "Roman Fortifications with special reference to those of Dorchester" by the Rev. W. Miles Barnes. This will be found printed in full at p. 135 of this volume. A discussion ensued on the conclusion of this paper. Mr. Moule remarked that a gate, other than those mentioned in the paper had been identified by Mr. Jowett, the late town surveyor, who unearthed the foundation in Gallows Hill, which appeared to be Roman, and it seemed to him (Mr. Moule) that from the many references to Durngate in the Dorchester "Doomsday" these foundations

were those of the Durn Gate. That Durngate was not necessarily in a line with the street of that name. In the Middle Ages the North Gate was in Glyde Path. It appeared to him from the enormous massiveness of the Roman fortifications that the mediæval residents would not be so foolish as to make new gates, and therefore the mediæval gate was probably the successor to, if not the identical Roman gate, and consequently it stood at Glyde Path, near the cottage at Colliton House. A paper on "Studland Church," by Mr. W. Masters Hardy, was next read by the Secretary. This will be found at p. 164. At the conclusion of the paper Mr. Albert Bankes said as this was the parish church of his old home he should like to speak in praise of those who had undertaken the work of the preservation of this church—Mr. Digby as rector, Mr. Luckham as churchwarden, Mr. Crickmay as architect, and Mr. Hardy as builder. Referring to a statement of Mr. Hardy, that at a time when there was no rectory a travelling priest did duty and occupied a chamber in the church, he said this was no doubt true, because until 50 years ago there was no resident clergyman, and the late Clerk told him he remembered when they had to catch a service when they could. The church was served at that time by a Curate from Swanage, and the Rectors being Pluralists the services were uncertain.

A paper on "Dorset Implements of Stone in the Museum" was then read by H. J. Moule, Esq. This is given at p. 16.

A paper on the subject of "Rooks Planting Acorns" was then read by the Rev. O. P. Cambridge, F.R.S. This paper is printed on p. 132 of this volume.

At the conclusion of this paper, the programme for the day having been completed, the meeting closed.

A SECOND WINTER MEETING was held in the Museum at Dorchester on Tuesday, February 24th, 1891. Unfortunately, the President was absent through ill health, and the Treasurer was detained through the illness of his eldest son. Mr. Albert Bankes took the chair at the commencement of the meeting. Five new members were elected to the Club. A proposal, suggested by the Rev. F. A. H. Vinon, that an account of the explorations lately carried out at Silchester, under the direction of the Society of Antiquaries, should be laid before the Club by a lecturer who superintended the operations, was first considered. The general feeling of the meeting was opposed to spending any part of the funds of the Club on a subject outside the bounds of the county.

Sir Talbot Baker (Vice-President), now occupying the chair, referred to the general impression of the existence of a Roman Villa in the parish of Iwerne Minster which had never been excavated. He had written to General Pitt Rivers, who owned the field where the villa was supposed to exist, and in reply the General stated his doubts of the existence of a Roman Villa on the spot alluded to, which was immediately east of Hambledon Hill. However, with his permission, some preliminary excavation had been commenced, and various objects, such as the remains of a flint wall, fragments of pottery, tiles, and a large number of nails, which were found, led to the conclusion that a habitation had existed on the spot. On reaching the Greensand, which formed the substratum, there were marks of fire, soot, and ashes about the walls and tiles. General Pitt Rivers, who was working at Oxford, had promised to commence excavating the spot himself, and in the summer they might hope that something really interesting would be opened out.

Mr. T. B. Groves exhibited a case of birds, collected by him in the vicinity of Weymouth during the recent hard weather. No less than seven Bitterns had been killed in the neighbourhood during this winter—viz., two at Chickerell, one at Weymouth, two at Dorchester, and two at Abbotsbury. The case exhibited contained a male bird, from a flock of six, one of the finest he had ever seen. The bird's crop on examination was found to contain nothing but hairs of animals. The other birds in the case were a golden eye, a sheldrake, and grey plover, and the little spotted woodpecker, *Picus minor*, which had had been observed pecking at one of the posts on the Portland railway. Mr. Richardson exhibited a Queen wasp he had observed on December 14th hibernating on the curtain of a bedroom. The insect was found suspended entirely by its mandibles, its wings and legs being folded up under its body. Mr. Eustace Bankes said that on February 17th he had found a wasp sunning itself on a paling, which was a very early date to find wasps out of doors. Mr. Wallis exhibited some relics of Romano-British times lately found at Portland—a ring, beads, fragments of pottery, and a portion of a human jaw (female) containing teeth. Three graves had been discovered on the Island lately by some workmen whilst setting up a crane, two of which each contained an urn; the ring and the beads were found in the third grave.

The papers on the printed programme for the day were then read in order. These included the following:—"Stone Implements in the Dorset County Museum" by H. J. Moule, Esq. This was a supplementary paper to that read by him at the meeting on November 28th on "Dorset Stone Implements." This will be found at p. 25 of this volume.

The Rev. R. P. Murray read "Notes on some of the Rarer Forms of *Rubus* lately found in Dorset." This is printed at p. 71. Mr. Nelson M. Richardson read a short paper on a "Moth, *Tinea subtilella*, Fuchs, recently discovered at Portland, and New to Britain," after which a paper on a "Remarkable Deformity in the Flowering Head of Charlock," which was found in a corn field near Radipole, was read by the same author. These papers are given at—Moth, p. 161; Charlock, p. 157.

A paper entitled "A Brief Historical and Descriptive Sketch of the Churches in the Rural Deanery of Dorchester (Dorchester portion)" was read by the Rev. W. M. Barnes, rector of Monckton. This paper is printed at p. 36.

At the conclusion of this paper some discussion ensued. Mr. A. Bankes referred to the probable depopulation of the village of Winterborne Farringdon by the plague as a very interesting matter. Mr. Moule remarked that East Fordington Church was a rich field for the investigation of archæologists. He had been struck with the similarity between the design of the Bayeux tapestry and the carving on the doorway of Fordington St. George. The latter was not a tympanum, as it had often been called, but a thing of most unique construction. Indeed, so curious was it that he thought it had not gained the fame it deserved. He regretted the disgracefully rude elevation of the north side of the church. The atrocious north aisle had been actually sanctioned by the Diocesan architect of that day. The Rev. W. M. Barnes said in Canterbury Cathedral one could plainly see where the axe work ended, and the chisel work began. Two papers included in the programme for the day—viz., "On some New and Rare Dorset Spiders" by the Rev. O. P. Cambridge, and "Some New and Rare British Shells" by Mr. Charles Owen P. Cambridge, were presented, and, in the unavoidable absence of the authors, were taken as read. These papers will be found, the former at p. 80 and the latter at p. 99 of this volume. This brought the meeting to a conclusion, and with it terminated the work of the season 1890-91.





Presentation of a Testimonial to the Secretary, Morton G. Stuart, Esq.

The occasion of Mr. STUART's marriage, in December, 1890, afforded the members of the Club an opportunity of testifying their personal friendship towards him, as well as their approbation of his zeal and efficiency in his official capacity. A valuable Antique Coffee Pot and a Binocular Field Glass were therefore presented to him as a wedding present. The subscription was limited to a maximum of 2s. 6d. each, and 153 members contributed towards the testimonial.

A warm letter of thanks in acknowledgment of this mark of friendship and esteem was received from Mr. STUART and communicated to the Club at a meeting at Dorchester on the 24th of February, 1891; and, subsequently, at the annual meeting on May 27th, 1891, Mr. STUART expressed in person his gratification at the receipt of this welcome and unexpected present.

O. P. CAMBRIDGE.



New Members Elected since the Publication of Vol. xi.

DORCHESTER, NOVEMBER 27TH, 1890.

Askew, Rev. R. H.	Winterborne Zelstone Rectory, Blandford
Portarlington, The Earl of	Portman Lodge, Bournemouth
Luff, Montague, Esq.	Blandford
Weld-Blundell, H., Esq.	Lulworth Castle, Wareham
Browning, Benjamin, Esq., M.D.	Weymouth
Mason, Philip B., Esq.	Horningham Street, Burton-on-Trent

DORCHESTER, FEBRUARY 24TH, 1891.

House, Edward H., Esq.	Tomson, Blandford
Freeman, Rev. H. P.	
Williams	Affpuddle Vicarage, Dorchester
Gravener, Captain	South Walks, Dorchester
Williams, E. W., Esq.	Herringston House, Dorchester
Tweed, The Rev. Canon H. E.	St. John's Villas, Weymouth

DORCHESTER, MAY 27TH, 1891.

Atkinson, T. R., Esq.	Gainsborough House, Sherborne
Eaton, H. G., Esq.	Shepton Montague, Castle Cary
Furlonge, Rev. A. M.	Chilcombe, St. Andrew's Villa, Bridport
Scoror, A. P., Esq.	Canford, Wimborne
Ridley, Rev. Stewart	Wareham

WAREHAM, JUNE 18TH, 1891.

Lamb, Captain Stephen E.	Dorchester Depôt, 1st Dorset Regiment, Barracks, Dorchester
Carter, William, Esq.	The Hermitage, Parkstone
Barnsdale, Rev. J. G.	3, York Terrace, Weymouth

LYME REGIS, JULY 21ST, 1891.

Garland, Henry, Esq.	Worgret, Wareham
Daniel, Woodruffe, Esq.,	Wareham
Mitchell, F., Esq.	Chard
Stephens, J. Thompson, Esq.	Wanderwell House, Bridport
Saunders, Miss Augusta	Corsecombe, Cattistock

LULWORTH, AUGUST 19TH, 1891.

Randall, Colonel	Melbury Lodge, Wimborne
Burdekin, Norman, Esq.	Castle Rise, Parkstone
Cother, Rev. P. S.	Turnworth Rectory, Blandford
Carré, Rev. Arthur	14, St. John's Terrace, Weymouth

Dorset Natural History and Antiquarian Field Club.

Dr. RECEIPTS and PAYMENTS from JUNE, 1890, to JUNE 1st, 1891. Cr.

	£	s.	d.		£	s.	d.
RECEIPTS.				PAYMENTS.			
Balance from May, 1890	26	5	10	Mintern Bros., Engraving Plates			25 5 0
Subscriptions and Arrears, 1890	115	2	6	do.			12 0 0
By Sale of—				Voss, for preparing for Three Meetings in County Museum			0 15 0
“ Spiders of Dorset ”	2	5	0	Expenses at Sherborne Meeting—Reporters' Carriage Tickets, &c., &c.			1 12 0
Vols. of “ Proceedings ”	17	17	0	Ditto, Rushmore Meeting			0 4 0
Four separate copies of “ Phalangidea ”	1	0	0	W. Cole, Marking County Map for Cataloguing Ancient Monuments			0 10 0
	21	2	0	Annual Subscription to Footpaths Society			0 10 0
				Treasurer, Stamps and Parcels			3 7 6
				Sime and Co. :—			
				Printing and Posting Programmes of Eight Meetings (in 1889-90-91)			8 12 6
				Advertising Eight Meetings			7 2 0
				Printing Blank Receipt Books, Phenological Table, Circulars, Notice of Vol. xi., &c., &c.			3 13 0
				Carriage and Postage of 210 Copies of Vol. xi. to Members			2 19 9
				Authors' Copies of Papers in Vol. x.			6 6 0
				Printing, Binding, &c., 300 Copies Vol. xi., as by Contract			88 0 0
							£116 13 3
				Paid to Sime and Co. on Account			113 0 0
				Cash Balance in hand			5 6 4
							£162 10 4

Dorset Natural History and Antiquarian Field Club.

GENERAL STATEMENT,

MAY 25th, 1891.

Dr.

Cr.

	£	s.	d.
By Arrears due for more than One Year ...	28	0	0
Ditto for One Year (1890) ...	12	0	0
Subscriptions still due for 1891 ...	116	10	0
Cash in hand ...	5	6	4
	161	16	4
	161	16	4
By Balance due to Messrs. Sime and Co. ...	3	13	3
Balance in favour of Club ...	158	3	1
	161	16	4
	161	16	4



Address of the President.



character and which are beyond the
the county. Through the perseverance of man
Nature is yielding up much of her hidden
treasures; energy, or its equivalent force heat, electricity, and
other primary elements which possess no material constituents
and are among the most powerful agents in Nature, have not
escaped the grasp of man. Phonography, perhaps, is making the
most startling progress, and, under the genius of Edison, is in a fair
way towards perfection. Geology, which 50 years ago had no
standpoint in the Areopagus of science, now stands on one of its
highest platforms through the genius of Lyell, Sedgwick,
Murchison, Prestwich, and those who have followed the lines laid
down by these pioneers, all of whom have contributed towards the
knowledge of the physical and biological history of our earth
from the earliest periods. We now know the characteristic features
and constitution of the rocks which are classified according to their

Dorset Natural History

GENERAL

MAY

Dr.

	£	s.	d.
By Arrears due for more than One Year ...	...	28	0
Ditto for One Year (1890) ...	...	12	0
Subscriptions still due for 1891 ...	..	116	10
Cash in hand ...	...	5	6
	£	161	16

Stub.

Cr.

	£	s.	d.
ne and Co. ...	...	3	13
... ..	...	158	3
	£	161	16

For "June 5th, 1891," in opposite page, read "June 5th, 1890."



Anniversary Address of the President.

(READ BEFORE THE MEMBERS OF THE FIELD CLUB
JUNE 5TH, 1891.)



SHALL not confine myself this morning to local subjects which come especially within the province of our Club, but shall include others of a general character and which are beyond the limits of the county. Through the perseverance of man Nature is yielding up much of her hidden treasures; energy, or its equivalent force heat, electricity, and other primary elements which possess no material constituents and are among the most powerful agents in Nature, have not escaped the grasp of man. Phonography, perhaps, is making the most startling progress, and, under the genius of Edison, is in a fair way towards perfection. Geology, which 50 years ago had no standpoint in the Areopagus of science, now stands on one of its highest platforms through the genius of Lyell, Sedgwick, Murchison, Prestwich, and those who have followed the lines laid down by these pioneers, all of whom have contributed towards the knowledge of the physical and biological history of our earth from the earliest periods. We now know the characteristic features and constitution of the rocks which are classified according to their

constitution and order of superposition, fossils having a very subordinate place, and are only made use of to indicate the beds with which they are associated. Professor Prestwich's two recently published volumes embodying chemical, physical, and strato-geographical geology treat exhaustively of this phase of the science, while the labours of Owen, Huxley, Hulke, Lyddeker, &c., in animal palæontology, and of Carruthers, Starkie Gardner, Clement Reid, and Count Saporta in botanical palæontology trace the various changes animal and plant-life have undergone from the remotest time to the present. Inductive genius has never been exercised more successfully than by the late Mr. Godwin Austen, to whose inspiration we are mainly indebted for the discovery of coal near Dover, which is likely to prove of much national importance and restore to the southern districts of England the mineral industries which they lost when the iron ores of Wales and the north of England associated with coal were found could be more economically smelted than the ferruginous beds of the Weald by the fuel supplied from the forests of Kent and Sussex. From the days of Buckland and Conybeare, the relation of the Belgian coalfields and those of the north of France with the coalfields of Somersetshire was suspected. In the year 1856 Mr. Godwin Austen sent forth his memorable paper, which was read before the *Geological Society of England* in 1856, "On the possible extension of the Coal Measures beneath the South-Eastern part of England," in which was shown the probability of the occurrence of coal near enough to the surface to be profitably worked in Kent, Sussex, and the Thames Valley. A series of coalfields exist in a direct line from Minden in Hanover to the neighbourhood of Calais, of which the basin of the Ruhr in Westphalia is the largest, its estimated area being 2,800 square miles; those of Osnabrück and Aix la Chapelle are also in the German territory. Belgium has two large coal-basins in the Province of Hainault and Namur; while Valenciennes and the Departments of the Nord and of the Pas de Calais yield abundant supplies in the French territory. Mr. Godwin Austen considered that the whole of the area was once

a marshy swamp, supporting a vegetation of vascular Cryptogams and other coal-producing plants, which towards the close of the Carboniferous age underwent great disturbances, accompanied with a considerable compression of the beds into numerous folds near the German and Belgian frontier. The coal measures of Westphalia have a visible breadth of about 16 miles, but are really much greater, as they dip under the Cretaceous series, beneath which they are now worked. The diminution of breadth in the Belgian coalfields is referable to the *foldings* of the strata, otherwise the area would occupy more than five times its present surface breadth. The synclinals only have been preserved, denudation having removed the upper folds (anticlinals), forming a chain of isolated narrow troughs parallel to a lineal ridge, which Mr. Godwin Austen terms the Axis of Artois, elevated after the deposition of the uppermost Coal Measures, and the conversion of the vegetable matter and associated strata into Coal and crystalline limestones. This line of disturbance traverses the coal-bearing districts, far into the German area, and along the whole line the beds are of the same mineral character; the precarboniferous rocks of Somersetshire are also similar to those on the Continent. After an interval of ten or eleven years, when Mr. Godwin Austen's bold theory became generally accepted by geologists, a Royal Commission was appointed to consider the question. In 1871 Professor Prestwich, who was a prominent member of the Commission, drew up a report which supported Mr. Godwin Austen's views, especially on the ground that the Belgian, French, and Somerset coalfields similarly disappeared beneath the upper Secondary beds. In the year following, the Sub-Wealden Exploration Committee was formed, of which Mr. Henry Willett was the originator and director. Boring was commenced at Netherfield near the base of the Wealden Beds. The work was abandoned after carrying it on to a depth of about 2,000 feet, when 60 feet only of the Oxford clay was reached, mainly in consequence of an accident to the lining pipes and the irrecoverable loss of the boring tool. The expense, which amounted to £6,275, was defrayed by private subscription. It was

evident the borings had not touched Mr. Godwin Austen's ridge, and that the next trial would have to be made some way further north, where the Wealden-beds are absent and the Oolites very much thinned out; the Netherfield borings proved these to be more than 1,700 feet thick. The existence of the *ridge* in the London basin, where the Silurian and Old Red Sandstone strata were reached at depths varying from 800 to 1,200 feet, and where the Wealden beds are absent, was confirmed in 1883 and subsequent years, and the Oolites no thicker than 87 feet. The presence of the lower Palæozoic rocks in the Thames Valley so near the surface rendered the discovery of coal southward most hopeful. Under the advice of Mr. Boyd Dawkins, who was an original member of the Sub-Wealden Exploration Committee, Sir Ed. W. Watkin, on the part of the Channel Tunnel Company, commenced a boring experiment in 1886 near Dover; a shaft was sunk on the west side of Shakespeare Cliff, and at the commencement of the present year the Coal-Measures were reached at a depth only of 1,204 feet, and good coal 20 feet further down. They are covered with 500 feet of the Lower Cretaceous and 660 feet of the Upper Oolites. It is noticeable that Mr. Godwin Austen's views, expressed 35 years ago, that the Wealden and Purbeck Beds terminate abruptly against the Palæozoic ridge and that coal might be successfully looked for, have been verified at Shakespeare Cliff, where the Lower Cretaceous Beds have been found to be in contact with the Portland Beds. It will be well to bear in mind that the Carboniferous series, which is the youngest of the Palæozoic, and the older underlying Silurian and Devonian rocks, have been encountered in the Thames Valley borings near London, while the Trias, Permian, Rhætic, and Lias are entirely absent, accompanied with a rapid thinning out of the Oolitic Beds and the total disappearance of the Weald and Purbeck Beds.

I will now transfer your thoughts from the earliest stratified rocks to those which preceded the present and Quaternary periods. There are good grounds for supposing that a Pleiocene Bed occurs near Dewlish, on the ridge commanding the eastern side

of the village. The axis of the bed is unconformable with the valley, which I consider has been formed subsequently. The fossil remains are restricted to one species only, *Elephas meridionalis*. The larger bones only of this gigantic animal have as yet been met with, the smaller ones having probably perished owing to the dissolving power of rain water and other atmospheric causes. I hope in the course of the summer to make a thorough examination of the bed in its extension across the plateau, where the superincumbent material is thicker and more protective, and to find additional confirmatory evidence of the Pleiocene character of the bed.

From the evidence of the flora contained in the Norfolk Pleiocene Crag, Professor Prestwich and Mr. Clement Reid are both agreed that the average climate during the Pliocene period was much the same as that of the present day. The gradual dying out of the southern types, and corresponding increase of the northern marine fauna to an Arctic one, they attribute less to general climatic changes, rather than to an uninterrupted communication with the Northern Sea, which favoured the immigration of Arctic species, while the southern fauna having no such communication with the warmer seas of the south would be ultimately overwhelmed and extirpated. Southern forms of freshwater mollusca occur mixed with Arctic marine shells in some of the Crag, leading to the conclusion that both lived at the same time side by side. Oak, beech, elm, pine, fir, and yew occur in the Forest-Bed, and while the few marine animals are of a northern, the land mammalia, 25 in number, are of a southern type; of these three only are now living in Britain and five in any part of the world.

After the gradual refrigeration of the Pleiocene climate a period of intense cold prevailed, modified more than once probably when temperate fauna returned from their southern temporary refuges in which they had sought shelter. The Boulder Clays of Norfolk are intercalated with lignites and remains of Pleistocene mammalia, showing that considerable changes of climate must have occurred during the deposition.

The changes are more clearly shewn in the Scandinavian and Danish peat-beds, by which are defined the nature of the different forests which grew up, perished, and succeeded each other, suited to the altered conditions of climate. An Arctic flora is found beneath the oldest forests which are chiefly composed of the aspen and birch. The Scotch fir comes next in succession, then the oak, and, lastly, the alder. The beech is now the prevailing tree. It seems clear then that as the Glacial Age was passing away and the climate ameliorated, forest trees grew and flourished. The Scotch firs in the earliest beds are stunted; their rings of growth are so compact that 70 can be counted in one inch of thickness. In spite of these apparent unfavourable conditions they managed to live for three or four centuries. The beech has supplanted the oak in Denmark, and the forests of which it is composed are reckoned to be the finest in the world. The flora which preceded the aspen and the fir was decidedly Arctic, such as *Dryas octopetala*, *Salix polaris*, *S. herbacea*, and *S. reticulata*, *Betula nana*, *Oxyria digyna*, and one bird—a Swift—*Apus glacialis*, which is not uncommon now in the Spitzbergen lakes, but is not met with farther south than the Douvre Mountains. The *Hippophae rhamnoides*, which grew side by side at that remote period with *Dryas octopetala*, has lost its Arctic habits and even grows at sea level in temperate regions. I have found it near Grenoble, on the dry portions of the bed of the river Drac. It has taken a firm hold in the green walks of Lord Ilchester's lovely gardens at Abbotsbury Castle. It is noticeable that the Spruce-fir was indigenous in England before the Ice Age, when it migrated southward never to return as a native. The Grass of Parnassus and the Stag-moss are among the few representatives of the northern flora in Dorsetshire.

The tufaceous beds of France, Italy, and Germany have thrown much light upon the migration of plants caused by climatal changes and the influence of man. Their origin is due to a calcareous precipitate, which encrusted every object with which it came in contact, giving it the appearance of having been turned into stone, leaving impressions of the shape and structure of mosses,

twigs, and leaves even to the finest fibre. I have recently visited one of these beds in the Valley of the Lez, near Montpellier, which is not of any great antiquity. Of the 30 species of plants contained in these tufas, nine have quitted the Valley of the Lez, one has retired to the Cevennes, four have left the Department of the Herault altogether. These losses have been compensated for by fresh accessions, which now retain a predominant hold in all parts of the district, none of which are represented in these tufas. *Quercus coccifera*, a dwarf spinous-leaved oak, is now most abundant and so characteristic of the arid limestone plateaux of the Department that it furnishes the name *garrigue*, derived from *garroville*, its Provençal name. The tufas of Provence to the east and Italy equally contain no trace of the Cistus', the Genistas, the Thymes, the Rosemaries, and Lavenders with which those who botanize over these vast wastes are so familiar, and which form their leading botanical features.

The remarkable journey of Doctor Nansen and his companions across Greenland in August and September, 1889, deserves a passing remark. Jansen and Stunstrup attempted a similar journey in 1878, and after encountering many difficulties were unable to penetrate further inland than 40 miles after reaching an altitude of 5,000 feet. The distinguished Arctic voyager and explorer, Baron Nordenskiold, was somewhat more successful in 1885, when he penetrated 90 miles of the interior after travelling over a continual snow desert. An American, Mr. R. E. Peasy, in the year following reached an altitude of 7,525 feet after a journey of 100 miles direct into the interior. Doctor Nansen's expedition left Iceland June 4th, 1888, intending to land near Cap Dan. Being unable to get within 50 miles of the coast on account of the obstruction by icebergs, he took to his two boats, one of which was disabled; when repaired after much delay and danger the journey was resumed, but strong currents carried him rapidly southward along the coast; after several fruitless attempts to land he succeeded in reaching Anoritok, July 29th, 61° 30' N. lat., 240 miles farther south than he intended, and did not reach Umiavik

64° 30' N. lat. until August 15th, when the expedition commenced its arduous task. Strange to say, at first the intense heat compelled the party to travel at night. A heavy gale was encountered the second day, which confined the party to their tents three days. In the early part of September an extensive plateau between 8,000 and 9,000 feet above the sea-level, and resembling a frozen ocean, was reached, which occupied three weeks to cross. The cold at this altitude was excessive, but Doctor Nansen was unable to register it as his thermometers were not adapted for so low a temperature; he calculates that some nights it was 80° or 90° Fahr. below freezing point. The mountains of the west coast were first sighted on September 19th, when they were arrested by dangerous ice and crevasses, which were happily safely traversed, and on September 26th the party reached the coast at Ameralik Fjord, 64° 12' N. lat. The sledges of the expedition were propelled over the ice by sails, which relieved the party considerably when the wind and weather were favourable. Doctor Nansen and his party were obliged to spend the winter at Godthaab, as the last ship of the season had left, and they did not reach Copenhagen until May last, 1889. Doctor Nansen's main object was to prove the possibility of traversing the Continent of Greenland, and in this he was eminently successful. He considers that Greenland is completely covered over by snow, the accumulation of ages, which in some instances cannot be less than 600 feet thick, and which covers the tops of the mountains with glaciers and crevasses. The pressure of this enormous mass, with running streams underneath, which are the sources of the ever-flowing rivers, prevent an excessive growth of the ice. It seems more than probable that the configuration of Greenland is similar to that of Norway and Sweden with their rugged mountain masses, high ridges, and fjords. Doctor Nansen's description of the mass of frozen snow forcing its way from the high plateaux of the interior to the coast with a resistless, crushing, grinding pressure gives some idea of the changes the earth's crust has been subject to under glacial conditions.

A remarkable phenomenon in the shape of a waterspout occurred at High Stoy, the highest point of a range of hills between Melbury and Minterne, on the 7th of June last, about six o'clock p.m. It followed the road which traverses the crest of the hill, tearing up the largest stones from its foundation. It was preceded by much thunder and lightning, but with little rain, during the previous afternoon. The column of water, which was described as being about the thickness of a man's body, moved at a rapid rate in the direction of the axis of the hill range, shown by the devastation it occasioned. Holes eight or nine feet deep were dug out in several parts of the road, and an overwhelming stream hurled the material down the hill side. The Rev. A. J. Poole, of Stowell Rectory, in his description of it said there was no other evidence of the destructive effects of the waterspout neither on the other parts of the road nor on the surrounding land, and that the holes could not be assigned to the action of a storm, as the road is situated on a ridge of the hill, and could only have been occasioned by a solid column of water falling with force from a great height. The contents of the waterspout were poured out in its passage over Batcombe, Hannaford, and Chetnole on the west side; Cerne and Minterne on the north. The tumultuous torrents poured down the hill side and took the course of a small stream, which soon overflowed its banks, carrying destruction to everything which opposed its course. At Hannaford Mill much stock was drowned, and at Chetnole Mills the men had scarcely time to escape before the water had reached the first floor. Large trees were uprooted and carried down some distance by the force of the stream. About a hundred yards of Major Wingfield Digby's garden-wall and his greenhouse were thoroughly wrecked. Through his help several school-children were promptly rescued from a watery grave. The atmospheric disturbances in the neighbourhood were very excessive; thunder and lightning, accompanied with torrents of rain, occurred at Cattistock in the afternoon of the 7th of June. At Melbury there was thunder and lightning without rain. A terrific thunder storm occurred at Langton Herring on the night of the 6th. At

Whatcombe there were heavy thunderstorms that night, which lasted until 11.30 p.m.; the rain was inconsiderable. Mr. G. T. Symons, F.R.S., the eminent meteorologist, regretted that the contents of the waterspout had not been tested so as to ascertain whether the water which supplied it was fresh or salt. Mr. Poole states a lady of his acquaintance saw a large waterspout a few years ago carried up from the sea with one of its spouts hanging over Batcombe Hill, which ultimately became absorbed in the clouds.

An earthquake, the centre of which was supposed to have been near Cherbourg, was felt in Dorsetshire on the 13th May. The vibration travelled onwards at the rate of about 90 miles a minute, and reached our south coast at 8.21 p.m., and London 8.21½. The shock was felt at Blandford, which Mr. H. Groves states lasted about ten seconds, and at about the same time, 8.15. The shock was felt in the Wareham parish church during Divine service; the first was slight and only caused the roof to creak; it was succeeded by a severer one which set the chancel lamps swinging; those whose seats were fixed to the piers or pillars experienced a distinct trembling movement. The shock extended to Bournemouth and Poole. An earthquake, accompanied by a heavy ground sea, was felt at Lyme Regis, July 5th, between 11 and 11.15 p.m.

Archæologists are awaiting General Pitt Rivers' report upon his excavations in Bockerly Dyke with much interest, there will probably be a cause of modification of opinion as to its date and origin. The Dyke traverses the remains of an extensive Roman settlement, which may prove to be the long contested site of Vindogladia. Among the various relics found in the entrenchments is a series of coins ranging from Gallienus A.D. 260, to Honorius A.D. 395, a period embracing a most important portion of the Roman occupation of Britain. General Pitt Rivers divides the history of the Dyke into three periods, its south-eastern being the oldest, and might possibly be earlier Roman or pre-Roman. He accounts for the abrupt termination of both extremities by their being flanked by a forest which would render any artificial means of defence superfluous. The second period is marked by an extension

of the Dyke in the direction of West Woodyates, crossing the present Salisbury road and the Roman road. The third by the destruction of that part of the rampart which lies between the Salisbury road and its western extension, and by the substitution of another rampart a little to the north, over ground more strategically defensive. A restoration of the whole line of the Dyke, including the entrenchments made at all three periods, was made at this time.

Pre-historic remains have been frequently met with in Portland. Bones of animals usually associated with man are found in the fissures which intersect the limestone beds. An interment of which I spoke at our last meeting, and which I conceive to be of great antiquity, was found in one of these fissures at the Verne quarries. My intelligent friend, Mr. Wallis, of Mallams, Portland, lately sent me a sketch of a grave in which was the body of a human being in a crouching position. It was accompanied with two stone spindles, three large round stones (not pebbles), weights probably of a loom, also a rudely worked piece of Kimmeridge shale. The remarkable underground bee-hive chambers which are sometimes uncovered by the quarrymen seem to have been store-places for corn in the days of plunder and insecurity.

The accession of the eminent biologists, Professor Allman, F.R.S., and Doctor Alfred Russell Wallace, L.L.D., as members of our Club is a subject for much congratulation to myself, as I feel sure it is to every member. Professor Allman, late President of the Linnæan Society, has contributed largely during his long and laborious life to the science of biology. His special attention has been turned towards the early forms of animal life—the *Protozoa* and *Polyzoa*. His two voluminous folio memoirs on the Fresh Water *Polyzoa* and *Hydroïda* are master-pieces of research and description.

Dr. Allman's anniversary address as President of the Linnæan Society in 1876 on "Recent Researches among some of the Sarcodæ Organisms" has removed some of the obstructions which obscured the knowledge of the early stages of life from the

protoplasmic-cell to maturity. A subsequent Anniversary Address to the Society in 1879 embraces the phenomena of the growth of the egg-cell of animal and vegetable life by cell multiplications. His address the following year (1880) "On the aspects of vegetation in the littoral districts of Provence, the Maritime Alps, and the western extremity of the Ligurian Riviera," shews him to be a lover of Nature, both physical and botanical.

Dr. Wallace's important work, "The Geographical Distribution of Land Animals with the relation of living and extinct Fauna," is the Naturalist's text-book of the first order. His most recently published work, entitled "Darwinism," is intended, as he says, to give such an account of the theory of Natural Selection as may enable any intelligent reader to obtain a clear conception of Darwin's work. He incorporates original and important statements of his own views and observations, which are of great value to the student of Natural History. Among much that is interesting are his remarks on the uses of colour in animals. He insists that coloration has a definite purpose in Nature, either for protection or concealment and recognition by those of similar species, that the sexual difference of colour is only prominent among the higher and more active animals. Doctor Wallace's observations, too, on the nests of birds are equally interesting. He shews that when they are open and the female sits exposed in her nest, as is the case with pheasants, &c., instead of being brightly coloured like the male she escapes observation by being furnished with a sombre plumage suited to the environments of her nest, and conferring upon her greater security during her period of incubation. In these cases, where the sexes are equally brilliantly coloured and conspicuous, such as the Kingfishers, Woodpeckers, Toucans, Parrots, &c., they all nest in holes in the ground or in trees, or build a domed or covered nest, so as completely to conceal the sitting bird. In an interesting chapter upon the ornaments, brilliancy of colour, and other accessories peculiar to many males, Doctor Wallace takes a different view to that of Darwin, who regarded them as causes of attraction for female preference. Doctor

Wallace considers these ineffective to secure the fittest for the struggle of life, inasmuch as many possessing them are not necessarily the most healthy and vigorous, and that the selection must be restricted to the direct result of male struggle and combat. He shewed there cannot possibly be female selection in the case of merit, as not one out of a hundred of their eggs produces a perfect insect and lives to breed. Our Treasurer supports Doctor Wallace's view on this subject. An extract from a letter written by him in 1869 is reproduced in "Darwinism," upon which Dr. Wallace makes the following remark:—"This passage gives the independent views of a close observer, one, moreover, who has studied the species of an extensive group of animals, both in the field and in the laboratory, and very nearly accords with my own conclusions above given, and so far as the matured opinions of a competent naturalist have any weight, affords them an important support." His remarks upon the sexual coloration of insects are equally fascinating, and he points out that from an animal point of view geology reveals to us the conditions of an earlier and a better state of things than prevails at present. I share the author's belief in the spiritual nature of man, and I rise from the study of "Darwinism" with the assurance that this spiritual nature is derived from the Spirit of God, which confers the possession of an eternally living Soul.

It seems to me the Darwin theory does not clearly define the influence it assigns to natural selection in its relation to coloration and instinct. It grants that new varieties of animals and plants can be produced without the aid of natural selection, and in the case of instinct it must have been coeval with primordial life or derivative. Later on there is no reason to doubt instincts have been acquired. With regard to coloration it is remarkable that Alpine plants where insect life is very sparse are more intensely brilliant and varied in colours than in the genial plains below with their myriads of insects. The coloration of Alpine plants cannot be employed as a means of attracting insects for the purpose of cross-fertilization. They are for the most part propagated by self-

fertilization, and thereby maintaining a vigorous and prolific vegetation.

The seasonal changes of colour to which the coats and furs of animals are subject, especially in Polar regions, seem to be due to the action of light and heat upon the pigment-cells and upon the chlorophyll-cells in the case of plants. With regard to instinct, much intelligence is apparent amongst the lowest and most rudimentary forms of animal life, which could not have been evolved but are original and primary. The questions, both of coloration and of instinct, are highly interesting. Are protective or attractive coloration and instinct exclusively the product of natural selection or the results of an overruling, directing, intelligent mind ?

Among the various problems connected with Darwinism, none has engaged more attention than that of *heredity*, the more so just now owing to the publication of Doctor Weissman's tracts on the subject, which have recently become accessible to the general reader by an English translation from the German. To explain the process which persistently carries organisms through successive generations, uniting the ancestor with its most recent descendant, has engaged the attention of biologists since the time of Hippocrates. There is a recognised tendency of every organism to produce its like, or varying from it slightly, and in every case the parent transmits to the offspring structural modifications and functional peculiarities. A constant struggle for existence follows these changes ; the swiftest, strongest, hardiest, and colour favouring concealment in the case of animals ; strength of shoot, period of flowers or seeding, armature, colour, or odour to attract insects in the case of plants. In the case of unicellular organisms, which multiply by fission, and when the two parts are exactly alike in size and structure, *heredity* depends simply upon the continuity of the individual during the uninterrupted process of fission ; but in the case of multicellular organisms, which do not increase in numbers by simple division, but multiply by means of sexual reproduction, great difficulties arise to account for the principle of heredity. Darwin's theory of *Pangenesi*s, which he put forward as a provisional

solution, goes to shew that every cell in all the tissues of a multicellular organism throws off germs or gemmules, which multiply by self-division, and after circulating through the whole body are collected from all parts of the system in the condition of cell-seeds, which have a strong affinity for each other. These constitute the generative ova and spermatozoa, the fusion of which produces a new organism. A large number failing to develop, are transmitted in a dormant state to future generations to be subsequently developed. These are not thrown off until the organism is in an adult state. Doctor Weissman, on the other hand, supposes that in multicellular organisms some cells, which he terms *somatic cells*, are specially fitted to provide for nutrition, while others—*germ-cells*—perform the work of production. These he considers are transmitted without break of continuity from one generation to the next, and do not differentiate until late in embryo growth, ultimately attaining a highly specialised character.

The germ-plasms, which originated in the unicellular organisms, are carried on in the multicellular in continuity from generation to generation. On the occasion of the fusion of two germ-plasms a new organism is formed and a portion of it placed aside in the gemmule-cells to secure that continuity. This fusion must bring different proportions of different elements together in each generation; but a point requiring explanation is—how the several varieties in the germ-cells commenced in order to make generic and specific differences. The two theories of *Pangensis* and *heredity* are extremes of several intermediates, differing more or less from both. For my part it appears to me the problem must remain among the hidden arcana of Nature's mysteries.





Notes on the Stone Implements, &c., in the Dorset County Museum.

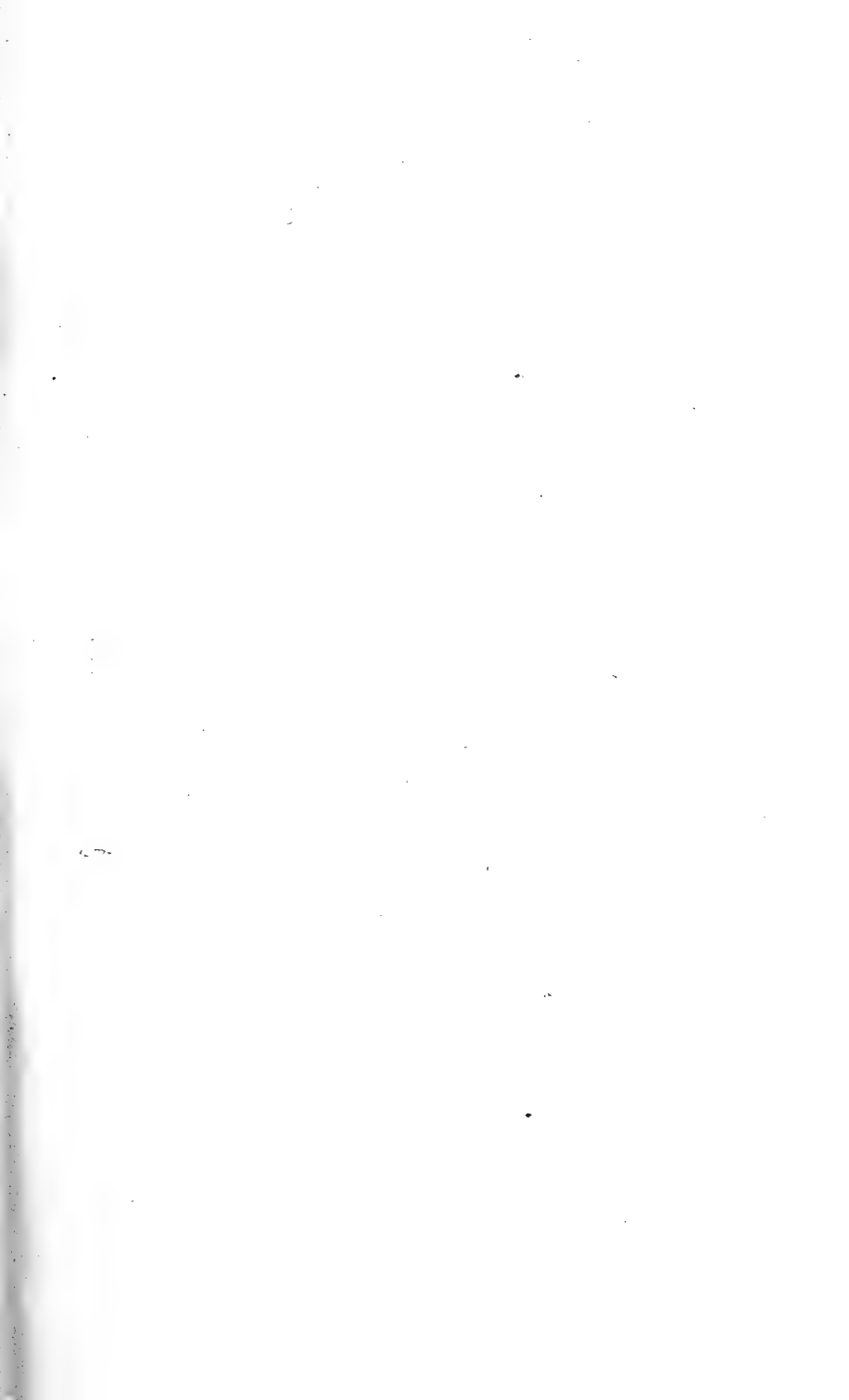
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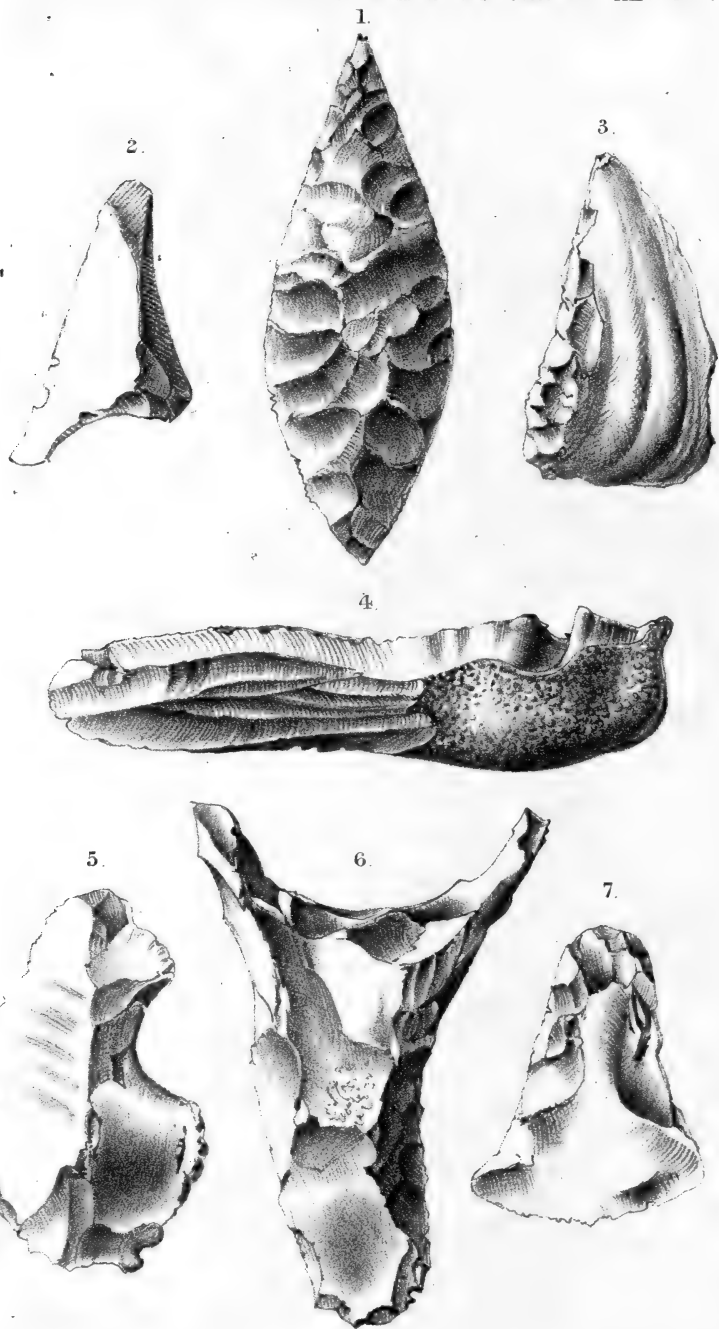
By H. J. MOULE, M.A.



LET me begin by saying in what spirit it is that I act on Dr. Smart's suggestion that I should write a paper on the Stone Implements, &c., in the Dorset Museum. I aim low. Our collection would be poor without the specimens acquired from Mr. Cunnington. Now he promises a book on his important researches. In view of this I, of course, must take heed lest I seem to be in the slightest degree forestalling him. And, apart from this, it is, I suppose, a short notice, not an essay, that is wanted from me. In trying to carry out these ideas I have an unpleasant fear that I am rash. It is very hard to condense without squeezing out every particle of interest from a subject like this.

Probably some members of the Club entirely doubt the artificial working of many of the flints and other stones called implements. If so, I would ask my friends to remember that stone implements as rude as the roughest ancient ones are in use, or have been in quite recent years. In this Museum there is a very rudely split pebble, which, found with charred and splintered moa bones in





1. Arrow head. Near Cranborne. Smart Coll^o 5. Scraper for arrow-shafts? From Whitwell. Hogg Coll^o
 2, 3. D^o 2, Coneygar Hill, Fordington 6. D^o for spear-shafts? Fordington Field. Hogg Coll^o
 3, From Whitwell. Both Hogg Coll^o 7. Minute Celt. One of the circular entrenchments,
 4. Knife. Pentridge Hill, Cranborne. Smart Coll^o Knolton. Smart Coll^o This celt may be an
 imitation of a bronze one. Mintern Bros. lith.

H. J. Meule del.

ALL FULL SIZE.

New Zealand, was undoubtedly an implement for getting at the marrow. Further, I think we may fairly give trust and acceptance to the opinion of experienced antiquaries.

In now proceeding to speak of the chief specimens in the Dorset Museum I shall follow Evans, both in beginning with Neolithic implements and (roughly) in order of their varieties. I shall also be guided by him in including within the four corners of the subject several contrivances and articles not exactly implements.

i. Evans' first class of Neolithic implements consists of celts. First used, he says, as an antiquarian word in 1696, the name celt seems, to my mind, curiously ill chosen. It makes many think that it has some reference to the Celtic race. It has none. Further, it is from *celtis*, a Latin word found in only one single, solitary place—namely, the Vulgate of Job xix., 24. Otherwise unknown in antiquity, it looks as if it must be a scribe's mistake. Then it is taken to mean in that verse a chisel. In antiquarian parlance it means an implement more like an axe. There is a glamour about celts. They were, nay are, called thunderbolts, and credited with magic power as charms. Before pointing out a few of our Dorset specimens I would say, in passing, that they give one proof, among many, that progress is not always, and in all things, a characteristic of man. In the chipping of flints and other stones into large implements the Neolithic men seem to have been less skilful than some of the much more remote Palæolithic men. And it is chipping that is the art part of stone implement making. What the Neolithic people did introduce (it seems) was smoothing the tools. But Ruskin lays down that nothing producible merely by patience and sandpaper is artistic. Now we have chipped Neolithic celts far ruder, to my eye, than most large Palæolithic implements. And here, while speaking of rude celts, a word may fitly be said of certain extremely rough worked flints and other stones, also of Neolithic date in the opinion of experts, as I understand. They are of the class of implements called by some mattocks, and were in certain instances probably used in tillage. So, likely enough, were the ruder celts. But several of these extra-rough mattocks,

having been found by Mr. Cunnington near barrows, are in his belief tools made hastily for the interment-work and then thrown away. Again, in our Dorset collection we have a fair number of well chipped Neolithic celts. Most stone celts, even from far apart lands, such as England and Japan, have a strangely marked family likeness. They are of a long, narrow form, widening gradually towards the end, where seems to be the cutting edge. In connection with this instinct for producing that shape, Evans notes that the burnishing stones used at this day by pewterers and bookbinders are curiously like celts. But we have one or two ancient Dorset specimens of a different type of celts. It is hard to say whether this kind of flint celt is the prototype of the plain, flat bronze celt, or an imitation of it. Very possibly the latter. The flint tools, doubtless, continued to be used long after bronze was imported. This is the state of things, as regards steel, to this day in Central America. One of our flint celts (Pl. I., fig. 7) in question is almost too small to be called a celt, and another is not much larger. But then we have a bronze celt about on a par as to size. And now we come to the celts which, among French antiquaries, give a name to the Neolithic epoch—the polished celts. To us in this hurrying age the thought of the time which must have been spent in grinding down flint, to the extent which we see, is simply appalling. But it is nothing at all to the work done in boring beryl within quite modern years by certain South American Indians. With them the boring of one charm went on during great part of two lifetimes, the task being bequeathed from father to son. But we need not pity Indians, or Celts either, in their long labours. In their condition and mode of life leisure was often unlimited. A piece of sedentary work, not very laborious, that could be taken up and put down in a moment, was not a burden, but a positive relief. The smoothing down of the surface of the celts such as you may see in the Museum, and the bringing the edge to that regularity, was not a bore but a solace to our Dorset forefathers. You can almost see them, sitting about, among their round wattled huts, Chalbury way or near Poundbury,

each man plodding away at his celt with a bit of heath-stone, or perhaps with a foreign basalt rubber with sharp sand. This polishing helped off a quantity of time between hunt and hunt, raid and raid, field-work and field-work. I hazard the idea that these wonderfully finished celts must have been ceremoniously broken at the burial. If broken in use surely the edge would be the chief part to suffer. But sometimes the celt is broken across and the delicate edge little, if at all, damaged. There is a good example in the Museum from Laurence Barrow, which till a few years ago stood behind Sydney Terrace, Dorchester. In flinty Dorset flint celts are in enormous majority, compared with those of other kinds of stone. Of Greenstone we have, however, two excellent ones and fragments of others of basalt. And there is in the Cunnington Collection another most noteworthy fragment. Mr. Cunnington found it on Ridgway by the exercise of the extra sense which he seems to have. But I must leave the story for his own telling. Suffice it to say that its material is an iron-stone of the utmost rarity, and jet black. I need hardly say that greenstone, basalt, and this ironstone have all come, wrought or unwrought, from outside Dorset. The two greenstone celts are, indeed, of different proportion—namely, rounder in section than our flint ones; and, therefore, may very likely be foreign-made. As to the way in which celts were used, I may perhaps say a little here. In the opinion of some antiquaries, as well as of certain persons who have seen savages at work, celts were often used for peaceful purposes without any handle at all. An Australian settler has told me that he has often watched a "black fellow" holding a piece of wood free in his left hand and, with an English carpenter's chisel in his other hand, jobbing away at the wood in a manner totally different from anything that a European would do. Very rough work was made, but the black fellow trusts to scraping to bring all smooth. "Depend upon it," said my friend, "these celts were often used in that way." Very likely. Some, however, were hafted axe-wise, past a doubt, for at least two specimens have been found in the north with their handles remaining, one in Solway

Moss. In these instances the celt was set in a hole made through the haft-end. For an implement of war, of tree-felling, hunting, or tillage, a good long handle was indispensable. From the Swiss lake-villages, again, comes presumptive evidence that probably here, as certainly there, celts were sometimes handled with short pieces of stag's horn, to be used as chisels. Or the butt-end of the horn-socket was in some cases fitted into the side of the knob of a club, thus forming a ponderous axe. Again, Swiss specimens have been found in which the celt is fitted into a piece of the root-end of the "beam" of a stag-horn, and the brow antler retained as a short haft. None of these stag-horn fittings have been found in Dorset, that I know of. But one or two pieces of antler in the Museum look as if they may have been intended to be so applied. There is in the Cunnington Collection one celt of the sort which seems intended for a withe handle, like that of a smith's punch. Before passing away from this class of implements I ought perhaps to say something about the possibility of using them for working timber. I can quite think that many may disbelieve this. I would point out two considerations. First, in ignorance of the cutting qualities of iron or bronze it is likely that men would be satisfied with work which to us would seem mere mangling of wood. In Ireland a wooden hut has been found, preserved in peat. The timbers were morticed with firmness enough, it seems. But the tenons, and everything showing tool marks, proved that all had been wrought with tools of a bluntness which to our thinking would make them useless. Secondly, in the probably important and common work of digging out canoes it is very possible that fire came into play. The North American Indians, some of them, thus made their flint adzes useful in canoe hollowing. They lighted small fires along a log. After a time they cleared away the fire and chopped out the charred timber below. Then another fire and another chopping, and so on.

ii. Evans' second class of stone implements consists of picks, chisels, gouges, &c. Of gouges I do not think we have any Dorset ones in the Museum. They may be described as celts with a



1.



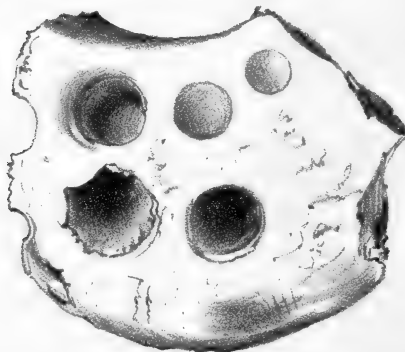
*Foot of couch or stool. It is made
of Kimmeridge Coal.
South St^e Dorchester.
Hogg Coll^o.*

2.

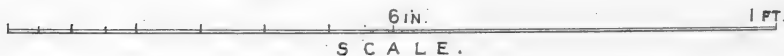


*Axe or Maul of Basalt.
Alderholt Common.
Smart Coll^o.*

3.



*Fragment of a disc, of chalk. The superficial
holes vary from $\frac{1}{4}$ in. to $1\frac{1}{4}$ in. depth.
Jordan Hill, Weymouth.
Presented by M^r. Smith.*



slightly curved edge, like that of a steel gouge. Picks and chisels, too, differ little in general form from celts, but are of longer shape. Of these there are some Museum specimens from Dorset, which agree pretty closely with Evans' figures.

iii. Evans next treats of perforated axes, and then of hammers. I may take them together, as our number of Dorset specimens in the Museum is hardly enough to make up two classes. We have, however, a few very good ones. For instance, there is a perforated axe from Winterborne Steepleton, and belonging to the Warne Collection, which has been figured not only by the late Mr. Warne, but in the books of other antiquaries, including Evans. It is one of the many stone axes which seem certainly to have been meant solely for use in war. This little basalt one of ours would break a man's skull most effectually, but it has not the least approach to a wood-cutting edge. The same may be said of the very fine axe or maul (Pl. II., fig. 2) found at Alderholt, near Cranborne, and given by Dr. Smart. But on the other hand this axe is of such weight, $4\frac{1}{2}$ lb., that it must have been a strong warrior who could find it handy in use. It shows, however, little or no sign of having been used for any such purpose as hammering stone or metal, or as a mattock. I next draw your attention to a very remarkable hammer-head in the Cunnington Collection, and found in a barrow on Ridgway. It seems originally to have been of disc form, but to have been battered by long use to a roughly octagonal shape. This battering looks to my eye to have been caused by hammering, not flints, but the bone punch which is conjectured to have been the tool used in some of the very fine flaking of the edges of arrow-heads and scrapers. Then, also in the Cunnington Collection, there is a specimen of the rare class of hammers in which the ingenious Celts took advantage of natural holes in flints or other stones. In the hammer in question the hole seems to me to have naturally penetrated about half way through the pebble. This encouraged some clever man to try to bore it deeper, which he did, but not quite through. It may, just possibly, have been hafted as it

stands. But most likely it was thrown aside unused. From the nature of the boring I should think it to be of late date. In this, however, I may be quite mistaken. While speaking of bored hammers and axes I cannot help throwing out a conjecture that in perforating, and perhaps in shaping, these implements water may possibly have been sometimes used here, as it is now in New Britain. Powell thus describes the method:—* “The native . . . takes a piece of suitable granite, which he places in a slow fire of cocoa-nut shells . . . and allows it to become redhot. He then, by the aid of a split bamboo in the place of tongs, removes it from the fire and begins to drop water on it drop by drop. . . . That portion of the stone on which the water falls begins to fly and crack off until the heat has gone out of the stone. He then repeats the process until an irregular hole is formed through the centre.” This method could be used, probably, only with igneous stones, as basalt and granite. They are of old used to fire, and do not crumble with great heat as flint and some other stones would do. It seems possible, I repeat, that both boring and fashioning may sometimes have been done partly by water by our early ancestors. But I do not think, to tell the truth, that any of the few bored implements of igneous stone in the Dorset Museum have been thus perforated. Evans points out a puzzle connected with some perforated implements. Our great Cranborne maul is an instance in point. The difficulty is to understand how a haft small enough to go through the hole could be strong enough to wield the great weapon with. Evans half thinks that the handle may have been of twisted raw hide or sinews, which would harden into a haft of great toughness, and also stiffness, as he thinks. Is it possible that a short handle might be made of an ox-horn? The solid part might be fitted into the hole of the weapon, and the hollow part, if pretty thin, might be held in the hand. Or, again, this hollow part might have a wooden handle fitted into it.

iv. We have next to consider flakes and scrapers. The former are found in very large numbers, which is no wonder. They are

* “Wanderings in a Wild Country,” p. 160.

the necessary product of the work on large implements. Many of them may have been never put to any use. On the other hand numbers of them have such a keen edge that they might, and doubtless did, serve for knives. Indeed, to my eye they look far more useful for cutting purposes than what are considered to be carefully fashioned knives. There is a long flake, for instance, from Laurence Barrow, the edge of which might pretty successfully be used to hack a rough slice off a roast boar from Poundbury Fen. It is probable that with simple keen flint flakes it was that, if not here, yet on the Continent, the ancient Celtic folk actually trepanned skulls. The scrapers are flakes, varying from about three inches in diameter down to little more than half-an-inch. By minute flaking they are for the most part brought to a more or less exactly semicircular blunt edge. Evans speaks of some being ground. I see no such edges here. But one or two have that look from a strange curve in the cleavage. I cannot myself understand that they could serve for cutting anything. From analogy of Esquimaux use, and from difficulty of assigning any other purpose for them, they are believed to have been for scraping hides, and perhaps wood, bone, and horn. They very likely were often inserted in a handle, as is the custom with the Esquimaux. Preparation of skins was no doubt an important industry among the Celts. Yet the multitude of scrapers still found seems to me a puzzle. A different and less common class of scraper is well illustrated among the Hogg and Smart specimens (Pl. I., figs. 5 and 6). They are wrought, with great pains and skill, to a more or less regular crescent edge, some at the end, others at the side. Almost certainly these were for scraping arrow and lance shafts, and also for sharpening tines of deer horns, which seem to have been used as daggers. Some flints of this shape are, however, thought by Evans to be strike-lights. These scrapers, too, at least the smaller ones, were no doubt the tools used for making bone pins, bodkins, and borers. Among scrapers I should, probably, name the carefully worked specimens sometimes found both here and elsewhere in undoubtedly ancient sites, and yet having an extraordinary

likeness to gunflints. But I only passingly mention them here, as Evans seems inclined to include them in another class, which may perhaps be considered on another occasion. Then there are saws, which are thin flakes with one edge notched, often with great delicacy. We have several specimens.

v. Our fifth class is that of borers. I confess that of some implements figured by Evans as borers I should without his authority feel some doubt as to their use. As to others, again, there can hardly be any hesitation. For piercing holes for sewing hides I should, however, myself prefer some of the keenly pointed small flakes to such flaked borers as I have seen. The bone ones, again, look very handy. We must, however, take it, I suppose, that borers were not only for such work as piercing hides, but also, some of them, for perforating wood, bone, horn, and even stone. I do not think that Evans speaks of there being any certainty that borers were mounted in handles. It is, however, most likely that they were so fitted oftentimes.

Having now reached about the middle of the subject, but the end of the time that with any conscience I can take up to-day, I close this paper. I hope, however, if the club will indulgently honour me with another audience at the next meeting, to have something more to say then. Some of the stone, or quasi-stone, antiquities unmentioned to-day are by far the most interesting and rare of any in the Museum. I hope also to touch on a very remarkable and little considered distinction drawn by Dawson and others between the witness borne by Neolithic worked stones and Palæolithic ones about the men of their respective epochs. For to-day, let me leave with you a picture, however faint, of our Celtic Durotrigian forefathers, as men of clever heads, deft hands, long toilsomeness, men (as Dr. Jessop darkly hints) much more forward in the world than we have hitherto been taught. Such, in a sentence, is the—not “sermon”—but history in these worked stones of Dorset.

II.

In beginning a second paper on the Dorset Stone Implements and other Appliances in the County Museum, I feel that it is no easy task which I am taking up. For among the things now to be noticed are several of the utmost rarity, to say the least of it. These deserve a far better describer than I can pretend to be. But I must do my best.

In the paper which I read on November 28th I followed pretty nearly the order adopted by the great antiquary Evans in his handbook. I pursue the same plan now as regards the few regular classes of implements yet to be spoken of. But besides these there are the rarities noticed above. These do not exactly fall into Evans' category. After speaking of them, I again follow his lead by closing with what I have to say in connection with Palæolithic implements.

On November 28th, I described five classes of Neolithic implements. I now come to Class vi., which consists of trimmed flakes, knives, &c. Of these we have some characteristic specimens. But, as far as I know, certainly as far as the Dorset Museum collections are concerned, this county does not abound with this kind of implement anything like so much as with the cognate class known as scrapers. I would draw your attention to a very beautifully wrought knife in the Smart Collection (Pl. I., fig. 4). It was found on Pentridge Hill. Conspicuous by their absence from the Museum Dorset Collections, if not from the county, are three types of knife found in some districts. These are dagger-knives, lance-head knives, and a curved and very elaborately flaked sort of knife, found in Sussex and elsewhere. Perhaps I may here, as well as at any other point, mention two puzzling flints in the Smart Collection. They look almost like crystalline prisms, although really nothing of the sort. They seem likely, at the very least, to have been fashioned to their roughly prismatic shape for some definite purpose. But what this may have been I find inscrutable, unless just possibly to be used as punches in flaking other flints. I hardly think this, however.

vii. Next come arrow-heads and lance-heads. To this class of flint implements great interest is attached, and always has been. I said, in speaking of celts, that round them even now hovers a spell, a belief in their possessing occult influences. This is still more true respecting arrow-heads. Of the many extraordinary beliefs connected with them I must mention only one or two. They are called elf-darts. They appear and disappear mysteriously. If you set yourself to search for elf-darts you certainly will not find any. This bit of folklore, however, I think hardly that Mr. Cunnington will maintain to be true. Then, again, on the other hand, when you are thinking of anything rather than of elf-darts, lo and behold there is one right under your feet, and where you could make oath that nothing of the sort was lying only a short time before. And, when found, elf-darts are things to keep, having very powerful talismanic virtues. Evans figures one which is set in silver as a charm. A similar one is in the Museum at Palestrina, I am told. As long ago as in ancient Etruscan times this belief in their magic influence existed, it seems. A flint arrow-head forms a central pendant in a necklace of gold beads found in one of the tombs in Tuscany. But, I think, it was chiefly or only in the barbed arrow-heads that the spell was supposed to reside. Certainly they are remarkable enough, sometimes beautiful enough, and the mode of making them incomprehensible enough, to account almost for the belief in their being formed by elfin hands, and therefore in their possessing occult qualities. But, in speaking of the Museum specimens (Pl. I., figs. 2 and 3), it will be best to begin with ruder forms. Very rude, truly, are some of the small chipped flints which antiquaries call, and doubtless truly call, arrow-heads. The Museum contains not a few specimens of this very rough and clumsily contrived sort. But, rough or delicate, the arrow-head was used only locally. This, it is suggested in passing, may some day serve as an argument respecting the races dwelling in this and that part of England. Evans says that in Sussex, where in places flint implements of several kinds are countless, he has never seen a single arrow-head. Here, in Dorset,

we do find them. Indeed, a friend of mine used, when a boy, to pick up dozens of them, and literally play at ducks and drakes with them. I don't say that this difference between Dorset and Sussex proves the races of dwellers in the two counties to have been diverse in Neolithic times, but it looks that way. Of course, however, this point can here be only indicated, not followed up. The roughest arrow-heads need no description. Indeed, they almost defy it, in their varied rudeness. Of more carefully wrought arrow-heads there are several shapes, such as the leaf form; the simply triangular; triangular with a slight notch at one side; the same with the notch deepened so as to produce a two-barbed form; the same with one barb; the triangle with two notches, forming a sort of tang between the barbs; the same developed into the fully barbed and tanged make; and lastly, according to Evans, a chisel-edged form. The leaf form is often carried out splendidly, both for arrow and for lance-heads. Of the former, the Museum possesses several good Dorset specimens, particularly one from near Cranborne, in the Smart Collection (Pl. I., fig. 1). This is noted by Mr. Thurman in the *Archæologia* and in Warne's *Celtic Tumuli*. It is worked with much delicacy and to a very thin section. Indeed, the thinness of some arrow-heads, both of this and the barbed sort, looks like a display of skill in producing a beautiful weapon for show, but too fragile for use. One leaf-shaped head in the Cunnington Collection is large, and may have been for a javelin rather than an arrow. The same may be said of the splendid Cranborne one just noticed. Dr. Smart, by-the-by, tells me of a remarkable localisation of javelin heads, at least as regards that district. In the long series of years over which his researches there have extended, he has found large weapon heads only in low ground, near the stream; never on Pentridge Hill and other high ground, where small arrow-heads abound. He conjectures that the javelins may have been used as fish spears or for killing animals frequenting marshes. But this Cranborne specimen is small compared to some from other localities, such as the splendid one from Gloucestershire in the non-Dorset Warne Collection. Of the other specified forms

of arrow-head the Museum contains Dorset specimens, of which several are good, but which need not be particularly spoken of for the most part. But a few specially excellent ones may be named. For instance, there is a one barbed, or unequally barbed, arrow-head from Upwey, in the Cunnington Collection. It is of minutely careful make, and so is a smaller one in the Hogg Collection from Fordington Field (Pl. I., fig. 2). Then we have to say one word about the Museum's chief treasure in the department of flint implements — namely, the six almost matchless barbed and tanged arrow-heads from a barrow at the southern edge of Fordington Field. To give an idea of the extraordinary delicacy of the fashioning of these I need only say that the heaviest weighs 25 grains, the lightest 16. Now Evans quotes 38 grains as a remarkably small weight, the head being, however, slightly larger than the Dorset ones. And these arrow-heads here are not only light but are most skilfully flaked. In fact, the more you look at them the greater puzzle the *modus operandi* seems to be. Of these heads it appears certain that they can never have been meant for use, but only for show on state occasions. It is annoying to doubt their being Dorset made. But their exceeding superiority over any others of that shape, known to me, as found in the county, makes me think that they may have been imported. I ought to say that Mr. Cunnington personally discovered these splendid specimens. Of the chisel-edged arrow-heads I am not sure that the Museum has examples. One or two small wrought flints, however, come at least very near to those considered by Evans to be chisel arrow-heads. No one probably would have guessed this. But he quotes an Egyptian and a Norwegian specimen, both having part of the arrow shaft still attached. He considers this proof conclusive.

I can but name the spindle-whorls, pulley-shaped stones, whetstones both rude and highly finished, and the pointed pieces of rag-stone found on a pottery site, and thought to be potters' tools.

We have now gone hurriedly and imperfectly through the series of Neolithic Dorset stone tools and weapons in the County Museum.

But before speaking of one or two rare specimens of other appliances of stone, or quasi stone, I must refer for a moment to certain flints which are the exact converse of those concerning which I spoke at the outset of my first paper. Those are decided to be fashioned by man. These, although seeming to show plain signs of man's work, are by some thought to be naturally or accidentally shaped. There is for instance one, presented by the Rev. O. P. Cambridge, which looks, and by many is believed, really to be a whetstone, showing palpable traces of hard work done on it. Yet, considering that flint is a most unsuitable stone for grinding on it either another flint or metal, it is doubtful whether these marks are not natural. Again, there is a flint, presented by Dr. Smart, on which are marked the eyes, nose, and mouth of a man. Yet these are pronounced by a high authority to be produced accidentally. Dr. Smart has also presented a remarkable holed flint which, whether unworked or partially worked, he believes to have been a weapon, a sort of knuckle-duster. This, by the way, he believes to have been the use of some of the large and slightly worked flints, called by some mattocks, and referred to in my first paper.

To come now to the closing section of this paper, I would say that, in including things made of materials not technically classed as stone, I am following Evans' handbook. Amber, for instance, he touches on. But that treatise was written before Mr. Cunningham's great find in Clandown Barrow. Nor must I do more than allude to it, as it will make an important feature in his book. Suffice it to say that that barrow produced, not only the rare kind of vessel called an incense-burner, and a thin plate of the purest gold, but also the greater part of a most beautiful amber cup, which to my eye looks like Greek work; and, further, a gold adorned jet head of a staff or sceptre. The latter is unique, and the cup all but so. The only other amber cup recorded was found near Brighton, and is of rude make. I would refer those who have access to Evans' handbook to his suggestion respecting a shale cup much like our amber one. He thinks that it was made, handle notwithstanding, on a pole lathe. To my eye

this looks to be the case as regards the Clandown cup. I have now to say a little about a quasi stone, very characteristic of Dorset, and on which Evans does not say much. This is Kimmeridge shale, commonly called coal. I need but say, in passing, that the Dorset Museum possesses many specimens of the lathe-cores of shale, formerly called Kimmeridge coal money. There is also, in the Smart Collection here, an armlet turned of this shale by the late Mr. Medhurst, with the core. This exactly resembles one of the two ancient types. I should also remark that the Museum contains two ancient shale armlets more perfect than usual. They were found at Fordington by my father. Next I must draw your attention to a very remarkable slab of this shale. Several of an oblong form have been found in Dorset, Wilts, and Hants. For instance, General Pitt Rivers found a large one at Woodcuts, and has reproduced the ornament thereof on the covers of the splendid volumes describing his discoveries. These slabs have been thought by some to be boards for draughts or some such game, the squares having been painted, and so obliterated by Time. Others think them to have been writing tablets, the unadorned reverse having been covered with wax. The General inclines to the latter opinion, and so does Dr. Smart. We have in the Hogg and Warne Collections fragments of these slabs, one wholly unornamented. But I wish specially to mention another slab, a large fragment of which is in the Cunnington Collection. It seems to me to increase the puzzle about this class of antiquity not a little. For this thin slab, about nine inches across, was a disc. Now this circular shape seems most unlikely for a writing tablet, and nearly as much so for a draught-board. Nearly, I say. For in the Middle Ages, and therefore perhaps earlier, they used chess boards of a round form. (Pictorial Hist. of England ii.) This fragment is depicted in the Purbeck Papers, p. 225. It is ornamented with incised circles forming a border near the circumference, with a small concentric circle an inch or two within. The border is decorated with a series of intersecting semicircles, and the inner circle seems to have been surrounded by several little ones. The small circles, certainly,

and the large ones, probably, were struck with compasses. It is suggestive that a pair of ancient bronze compasses were found not very far from the slab, with which they are now grouped in the Museum. On the whole this remarkable relic looks to me like an ornament, and, if so, probably the rectangular ones were so likewise. It is impossible that the ornamented side of this round slab could have been used as a writing tablet or game board. And it does not seem likely that that side, ornamented and also slightly convex, would be placed downwards when the appliance was in use, whatever the use might be. My idea, given with much doubt, is that this round slab or plaque was affixed by glueing, or more likely by inlaying, in the middle of a wooden panel, simply for ornament. If so, the rectangular ones were perhaps for the same purpose. The slight scoring on the reverse of some of these plaques might in that case be for giving the glue a better hold. I see no signs of holes, as if for nails, in any Dorset specimens. But two small rectangular fragments from Nursling, Hants, now placed with the round slab, have a small hole in each. Next I have to speak of another disc of Kimmeridge coal in the Warne Collection; quite a different sort of thing, however. It is nearly two inches thick and has been fifteen inches in diameter, turned on a lathe. On one side it has a circular centre sinking, and from this three rectangular ones have branched, judging from one and part of another remaining. This remarkable fragment is the largest ancient appliance of Kimmeridge shale ever found, as far as I know. It comes from the site of a Roman pottery at Bagber. Taking this into account I think that Mr. Warne can hardly have been wrong in considering the disc to have been a potter's throwing wheel. The sinkings in the under face would fit on to a frame connected with the driving wheel in the usual way. The fragment is described and engraved in "Warne's Ancient Dorset." The last application of Kimmeridge shale which I have to notice is a very rare one—namely, as a material for parts of furniture. Of such use of this shale the only published notice, known to me, is by Mr. Warne. In "Ancient Dorset," p. 297, he says that Mr.

Hall possessed a piece of shale, from Frampton, rudely carved with a lion's or leopard's face, and seeming to have been a supporter of some piece of furniture. Now, the Dorset Museum does not possess this specimen (I wish it did), but in Mr. Hogg's Loan Collection are three most interesting ones. The largest, found in South Street, Dorchester, is of massive make, being three and a-half by three inches thick (Pl. II., fig. 1). It is rather more than six inches long, sharply carved, and apparently of Roman work. There can be no doubt that it was part of a leg of a stool or couch. The lower end is brought to a curved foot; and on each side, above, is an ornament in relief, slightly like a man's leg. What it is intended for I know not, unless it may be the stem of a leaf or flower which was carved on a possible extension of the block, now lost. The other two objects are smaller, but of similar style, speaking roughly. They also were found in South Street, but not with the larger leg. Mr. Warne seems to consider Kimmeridge shale a suitable material for legs of furniture. I should hardly think so myself, although very diffident in uttering any opinion contrary to his. I should have supposed the stools, couches, or tripods, to which these curious legs belonged, to have been not for use, but either purely for display, or to be dedicated as votive offerings in a temple. Is it not possible that Kimmeridge coal, different from jet geologically, but like in appearance, may have shared its supposed talismanic virtues? It was held that jet "drives away serpents, relieves fantasies, and has virtues against the visits of fiends by night," as Mr. Warne quotes in "Ancient Dorset," p. 295. The use by Roman joiners of this shale for legs of furniture is perhaps a point, as far as it goes, in favour of the shale plaques having been ornamentally applied to or let into woodwork. I close what I have to say particularly of Kimmeridge coal by noting that we have in the Museum several pieces roughed out into a ring form apparently with the intention of their being carved, not turned, into armillæ. Mr. Warne speaks of an armilla so made.

I must now draw your attention very specially to two specimens of a contrivance which seems to be hitherto un-

described. One, like the things just noted, is of Kimmeridge shale. It was found at Smallmouth, Weymouth, and was presented by Mr. Cunningham. But the larger one, which I will describe, is of chalk. It was found at Jordan Hill, Weymouth. It is a fragment of a disc, which, when entire, was about nine inches across, and is fully three and a-half inches thick. It was pierced by a central hole, three and a-half inches or so in least diameter, but expanding a little towards each surface. This may have been caused by friction, for the surface of the opening is very smooth. On the periphery, between this opening and the outer edge, are five superficial holes and parts of two others. They are ranged irregularly in two ranks. Now these carefully made, round-based holes, are of varying and seemingly graduated depths. The shallowest is a quarter of an inch deep, the deepest one inch and a quarter. The puzzle is to decide what was the use of these holes, which, probably, are only a few of many which the entire disc contained. The other fragment, much smaller and made of shale, is in design apparently identical with the chalk disc. I have sent slight drawings of these curious relics to Mr. Franks, of the British Museum, and to General Pitt-Rivers, to both of whom the contrivance is quite new. Mr. Franks confesses entire inability to explain it, but says that the holes remind him of the curious "cup markings" found on rocks and stones. General Pitt-Rivers, misled, I am certain, by my imperfect drawing, conjectures that the block of chalk may have been used for the rest of the upper end of a "bow-drill," by the friction of which the superficial holes might be produced. Again, Mr. Smith, of East Street, Weymouth, who presented the chalk fragment, thinks that the graduated holes were for casting lead weights. Now it seems to me quite fatal to all these suggestions that they do not in the slightest degree account for the large central opening. And other objections there are. To my own eye, if I may venture an opinion, the contrivance looks as if just possibly it may have been for a game. The disc may have been placed on a smooth board, in the midst of which was fixed a round

peg or block, loosely fitting the central opening. The game may have been played by turning the disc round on that axis, during which rotation the players would drop balls into the holes, and score according to the depth of the hole catching each ball. I give this idea with much doubt, and shall be grateful for opinions.

And now I must, at length, wind up with a word, and a short word, on the Palæolithic implements in the Dorset Museum, and on the limitation of the witness to be derived from them. The implements in question are not numerous. There is one flint, from the gravel at Blandford, on the artificial working of which much doubt has been thrown. Yet it is so like the French "river-drift" men's worked flints from St. Acheul and other places that I feel bound to mention it. There is, again, a roughly chipped celt from Norden, presented by Mr. Cunnington. It is pronounced to be Palæolithic. It is not, however, of any of the usual Palæolithic shapes, to my own eye. Thirdly, there is a worked flint found by Mr. Cunnington in red clay at the west of Maiden Castle. Lastly, I have to draw your attention to one specimen in the general collection and to a group of twenty-three in the Cunnington Collection of wonderfully well-worked implements—*hâches* the French call them—all from Broom ballast pit, Hawkchurch. Here there must have been a manufactory, for that pit has produced certainly several scores, perhaps hundreds, of specimens. And they are, most of them, as sharp and unworn as on the day when they were made. In shape, and in what Evans considers quite an important characteristic—namely, in orange brown colour, they are palpably Palæolithic. One of them is remarkably large, nine inches long. In clever shaping, and accurate, although bold flaking, it certainly seems to me that the Hawkchurch flint "knapper" sitting among the gravel there day after day, back in the far dimness of Time, was a cleverer fellow "of his hands" than his Neolithic, far more recent successors.

And now as a close allow me to ask you to note the often ignored, although geologically obvious, difference between what we are told by the white celts of the Durotrigian Neolithic people and

what we learn from the orange "hâches" of the Palæolithic folk, unnamed, unstoried, under the dark shroud of millenniums. We study Neolithic implements, and in some dim degree we thereby learn about the state of our forerunners in these parts two, three, or four thousand years ago. We study Palæolithic implements, and, it seems to me, some at least among antiquarian writers think that they glean information about the Palæolithic folk in these parts in like degree. In like degree, if I do not mistake them. On consideration, however, it is in a very different and a much less degree. Suppose a parallel case. Suppose that in 3,000 to 5,000 years hence India shall have sunk 600 feet. The antiquaries of that time will search hut-sites and graves of Ghonds, Lushais, Veddahs, in the Ghauts, Neilgherries, Adams' Peak, and other islands then representing India and Ceylon. Rude enough implements they will find—signs of rude enough life. Will they be right in saying that such were the appliances, such the life, in India of the far back nineteenth and earlier centuries? Of course not. Why the whole amazing architectural and other art of India would be ignored. No word, no dimmest hint, of the vast stone Cingalese reservoir dykes, of the dome of Beejapore, of the gemmy inlay of the Taj, compared to which all corresponding European work is a clumsy bungle. No word of the rock-hewn architecture of Karli, to which Europe hardly affords even the poorest parallel. And remember that such submergence of the Palæolithic regions has come to pass, as Dawson and other eminent geologists point out. Let us then bear in mind that these cleverly fashioned Hawkchurch flint implements are the work, most likely, not of the advanced Palæolithic folks, but of the rough hillmen of that epoch. What the best work was, who shall tell? Encrusted with serpulæ, matted with algæ, it lies on the deep down sea bed anywhere within the wide-stretching hundred-fathom line.





A Brief Historical & Descriptive Sketch
OF THE
Churches in the Rural Deanery of Dorchester
(DORCHESTER PORTION).

By the Rev. W. MILES BARNES.



IRREPARABLE injury has been done to churches everywhere through injudicious restoration and repair. It is in the power of the clergy, who are practically the guardians of the churches, especially in country places, to save what remains of the ancient structures, and they and others interested are invited to use their best efforts to that end.

To assist those who are desirous of doing so, but have no knowledge on the subject, and to preserve a permanent record of the ecclesiastical, historical, and archæological features which should be carefully guarded in each church, the notes which follow have been prepared.

Before proceeding to the description of the churches in this rural deanery, a few hints on the proper restoration of ancient buildings might not be out of place.

In restoring an ancient church no stones should be removed and no walls rebuilt, unless their reconstruction is absolutely necessary; walls thrown out of perpendicular by the thrust of the roof may oftentimes be saved by the addition of a strong buttress. All such buttresses and new building generally should be of unmistakeable 19th century work, not an imitation of old work. To imitate old work is a forgery, and should be punished at least with repre-

hension. In restoring old roofs and other constructions of wood, only so much as is decayed and unsound should be removed, and the restoration should be piece by piece. Workmen are fond of re-cutting old stonework to make it look fresh and to match the new. They should be warned not to do this, or reface the stone of walls. The tooling on the face of the stonework of walls is sometimes the only mark by which the date of a wall can be fixed. In the notes on the churches, instead of styles centuries are given, as the mention of styles does not convey any definite idea of date to minds unfamiliar with them.

Thus by 12th cent. will be understood Norman style ; 13th cent., Early English ; 14th cent., Decorated English ; 15th cent., Perpendicular English. The chronological table beneath, taken from Rickman's Gothic architecture, shews the duration of the styles of architecture thus classed under the head of centuries.

It should be borne in mind, however, that the several styles may be some few years later in the country, in out-of-the-way places.

CHRONOLOGICAL TABLE.

12th CENT.—Norman ...	William I. ...	1066
	William II. ...	1087
	Henry I. ...	1100
	Stephen I. ...	1135 to 1154
	Henry II. ...	1154 to 1189
Transition ...		
13th CENT.—Early English	Richard I. ...	1189
	John ...	1199
	Henry III. ...	1216 to 1272
	Edward I. ...	1272 to 1307
Transition ...		
14th CENT.—Decorated English ...	Edward II. ...	1307
	Edward III. ...	1327 to 1377
	Richard II. ...	1377 to 1399
Transition ...		
*15th CENT.—Perpendicular English ...	Henry IV., V., VI. ...	1399 to 1422
	Edward IV. ...	1461
	Edward V. ...	1483
	Richard III. ...	1483
	Henry VII. ...	1485
	Henry VIII. ...	1509 to 1546

* Few, if any, whole buildings were executed in this style later than Henry VIII.

The facts on which the subjoined descriptions are based were obtained in every case by personal inspection of the buildings, notes of their features being taken at the time, in which survey I received much kind assistance from Mr. T. Hardy.

1. DORCHESTER ST. PETER'S.

A fine example of Perpendicular work. The church presents many features in common with Sherborne Abbey, which leads to the suspicion that both churches may have been the work of the same architect. The arches with panels in the soffit are characteristic of the date. Arches similarly decorated are found also in Sherborne Abbey, and in the Perpendicular additions to Charminster Church.

The DOORWAY is of excellent workmanship, of transition Norman period ; it consists of two orders, the inner carrying the chevron in an enriched form, the outer a zigzag of peculiar character. The roof is waggon-headed.

The FONT is modern, and so also is the SEDILIA on the south side of the chancel, as well as the east end of the chancel with the east window.

The date of the effigies of the Crusaders, which, according to Coker (Survey of Dorset), were brought, at the dissolution of monasteries, from the priory church, judging by their armour would be 1360 to 1390. The reasons for fixing this date are as follows :—The gauntlets are detached from the armpieces, and they were not separated from them till the middle of the 14th century. After 1400 plate armour was used ; these effigies are clad in chain and plate armour. Moreover, the basinet under the head of the knight, the camail of mail attached to the helmet, the horizontal sword belt formed of square plaques and low down on the hips, are distinct evidences of the period to which these effigies are assigned (see *Archæological Journal*, vol. 43, No. 171, 1886, page 334). As some of the ejected monks were in all probability still living in Dorchester when Coker was making notes for his history, what he relates of the priory and of the transfer of these effigies from it may be trusted.

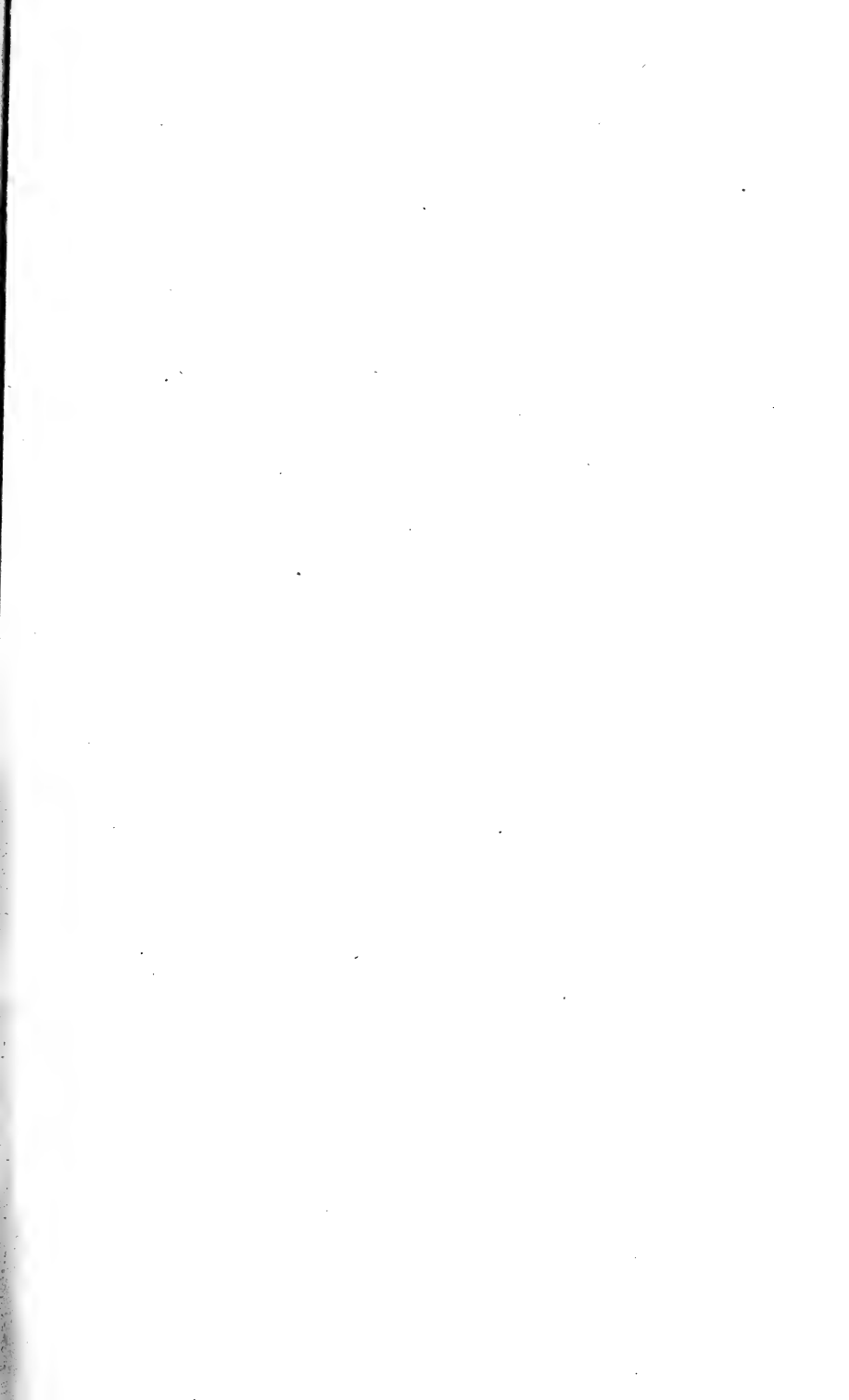


PLATE I.



STOUP, FORDINGTON, ST. GEORGE



EASTER SEPULCHRE, DORCHESTER, ST. PETER.

EASTER SEPULCHRE : Of the same period is the rest for the Easter sepulchre on the north side of the chancel, which may have been brought also from the priory, or it may have been transferred from the old St. Peter's church. It is a good specimen of architectural design of the 14th century, late in the style and in fair preservation ; the stone slab on which the sepulchre rested is supported on panelled sides and a front, which is ornamented by sunk quatrefoils ; the canopy above is an ogee in form, richly crocketed, flanked by finials, and finished beneath in a large trefoil, each foil of which is trefoiled in its turn ; in the spandrels are monograms (plate 1).

The north chancel aisle of the church, where this sepulchre originally stood, is said to have been built by the ancestors of Sir John Williams, of Herrington, whose monument, erected in 1628, now stands at the east end of it. As the Williams' family were benefactors to the church, and as some of them are buried within its walls, it is not improbable that this receptacle for the sepulchre may have been given to the church by one of the family, in which case the J.W. in one of the spandrels may be the monogram of the donor. John is a name which frequently occurs in the history of the family. Amongst others a grant of arms was made to John Williams, gentleman, of Herrington, late of Dorchester, in 1525 ; a later Sir John Williams was buried in 1617. If the R in the centre of the second quatrefoil in the base stands for Richard II., the date of the sepulchre would be somewhere between 1377-1399, the period of the transition from Decorated to Perpendicular English style, with which date the architecture of this sepulchre would accord.

"Bloxam" (Principles of Gothic Architecture, vol. 2), writes thus of the Easter sepulchre : "Within the north wall of the chancel of many churches near the altar a large arch like that of a sepulchral arch, more or less decorated, may be perceived ; within this the holy sepulchre—generally a wooden and moveable structure—was set up at Easter, when certain rites commemorative of the burial and resurrection of our Lord were anciently performed

with great solemnity. The construction is thus described in a document of the period. The sepulchre in question belonged to St. Mary Redcliffe, Bristol:—‘Item, that Maister Canyne had delivered this 4th day of July, in the year of our Lord, 1470, to Maister Nicholas Petters, vicar of St. Mary Redcliffe, Moses Conterin, Philip Bartholomew, Procurators of St. Mary Redcliffe aforesaid, a new sepulchre gilt with golde and a civer thereto. Item, an image of God Almighty, rising out of the same sepulchre with all the ordinance that longeth thereto, that is to say, a lathe made of timber and the iron work thereto. Item, thereto longeth heaven made of timber and stayned clothes. Item, Hell made of timber thereto, with Divils to the number of 13. Item, 4 knights armed, keeping the sepulchre with their weapons in their hands; that is to say 2 axes and 2 spears, with 2 paves (*i.e.* shields). Item, 4 payr of angel wings, for 4 angels made of timber and well painted. Item, the Fadre, the Crowne and Visage, the ball with a cross upon it, well gilt with fine gould. Item, the Holy Ghost coming out of heaven into the sepulchre. Item, longeth to the 4 angels, 4 chevelures (*i.e.* perukes).’”

2. DORCHESTER HOLY TRINITY.

Modern, built 1876. The only remains of the old church are a font now in the rectory garden, the basin of Ham Hill stone, dated 1662; the base of the 14th century style, the intermediate member between the two which does not belong to the font may be of 15th century date.

OLD PARISH CHEST in the vestry, with three locks and straps, and a handle at each end; it is dated 1683.

3. ALL SAINTS’.

Modern. Rebuilt in 1845. In the porch under the tower is a high tomb upon which is a recumbent figure clad in a gown with an Elizabethan ruff, the effigy of Matthew Chubb, who was bailiff of the town in 1590, and member for the town in the Parliament held in the first year of King James I. This effigy was removed

from the Old Church, together with the sumptuously carved and painted arms of Carolus Rex now on the south wall of church.

4. CHRIST CHURCH.

Wholly modern. The church was consecrated in the year 1843.

5. FORDINGTON ST. GEORGE.*

TOWER : An excellent example of a 15th century tower.

NORTH SIDE OF CHURCH : There was formerly a transept on this side, similar to that on the other.

CHANCEL : Georgian classic, built by Mrs. Pitt, the impropiator, 1750.

CHANCEL ARCH : 15th century, of poor detail. Of the old chancel Hutchins said it "had stalls on each side of it after the manner of cathedrals of oak very curiously carved, gilt, and painted ; the roof of timber in like manner was very curiously deviced, and much larger and longer than the body of the church. The rood loft at that time was highly preserved."

SOUTH SIDE, PORCH ARCH : 13th or 14th century. The porch has 15th century additions.

DOORWAY OF CHURCH, with carved head, is generally ascribed to the Norman period. The subject is supposed to be St. George at the battle of Antioch. The battle of Antioch was fought in 1098 ; if this surmise is correct the work could not be earlier than 1100, and it should be noted that the Saracens are clad in Norman armour and that the armour is similar to that represented in the Bayeux tapestry. Perhaps the workmanship may afford the safest clue to the date of its execution. We know from the description by Gervase of the choir of Canterbury Cathedral (see Rickman), that the chisel was introduced for carving between 1100 and 1180 ; up to 1110 the axe was used.† Now there are no signs

* "St. George was chosen by our ancestors as their tutelar saint under the first Norman king" (Butler's Lives of the Saints, Ap. 23, vol. iv., p. 253).

† The use of the chisel and gouge was well known to the Britons (see Frank's "Horæ feræles" and Archaeological Journal). A bronze chisel, similar to the carver's chisel used to-day, was found in a British barrow in Devonshire.

of axe work in the sculpture except perhaps in the ground, and unless it can be shown that the carving has been recut with the chisel at a subsequent period we must conclude that the doorway and the transept are of the same period—transition Norman. If, however, it can be shown that the work was originally wholly executed by the axe there is no reason why it may not have been of Saxon origin and a portion of an original Saxon church, unless the close jointing of the stones of which the sculpture is composed is a proof of later work. Buildings of the 10th and early 11th centuries were undoubtedly of a ruder kind than those of a later and perhaps also of an earlier age, if we may take Bradford-on-Avon as a type of an 8th century church.

It is supposed that the prevalence of the belief that the world would come to an end in the year 1000, of which there is frequent mention in documents by writers of the time, led to a general neglect of building in stone in the previous century; perhaps the knowledge of the art almost died out with the builders, so that when building in stone was resumed it was resumed by men who were untrained and unskilled in the art. This would account for wide jointed masonry and the crudeness of the carving common in work of the age.* It is assumed, and perhaps wrongly—for the whole subject is to a certain extent a matter of conjecture—that from the armour, the subject, and other details, the work could not have been of an earlier date than the 12th century. Mr. Parker, however, on the authority of an Italian author, has stated that similar figures were found in Syrian churches 300 years before the date of the Norman work (*Archæological Journal*, No. 88, page 349).

The new window between the transept and porch, which was put in in 1879, is Perpendicular in character and good in design.

SOUTH ARCADE: Transition Norman. TRANSEPT—*Arch into Nave*, Perpendicular, 15th century. *Arch into Aisle*, ditto; 4 centred period. High windows on east and west: Good 15th century.

* On the other hand the magnificent illuminations in the Benedictional of S. Aethelwold which was written circa 977, the time in question, and of which engravings will be found in *Archæologia*, vol. 24, undoubtedly shew buildings of stone as existing at that time.

Assuming the walls of the transept to be of 13th century—as there is good reason to do—these windows must be insertions.

PISCINA : Early English 13th century with face cut off. The walls of this transept appear to have been much cut about and patched, so that it would be difficult to say where the Early English masonry begins and ends without uncovering the stonework.

FURNITURE.—FONT : *Perpendicular*, 15th century. CORBEL : Possibly Early English, 13th century, to carry the floor of the chamber, before the insertion of the Perpendicular windows. PULPIT OF STONE dated 1592. The pulpit was originally on the opposite side, where the remains of the iron bond by which it was fixed will be found leaded into the jamb of the arch on that side. It was removed to its present position in 1863, when the upper doorway of the rood loft staircase was lowered two or three feet to give access to it. The moulding at the bottom is modern ; it was worked and presented to the builder who erected it, and at first it decorated (!) the upper edge of the pulpit.

STOUP for *holy water* at the door, *Early English*, 13th century or earlier. Its form is most unusual. This stoup, which is 16½ in. high by 15½ in. in diameter, was discovered in 1833 ; it seems evident that it was not originally a stoup, for it has a drain through the bottom which has been plugged with lead ; possibly it is a small Norman font placed in the present position in the 13th century (plate 2).

The modern north aisle with its arcade is of such a character as to ruin the aspect of the whole interior. Before these arches were inserted the north wall of the nave was solid, with a 15th century window between the tower and transept, possibly this is the window which is now in the east end of aisle.

HISTORY : It is not possible to read with certainty the history of this church in its stones ; links are wanting to make the evidence complete. The history which follows is probable and is consistent with what is known of the church, and with what may still be seen in the building. The original church was cruciform ; the north

transept was standing in the present century. The depth of the transept was the width of the 19th century aisle, which is a lateral extension of it. The south transept in early times corresponded with it; the greater depth of this transept may be due to an addition made for a purpose which will be considered presently.

The original structure was Saxon. It is true St. Osmund gave the church to his cathedral of Sarum A.D. 1091, 25 years after the Conquest, but it was not necessarily built at that time, for the occasion of his presenting it was not the building of the church here, but the foundation and endowment of the cathedral there.

Fordington was a Royal manor in Saxon times, and it is not likely that the King would allow his own manorial lands, upon which so considerable a population dwelt, to be unprovided with a church. This cruciform church probably possessed a central tower. It was a plan which was common to both Saxon and Norman churches. There is no absolute proof of this, but the evidence of the stones is distinctly in its favour; it will be noticed that, although the Norman arcade is in such excellent preservation, the whole of the centre of the church where the tower would have been, including the chancel and transept arches, was renewed in the 15th century, at which time the new tower was built at the west end. This of course may be a coincidence, and there may be no connection between the two, but it looks very much as if the old Saxon tower was standing at that date; if there were no tower there it is inexplicable why it should have been necessary to renew the stonework in the centre of the church where it would have the best protection, and yet that the Norman work in the nave should be in such excellent preservation three or four centuries later. In confirmation of this view it will be remarked that the Norman arcade to the east ends in a wall which, though much patched and giving evidence generally of 15th century reparation, has a base which was evidently at one time much larger, and might have formed part of the original pier of the tower at the south-west angle. The population of the parish having increased after the

Conquest it would have become necessary to enlarge the church and to add in the 12th century the transition Norman aisle (with its interesting doorway and stoup). The piscina in the south transept where an altar stood must have been added not long after. Possibly attached to the transept was an anchorite's cell (ankerhold or domus inclusi), perhaps a lean-to with a window overlooking the altar to which this piscina belonged. This may have been enlarged late in the 13th or in the 14th century by carrying up the walls, incorporating the transept, and putting in a floor seven or eight feet above the ground level, resting on corbels, one of which is still to be seen in the south wall. The anchorite's cell frequently had three windows—one small window through which food was received, a window opposite to admit the light, a third over-looking the high altar ; the domus inclusi sometimes consisted of a single cell, sometimes as here of more, in which case it afforded accommodation for an attendant. It sometimes possessed an altar of its own and oftentimes contained a fireplace. Perhaps the Fordington cell was furnished with the latter convenience ; there is a curved hollow channel in the wall which might have been a flue. The earliest chimneys were not carried up above the roof as ours are, but were cut in the wall to a few feet above the fireplace, and were then turned out at the side of the wall as this one might have been. It will be noticed that the face of the piscina has been cut off. From the direction of the chimney this would have been necessary to give room for the construction of the fireplace. It is, however, more likely that the channel (chimney or not) was made at the time of, or shortly after, the restoration of the church in the 15th century, and in this manner ; the builders of the rood loft staircase and doorway, finding the old wall of the transept out of perpendicular, instead of pulling it down added to it on the inside to make the wall plumb for their work, rounding off the addition thus made into the old wall at the top ; but leaving this channel so that the back of it was the face of the old wall. Anchorites when they took up their abode in cells were conducted thither and installed with a solemn service, after which the doorway by which

they entered was often built up or closed and sealed. The establishment of anchorites' cells in connection with churches appears to have been as early as the establishment of Christianity in this isle. In the Saxon chronicle, under the date 657, at the hallowing of the monastery of Peterborough, the Abbot is reported to have said to King Wulfhere: "I have here holy monks who wish to spend their lives as anchorites, if they knew where. And there is an island here, which is called Anchorets' Isle, and my desire is that we might build a minster there to the glory of St. Mary, so that those may dwell therein who wish to lead a life of peace and rest."

In the 15th century great changes were made in the church. Besides the building of the tower, the chancel, and transept arches, of which I have spoken, and the rood screen with its loft and staircase, the south transept was cleared, the floor taken down, the south window inserted, and the font, windows, and other Perpendicular work put in.

6. TOLLER FRATRUM.

The church is a modern one without any pretension to architecture, but it contains a remarkable font, cylindrical in form. At the base, above a plain band, is a narrow moulding, ornamented with a kind of chevron, above which are boldly but rudely cut figures, some of which support with head and hands a cable moulding, over which is an interlaced pattern of Saxon character. These interlaced designs, though continued into the Norman period, were used at an early date; in a Saxon MS. of the 8th century (*Evangelia Sacra Nero D. 4.*) are designs very similar to this. In Bede's time there were no stone fonts, but in later Saxon times stone fonts were common; and there is reason to believe that some, perhaps many, of the so-called Norman fonts are really of Saxon origin. The only font I have been able to find at all resembling this is the font of Stoke Cannon, in Devonshire. In that also the figures are rudely cut, and four figures, one at each corner, support with head and hands the basin, which rests on a cable moulding.

PLATE II.



FONT, TOLLER FRATRUM.



In that font also, though there is no continuous interlaced pattern above the figures, the designs are distinctly of Saxon character, and the figures are habited, so far as one can judge, in the garb with which one is familiar from illuminations in Saxon MSS. (plate 2).

Beneath the east window is a fragment of sculpture, possibly of 14th or 15th century, the subject of which is St. Mary Magdalene wiping the Saviour's feet with her hair. There are also two corbel heads of no special interest.

7. CHARMINSTER.

NAVE, *arcades* : Transition Norman.

CLERESTORY : *14th century, or early 15th.*

ROOF : *15th century, corbels ditto, good.*

There may be under the plaster ceiling a good oak roof panelled, or similar to that covering the porch.

The string on the east wall of the nave shows the pitch of the original roof.

CHANCEL ARCH : An interesting specimen of transition Norman. There may be hagioscopes on either side of it.

TOWER AND TOWER AISLES : Fine, late 15th century work of the date of St. Peter's Church, Dorchester.

CHURCH DOOR : 14th century.

PORCH, mixed : The gargoyle at the east corner is especially good.

FURNITURE.—PULPIT, Jacobean, dated 1635—a good specimen of this period.

FONT : Might be Norman ; only the bowl, much cut about and without lead lining, and the base remain.

MONUMENTS : There are two interesting monuments in Purbeck marble on the south side. The brasses are gone, but otherwise they are in good condition. They were probably erected to members of the Trenchard family, circa Henry VII.

There are remains of a hagioscope which opened from the south aisle into the chancel.

HISTORY OF THE CHURCH AS RECORDED IN ITS STONES : The original church was of the Norman transition period (plate 4). Of

this church the arcades, chancel arch, and perhaps the font remain. The 12th century work in this church is in so perfect a state of preservation that, standing at the west end looking towards the chancel and disregarding the clerestory above and the pews below, the nave of the church presents very much the appearance it must have presented six or seven centuries ago. The principal additions to the church were made by the Trenchards, late in the 15th century. At that time the church may have possessed a small early tower. In the place of this the Trenchards built the present tower, working in their monogram, which is a good design, into every part of it. It will be found inside and out, incised, cut in relief, and let in in lead. The Trenchards continued the aisles along the sides of the new tower to its west face. The present porch was somewhat clumsily added at the same time; in building it the materials which remained from the greater work appear to have been used. The clerestory had been built and the windows of the church inserted at an earlier date. The chancel, which is not ancient, is smaller than the previous one, the foundations of which have been met with in digging graves.

8. WOODSFORD.

This church was in the main built in 1863 by T. H. Wyatt, who was at that time the diocesan architect.

The only portions of the ancient church now remaining are the Early English (13th century) window to the west of the porch, the base of the tower to within a yard or so of the string course, the piscina in the transept, and a small locker for containing the sacred vessels, &c., which is also in this transept, but concealed by a seat; when discovered the remains of the hinges were still attached to it. The church was rebuilt on the old foundations, except the chancel and the aisle, which is a late addition. The old chancel was unusually small, covering an area not larger than 8ft. by 7ft. internally. In excavating for the new chancel no foundations were discovered outside the old walls; there is reason, therefore, for believing that the foundations of these walls were the founda-

PLATE III.



SAXON FONT, MARTINSTOWN.



CHARMINSTER CHURCH.



tions of the original chancel ; the walls, however, had been rebuilt, possibly when the 18th century window which it contained was put in. Incorporated into the wall were three stones, which appeared to be sills of an Early English triplet window. The chancel arch, which was very plain, was of diminutive proportions, being only about 5ft. in span with a height of 7ft. 6in. There was a plain hagioscope on the south side of it. The transept, now rebuilt in the Early English style, was a 14th century addition to the church ; the piscina is of that date. Before the rebuilding, about 1838, the nave had been enlarged. The north wall was taken down and rebuilt farther back, so as to take in the whole of the area now covered by the nave and aisle. On the rebuilding of the church in 1863 the nave was restored to its former dimensions by the addition of the arcade by which the new area enclosed in 1838 was converted into an aisle.

The chief interest of the building now centres in the tower, of 13th century date, of which happily the most interesting part, the basement, has escaped the rebuilder's hand. Churches of this early period were frequently constructed so as to afford a refuge to the parishioners in any sudden emergency. The parish church was the parish castle ; and in the event of a sudden attack the villagers could fly to it and there defend themselves. The towers were the keeps of these ecclesiastical castles. Previous to the rebuilding of the church in 1863 the tower was a low but solidly built structure, about 23ft. in height, surmounted by a pyramidal roof, which was covered with tiles. The only external openings were two slits, one above the other, in the west face of the tower, of which the lower one remains unaltered. The communication between the church and tower was, and still is, by means of a small 13th century archway. When closely pressed the garrison could retire to the tower and barricade this entrance. The narrow slit or loophole which still serves as a window is widely splayed into a shouldered arch in the inside, and could be used by archers and cross-bowmen. A similar loophole constructed for use in this way, with an inner shouldered arch, may be seen in the ancient walls of York. The

upper stage of the new tower, including the two-light windows and gable roof which were added in 1863, were suggested by the tower of a church near the lake of Zurich. The old altar slab was found in the pavement near the door, and was buried under the north pier of the new chancel arch.

9. WINTERBORNE CAME.

NORTH SIDE: DOORWAY OF CHURCH, 14th century. WINDOW (north chancel), originally 14th century; on this side are the foundations of what may have been the rood loft staircase.

EAST END: EAST WINDOW, 15th century, with 13th century inner splay and window arch.

SOUTH SIDE: SOUTH DOORWAY (built up), 14th century.

Two of the square-headed windows (15th century) on this side are remarkably good.

TOWER: 15th century (late Perpendicular).

The roof of the church was a characteristic one of the county; it was waggon-headed and plastered; the chancel ceiling was divided into four compartments by moulded oak ribs. This roof was removed and the present roof erected in its place in 1883.

FURNITURE: FONT, base and pedestal, 13th century; basin, 15th century. **PULPIT:** Dated 1624, good. **ALTAR RAILS:** Jacobean.

ROOD SCREEN: Good 15th century work, in fairly good preservation. The tracery panels in the heads of the doors are original; those in the screen modern copies.

MONUMENTS: On the south side is a monument with a canopy to it, under which is a brass to the memory of Dorothy Miller, who died on October 15th, 1591. On the north side is a high tomb with effigies of Sir John Miller and Anna his wife; of his funeral achievements the helmet still remains on the monument. "We meet not unfrequently in country churches, nigh to which ancient manor houses, mansions, or halls still or did formerly exist, and sometimes also in town churches, suspended from the walls or lying about the church, tattered banners and penons and pieces of

armour, in general not such as were intended to or could be actually worn. These formed the funeral achievements of individuals of a greater or less degree of rank, and were borne by the heralds at funerals, which were formerly, especially during the 16th or 17th centuries, conducted with much secular pomp, and marshalled by one or more of the heralds in accordance with certain rules, differing with regard to the status or rank of each individual whose funeral was thus performed.”—(“Companion to Gothic Architecture—Bloxam.”)

PROBABLE HISTORY OF THE CHURCH AS REVEALED IN ITS STONES: The original church of Winterborne Came was built in the 13th century. Of this church there are still portions of the walls, the window arch and inner splays of the east window, the base and pedestal of the font. In the 14th century the north and south doorways and the north chancel window were added, and in the 15th century the Perpendicular additions to the church and the rood screen. The rood screen must have been dismantled, and the text written across it, circa 1561. In the October of that year the Church Commissioners of Queen Elizabeth ordered that the rood lofts should be taken down; the screens themselves, with the addition of a crest in the place of the lofts, were to remain to serve as a partition between the chancel and nave. This order appears to have been promptly carried out, for in the churchwardens' accounts of St. Helen's, Abingdon, which were reprinted in the first volume of “Archæologia,” is the entry under the year 1561: “To the carpenter and others for taking down the roode lofte, and stopping the holes in the wall where the joices stode, 15s. 8d. To the peynter for writing the Scripture where the roode lofte stode and overthwarte the same isle, 3s. 4d.”

10. WINTERBORNE FARRINGDON.

Farringdon, now united to Came, was an ancient village; from the dedication to St. German it is probable that a church existed here in British times; of the later church only the east end, which is of 14th century work, now remains. Hutchins states

that the church had become ruinous as early as the year 1648, when divine service ceased to be celebrated in it, and the services for the parish were held in the domestic chapel belonging to Herringstone House. Hutchins, who died in 1773, further says: "The tower and some of the walls remained a few years since." Forty years later, as we learn from a drawing now in the possession of E. W. Williams, Esq., of Herringstone House, portions of a turret of the tower and of some of the walls still existed.

11. WHITCOMBE.

SOUTH SIDE, PORCH ARCH: 13th century. CHURCH DOORWAY, Norman. WINDOWS, 15th century.

EAST END: EAST WINDOW, 13th century, *hood moulding* original and very good, the windows well restored.

NORTH SIDE: WINDOWS, 15th century. NORTH DOORWAY (built up), Norman. CHANCEL DOORWAY, 15th century.

TOWER: Embattled and well proportioned, 15th century. The grilles in the windows are remarkably good. The seats of pinnacles remain on the battlements.

FURNITURE.—FONT: 12th century, the basin of Purbeck marble, and the central pillars are original, the small pillars later. There is a stone seat on the north side of the chancel. The floor of the chancel was originally lower; it was raised 20 or 30 years ago. In the head of the north chancel window are fragments of ancient glass of the 15th century.

There was formerly a rood beam supported by piers of rough stone plastered; probably when the rood was removed in 1561 the thin partition wall was carried up to the roof and plastered. This wall with its supporting piers was taken down a year or two ago, when a portion of the moulded rood beam was found *in situ*; the beam with the piers formed a square opening, which was unsightly; possibly it would have been taken down in 1561 had the command been less stringent to remove the roods and lofts, but to leave the partition between chancel and nave. Over-officious churchwardens who removed these divisions were required to replace them. In

the churchyard was a cross. A step with socket, and a portion of the shaft, the date of which may have been of 13th century, are all that remain of it. Notes: The plan of the church, long and narrow, is Norman, and some of the ancient walls of that date are still standing. No portion of the 15th century roof remains. The 15th century roof, as appears from the weathering on the east face of the tower, was much flatter than the present roof.

12. WYNFORD EAGLE.

Church is a modern building and not on the site of the old one.

The chancel arch shortened was brought from the old church; it is of the 15th century, but of poor workmanship.

The FONT is ancient, of the 13th or 14th century.

PISCINA, Norman, late in the style.

The ancient tympanum described and figured in Hutchins' Dorset is not known to the villagers or vicar, though one woman says she heard there is a carved stone underneath the ivy on one side of the porch.

A Tudor house stands not far from the church with the date 1630. The front with well-proportioned porch is in good preservation. The old oak wainscoting with overmantel still decorates the King's chamber, and in the cellar, formerly a kitchen, is a stone fireplace of the date.

13. KNIGHTON.

Mainly Early English and early in the style.

NORTH SIDE: *Porch*, buttress, and priest's door, 13th century.

DORMER WINDOW: 15th century.

EAST END: East window originally 13th century.

WALLS, ditto.

SOUTH SIDE: ARCADE of two bays dividing transept from nave, 13th century, good. This arcade is strengthened by arches built up on the transept side, circa Charles I.

The windows in the transept on east and west sides are pure Early English inside and out. The window in the nave, west of the arcade, 15th century, but the window arch and splay are

earlier, and may have originally contained a triplet of Early English lights.

TOWER: *Early English* (13th century), with 15th century upper stages and windows. The window opening on the west face of the tower may have contained a slit to serve as a window or for defence, as at Woodsford (No. 8).

CHANCEL ARCH: Probably Saxon; there are hagioscopes on either side of it.

FONT: Modern.

HISTORY OF THE CHURCH AS RECORDED IN ITS STONES: As the church is mainly of the 13th century, the only earlier work being the chancel arch, it seems most likely that the original church to which this arch, if Saxon, belonged, or if Norman was added, was a Saxon structure, for a substantial Norman church would not have become so decayed in eighty years or so after its erection as to necessitate its being pulled down and rebuilt. The Saxon church gave place to the Early English in the 13th century, the chancel arch alone remaining of the ancient church. The upper stage of the tower and the Perpendicular windows in it and in the church, including the dormer window, were added in the 15th century. At this time the 13th century (Early English) roof still existed, and the dormer window was built into it. The steep slope of this roof is shown by the weathering on the tower and the ancient eaves-course which still remains in places in the walls.

At a late period after the Perpendicular the walls were raised, and the present roof superseded the steep 13th century roof.

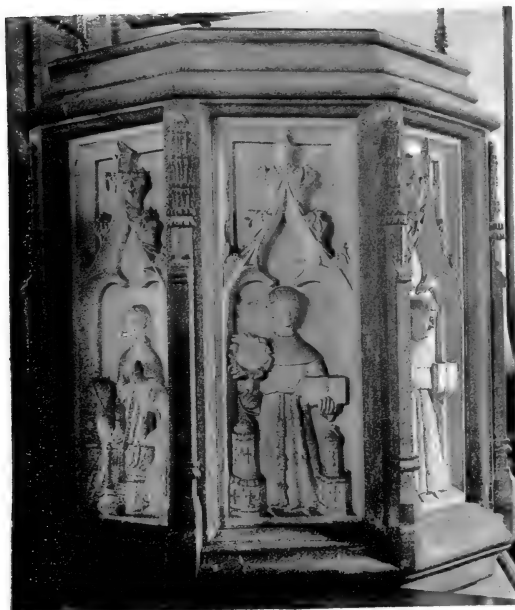
There was a tradition in the village that there was a very beautiful painting on the east wall of the nave above the chancel arch; the repair of the ceiling a few years ago gave the opportunity for testing the truth of the tradition—the wall was examined at a distance by candle light when upon it was seen a short word in Hebrew characters surrounded by an ornamental border in colour. When the opportunity occurs again for examining it, it should be observed whether the word is the mysterious word A.G.L.A., the meaning of which is not known; but, as it has been found



PLATE III.



FROM VAUCHURCH.



STONE PULPIT (15TH CENT.) FRAMPTON.

written in Hebrew characters on paper and inserted in the furniture of churches, engraved on rings and other articles, and as it is found in a mediæval medical manuscript of the 14th century, as a physical charm against fever (see *Archæologia*, vol. xxx., p. 400, where a copy of the MS. is given), it is not impossible that it was used as a talismanic charm against the plague. For further particulars see *Archæological Journal*, vol. iii, p. 359; vol. iv, p. 78; vol. xxiv, p. 68; vol. xxviii, p. 25.

14. FRAMPTON.

Very little that is ancient remains in this church; the tower was rebuilt in 1695 by Robert Browne, who added the north aisle with its arcade a few years later; the arcade was rebuilt in 1862, when much of the new work in the church was added.

The original church is said to have been built in the reign of Edward IV. That the roof of the old church was of that date is probable from the description of the decoration upon it—"On square panels were painted a rose and the sun issuing from it, the device of King Edward IV." (Hutchins). There is nothing in the present church (except a 13th century aumbry in the south aisle) which shows an earlier date than Edward IV. The chancel arch and the arcade dividing the south aisle from the nave would be about that date, and so might be the square-headed Perpendicular doorway inserted in the tower, and the large west window with plain tracery, and the small two-light window.

Carved on the capitals of the columns at each end of the south arcade are grotesque figures of monks; on the capital at the west end two monks are represented as wrestling for a hoop. A copy of an ancient illumination (*Strutt's Sports and Pastimes*) shows figures in a similar attitude, but instead of a hoop a staff is the object of contention. At the east end of the arcade two hoops are behind the monks. On the capitals of the chancel arch are cut the monogram of St. Mary and the sacred monogram. Similar capitals will be found in Winterborne Church, and from the similarity of the work it is possible that the carving in both churches might be

by the same hand. The church contains an interesting pulpit of early 15th century work; this has suffered much through the re-tooling of the stone at a late period. Some of the panels carved in figure subjects are modern imitations of the old; at present it is easy to distinguish them (plate 3).

In the chancel are the effigies of Sir John Browne, in a suit of tilting armour, and his wife; the former, it should be noted, on account of the armour, was born in 1558 and died in 1627.

On the opposite side is a monument bearing a so-called emblem of mortality, the representation in stone of a corpse sewn in a sheet, and thus attired for burial; the date of the monument is 1653. "Up to and during the early part of the 17th century the bodies of the commonalty were as a rule buried without coffins, being simply enveloped in a linen sheet or shroud." (See Bloxam, "Companion to Gothic Architecture," 11th edition, p. 386.) An illustration of a corpse similarly attired, copied from a mural painting (late 15th century) on the wall of the chapel of the Holy Trinity, Stratford-on-Avon, is given on page 196 of Bloxam's "Principles of Gothic Architecture," vol. ii. The sewing up of corpses in cloth for burial was at an earlier date common amongst persons of all ranks. In an account of the expense of the funeral of a great man who lived at Bridport A.D. 1326 was "9d. for linen cloth in which to sew the body."—Bridport Corporation Records (Dorset Antiquarian Field Club Transactions, vol. xi., p. 101). On two monuments in the north choir aisle of Salisbury Cathedral are carved effigies of corpses so attired; the shroud which envelopes one of them is represented as tied at the ends and open in the middle, disclosing the corpse within.

15. STAFFORD.

PORCH, ARCH, AND PORTIONS of the walls of the church of south side, 14th century. COPING AND APEX STONE, 15th century.

The date above the entrance and in the gable of the east end (1640) may have been the date of the last restoration of the church.

CHURCH DOORWAY: 15th century.

SOUTH SIDE : Window to the west of the porch ; the oldest window now existing in the church, 14th century, and a good specimen of the style.

NORTH SIDE : Chancel window, originally 14th century. This window has been much mutilated in repair. The rebuilding of the wall on this side would account for the incongruities noticeable in it.

ROOF : Waggon ; Perpendicular English in character ; possibly the ribs have been renewed, the bosses certainly have.

FURNITURE.—**PULPIT, CHANCEL SCREEN, and PEWS** of the date cir. 1640, are interesting and in fairly good preservation ; on the south side the original pew hinges remain.

FONT : Ancient, possibly 14th century. Looks as if an intermediate member, octagonal in form, had been removed from between the basin and base.

A brass pulpit light of excellent design, dated 1713. There are two monuments described in Hutchins.

HISTORY OF THE CHURCH RECORDED IN ITS STONES : The earliest church of which there are any remains was of the 14th century ; of this church there still remain wall, porch, moulding in the inside of the north chancel window, at which time there probably existed an early tower. 1st restoration : Perpendicular period, when the tower was built and the cinquefoil Perpendicular windows were inserted. 2nd restoration : 1640. Some of the walls were rebuilt, and most of the windows were tinkered and debased in Tudor style and the carved oak work added.

It will be noticed that the tower is out of centre with the church ; this may be accounted for in two ways : either the early church was a Norman structure with a narrow south aisle, of which the arcade was taken down to increase the accommodation when this roof was put up, or the church has been enlarged by putting back the north wall, as we know was done at Woodsford. If there was a Norman aisle the width of it would have been 5ft. or 6ft. internally.

16. MARTINSTOWN.

The church as it stands is mainly of the 15th century.

The CHANCEL was wholly rebuilt at that time, the walls, windows, door in the south side (now blocked up), the piscina with aumbry above, the excellent roof (now concealed by the plaster ceiling), are all of the period. The cill of the window on the south side was carried down to form a sedilia; the seat seems inconveniently high above the floor, but there are clear tokens that the floor at the east end of the chancel was originally much higher. On either side of the east window is a bracket supported by a pillar; these brackets presumably were for images.*

The roofs throughout the church are of 15th century construction, and are very good for a country church.

The TOWER pinnaced and embattled, of three stages, is also of the Perpendicular period; the turret at the side is later than the tower.

When the walls of the church towards the west end were repaired some years ago MURAL PAINTINGS were found upon them; they are believed to be still there underneath the whitewash.

The FONT, of Purbeck marble, is probably Saxon (plate 4).

The very peculiar arcade dividing the nave from the aisle calls for some remark; that there was an aisle here anciently is certain from the bases of the columns, which are undoubtedly ancient. That the arcade has not been rebuilt since the 15th century seems probable from the fact that the roof of the aisle is of that style. The stonework of it until recently was coloured. A few years ago

* "In the 'Concilium Provinciale Cashelense,' Provincial Council of Cashell in Ireland, held A.D. 1453, it was enjoined that in every church there should be at least three images—namely, of S. Mary the Virgin, of the crucifix, and of the patron of the place, in honour of whom the church was dedicated. But besides the images thus specially enjoined and required to be placed in every church at the expense of the parishioners, many other images of saints, or such as were so esteemed, were made at the costs of and presented by individual benefactors, or left by will to churches; and the brackets on which they were placed are still retained, mostly projecting from one side, or both, of an east window."—"Principles of Gothic Ecclesiastical Architecture—Bloxam."

the colouring was chiselled off by masons, which accounts for the new face upon the stone. Above the chancel arch, which is of very debased character, are the Royal Arms of George II., and on the west wall of the aisle is a remarkable painting on an old oak panel representing King David playing on a harp : the frame is not the original setting of the painting, before the gallery was taken down it decorated the front of it, what position it originally occupied in the church is not known.

17. MORETON.

The original church consisted of a chancel and a nave with a tower, which was on the south side of it and in the centre of that side. To the east of the tower was a chapel dedicated to the Holy Trinity ; this chapel was rebuilt and converted into a family pew in 1773. A sketch made by Miss Phyllis Wollaston in 1775, now in the family archives of the lord of the manor, shews the old church as it was after the rebuilding of this chapel. The vestry on the west of the tower was added in 1776, when the stone steps shewn in the sketch as leading from the outside to the west gallery were removed to make room for it. The tower and nave were rebuilt at the same time, and the apse added in the place of the ancient chancel. The north aisle was built in 1840 ; there was no aisle previously on this side of the church.

There is not a great deal in the church which will interest the antiquary, the church having been rebuilt so recently.

The basin of the font is of the 15th century, and there are two arches of the same date on the south side of the nave, both much renewed, and one of them brought from another part of the church.

In the chapel is a well preserved brass to the memory of James Frampton, some particulars of which being given in Hutchins need not be repeated. The kneeling figure is represented without sallet or helmet, as is usual in brasses of the date. He is habited in plate armour, the shoulder pieces are broad, and there are large tassets in front over a skirt of mail, which is divided for

convenience of riding ; round the neck is an upright neckguard of plate, and on the feet broad-toed sollarets. He is armed with sword and dagger. Except the sollarets the armour is of an earlier date than 1523, which is the date of the brass ; 1500 would be about the date of the armour. (See monumental brass to Sir Humphry Stanley in Westminster Abbey.—Hewett's "Ancient Armour in Europe" supplement, page 58.)

The memorial in white Carara marble, erected in 1762 to the memory of Mary, the wife of James Frampton, executed by Peter Matthias Van Gelder, of Amsterdam, should be noticed for the exquisite carving, in the border, of flowers, which are treated in a naturalistic, not conventional, manner. An engraving of this monument is given in the earlier edition of Hutchins' "Dorset."

In the west window of the nave, and in the east window of the north aisle, are heraldic medallions in painted glass. On comparing the arms represented in them with the descriptions given in the first edition of Hutchins' "Dorset" of windows in the old mansion house, it will be seen that these windows must have been removed to the church from thence. The painted glass belongs to the latter half of the 16th century ; one of the medallions is dated 1585, and from the character of the painting it is clear that all of them were painted about that time. The method of painting employed is the enamel. Enamel colours were invented about the middle of the 16th century. Their first use was to give depth and detail to mosaic glass windows ; it was not until some time after their discovery that glass was painted wholly in enamel colours. These paintings, therefore, are not late in the style.

18. MONKTON.

NORTH SIDE : PORCH ARCH, late Decorated. CHURCH DOORWAY, Norman. WINDOWS, generally 15th century, much debased. EAST WINDOW, 15th century. QUOINS OF CHANCEL, externally 12th or 13th century. Under the east window is a 13th century buttress, the top of the buttress has been cut off, it looks as if originally it was continued up the gable with a 13th century window on each

side of it, supporting the small cot which contained the sanctus bell.

ARCADE WITHIN THE CHURCH, 15th century.

TOWER, late 15th century. There are some indications which lead one to suspect that the core of the tower may be Early English.

FURNITURE.—FONT : The basin and a portion of the pedestal 14th century (late).

PISCINA : Originally in the south aisle, 15th century.

SCREEN : The head of the ancient screen is inserted in the base ; the date is late 14th century, style Decorated English, approaching Flamboyant.

RESTORATION OF THE CHURCH in 1870. At this restoration the north wall, which was Norman, was taken down ; it was very thick and of rubble, built upon the surface of the ground without foundations.* To find a solid foundation for the new wall the masons had to go down six feet. Into this wall oaken beams had been built, the wood had perished, little more than dust was left ; † the use of wood in stone walls by the Normans may have been a relic of the Roman practice. “Tum in crassitudine perpetuæ taleæ oleagineæ ustilatæ quam creberrimæ instruantur uti utræque muri frontes inter se, quemadmodum fibulis, his taleis conligatæ æternam habeant firmitatem, &c.” (Vitru, lib. 1, cap. 5.)

The roof was waggon-headed, plastered with one moulded rib dividing the nave from the chancel. The chancel was shorter than the present one, the ancient screen, the base of which was found *in situ* between two high pews, being on the east side of the rood loft doorway. This base, which was much decayed, consisted of an oak framework with three plain panels on either side, the head of the screen was found upon the base, and is inserted in the new screen in a position similar to that in which it had been found.

* It seems to have been in Saxon and Norman times a common practice to build upon the surface of the soil without foundations ; the soil, however, was no doubt well rammed. Of one church built in Saxon times it is recorded that the soil was beaten together by means of a battering ram.

† Cavities left by the decay of oaken ties in Norman walls were to be seen at Dinas Powis, Brunlaise, Rochester, and Lincoln Castles.

There was a circular staircase leading to the rood loft, the upper doorway to which was a small square opening, the stone steps, with the exception of the uppermost one, which is now supported by an iron bar built in for the purpose, were removed and a doorway made in the opposite side of the turret to give access to the organ chamber. A plain painted oak 17th century pulpit stood against the door of the rood loft turret, entirely blocking it, so that its existence was not suspected until the pulpit was removed. The door was then revealed, and on opening it the turret within was found filled with hay and straw, which must have been there for centuries, possibly since Cromwell's visit to these parts, for the pulpit was of that date.

On removing the whitewash from the walls of the south aisle 15th century wall paintings, rudely executed in outline, were found.

One altar slab was found in the pavement of the porch turned upside down; this was buried in the chancel.

The organ chamber with its archways into the chancel and aisle were added at this time, the old windows of the church displaced by the arches being repaired and inserted in its walls.

The piscina now on the south side of the chancel was in the south aisle, and there were indications that there had been a chapel there, possibly formed by a parclose from the first pillar to the wall.

There were some ancient oak benches (14th century), but these were too much decayed to be used again.

19. BROADMAYNE.

The CHANCEL: Early English (13th century), contains a triplet east window with the characteristic roll moulding round the three lights on the inside, three single-light windows, one on the north, two on the south, and a piscina with trefoil head, which has been re-tooled, all of the same date. In the south wall is a 13th century doorway (now walled up).

NAVE: On the south side partly concealed by the stairway to the pulpit is another piscina, and near it a 14th century window. The church doorway next to it is of the 13th century. The window to

the west of the doorway has a cinquefoil head of the 15th century.

WEST END : A doorway with stoup outside on the south of it and a window above, 15th century ; much repaired.

NORTH AISLE : The window nearest the east end is original and of the 14th century ; the other windows in this aisle are copies. The arch opening into the vestry is the ancient chancel arch of 13th century, removed to this spot at the last restoration. The arch is not more than six feet in span, and is constructed of a soft white stone not unlike chalk, known by the name of **CLUNCH**. This stone was much used in ancient building. It will be found in Westminster Abbey, in the front of Exeter Cathedral, in one of the chapels at Christchurch, and in this neighbourhood, at Great Toller, where an early arch lately discovered is mainly built of it. Similar stone is found in the quarries of Beer, near Seaton, in Devon.

The **TOWER** on the south side of the nave is of two stages—the lower, 13th century, containing an arch and two windows of that date, with a small doorway at the back facing the roof, which, with the higher stage of the tower, was added two centuries later.

PORCH : In the porch, within the lower stage of the tower, are a stoup with the face cut off and showing the basin in section, and a niche ; over the entrance is also a niche of the 14th century.

FURNITURE.—FONT : The basin, 15th century, of ordinary type ; some of the panels have been chiselled.

HISTORY OF THE CHURCH AS SHOWN IN ITS STONES : The church was built mainly in the 13th century ; the greater part of the church now standing is of that date. The chancel with its windows, the priest's door in the side of it, a portion of the nave walls, the tower (lower stage), and the church doorway are all of the Early English period, and so is the small arch in the aisle, the removal of which from the chancel has ruined the Early English aspect of the interior. The heads of the windows are unusually round ; the

point can scarcely be discerned in some of them.* This is a local peculiarity of the builder. Of the same date is the piscina near the pulpit (with drain cut off), where there was formerly an altar and a chapel.

The substitution of the 14th century windows in the nave for the narrow Early English windows may have been for the sake of obtaining more light.

In the following century the cinquefoil perpendicular head was put into the nave window, and the great west window and door, with its stoup, were inserted, an additional stage was added to the tower, and a small doorway was cut in the lower stage, by which the belfry was reached from the outside. Beneath this doorway is a string moulding with sockets cut in it for the beams of a floor. How this floor communicated with the church is not clear, as it is above the present and was above the ancient roof; and there is nothing to show that there was ever a roof over it, though it must have been wide enough for a small room.

At the last restoration, some years ago, by Mr. Hicks, architect, of Dorchester, the north aisle, with its arcade, were added. It was at this time that the chancel arch was removed and the present wide chancel arch substituted.

20. STRATTON.

NORTH SIDE: PORCH with its archway and niche above, Early English (late) or Decorated (early). **CHURCH DOORWAY:** Inner arch Tudor, outer arch ancient. **WINDOWS,** 15th century, pure and good.

EAST END: The quoins are stop chamfered. Stop chamfers in such a position are unusual, except in early work. **CHANCEL ARCH:** Early English (13th century), settled out of shape. There are hagioscopes on either side of it.

* Arches with heads similar in shape may be seen supporting the clerestory in the west wall of the south transept in Netley Abbey. They are undoubtedly of the Early English period, though possibly late in the style.

SOUTH SIDE : WINDOWS, Flamboyant (beginning of 15th century).

SOUTH DOORWAY, ancient.

TOWER, 14th century period with 15th century insertions and additions.

The spiral staircase in the south-west corner, enclosed in oak casing, belongs to the fan tracery period of Henry VIII. reign.

FURNITURE.—FONT, 13th century.

In the churchyard was a 15th century cross, of which only the foundations and steps now remain.

HISTORY OF THE CHURCH AS RECORDED IN ITS STONES : The original church was of Norman construction, built circa 1140. This church it is reasonable to suppose was of the type common to village churches of the Norman period, a long narrow building, whose timber roof was covered with thatch or shingles of wood. The Norman church may have been burnt out, or it may have been taken down to make way for a larger building ; both hypotheses are tenable. That some disaster befel the church is probable, if only from the disappearance of the Norman font at so early a period as the Early English, whilst the fact that the Early English church had entrances on the north, west, and south seems to show that the village had extended on all sides of it.

A piscina belonging to this church was found in a heap of stones, the remains of the old chancel. Originally it projected from the wall and was supported on a shaft. Of the Early English church which succeeded the Norman building, the porch, chancel arch, hagioscopes, walls, and font remain. Surmounting the gable of the western end was in all probability a bell turret or cage. This gave place, a hundred years later or so, to the present tower, which belongs to the 14th century period.

Early in the 15th century the Flamboyant windows were inserted in the south side, and later in the same century the windows on the north side and the Perpendicular insertions in the tower were added—the windows in the place of the Early English windows. In the heads of the windows are fragments of well painted glass—the sacred monogram and the

monogram of S. Mary in the tracery of one ; in another the Tudor rose of Henry VII.

Since the above was written the rebuilding of the church has been commenced. A chancel with organ chamber are to be added to the nave ; the ancient chancel arch, with one of its hagioscopes, will be removed to the latter. The removal of the whitewash from the walls disclosed wall paintings of different dates over every part of the church ; on the splay of a window on the north side was a good design of the 15th century, on the west end of the same side and on the south side were figure subjects of the same date rudely executed, and on the east end texts of a much later date. In the gable at the east end, above the ceiling, were the Royal arms of King Charles, well painted, and the motto "Feare God, honor the King" above it, the whole filling up the gable.

The removal of the lead covering revealed an oak timbered roof of most massive construction. The tie beams were squared trees 16 × 12 inches ; the struts between the principals from the tie beams to the ridge formed a series of arches, and similar struts from those beams to the purlins formed, where perfect, a similar series of arches on either side, in planes at right angles with the rafters. The effect from the floor, had the ceiling been removed, would have been unusual and striking. This roof was originally undoubtedly of the 14th century, and, although it had been repaired in 1721 and again in 1813, the character of the 14th century roof was well preserved. Timber roofs of this period are rare. Amongst the carved stones belonging to the Norman building, found in taking down the old walls, were some rich chevron ornaments belonging to an arch, the plinth of a pilaster with cable moulding, and a portion of some decorative work.

21. COMPTON VALENCE.

This church was rebuilt a few years ago. The tower, of ordinary 15th century character, alone remains of the old church. The brass described by Hutchins is still in its place. An ancient (15th century) piscina is built into the chancel wall,

but it has been re-cut so as to be almost past recognition as old work.

22. FROME VAUCHURCH.

A tiny church, yet not wanting in interesting features. The plan of the church is Norman, or earlier.

The chancel has been built recently.

On the north side of the church is a doorway (built up) of late 12th century (Norman) workmanship. The familiar dog-tooth ornament which appears in the moulding of the arch is an evidence of the lateness of the work in the period. This is the first Norman work I have met with in Ham Hill stone.

The font may be of the same period. The basin, however, has no trace of the staples for fastening the cover, which are generally to be found in ancient fonts.

Some of the nave windows, which are rudely cut, may have been originally of the 14th century, and so may be the arch of the porch, the head of which has been tampered with. These have no special interest.

The narrow chancel arch, as is shown by the foundation, was formerly of the same width at the base as it is just below the impost. The jambs have been cut away at some time and a pointed head substituted for the ancient round head. The original arch is not later than the Norman period; the indented ornament on the impost is of that period, and this may have been executed some time after the erection of the arch, as was a similar indented ornament on an impost of one of the arches in the triforium of the Abbey Church of St. Alban's (plate 3).

23. BRADFORD PEVERELL.

The church was rebuilt in 1850 on the old foundations. A 15th century arch and the bowl of the font, which appears to have been re-cut, are all that remain of the old church. The font is of 13th century character.

The church, poor in other antiquities, is rich in painted glass. On the north side of the chancel is a two-light window of ancient

glass. The medallions of which it is composed are described in the first edition of "Hutchins' History of Dorset" as having been in the east *windows* of the church with others which have disappeared. From a sketch of the old church in the possession of Mr. H. B. Middleton it appears that the chancel was of the 13th century (Early English) style, and from the remark of Hutchins that this glass was in the east *windows* of the church there is ground for assuming that the east windows were an Early English triplet, or two single light windows, perhaps divided by a flat pilaster buttress which carried the cage of the sanctus bell above the gable. As architectural styles are oftentimes much later in remote places than in large towns, it is not too much to assume further that the church though Early English in style was built very early in the 14th century. Now, the subjects of the pictures are outlined and shaded in enamel brown and tinted with yellow stain—the yellow stain was discovered circa 1310; that these paintings were made soon after the discovery seems certain from the character of the outline and shading. There is good reason, therefore, for thinking that these windows were painted circa 1315 and that the chancel was built at that time. It seems the more likely that the glass was coeval with the church, since the subjects appear to relate to the "Assumption of the B. V. M.," to which the church is dedicated. Of the four medallions, one is a modern imitation of the old, one is original, of the other two the head of one and the base of another are modern, and so is the border.

The glass of the east window has a history. In September, 1845, a meeting of the Royal Archæological Institute was held at Winchester, and a short notice of the painted glass in Winchester and the neighbourhood was read by C. Winston, an expert in stained glass. In the cloisters of Winchester College were two boxes of ancient glass which had been removed—Mr. Winston was informed—from the west window of New College Chapel, Oxford,*

* The Warden of New College states that the contents of these chests were given to Winchester College, the glass to be employed in the reparation of the chapel windows, and that subsequently the glass was granted for the decoration of Bradford Peverell Church.

when the window designed by Sir Joshua Reynolds was put up. The contents of the boxes were examined by Mr. Winston, who found that they contained fragments of 13th and 14th century glass. On May 25th, 1850, five years later, Mr. H. N. Middleton, during the rebuilding of Bradford Peverell Church, went to Oxford to see some glass which had been offered to him for the church by the Warden of New College, and was said to have been removed from the top of the west window of the chapel.* The cases were sent to Mr. Nockalls J. Cottingham, an eminent glass painter, who reported that they contained 124 feet of ancient glass. There was little figure work amongst it, but a large quantity of rich plain colour and diaper work, which he thought could be worked into draperies of figures, &c. The ornament, he said, was exceedingly good. Amongst it was the sacred monogram I.H.S., each letter on a separate piece of glass and surmounted by a crown—a very unusual arrangement. There was also much beautiful canopy work. The present east window, which is in the Early English (13th century) style, was designed with the intention of utilising as much of the Early English glass as possible. The draperies of the angels, of our Lord in the vesica piscis supported by them, and much of the dark background, is original Early English glass. The sanctus, the outer border, and some of the plain glass in the grounds is 14th century; the remainder and the design are modern. Some of the ancient glass has been retouched. Mr. Cottingham proposed to use the 14th century glass, including some of the canopy work, in a second window, but this suggestion was not carried out, and, with the exception of some fragments still in Mr. Middleton's possession, the remainder of the glass was lost.

In a window on the north side of the nave are the arms of William of Wykeham, surrounded by the ribbon of the Garter.

* From the description of the contents of the cases given by Mr. Cottingham, from what we see of the Early English glass, from what we know the canopy work of the 14th century would be like, it seems very improbable that the glass came from the west window only, or that such glass as was found in the cases would have been combined in one window anywhere.

The Garter and motto and some of the grounds are original; the remainder is modern work by the painter of the east window. With respect to the date of this ancient glass, Mr. T. F. Kirby, Bursar of Winchester College, writes: "The church of Bradford Peverell was one of the churches belonging to Winchester College which they had to repair, if not to rebuild, soon after they came into possession of it, and the coat of arms of their founder, William of Wykeham now in the north window of the nave, was no doubt put in to commemorate the fact of this restoration or rebuilding." The window, according to Hutchins, originally had the words "William Wykham, Churche Patron," beneath the Wykeham arms, which seems to imply that the glass was inserted by Wykeham himself before he presented the tithes of the church to his new College of S. Mary, at Winchester, in 1395. This is the more likely because he was a patron of the glass painter, and took such special interest in that kind of decoration that he bequeathed a sum of money for the glazing of windows in Winchester Cathedral; but, as Mr. Kirby points out that the church was repaired (the chancel, from the style of the architecture, could not have been rebuilt at this time) shortly after Winchester College came into possession of it, it is possible that the glass was put in at that time; the difference in the dates would be trifling.





Notes on some of the Rarer Forms of *Rubus* lately found in Forset.

By the Rev. R. P. MURRAY, M.A.,
F.L.S.



KNOW of no problem presented by British Botany more difficult, yet more fascinating, than that which meets us in the study of the fruticose *Rubi*. Most of the plants we meet with are well separated from the forms most nearly related to them by characters which are sufficiently obvious to the botanist, nor do they show any great tendency to run into one another. But in some few genera this is far from being the case. We shall find no better illustration of these unstable groups than is to be found in the familiar bramble of our roadsides, heaths, and woodlands.

The older botanists were content to combine the innumerable forms of European shrubby brambles into two or three species—viz., *R. idæus*, L. (raspberry), *R. fruticosus*, L. (blackberry), and *R. cæsius*, L. (dewberry). With *R. idæus* we have no further concern to-day; it is a form of great antiquity, and is well separated from its allied forms. There can be no doubt, on the other hand, that *R. fruticosus* and *R. cæsius* are very nearly allied. Their combined distribution is given in Hooker's "Student's Flora"

as "Europe (Arctic), N. Africa, N. and W. Asia, Himalaya." It has, however, long been apparent that the plants grouped together under these two names exhibit an amount of difference among themselves enormously greater than do the majority of plants in other genera. Nothing is easier than to make a selection of extreme forms. If we could rest there the problem would be an easy one; the extreme forms are abundantly distinct. But they are connected together by so many other forms which pass so gradually into one another that it becomes in many cases almost impossible to assign limits to the forms which so long as we confined our attention to the extremes appeared so distinct. What is to be done? Men have been working at the problem for many years in Britain, in France, in Germany, in Scandinavia, and we have not yet reached any definite conclusions. But I believe that there are conclusions to be reached, and I believe also that no botanists in the world are in a better position for continuing the investigation than are the botanists of England. Clearly, the first thing to do is to endeavour to differentiate and define our bramble-forms, and to collate them with those of other countries. At present we have, I believe, just 100 such forms in Britain, and this number, large as it is, will probably be considerably increased. In 1869 Genevier described over 200 species from the Valley of the Loire, while Focke gives 72 more or less aggregate species as found in Germany, under which are grouped a considerable number of other less distinct forms. These figures shew considerable differences; but I suppose that in all these countries the number of separable forms is about the same. I think it is necessary that these forms should be worked out, because, till that is done, the task of re-combining them into groups which shall be more or less equivalent in value to the species met with in other genera can hardly be successfully attempted. Such an attempt has been made by Mr. Baker in the "Student's Flora," but seems to have met with little favour. In the meantime we should, in my opinion, regard the forms of bramble with which we meet as forms rather than species, yet forms with a decided tendency to fix themselves.

Probably, in the lapse of time, many of them will die out, others will remain—the species of the future. Our work should be (at least in part) to determine, as far as possible, which forms are likely to survive, and then to group the other forms round them.

One important point is this : How do the different forms arise ? Have all the individuals now assignable to any given form necessarily a closer genealogical connexion among themselves than with the parent form ? In other words, may the forms with which we are dealing arise independently at different times and in different places ; or do all the individuals of each form trace back to one common ancestor, the founder of the race ? If we adopt the latter view, we must be prepared to accept a very high antiquity for many even of our less distinct forms, for in a very large number of instances these forms are common to England and France, to England and Germany, to England and Scandinavia. No doubt, some forms have come to us by immigration from these countries in those long past days when Britain was still a part of continental Europe, and have remained practically unchanged since their arrival. So, I should suppose, has *Rubus suberectus* come to us from the north, and *R. rusticanus* (the commonest of all our brambles in southern England) from France. But in many cases I am inclined to think that a similar environment will tend to produce a similar variation, and as bramble forms, even those most nearly allied, seem to be very generally sterile (or nearly so) except among themselves, these variations will tend to become permanent. But they may be quite young forms in one place, very old ones in another. I have thought it well to lay before you these few remarks, because it is most important that you should understand in some degree what the object is which we have before us. It is not to multiply names, nor to burden the human memory with an indefinite number of minute and almost unintelligible distinctions, but step by step to investigate the facts which lie before us, till we reach some explanation of them. Nature is surely doing something in such a case as this which it is well worth our while to study ; but of course we must begin by learning thoroughly to know our

bramble forms. I believe Dorset to be almost exceptionally rich in these, but that may only be because it has lately been (in its south-eastern portion) pretty closely studied by several specialists, chiefly by the Revs. W. Moyle Rogers and E. F. Linton, of Bournemouth, while we have had the great advantage of visits from Mr. T. R. Archer Briggs, whose recent death we mourn, than whom none had a greater acquaintance with the *Rubi* of the south-west of England, and from Dr. Focke, the great German specialist. I myself have also tried to do some little work in this direction. In consequence of these investigations I am now enabled to lay before you descriptions of several *Rubi* which have either been very lately added to the British lists or are of great rarity in England. They are all from the valley of the Stour, or the country within a very few miles of it.

Rubus sulcatus, Vest. Dullar Wood, one mile from Bailey Gate Station. I had the good fortune to find this species for the first time in July last (1890), but the bushes which I then saw had been much cut about, so that I passed the plant as probably a form of *Rubus suberectus*, Anders. A few days later I showed it to Mr. Rogers, who at once suggested *sulcatus*. Mr. Briggs accompanied me further into the wood, and soon all doubts were dispelled by the discovery of further specimens in fine condition. Several plants threw their flowering panicles full ten feet into the air. This species can hardly be confused with any other except *suberectus*, and perhaps *plicatus*. From *R. suberectus* it differs by its sulcate stems, with strong prickles, dilated and compressed at base, stalked lower leaflets and sepals reflexed after flowering. *R. sulcatus* has a wide distribution in western Europe, being found in Scandinavia, Germany, Austria, Switzerland, and France. It also occurs, but very rarely, both in England and Scotland. In all probability it is a form of considerable antiquity. Areschoug suggests that it appeared originally as a modification of *R. plicatus*. It was first recorded as British by Professor Babington in 1886, having been found (probably in the previous year) in Perthshire by the late Mr. A. Sturrock. Since then it has been reported from a few English

counties, but I suspect that states of *R. plicatus* have been generally mistaken for it. Judging from its situation in Dullar Wood, this plant should be looked for in damp woods. In this county it can hardly be confined to the tiny wood where alone I have yet seen it. In the adjoining larger Foxholes Wood I did not see a trace of it. I possess in my herbarium specimens from England (Dorset), Brunswick, Hanover, and Scandinavia, besides a somewhat doubtful plant from Switzerland (Ticino).

Rubus erythrinus, Genev. So long ago as 1880 the late Mr. T. R. A. Briggs wrote, in the "Flora of Plymouth," "we have a bramble very common about Plymouth, certainly of the *Rhamnifolii* group, and allied to *Lindleianus*, which will, I believe, have to be described as a new species, should it not be found to be identical with some continental one." Dr. Focke has since told us that it is the *Rubus erythrinus* of Genevier, a plant of western France. I believe it will be found somewhat commonly in southern England. Messrs. Briggs and Focke have collected it at Arne, at Branksome Chine, and at Daggons, in this county. I am inclined to refer here also a bramble which is exceedingly abundant in Dullar Wood and in parts of Foxholes, though neither Mr. Briggs nor the Rev. Moyle Rogers would accept it as absolutely identical with the Plymouth plant. It requires further study. *R. erythrinus* has been recorded from Cornwall, Devon, Somerset, Hants, Gloucestershire, Herefordshire, and Suffolk. According to Mr. Briggs it may be distinguished from *R. Lindleianus* by being much less prickly, by having larger and broader flat or convex leaves with dentate, or obscurely dentate serrate, divisions; when any waving is present it is only close to the edges. Also by having the panicle more pyramidal and less cylindrical, with distant branches below, and by far the larger number separate from one another, by having flowers with pink or tinted, not milk-white petals, and by producing large fruit. The dentition of the leaves is much coarser and more irregular than in *R. rhamnifolius*, and the under surface is less frequently felted. *R. rhamnifolius* also has white flowers. See "Journal of Botany," 1890, p. 204.

Rubus dumnoniensis, Bab. This species was founded by Professor Babington in the "Journal of Botany" for November last (1890) in order to receive a plant from the neighbourhood of Plymouth, which had previously been assigned to *R. incurvatus*. Focke thinks that it may be the same as the *R. rotundatus* of P. J. Müller, but will not speak decisively. He says: "It is near *R. incurvatus*, which may be, however, distinguished by its shorter prickles, smaller pink flowers, and long narrow panicle." *R. dumnoniensis* has large white petals and long slender prickles, reminding one of those of *R. affinis*. It has been recorded from near the Lizard, Cornwall (Focke); about Plymouth (Briggs and Focke); S. Hants (Briggs); Derbyshire (Rev. W. R. Linton). I have myself seen it about Bournemouth (Hants) and between Sturminster Newton and Fifehead Neville (Dorset), in both which places it was pointed out to me by the Rev. W. R. Moyle Rogers.

Rubus leucandrus, Focke. For such knowledge as I possess of this form I am indebted to Mr. Rogers. The species was described by Focke in 1875 from N.W. German specimens. It is nearly related to *R. villicaulis*, from which it differs by its smaller prickles, its leaflets strongly acuminate, and its panicle leafless in the upper part. The last character does not, I think, always hold good. Dr. Focke saw the plant near West Moors and Daggons in this county, and I have myself seen it in Piddle Wood, Sturminster Newton; in a rough field near Dullar Wood, both in this county; and in Bournemouth (Hants).

Rubus hirtifolius, Kalt. This grows abundantly in Bere Wood, where I gathered it for the first time in August, 1885. It is a striking plant, and when well developed can hardly be mistaken. But it is apt to shade off in the direction of *R. leucandrus*, and possibly these two may prove eventually to be the extremes of one species. This idea has been suggested to me partly by the examination of specimens in Mr. Rogers' herbarium, and partly by the fact that Dr. Focke, who named the Bere Wood plant *R. hirtifolius*, remarked that it was the same as another which I had sent to him under that name. This referred to a Plymouth plant

received from Mr. Briggs, which is, I think, essentially the same as our plant. Yet across that plant Dr. Focke had written "*R. leucandrus*, var.?" It is a point which can only be decided by further study. The *R. hirtifolius* of Bere Wood is an exceedingly hairy, but quite eglandular plant, with a very soft under surface to the leaves.

Rubus pyramidalis. Kalt. A very beautiful bramble, long confused with *R. hirtifolius*, from which, however, it seems to be abundantly distinct. The panicle is truly pyramidal (whence the name) and is plentifully furnished with glands. But I find no glands on the barren stem in the only specimens to which I have access. The stems seem also to be much less hairy than in *R. hirtifolius* (at least as it is found in Bere Wood).

R. pyramidalis occurs by a bushy roadside just to the south of Bere Wood, where it was found by Mr. Briggs and myself in July last. It must not be confused with *R. pyramidalis*, Bab. (= *R. longithyriger*, Lees), a very different plant, belonging to the glandulose division of the brambles, and as yet unknown as a Dorset plant.

Rubus anglosaxonicus, Gelert. This plant seems to me to require further study. It is said by Focke to be intermediate between *R. mucronatus* and *R. Radula*, but I think that its affinities are more with *R. macrophyllus* than with the former of these two. Indeed, I suspect that it is often confused with *R. macrophyllus*, from which, however, its glandular stem and panicle should easily distinguish it. Focke tells us that the stems of *R. Radula* are much rougher, from numerous equal *aciculi*; its leaflets are narrow and acuminate and its sepals are usually reflexed. *R. mucronatus* will be easily distinguished by the shape and serrature of its leaflets. Very curiously *R. anglosaxonicus* seems to have first been recognised as distinct at Copenhagen, where it was grown from seeds sent from Plymouth under the name of *R. macrophyllus*. Focke records it from Hampshire. I have it from Wells, Somerset; from North Devon (Rogers); and from the neighbourhood of Bailie Gate, in Dorset. It is said to occur also in N.W. Germany, where it is local, and in France.

Rubus melanodermis, Focke. In 1886 the Rev. W. M. Rogers observed a bramble new to him growing abundantly on Puddletown Heath, and between Rampisham and Evershot, in this county. This was subsequently determined by Prof. Babington to be *R. melanoxydon*, Müll et Wirtg. Dr. Focke has since pointed out that this is not the case, and in May, 1890, he described it as a new species under the name of *R. melanodermis*. He adds, however, that it may possibly be a variety of the species to which Babington has ascribed it. However this may be, it is one of our most marked brambles in South Dorset, extending from its original station westwards to Bournemouth, and for some distance into Hants. It is often abundant. I have it from near Wool, Wareham, Bailie Gate, Studland, and Branksome. Babington places it under the *Koehleriani*; but this hardly seems to be its right place. I think it has affinities with several other species—e.g., *R. Bloxamii*, and perhaps *R. infestus*. One of its most marked features consists in the shape of the terminal leaflet, which ends in an abrupt cuspidate point. I have seen nothing quite like this in any other bramble with which I am acquainted.

Rubus plinthostylus, Genev. This form was added to the British lists in 1887 by Prof. Babington on the strength of specimens collected by the Rev. W. Moyle Rogers in Minster Valley, E. Cornwall, in June, 1886. These specimens (some of which I have seen in Mr. Rogers' herbarium) are very immature, but Prof. Babington seems to have had no hesitation in assigning them to Geneviev's plant. Since then nothing more had been heard of the plant in Britain until in November last I submitted to Prof. Babington a bramble which I had collected in the previous August in Foxholes Wood, near Bailie Gate, and in hedges by the side of the road from Bailie Gate to Hamworthy. I had supposed it to belong to *R. Koehleri*, though not quite agreeing with any of the named forms. The Professor, after a careful comparison with Geneviev's original specimens (now in the Cambridge Herbarium) referred it to *R. plinthostylus*—a determination with which M. Rogers, to whom I afterwards showed the plant, is disposed to

concur. If these gentlemen are correct I think that *R. plinthostylus* must be placed as a sub-species under *R. Koehleri*. The characters on which Genevier lays most stress are *the leaflets wedge-shaped at the base, stems very prickly, sepals very spreading*. In the Dorset plant the armature is weaker than I should have expected from his description. Writing of the Cornish plant Prof. Babington says "panicle short, few flowered." In our plant the panicle is elongated (18 inches or more) and crowded with flowers.





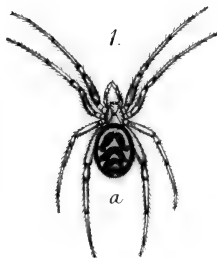
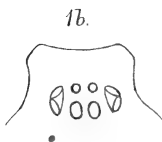
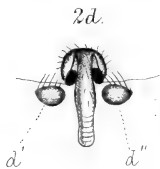
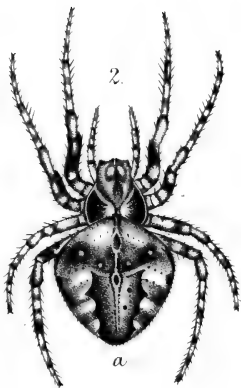
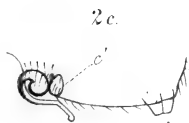
On New and Rare Spiders found in 1889 and 1890.

By the Rev. O. PICKARD-CAMBRIDGE, M.A., F.R.S.,
C.M.Z.S., &c., &c.



(WITH PLATE.)

TWO years have passed since my last report : Of the first of these years (1889) I have nothing new to science to record, though the season was fairly favourable, and some rare species were found, some of which will be noted presently. The past year (1890) has been a tolerably successful one in respect to spiders, though the generally cold, damp, and sunless character of the season made it anything but a good one in regard to entomology in its wider sense. Seasons of this kind have often proved to be by no means so inimical to spiders as to insects. Dry, hot summers, though they may favour the development of some species, are, on the whole, hurtful to the majority of spiders. Considering, therefore, that our leisure time has been very much engrossed by other matters of greater or less importance, we have reason to be well satisfied with what I have now to record of the past two years' researches. To summarise these I may shortly say that besides a large number of rare and interesting species met with, two are new to Britain and three new to science ; one of the former and one of the latter having been found in Dorsetshire. I propose only to





make here a few general remarks on these various captures ; the rest of the paper will be occupied by systematic and technical details. Among the species captured or brought to my notice in 1889, the most noteworthy were *Segestria perfida* Walck, from Bristol ; *Liocranum celere* Cambr., under pieces of rock at Portland on the 26th of April ; *Oxyptila Blackwallii* Sim. (remarkable from the clubbed hairs with which it is clothed), in a similar situation on the 10th of May. *Marpessa pomatia* Walck, one of our largest and rarest jumping spiders, together with *Walckenaëra pratensis* Bl., were found in Wicken Fen, Cambridgeshire, by my nephew ; *Agröeca inopina* Cambr., on Bloxworth Heath, and *Clubiona cærulescens* L. Koch, in Bere Wood, by one of my sons, who also met with adult males of *Hahnia elegans* Bl., among water weeds on the 25th of August in a pond on the heath. I had for many years past found females of this spider, but had not before succeeded in finding the males. Among dead leaves in Bere Wood in October I met with a second example of *Neriene nefaria* Camb., the first (and only other, as yet known) example having been found among grass on the cliff near Smallmouth Sands, Weymouth, during an excursion of our Field Club on the 2nd of July, 1879. *Epeiria sclopetaria* Clk., occurred near Chickerell on the 20th of May. This is a fine species, locally abundant in some parts of England, but very rarely met with in this county. An adult male of the rare and curiously-formed *Walckenaëra jucundissima* Cambr., is the only other capture of 1889 which I shall note here.

Coming now to 1890, a long day in the Isle of Portland, May 31st, yielded us a number of local species, among them being young examples of *Neon levis* Sim., a pretty little salticid, or jumping spider, not before met with in England ; its habitat is under fragments of rock near Pennsylvania Castle, where also in similar situations we found several examples of both sexes of *Walckenaëra saxicola* Cambr. This very distinct spider is of great rarity ; it was first found near the same spot by myself in July, 1860, and, excepting once, on Bloxworth Heath, has not been taken since, until this

past year; a subsequent day at Portland, when the Dorset Field Club met there (July 16), produced another specimen of *Neon levis*. On the 30th of May we found in a small glen running up through the iron-sandstone rock at Abbotsbury spiders unusually abundant among the coarse grass and herbage, and among them many examples of *Oxyptila simplex* Cambr., hitherto only found, and that very rarely for some years past, on or near the Rectory lawn at Bloxworth. *Drassus pubescens* C. Koch, was also found at Abbotsbury, as well as (in great abundance) the pretty little *Theridion bimaculatum* Linn, in all stages of growth, many of both sexes being adult. Two rare species of *Liocranum* (*L. celans* Bl., and *L. celere* Cambr.), were also found in 1890, the former in January among moss, near Bloxworth, the latter among heather. Another spider of greater popular interest has turned up, new to Dorset, *Argyroneta aquatica* Clk. (though I have always suspected its existence there); it was found abundantly among water weeds on the banks of the river in the Stoborough meadows, near Wareham, and, later on, in a pond on Bloxworth heath by C. O. P. Cambridge while hunting for shells. I have also received from Mr. T. W. Stoddart, of Bristol, specimens of *Teutana grossa* C. L. Koch, a fine species of the family *Theridiidae*: these were found by him in a cellar, where they appear to be not unfrequent; hitherto it has only been met with once in England, by Mr. Blackwall, many years ago near Winchester. A fine example of *Epeira angulata* Clerck, a rare and local species, was also sent to me from near Bovey Tracey, in Devonshire, by Miss Lilian Gould, who found it towards the end of August, 1890, in its large orbicular snare woven in a furze bush. On the 25th of June we found specimens of a rare and curious species in a swamp near Hyde—only a second British locality for it—*Theridiosoma argenteolum* Cambr. This little spider, or one very nearly allied, has had a good deal written about it lately by an American author, Dr. McCook, who attributes to it, from his own observations, a very singular habit. The American spider spins an imperfect orbicular snare; this it holds taut by a kind

of trap-line, which, immediately on the striking of the snare by an insect, the spider lets go with a jerk, and thus more effectually secures the insect. Dr. McCook appears to be convinced that the American and English spider are of the same species, a point on which I have some doubts, as I have never yet been able to detect any such snare where I have found the English spider in some abundance. It is possible, however, that I may have overlooked the snare. One of the additions to our British list was made by my nephew (Rev. Fredk. O. P. Cambridge), on the summit of Helvellyn, *Tmeticus niger* (F. O. P. Cambr.), a fine distinct species new to science : this was found under stones, in company with *Tmeticus sublimis* Cambr., another rare species (only found before on the Grampians), and *Leptyphantès pinicola* Sim., new to Britain. These three rarities were obtained during a hasty visit one day in September last, and augur well for the existence of other yet unknown spiders in the same regions. Nearer home in our own neighbourhood I have met with in the past year (only for the second time) *Walckenaera ignobilis* Cambr., one of the smallest known spiders ; as well as a female of *Hilaira uncata* Cambr. with its white lenticular eggsac, concealed in the crevice of a decayed stump. This was the first time I had ever found the cocoon of this species, though the spider itself is fairly abundant in our swamps. In the month of January I found among moss near Bloxworth a spider new to science, of the genus *Opistoxys* Sim.—a genus separated from *Neriene* by the peculiar form of the sternum. From Ireland an example of a fine species of *Tegenaria* was sent to me by Mr. G. H. Carpenter, of the Science and Art Museum, Dublin. It was found at Glenalough in a crevice of a wall of loose stones, and is allied to *T. atrica* C. Koch, but is smaller and more nearly allied to *T. nervosa* Sim., but I think it is distinct ; and hitherto undescribed. The last spider on which I shall remark here is the fine species of *Tarantula*—*T. fabrilis* Koch (discovered some years ago on Bloxworth heath, and, as yet, apparently confined to that locality). It is a very variable species in its appearance, not being found at all in some seasons ; but on the 18th of

September last we obtained several adults of both sexes in the course of an hour's work.

SYSTEMATIC LIST

OF NEW AND RARE SPIDERS FOUND IN 1889 AND 1890.

ORDER ARANEIDEA.

FAM : DYSDERIDÆ.

GEN : SEGESTRIA (Latr.)

SEGESTRIA FLORENTINA (Rossi).

Segestria perfida, Walck. Cambr., Spid. Dors. p. 459.

An adult male of this fine species taken near Bristol in 1889 by Mr. T. W. Stoddart, is the only example recorded in Britain since its notice by Dr. Leach, many years ago (in the supplement to the 4th edition of the Encyclop. Brit., Art. Annulosa), as having occurred at Plymouth. Mr. Stoddart has kindly submitted this example for my inspection. The glossy green hue of the falces seems to be confined to the female. Its much larger size, however, and other specific characters will easily distinguish it from *S. senoculaca* Linn, or *S. Bavarita* C. L. Koch, the only two other known British species.

FAM : DRASSIDÆ.

GEN : DRASSUS (Walek.)

DRASSUS PUBESCENS.

Drassus pubescens Thorell. Rec., Crit, Aran, p. 110.

„ „ Cambridge, Spid. Dors. p. 20.

An adult male of this rare spider was found under a stone at Abbotsbury in June, 1890, by C. O. P. Cambridge.

GEN : CLUBIONA (Latr.)

CLUBIONA CÆRULESCENS.

Clubiona cærulescens L. Koch. Cambr., Spid. Dors. p. 29, and Proc. Dors. N.H. and A.F. Club, vol. iv., p. 151, and vol. vi., p. 3.

An adult female of this rare spider was found by C. O. P. Cambridge among herbage in Bere Wood, on the 17th of September, 1889.

GEN : AGROECA (Westr.)

AGROECA INOPINA.

Agroeca inopina Cambr. Proc. Dors. N.H. and A.F. Club, vol. vii., p. 71, pl. iv., fig. i.

An adult female was found among heather on Bloxworth heath on the 17th of August, 1889, by C. O. P. Cambridge. This is its second occurrence only in this locality.

GEN : LIOCRANUM (C. L. Koch.)

LIOCRANUM CELANS.

Liocranum celans, Bl. Cambr., Spid. Dors., p. 41.

An immature female of this rare spider was found among moss in Morden Park, January 10th, 1890.

LIOCRANUM CELERE.

L. celere Cambr. (Sub., *celer* Id.), Spid. Dors., p. 40.

Immature specimens were found under pieces of stone at Portland on the 26th of April, 1890. An immature example was also found under an old turf on Bloxworth heath, in September, 1890; and another, subsequently, under a stone near Weymouth, by C. O. P. Cambridge.

FAM : AGELENIDÆ.

GEN : AMAUROBIUS (C. L. Koch.)

AMAUROBIUS FENESTRALIS.

Amaurobius fenestralis, Stroem. Cambr. Spid. Dors., p. 56.

This spider, so abundant in some localities in the north of England, is very rare in the south. The occurrence of it, therefore, at Abbotsbury among loose stones in an old wall is interesting. The example referred to was found by Mr. Nelson M. Richardson, who kindly sent it to me for examination.

GEN : TEGENARIA (Latr.)

TEGENARIA HIBERNICA sp. n., fig. 4.

Adult male, length $3\frac{1}{2}$ lines.

This spider, though very much smaller, resembles *T. atrica*, C. L. Koch, and other nearly allied species in general form and appearance. The *Cephalothorax* is dark yellow-brown, paler along the median line, with a broadish marginal border and converging stripes on the thorax of a pale brownish-yellow hue.

The *Eyes* are small and in the ordinary position, those of the posterior row are equi-distant from each other, but the two centrals of the anterior row are slightly further apart than each is from its adjacent lateral eye. The four central eyes form nearly a square, but its foreside is shortest. The height of the clypeus is equal to half that of the facial space.

The *Legs* are long 4, 1, 2, 3, moderately strong, of a dull brownish drab-yellow hue, unicolorous, armed with longish slender spines, bristles, and hairs.

The *falces* are rather long, strong, vertical, slightly divergent, and darker in colour than the legs.

Sternum dark brown, apparently with a pale border and central stripe, but the specimen being in a dry state and this part being much concealed by the legs, its pattern could not be satisfactorily seen.

The *Abdomen* was too shrivelled to allow of its true colours and pattern to be observed, but Mr. Carpenter tells me that when captured it very nearly resembled that of *T. atrica* C. L. Koch.

The *Palpi* are moderately long; the cubital joint is slightly shorter than the radial and has, besides lesser ones, two long strongish tapering black bristles in front, one at each extremity; the radial joint has a large obtuse subconical prominence near its anterior extremity on the outer side, terminating in a tapering somewhat spine-like apophysis which ends in a very slightly hooked point; the length of this apophysis exceeds that of the prominence of which it is the continuance. The radial joint is furnished with hairs and bristles, of which last one near the middle of the foreside

is long and stronger than the rest. The digital joint is of the usual form, long, rather narrow, being produced into a long point; it is equal in length to the radial and cubital joints together. The palpal organs have a strong prominent pointed corneous process near the middle, and a long prominent circularly-curved tapering filiform-pointed spine is connected with them.

This spider, which is certainly new to Great Britain and Ireland, is, I think, new to science. It is nearly allied to *T. nervosa* Sim., and *T. larva* Id., from the Eastern Pyrenees, but on a careful comparison with the descriptions of those species I believe it to be distinct. From our other British and Irish species it may easily be distinguished; from *T. Derhami* (which it resembles nearly in size) by the form of the radial prominence and apophysis, and from *T. atrica* C. L. Koch and *T. Guyonii* Guer. by its small size, unicolorous legs, and the structure of the palpi. From *T. campestris* it may be distinguished by the smaller size of this latter species, its more distinct abdominal pattern and annulated legs, as well as by the much larger digital joints of the palpi.

A single adult male was kindly sent to me by Mr. G. H. Carpenter, of the Museum of Science and Art, Dublin, by whom it was found among loose stones in an old wall at Glendalough, Ireland, in September, 1889.

GENUS : ARGYRONETA (Latr.)

ARGYRONETA AQUATICA.

Argyroneta aquatica Clk. Camb. Spid. Dors., p. 471.

On April 28th, 1890, C. O. P. Cambridge met with this spider in abundance among water weeds while dredging for shells in the Stoborough Meadows, near Wareham. Subsequently, September, 1890, it was also found at Oak o'mire Pond, Bloxworth Heath. This is its first record as a Dorset Spider.

In the description "Spid. Dors." i.e. supra it was omitted to mention that on the underside of the abdomen, a little way in front of the spinners, is a transverse slit or opening leading to a spiracular organ. Whether this is or is not of importance for the purpose of classification appears as yet to be uncertain.

FAM. : HAHNIIDÆ.

GEN. : HAHNIA (C. L. Koch).

HAHNIA ELEGANS.

Hahnia elegans Bl. Cambr., Spid. Dors., p. 69, and Proc. Dors. N.H. and A.F. Club, vol. x., p. 130.

Although I had met with females of this species in spring and early summer on Bloxworth Heath, on the margins of ponds, and in other localities in the neighbourhood, the first adult males I had seen were several found here on the 26th of August, 1889, by C. O. P. Cambridge.

HAHNIA MONTANA.

Hahnia montana Bl. Cambr. Spid. Dorset, p. 70.

Abundant in one spot on Bloxworth Heath, both males and females adult, on August 6th, 1890.

FAM. : THERIDIIDÆ.

GEN. : TEUTANA (Sim.) (*Theridion* Auctt. ad partem.)

TEUTANA GROSSA, fig. 1.

Theridion versutum Blackw. Cambr. "Spid. Dors.," p. 479.

Theridium grossum C. Koch. Die Arachn. Bd. iv., p. 112, pl. cxl., fig. 321.

Adult females of this spider were kindly sent to me in December, 1890, by Mr. J. W. Stoddard, by whom they were found in cellars at Bristol. The only previous occurrence in Great Britain is that recorded by Mr. Blackwall (near Winchester) in Spid. Great Brit. and Ireland, p. 193, pl. xiv., fig. 124, the specimen there described being a male. Mr. Stoddard tells me that it spins a coarse sheet of web usually across a corner between the ceiling and wall. The cocoon is a loose woolly bag about half-an-inch in diameter, containing 40—50 eggs.

GEN. : THERIDION (Walck.)

THERIDION BIMACULATUM.

Theridion bimaculatum, Linn. Cambridge Spid. Dors., p. 91.

This pretty spider was found (both sexes) in abundance at the roots and among the stems of mixed herbage at Abbotsbury in

June, 1890; some were adult, but for the most part they were immature.

GEN : THERIDIOSOMA (Cambr.)

THERIDIOSOMA ARGENTEOLUM.

Theridiosoma argenteolum Cambr. Spid. Dors., pp. 428, 572.

On the 25th of June, 1890, I met with an adult male and females of this rare and curious spider in a swamp at Hyde, near Bloxworth. Among the females was an entirely black one; excepting in colour it did not differ from the others.

Dr. McCook in his work on "American Spiders and their Spinning Work," vol. i., pp. 195, 207, has a chapter on a spider which he believes to be of this genus, and, if not identical it seems to be of a nearly allied species. The American spider spins a somewhat irregular geometric web, which it keeps taut by a central line held in its claws, with the slack line gathered between its feet. The spider, when an insect comes upon its snare, springs it by suddenly releasing the line, when, as the author describes it, the slack line sharply uncoils, the spider shoots forward, the whole web relaxes, and the spiral lines are thrown round the insect. This is repeated several times before the prey is seized. I have not yet succeeded in finding *T. argenteolum* in any snare whatever. The localities it inhabits make it peculiarly difficult to carry out any observations on the subject. Examples kept some time in confinement by my nephew, Rev. F. O. P. Cambridge, showed no disposition to spin any snare at all.

GEN. : LEPTYPHANTES (Sim.)

LEPTYPHANTES PINICOLA.

Leptyphantes pinicola Sim. Aran. de France Tom. v., p. 312,
fig. 76, 77.

„ „ F. O. P. Cambridge. Ann and Mag.
N. H., ser. 6, vol. vii., p. 78, pl. ii.,
fig. iii.

Several examples of this very distinct little spider (both male and female) were found by my nephew, Rev. F. O. P. Cambridge,

under stones near the top of Helvellyn on September 18th, 1890. This was its first occurrence as a British species.

LEPTYPHANTES TERRICOLA.

Linyphia terricola C. L. Koch. Die Arachn. xii., p. 125, pl. 425, fig. 1,047, 1,048, and Blackwall Spid. Gt. Brit. and Ireland ii., p. 231, pl. xii., fig. 163.

„ *zebrina*, Menge. Cambr. Spid. Dors., p. 182.

Bathypantes zebrinus, Menge. Preuss. Spinn. i., p. 113, pl. 20, Tab. 39.

Many years ago (towards the end of Mr. Blackwall's life, and when his eyesight had greatly failed), I repeatedly received from him examples of a *Linyphia* sent to him for determination labelled *Linyphia terricola* Bl. These I could not distinguish, except by a sometimes smaller size and paler colouring, from his *Linyphia tenuis*. I submitted these examples to Dr. L. Koch, who agreed with me that they were specifically identical with *L. tenuis*, and, not possessing any of Mr. Blackwall's earlier types of *L. terricola*, we concluded that his *L. tenuis* and *L. terricola* were only varieties of the same species. Subsequently, Dr. Thorell, when preparing his work on "Synonyms of European Spiders," examined some of these examples of *L. terricola* and came to the same conclusion; his remarks and determinations, Syn. Eur. Spid., pp. 65-66, 1870, are, therefore, based on the supposition of the identity of Blackwall's two species, *L. tenuis* and *L. terricola*. M. Simon's synonymic determination, Ar. de Fr. v., p. 317, are also based on the same supposition, as likewise are those in Spid. Dorset, p. 185. Last autumn, however, while hunting over some hitherto overlooked bottles of spiders received after his decease from Mr. Blackwall's collection, I found one containing specimens in good condition labelled "*Linyphia terricola*" Bl. "*types*." They had been set apart by Mr. Blackwall from his earlier captures for the artist's use in illustrating his "Spid. Gt. Brit. and Ireland." On examining these I found them to be quite distinct

from those Mr. Blackwall (as above mentioned) had returned to me as his *L. terricola*, and in fact to be identical with a species I had (Spid. Dors., p. 182) described and recorded as *Linyphia zebrina* Menge. Whether this is really the *L. (Bathyphantes) zebrina* of Menge is another question, but that it is the true *L. terricola* of Koch I feel pretty sure, and that it is at any rate Blackwall's *L. terricola* admits of no doubt. My *L. zebrina*, therefore, now becomes a synonym of *L. terricola* Bl., and this last name (including also, as I believe, *L. terricola* C. Koch, *L. zebrina* Menge—Camb., and possibly *Bathyphantes zebrinus* Menge), will resume its place as a substantive species, distinct from *L. tenuis*, Bl. (*i.e.*, *L. tenebricola* Wid.). The Rev. F. O. P. Cambridge in distinguishing, as he does most accurately, these two species—*L. tenuis* Bl., and *L. terricola* Ann. and Mag. N. H. 1891, ser. 6, vol. vii., pp. 74, 77, pl. ii., fig. i., ii.—gives the latter as a synonym of *Bathyphantes zebrinus* Menge. This can hardly be correct, as, on the supposition that Blackwall's and Koch's *L. terricola* are identical, the name *terricola* has many years priority over *zebrinus* Menge.

A great confusion has necessarily arisen out of the above mentioned supposed identity of Blackwall's *L. terricola* and *L. tenuis*, owing to Dr. Thorell (followed by M. Simon) having based his synonymic conclusions as to these and other allied species on that supposition. At the present moment I have not the leisure to unravel the questions involved.

GEN : MICRONETA (Menge, *Neriere* Bl., ad partem.)

MICRONETA SUBLIMIS.

Neriere sublimis Cambr. Spid. Dors., p. 491, and "List of Areneidea and Phalangidea of Berwickshire and Northumberland," Proc. Berwickshire Nat. Hist. Club., vol vii., p. 314.

Microneta sublimis Cambr. F. O. P. Cambr., Ann. and Mag. N. H., 1891, ser. and vol. vii., p. 83., pl. ii., fig. vii.

Examples of this species were found by the Rev. F. O. P. Cambridge under stones on the ascent of Mount Helvellyn, in September, 1890. It had previously only been found on the Cheviot Hills.

GEN : PORRHOMMA (Sim., Neriene Bl., ad partem.)

PORRHOMMA NIGRUM.

Tmeticus niger Rev. F. O. P. Cambridge. Ann. and Mag. N.H., 1891, ser. and vol. vii., p. 80, pl. ii., fig. iv.

Examples of this fine species, new to science, were found by Rev. F. O. P. Cambridge, under stones on the top of Helvellyn, in September, 1890. It is closely allied to *Porrhomma montigena* (C. Koch), but is, I think, distinct. The minute description given by my nephew (l.c. supra), and his exceedingly accurate figures leave little to be desired, excepting that the form of the *sternum* (which is the leading character in the genus *Porrhomma* Sim.), does not terminate behind "in a broad truncate prolongation," but in a rather sharp conical point. This point, however, bends upwards towards the pedicle, which unites the thorax and abdomen, and might easily be overlooked.

GEN : OPISTOXYS (Sim., Neriene Bl., ad partem.)

OPISTOXYS SUBACUTA, sp. n., fig. 3.

Adult male, length $1\frac{3}{4}$ lines.

The whole of the anterior part of this spider is yellow, the femora and tibiæ of the legs tinged with orange. The profile of the caput and thorax forms a slight curve with a very small depression just behind the occiput. The cephalothorax is glossy, and appears to be destitute of hairs. The height of the clypeus equals half that of the facial space.

The *Eyes* are small and rather closely grouped together in two nearly concentric curved rows, all are pearl-white, excepting the fore-centrals which are dark, they are seated on black spots, the two lateral pairs on tubercles, and the eyes of each of these two pairs are contiguous to each other. The eyes of the fore-central pair are smallest and contiguous to each other, and each is separated from the hind-central eye nearest to it by a diameter's interval. The eyes of the hind-central pair are slightly nearer together than each is to its adjacent lateral eye, the interval being rather less than a diameter. The four central eyes form a small trapezoid, whose anterior side is shortest, and its posterior side longest.

The *Legs*, 1, 2, 4, 3, are moderately long, slender; the spines, short and very slender, scarcely more than bristles, one on each of the femora, except those of the first pair, which have two, and two on the tibiæ; the metatarsi have none.

The *Palpi* are of moderate length, and similar in colour to the legs, the cubital joint is short, and has a tolerably long and strong black tapering bristle near the middle of its anterior margin, the radial joint is about equal in length to the cubital, its anterior extremity is rather broad or angular, and near the middle of its upper side is furnished with some bristly hairs, mostly in a kind of fringe near its fore extremity; the digital joint is large, and has a strong lobe on the outer side of a darker yellow brown hue than the rest, its extremity is obtuse and bluff. The palpal organs are prominent and complex, with various corneous lobes, spines, and processes.

The *Maxillæ* are strong and much inclined to the *Labium*, which is very short, broad, and somewhat hollow truncate.

The *Falces* are rather long, not very strong, rather projecting, and slightly divergent at their extremities.

The *Sternum* is heart-shaped, and its hinder extremity is produced into an elongated sharp point between the coxæ of the fourth pair of legs.

The *Abdomen* is oval, glossy, moderately convex above, of a pale luteous colour, thinly clothed with coarse hairs.

A single example of this very distinct spider was found among moss in Morden Park, on the 7th of April, 1890. It appears to belong to M. Simon's genus *Opistoxys*, whose chief distinguishing character is the sharp pointed prolongation of the posterior end of the sternum.

GEN : HILAIRA (Sim., Nerienc Bl., ad partem).

HILAIRA UNCATA.

Hilaira uncata Cambr. Spid. Dors., p. 433, and Proc., Dors. N.H. and A.F. Club, 1882, vol. iv., p. 151, and 1889, vol. x., p. 132.

On the 16th of April, 1890, I found an adult female with its white lenticular cocoon, in a crevice of an old log, in a swamp on Bloxworth Heath.

GEN : NERIENE BL.

NERIENE NEFARIA.

Neriene nefaria Cambr. Spid. Dors., p. 439.

An adult female occurred among dead leaves and grass in Bere Wood, on the 2nd of October, 1889. The only previously recorded example was one of the same sex, found near Weymouth, July 2nd, 1879 (l.c. supra, but there given by mistake as a male).

GEN : WALCKENAERA (BL.)

WALCKENAERA PRATENSIS.

Walckenaera pratensis Bl., Cambr. Spid. Dors., p. 202, and Proc. Dors. N H. and A. F. Club, 1889, vol. x., p. 119.

An adult male of this spider was taken in Wicken Fen, Cambridgeshire, by the Rev. F. O. P. Cambridge, in 1889.

WALCKENAERA SAXICOLA.

Walckenaera saxicola Cambr., Spid. Dors., pp. 145—578.

Adults of both sexes of this local and rare spider were found under pieces of rock and stone, near Pennsylvannia Castle, Portland, on the 31st of May, 1890.

WALCKENAERA IGNOBILIS.

Walckenaera ignobilis Cambr., Spid. Dors., p. 155.

This, which is one of the smallest known spiders, seems also to be among the rarest. One (an adult male) was found at the roots of coarse grasses in a swamp, near Bloxworth, on the 3rd of April, 1890. In this locality I had found several just after the publication of "Spid. Dors.," about 1882, but, though frequently working the same spot, have not seen it since until April, 1890.

WALCKENAERA JUCUNDISSIMA.

Walckenaera jucundissima Cambr., Spid. Dors., p. 449.

On the 9th of November, 1889, I found again examples of this rare spider (an adult male and females) in the original locality, near Bloxworth, among moss.

FAM : EPEIRIDÆ.

GEN : EPEIRA (Walck).

EPEIRA ANGULATA, fig. 2.

Epeira angulata Clerck, Cambr., Spid. Dors. 270.

A fine example of the adult female of this spider was sent to me from Bovey Tracy, Devonshire, by Miss Lilian Gould, by whom it was found in its geometric snare in a furze bush in August, 1890. The only previously recorded localities for this species were Bloxworth and Morden Heaths, Dorset, and near Ringwood, Hants. The adult male has not yet been found in Britain.

EPEIRA SCLOPETARIA.

Epeira sclopetaria Clk. Cambr. Spiders of Dorset, p. 277.

An example of this very local species was found near Chickerell in May, 1890, by Mr. Nelson M. Richardson, of Monte Video, near Weymouth. It appears to be very scarce in this county; I have only met with it myself on one occasion (near Bloxworth) many years ago. It is abundant near Hoddesdon, Hertfordshire, and in some other parts of England.

EPEIRA PATAGIATA.

Epeira patagiata C. L. Koch. Cambr. Spid. Dors., p. 277.

During the past year (1890) this spider has been found in some abundance by my nephew (Rev. Fredk. O. P. Cambridge) in the neighbourhood of Carlisle.

FAM : THOMISIDÆ.

GEN : OXYPTILA (Sim.)

OXYPTILA SIMPLEX.

Oxyptila simplex Cambr. Spid. Dors., p. 324, and Proc. Dors. N. H. and A. F. Club, vol. vi., p. 11.

Up to May, 1890, the only known British locality for this spider has been the lawn of Bloxworth Rectory, but in May and June, 1890, it was found in some abundance, both sexes in a state of maturity, at the roots of herbage at Abbotsbury, near Weymouth.

OXYPTILA BLACKWALLII.

Oxyptila Blackwallii Sim. Cambr. Spid. Dors., p. 318.

On the 10th of May, 1890, I found several adult females under pieces of rock below the Convict Prison at Portland (where the original specimens occurred many years ago). Also on the 5th of September, 1890, a single example of the adult female occurred in a similar position near the caves at Tilly Whim, Swanage.

FAM : LYCOSIDÆ.

GEN : TARENTULA (Smel.)

TARENTULA FABRILIS.

Tarentula fabrilis Clerck. Cambr. Spid. Dors., p. 368.

This fine but very local and rare spider occurs in several parts of Bloxworth and other heaths in the neighbourhood, though in some seasons it is difficult to find a single example. The close adaptation of its black and hoary colouring to the surface of the heath soil and lichens, renders it almost impossible to see it until it moves. On the 18th of September, 1890, in company with Mr. Cecil Warburton (of Christ's Coll., Cambridge), we found several adults of both sexes in the course of an hour's work.

FAM : SALTICIDÆ.

GEN : NEON (Sim.)

NEON LEVIS.

Neon levis Sim. Aran. de France tom. iii., p. 211.

Two immature females of this spider—new to Britain—were found under pieces of rock near Pennsylvania Castle on the 31st of May, 1890, and a male, also immature, in the same locality on the 16th of July. It is very nearly allied to *Neon reticulatus* Bl. (Spid. Dors., p. 404), which it resembles in size. In its general

aspect, however, it wants the distinctly reticulated appearance so characteristic of *N. reticulatus*, and the thorax is marked by some distinct radiating black lines. The legs also are distinctly annulated with black, while those of *N. reticulatus* scarcely show any signs of annulation. According to M. Simon the male is unknown, but I refrain from giving a more minute description of the one above referred to, as the exact colours and markings are scarcely to be relied upon, excepting in the adult state, in which I hope to find it during the ensuing season.

GEN : MARPESSA (Thor.)

MARPESSA POMATIA.

Marpessa pomatia Walck. Cambr. Spid. Dors., p. 555.

An example of this fine and rare spider was found in Wicken Fen (near Cambridge), by the Rev. F. O. P. Cambridge in 1889. This is probably a fen species, and, if so, that will account for its not having been more frequently met with. Few localities have perhaps been less systematically searched for spiders than the fen district, in which, however, many new and rare species might be confidently expected to reward the collector.

LIST OF SPECIES ABOVE NOTED WITH REFERENCES TO PAGE,
PLATE, AND FIGURES.

<i>Segestria Florentina</i> , Rossi.	p. 84.
<i>Drassus pubescens</i> , Thor.	p. 84.
<i>Clubiona cærulescens</i> , L. Koch	p. 84.
<i>Agroeca inopina</i> , Cambr.	p. 85.
<i>Liocranum celans</i> , Bl.	p. 85.
„ <i>celere</i> , Cambr.	p. 85.
<i>Amaurobius fenestralis</i> , Stroem.	p. 85.
<i>Tegenaria Hibernica</i> , Cambr. sp. n.	p. 86, fig. 4.
<i>Argyroneta aquatica</i> , Clerck.	p. 87.
<i>Hahnianella elegans</i> , Bl.	p. 88.
„ <i>montana</i> , Bl.	p. 88.

<i>Teutana grossa</i> , C. L. Koch	p. 88, fig. 1.
<i>Theridion bimaculatum</i> , Linn.	p. 88.
<i>Theridiosoma argenteolum</i> , Cambr.	p. 89.
<i>Leptyphantes pinicola</i> , Sim.	p. 89.
" <i>terricola</i> , Blackw.-C. L. Koch	p. 90.
<i>Miconeta sublimis</i> , Cambr.	p. 91.
<i>Porrhomma nigrum</i> , F. O. P. Cambr.	p. 92.
<i>Opistoxys subacuta</i> , Cambr., sp. n.	p. 92, fig. 3.
<i>Hilaira uncata</i> , Cambr.	p. 93.
<i>Neriere nefaria</i> , Cambr.	p. 94.
<i>Walckenäera pratensis</i> , Bl.	p. 94.
" <i>saxicola</i> , Cambr.	p. 94.
" <i>ignobilis</i> , Cambr.	p. 94.
" <i>jucundissima</i> , Cambr.	p. 94.
<i>Epeira angulata</i> Clerck.	p. 95, fig. 2.
" <i>selopetaria</i> , Clk.	p. 95.
" <i>patagiata</i> , C. L. Koch	p. 95.
<i>Oxyptila simplex</i> , Cambr.	p. 95.
" <i>Blackwallii</i> , Sim.	p. 96.
<i>Tarentula fabrilis</i> , Clk.	p. 96.
<i>Neon levis</i> , Sim.	p. 96.
<i>Marpessa pomatia</i> , Walck.	p. 97.

DESCRIPTION OF PLATE.

- Fig. 1. *Teutana Grossa* C. L. Koch. 1a., spider natural size ; 1b., eyes, from above and behind ; 1c., genital aperture.
- Fig. 2. *Epeira angulata* Clk. 2a., spider enlarged ; 2b., ditto in profile ; 2c., profile of lower side of abdomen more enlarged ; c', tubercle near epigyne ; 2d., genital aperture with its process and characteristic tubercles d', d''.
- Fig. 3. *Opistoxys subacuta* sp. n. 3d., eyes from above and behind ; 3b., maxillæ, labium, and sternum ; 3c., portion of palpus showing form of radial joint.
- Fig. 4. *Tegenaria Hibernica* sp. n. 4a., portion of palpus, showing form of radial joint ; 4b., radial joint in another position.



New and Rare Dorset Land Shells.

By C. O. P. CAMBRIDGE.



THE following brief paper is a notice of a few rare land shells which have been found in this county since the publication of Mr. Mansel-Pleydell's paper, in volume vi. of The Dorset Field Club Proceedings. I have merely mentioned their localities and the dates of their capture, with a few notes on habitat and habits; full descriptions of the species can be found in any of the numerous works published on "British Land and Fresh-water Shells."

The first species I have to notice is *Helix Pisana*, two specimens of which I found on the borders of Muston Down, between the village of Winterbourne Kingston and Blandford. I was exceedingly surprised to find this species in such a locality, as I believe it is generally confined to sandbanks on the sea shore. These two specimens were found on a chalk bank in January, 1889; one was alive and the other dead. They were rather small and resembled the Tenby type, though with thinner bands and less distinct markings. The Tenby examples (where the species is abundant), differ considerably from those taken in Jersey, the latter being much larger, thinner, paler, and of a browner hue. I sent the two specimens to the meeting of the Conchological Society of Great Britain, held at Leeds, in January, 1890, and they were then named

Helix Pisana. I have never been able since to obtain any more specimens, though a variety of *H. virgata* occurs there which somewhat resembles them. Mr. Mansel-Pleydell mentions (on Pulteney's authority) the capture of this species on sandbanks between Lulworth and Weymouth. The next species of note is *Vertigo Moulinsiana*. I found a few specimens of this rare shell on the stem of bulrushes and other water plants in a swampy piece of ground near a large stream in the village of Morden, about four miles from Wareham. This was in August, 1889, and at the time I supposed them to be a variety of *V. antivertigo*, but at the meeting of the Conchological Society, in January, 1890, they were named as *V. Moulinsiana*. During the months of August and September, 1890, I searched carefully at the same spot, and in its immediate neighbourhood and took in all about 200 specimens, nearly all full grown. They were sitting on the stems of the water sedges and rushes, which in many places grew in six inches of water. I noticed then they did not appear to move about much. In winter the place is often quite flooded with water and the plants all die, and what becomes of the shells I do not quite know. I have been unable to find any trace of them either in winter or spring, and the only time when I can observe them is when the plants are all up and flourishing.

Mr. R. Standen, of Manchester, has kindly furnished me with the following information about *V. Moulinsiana*:—" *V. Moulinsiana* was first discovered in England, about 1876, by Mr. Groves, who found it in two localities—one in Hampshire, and the other in the neighbourhood of Hitchin, in Herefordshire, and Dr. Gwyn Jeffreys found it at Ware Priory, Herts. It has also occurred in Ireland, and was described in *Annals and Mag. Nat. Hist.* 1878, as *Vertigo Lilljeborjii* (Westerlund), but Rimmer, who saw and compared the specimens, seems to think they are all identical with *V. Moulinsiana*. These are all the British localities recorded before, and the habitats are the same, viz., marshes on reeds, &c., except that of the Irish specimen, which occurred "under stones in a damp place."

Most conchologists seem to agree in thinking that *V. Lilljeborjii* and *V. Moulinsiana* are the same, though I have never myself had an opportunity of comparing them.

Mr. Standen remarks that the specimens I sent him from Morden differ from those he has seen, resembling rather *V. Lilljeborjii*.

I have noticed that the number of denticles in the mouths of my specimens varies from four to five. During August, 1890, I found the species in two other localities, though only one specimen at each, the first at Chamberlayne's Bridges, Bere Regis, on a reed in the adjoining water-meadows, the second in the parish of Bloxworth, in a locality very similar to that at Morden, being in fact on the banks of the same stream at a different part. This latter specimen I found in company with *V. edentula*, of which I took several specimens on the grasses which grow there in the month of May, 1890. I found a few specimens of *V. edentula* under sticks and pieces of wood in marshy soil at Morden. And in August of the same year, besides those found on reeds, I took three specimens by means of a sweeping net on the leaves of hazel and willow bushes in Bere wood, parish of Bere Regis. Three other species of *Vertigo* have been taken in Dorsetshire (1), *V. pygmaea*; (2), *V. antivertigo*; (3), *V. minutissima*. Of *V. antivertigo* I have myself taken a few specimens under logs and sticks in a heath marsh at Bloxworth, during the past year (1890). Mr. E. R. Sykes, of Weymouth, took *V. minutissima* in some abundance at Portland, in the autumn of 1889, and I found a few specimens under stones there in the month of June, 1890. I also took one specimen on the opposite side of Weymouth bay, not far from Osmington Mills. Dr. Gwyn Jeffreys has taken this very local shell at Lulworth, and Mr. J. C. Mansel-Pleydell records it from Houghton Wood. *V. pygmaea* appears to be rare at Bloxworth, and in the neighbourhood, since during the past three years I have only found about six specimens, though I have searched carefully. All these were found either at the roots of grass or under stones in fields. At Weymouth, near the two-mile copse (on the Dorchester Road), I found in September, 1890, a small colony of this shell

under a heap of stones in a field, where I turned up about thirty individuals.

Besides these I have taken at Bloxworth Rectory *Balia perversa*, on a rubble wall of an outhouse facing north, and *Clausilia laminata* under logs, together with one or two specimens of the variety *albida*, which is a very beautiful object.

At the beginning of September, 1890, I found one specimen of *Acme lineata*, which has never yet been recorded as taken in Dorset. It was under a tuft of grass in a marsh at Bloxworth, and I have been unable to find another, though, owing to the red colour of the mud, exactly resembling the shell, it might easily be overlooked. It is not usually a gregarious shell, and Mr. J. W. Williams in his "Shell Collector's Hand-book," gives as its habitat "among decaying leaves and moss in damp situations." It is very local and is never found anywhere in abundance.

I append a list of land and fresh-water shells which I have myself taken in this county during the short time in which I have been collecting :—

Sphaerium corneum, Bere Regis.

„ lacustre, Almer ; Weymouth.

„ rivicola, Morden.

Pisidium amnicum, one or two specimens Bere Regis.

„ fontinale, Bloxworth.

„ pusillum, Bloxworth.

„ nitidum, one or two specimens Bere Regis.

„ roseum, ditto Bloxworth.

Unio pictorum, Morden.

Anodonta cygnea, Morden.

Neritina fluviatilis, Bere Regis.

Bythina tentaculata, Bere Regis ; Morden ; Weymouth.

Valvata piscinalis, Bere Regis ; Morden ; Weymouth ; Winterbourne Zelston.

„ cristata, one specimen, Morden.

Hydrobia ventrosa, Lodmoor, Weymouth.

Planorbis nautilus, Bloxworth ; Weymouth.

- Planorbis albus*, Bloxworth ; Bere Regis.
 „ *spirorbis*, generally distributed.
 „ *vortex*, Bere Regis, Wareham.
 „ *carinatus*, } Morden.
 „ *complanatus*, } Wareham ; Bere Regis.
 „ *corneus*, Weymouth.
 „ *contortus*, Morden ; Bere Regis ; Weymouth.
- Physa fontinalis*, Bloxworth ; Morden ; Bere Regis ; Weymouth ;
 Winterbourne Zelston.
- Limnea peregra*, generally distributed.
 „ *auricularia*, Morden.
 „ *stagnalis*, Warcham (one specimen) ; Almer.
 „ *palustris*, Winterbourne Zelston ; Bere Regis ; Morden.
 „ *truncatula*, Bloxworth ; Winterbourne ; Chickereil
 (near Weymouth) ; Morden ; Bere Regis.
 „ *glabra*, Bloxworth.
- Ancylus fluviatilis*, Bere Regis.
 „ *lacustris*, Bloxworth ; Morden.
- Testacella Maugei*, Corfe.
- Succinea putris*, } Bere Regis ; Wool.
 „ *elegans*, }
- Vitrina pellucida*, generally distributed.
- Zonites cellarius*, generally distributed.
 „ *alliaris*, Bloxworth ; Morden.
 „ *nitidulus*, generally distributed.
 „ *purus*, Bloxworth.
 „ *radiatulus*, Bloxworth.
 „ *nitidus*, Morden ; Bere Regis.
 „ *glaber* ? Bloxworth.
 „ *crystallinus*, generally distributed.
 „ *fulvus*, ditto, though not so common.
- Helix aculeata*, Bloxworth ; Weymouth.
 „ *nemoralis*, generally distributed.
 „ *arbustorum*, one specimen Bere Regis.
 „ *aspersa*, generally distributed.
 „ *rufescens*, ditto.

Helix concinna, Bloxworth.

„ *hispida*, generally distributed.

„ *sericea*, Bloxworth.

„ *fusca*, Bloxworth ; Bere Regis. I took by means of a sweeping net on underwood in Bere Wood in August and September, 1889 and 1890 ; also a few specimens on hazel in a marsh at Bloxworth.

„ *Pisana*, Winterbourne Kingston.

„ *virgata*, on downs everywhere.

„ *caperata*, ditto.

„ *ericetorum*, Blandford ; Portland.

„ *rotundata*, generally distributed.

„ *rupestris*, Portland ; Isle of Purbeck.

„ *pulchella*, Bloxworth ; Weymouth.

„ *lapicida*, Bloxworth ; Portland.

Bulimus acutus, Weymouth ; Portland.

„ *obscurus*, Bloxworth ; Weymouth ; Portland.

Pupa secale, Lulworth ; Portland.

„ *umbilicata*, on walls everywhere.

„ *marginata*, Weymouth ; Portland.

Vertigo antivertigo, Bloxworth.

„ *Mouliinsiana*, Morden ; Bloxworth ; Bere Regis.

„ *pygmaea*, Bloxworth ; Weymouth.

„ *edentula*, Bloxworth ; Morden.

„ *minutissima*, Weymouth ; Portland.

Clausilia rugosa, generally distributed.

„ *laminata*, Bloxworth.

Balia perversa, Bloxworth.*Cochlicopa lubrica*, Bloxworth.*Achatina acicula*, Portland (one specimen).*Carychium minimum*, generally distributed.*Cyclostoma elegans*, Bloxworth ; Winterbourne Kingston ;
Portland ; Bere Regis.*Acme lineata*, Bloxworth (one specimen).

Total—80 species.



The External Growth of Sherborne School.

*A Paper read before the Dorset Natural History and Antiquarian
Field Club, August 28th, 1890.*

By the Rev. Canon E. M. YOUNG, Head-Master
of Sherborne School.



HERBORNE School, as the Free Grammar School of King Edward VIth is styled in the earliest documents we possess—the “King’s School” being an appellation of comparatively recent times—was the first-born child of that goodly family of Grammar Schools, which sprang out of the religious convulsion of the 16th century, commonly known as the Reformation. Hence it may fairly claim to have been the earliest Protestant School established in the Kingdom. Whether the initiation of the great educational movement which has shed lustre upon the reign of the sixth Edward can be attributed in any degree to the prescience of the boy-king himself may fairly be questioned. In the case of Sherborne School it is more than probable that the Protector Somerset, who in 1550 was actually in possession of Sherborne Castle, furthered the petition of the inhabitants of the town and of the country round to the Crown, for the grant of the disused Chantries, from which its endowments are

derived; and in the window which we placed in our Library in 1887, as a memorial of Her Majesty's Jubilee, we have ventured to presume upon this strong probability, as though it were actual history. Our Charter, owing to the care with which for more than 300 years it was stowed away among the muniments of the Alms-house, is in singularly good preservation, and bears date May 13th, 1550. This gives us precedence over the School founded by Edward VIth at Bury St. Edmunds, which obtained its Charter in August of the same year, and that of Bruton, which was founded a few months later. We speak of the School as *re-founded* by Edward VI. The acts of the preceding reign had swept away the free schools of the Monasteries, together with the wealthy foundations which supported them; and to the serious evil, which had resulted from the destruction of the Abbey School at Sherborne, may be traced, if not the plan, at least the first step in carrying out the plan, for utilizing the endowments of such religious houses and Chantries as still survived the general wreck, for the establishment of Grammar Schools, where the principles of the reformed faith might be engrafted upon young minds, which as yet had no prejudice of their own against them, and loyalty to the Throne might be inculcated untrammelled by monastic influence. But of the School of pre-Edwardian times we have no records beyond the mention of a ruined "Schole-house," which, at the date when the letters patent were granted constituting the new School, was in the possession of Sir John Horsey, Kt., the lay impropiator of the dissolved Monastery, and the grotesquely carved miserere in the Choir of the Abbey Church, which proves that, whatever may have been the quality of the education imparted, the method of its inculcation was at least drastic. It is a common error to suppose that the Monastery Schools suppressed at the dissolution were conducted by the Monks themselves. The garb of the Scholemaster represented in the miserere is that of a secular, and, as a matter of fact, the relation of the Monasteries to the Schools supported by them was at this time, and had been for a considerable period, that of beneficent landlords employing seculars

to teach gratuitously in the Schools maintained at their cost. Indeed, it is more than probable that, at the time when the Abbey was dissolved, none of its members possessed sufficient learning even for the moderate requirements of the secular education of the day.

In letters patent, then, bearing date May 13th, 1550, the Chantries of Martock, St. Katherine in Gillingham, St. Katherine in Ilminster and Lytchett Matravers, together with the free Chapel of Thornton in the parish of Marnhull, all of them newly suppressed by a supplementary act in the first year of Edward's reign, or they would hardly have escaped the rapacity of Henry's favourites, were appointed "by the King's Majesty" for the establishment of a Free Grammar School (*Libera Schola Grammaticalis*) in the town of Sherborne; the income from which sources amounted at the time to 31 marks, or £20 13s. 4d. One mark was to be paid annually to the Crown as quit-rent, and continued to be paid for several years by the Governors, as feoffees of the King's Manor of Stalbridge. It was left to the trustees, twenty "discreet and honest inhabitants" of the Town, who are constituted a Corporation, with a common seal, "able to sue and be sued," to dispose as they thought fit of the rents and profits of the estates, to elect masters, and to frame orders, or statutes, according to the changes of time and circumstance, with the advice of the Bishop of Bristol; and the first care of the "Companie," as they style themselves in the first extant Minute-book, which dates back to 1591, must have been to give a local habitation to the School, which so far existed only in endowment and in name.

This they appear to have done by obtaining permission of Sir John Horsey to use the old "Schole-house," then in ruins, at a nominal rent of 4d. per annum, which is duly accounted for in the earliest account we possess, that of the 3rd year after the granting of the letters patent. In the following year, however, we discover from the curious "accompte" of Jarvis Ayshelee, "Warden and Receptor of the rents and revenues of the said Schole, from the ffeaste of St. Mychell the Archangell, in the ffirste yere of the

reygne of our Soverayn Ladye Qn Marye, until the said ffeaste of St. Mychell the Archangell in the firste and seconde yere of the reygne of Phillippe and Marye, by the grace of God, of Englonde, Ffraunce, Napilis, Jerusalum, and Irelonde Kyng and Quene," that they gave £40 to Sir John Horsey in part payment for this old "Schole-house and the Plumbe House, with two gardens, "whereof one is called the Abbey Lytten, with all the void ground "coming of the late Chappell called the Bow, and the Ladye "Chappell, and all the ground belonging to the said Schole-house "for the space of 99 yeres." In the next year they pay £10 more, and smaller sums in succeeding years, apparently as quit-rents; until in 1629 the property is acquired absolutely, in consideration of the payment of £12 to the trustees of one Coker, who possessed the reversion.

From an entry in the Minute-Book, bearing date June 12, 1596, it appears that this old "Schole-house," of which no trace now remains, was on the North side of the Church, probably adjoining Bishop Roger's Chapel, now the Vestry; a committee of the Governors having been appointed in that summer "to make convenient seats for the schollers in the rome adjoining Sir John Horsey's yle," which must have been a smaller room connected with, or in close proximity to it.

The premises thus acquired of Sir John Horsey formed the nucleus out of which the School, as we now see it, has been developed. Originally they included the two ruined Chapels of our Ladye and our Ladye of Bow; the grave-yard of the Monastery, which covered the ground occupied by the present entrance court to the East of the Church, and a portion of what is now the Head-Master's lawn; a ruined Dortoir, or Dormitory, of which a trace still remains in the marks of the pitch of its roof visible upon the wall of the North transept; the Schole-house already mentioned; the Plumbe-house, and the Conduit-house, then standing in the centre of the Monastery quadrangle, now the upper portion of the lawn. The site, on which the Head-Master's private dwelling stands, was occupied in part at this time by the old Priory,

subsequently converted into a Poor-house, but this was not acquired until 1749.

Upon the acquisition of these premises in 1554, the dilapidated Schole-house was pulled down, as we discover from various items in the accounts rendered yearly by the Wardens on rolls of parchment, of which we possess a large number, and a new room was erected, apparently on its site, at a cost of £10 15s. 3d., the old materials being no doubt employed in its construction. It is likely that the statue of the King, which is of Portland stone, was then first set up in the School, but of this there is no record. Five years later, in 1559, the two Ladye Chapels were converted into a residence for the Master, with the co-operation of Jewel, Bishop of Salisbury, to which See the Castle and adjoining estates had been again restored. The picturesque ornamentation of the South front was defrayed by subscription of the Trustees and others, whose initials and shields appear beneath the Arms of the King, at a cost of £3 11s. 4d.

And so things continued for nearly 50 years. But though there is no mention of any further building until the beginning of the next century, the entry of 1596, to which I have already alluded, seems to indicate that the number of scholars had begun to exceed the accommodation, and that a second room was adapted for teaching purposes.

In March, 1605, during the Mastership of Mr. Grove, it is ordered that £100 be employed in the building of a new Schole-house, by yearly provision to be made, "unless Mr. Anketell shall be compounded of his quit-rent," which last clause would seem to imply the adoption of a new site. In the following September paymasters and supervisors of the new buildings are appointed, and in February, 1606, the work is commenced, Roger Brinsmead being employed to do the mason's and John Beare (?) the carpenter's work. The sum of £37 is lent by certain of the Trustees, among whom the well-known Sherborne names of Hoddynott and Ridout figure for the first time, for the purpose of completing it.

This building was still prior, however, to the present Dining-hall, which was not erected until 1670, 63 years later. In the opinion of Dr. Harper, to whose valuable Tercentenary Address I am largely indebted, it consisted of what is now the Matron's Room, still remembered by Old Shirburnians as the Library in which Dr. Lyon taught, and the panelled Dining-room below it, now used as a Servants' Hall. Beyond it must have been erected certain buildings to serve as a brew-house and a wood-house, against which in 1642, 35 years later, "such chambers as may be conveniently raised," were ordered to be built, apparently for the use of the "Tablers," or Boarders, who had begun to be received in the Master's house. These were pulled down in 1835, during Dr. Lyon's Headmastership, to make room for what are known as the Bell Buildings.

With all deference to Dr. Harper, I am inclined to think that the portion of building now standing between the entrance of the Bell Buildings and the Dining-hall, was but an adjunct to the School-room itself, which must have been of very imperfect construction to have required rebuilding so soon. It stood, as I believe, where the Dining-hall now stands; and this idea is favoured by our discovery, four years ago, of the traces of a dial, with the date 1635 painted upon the surface of stones, which must have been used in its construction, and were subsequently built into the south wall of the new room. The soil here is spongy to a degree, and seems to have been in ancient times the bed of a water-course. Nor is it surprising that the building of 1607 should have collapsed in 60 years, if its outer wall, like that of the building of 1670, which we have recently restored, was given a foundation of only 18 inches. It was found necessary to underpin this wall in 1887 to a depth of 11 or 12 feet, before we could obtain a secure foundation.

We have now traced the material development of the School through the first century of its existence—through the age of Shakespeare and Bacon, of Cecil and Raleigh. Little indication, as is natural, of political events is recorded in the matter-of-fact

records of the "Companie." Now and then the proximity of the School to the aristocratic domain of Sherborne Castle brings the name of Sir W. Raleigh upon their minutes. Once, in 1601, they address a letter to Sir R. Cecil, acquainting him with the removal of one Master, and the appointment of another in his place, whose election they hope will prove satisfactory to the powers that be. The star of Catholic Spain pales as that of Protestant England rises, but there is no mention of an extra week's holiday for the defeat of the Armada. Raleigh is attainted and executed, and Sherborne Castle passes into the possession of the Digbys, but the School minds its own business, and betrays no consciousness of the change of patron. It is the golden age of English letters, but no culture is conceived of outside the dead languages. Science is new-born in the *Instauratio* and the *Novum Organum*, but not yet has it entered into the heart of schoolmasters that Laboratories and Museums, such as that in which we are now met, shall ere long contend with Homer and Maro for precedence in stimulating the young idea to shoot.

But with the close of the Elizabethan era a change comes over the scene. The reign of the pedant-king has prepared the way for a new attempt at despotism on the part of the Crown, and we are in the vortex of a new revolution. Even the honest and discreet "companie," who regulate the affairs of King Edward's School in Sherborne, in spite of their unquestionable loyalty, are forced to recognise the political exigencies of the time. Singularly enough it is the year 1650, the centenary year of the School's founding. Sherborne Old Castle is in the hands of the Parliamentary Forces, to which, after a gallant struggle of fourteen days, it had yielded five years before. It is a sore time for loyal Sherborne: but Hugh Hodges, Warden of the School, is true to King Charles and to his oath, and undergoes arrest rather than remove the bauble of the Royal Scutcheon over the School door, which had provoked the ire of the Parliament men. After this show of resistance a compromise is effected, and it is agreed on the 10th of August that the "Companie doe consent to get the Warden to take down the King's Arms over the School door, and at the south end of the School-house, it being

commanded and required by Captain Helyar, a captain for the Parliament, to be done." The statue of the King within the schoolroom itself is allowed, it would seem, to remain. The reticence of the Minute-book during this eventful crisis is provoking, but discretion was doubtless held to be the better part of valour. Upon the restoration, ten years later, all danger to demonstrations of loyalty is over, and in 1670 steps are taken for re-building the School-room, which is in a state of decay. But the records of this work are so meagre, except in the bare account of moneys spent, that it does not even appear whether the present Dining-Hall, which dates from this time, was a restoration and improvement upon the old building merely, or whether it was an entirely new departure. I have before stated that my own belief inclines to the former view. At any rate it was ordered that the Statue of King Edward VI.—our Palladium—the oldest solid relic of the past, which we possess—should be again set up, with the same four Latin verses beneath its feet as in the former room. The fear of Captain Helyar being now removed, it was also resolved that the King's Arms be replaced over the School door, and "washed over with oyle only, or some sad colour," as though the trustees were mindful of the Horatian precept, to preserve a temper as far removed from overweening joy in prosperity as from undue depression in adversity. At the same time the Head-Master, Mr. Goodenough, is directed to make a pair of Latin verses to set beneath them, which is the origin of the clever rebus still existing. This gives the date both of the founding of the School, 1550, and of the new building, 1670, according as the numerals are added together in pairs or singly.

*Tecta Draco Custos Leo VinDeX FLos Decus Auctor
ReX pius haec servat protegit ornat aLit.*

Six years later, Dr. Highmore, Warden, is empowered to finish the Library, now mentioned for the first time, but whether the date 1670, upon the wall of this room, is to be taken as an indication

that this and the room below it were constructed at the same time as the present Dining-hall, or whether, as Dr. Harper believes, the older School-room was now converted into these two rooms, and a new room built to the south of them, there is not sufficient evidence to show.

In 1697 another addition was made for the benefit of the Tablers; the sum of £320 9s. 6d. being expended in erecting a house at the west end of the School garden, at right angles to what is now the vestry, "containing a parlour and a wood-house, with several chambers over it for sick boys." An outbreak of small-pox, which had carried off several of the boarders, was probably the cause of this new measure. The demolition of this building is within the memory of some here present, to whom the erection of the present School-house and the extension of the lawn must seem a matter of yesterday.

No further alteration was effected for nearly 50 years, when, in 1749, the Old Priory and adjoining garden were annexed, only so much of the masonry being reserved from the hammer as was required for the wall which now extends from the boys' door to the Study Buildings.

The Bell Buildings were erected in 1835, at a cost of £1,400 odd, about a third of which sum was defrayed by Dr. Lyon himself.

The Digby Buildings date from 1851, and are due to the munificence of Edward, Earl Digby, and the surrender of a portion of his income by Dr. Harper, for the construction of the Chapel, as originally designed.

The new School-house was built in 1860, in large measure through the liberality of the late Squire, Mr. George Wingfield Digby.

In 1865 the Chapel and Crypt were extended, and in 1870 the new block of Class Rooms was added, forming the west side of the third Court, and running parallel to the School-room, which was converted into a Library between the years 1880-1884.

The Lavatories, West Cloister, School-room, Modern Schools, Gymnasium, and Sanatorium are among the more recent additions

to the School, and outside the scope of the present paper. The block of buildings, in which we are now assembled, was for many years a silk factory, occupying the site of what were once the Abbey Mills. These were purchased in 1873 of Earl Digby, and adapted for the teaching of Science, Music, Drawing, and Carpentry. Our excellent Swimming-bath dates from the same year. The actual room, in which we sit, was our Music Room until 1880, when it was fitted up for its present purpose as a Museum.

And now, ladies and gentlemen, having briefly sketched the history of the School Buildings to the present time, my task is done. The internal history of Sherborne School forms a different chapter, even more obscure, during the first two centuries of its existence, than that which I have endeavoured to lay before you. The present is scarcely a time to dwell upon the singularly chequered story ; but it is a chapter full of interest for those who would study the conditions of the development and prosperity of what I trust I may still call a great Public School. The public Schools of England are native to our soil. They have grown, some of the most famous of them, like the proverbial mustard seed, from small beginnings into great trees. The secret of this growth has not lain in great endowments, but in faith, and patience, and in the subordination of the individual to the general interest. Institutions are greater than men, and every man who is privileged to belong to an historic institution owes far more to it than he can ever hope to confer upon it. Not for individuals, not for parties, not for one generation more than for another do the Public Schools of England exist. They belong to the nation. As national trusts must they be administered, if they are to live and flourish. As nurseries of national life, pure from all self-seeking, and devoted to the highest moral, religious, and intellectual as well as physical interests of youth, must they be maintained, or the roots wither, and the curse of sterility falls at last upon the fairest growth.





Portland.

HISTORICAL NOTES : DESCENT OF MANOR, &c.

By J. MERRICK HEAD, Esq.



As a member of this club I have been asked to make a few remarks upon the objects of interest visited by them to-day in this immediate neighbourhood ; but first allow me to express on behalf of Portland the great honour you have done us by your visit to this Island, so full of historical and antiquarian

associations.

Before proceeding to remark upon Rufus Castle and the Old Church, I may mention that the earliest historical records point to Portland as having been a place of great importance.

Hoveden, vol. I., page 31, states :—

“Adelwlf igitur primo anno regni sui cum ipse adversus
“predictos hostes in una parte regni sui persisteret undique
“confluente paganorum multitudine misit Alfhard
“consulem cum parte exercitûs ad debellandum Dacos qui
“cum triginta tribus navibus apud Hamtonan appulerant
“ubi magna strage hostium patrata clarissime triumphavit.
“Misit etiam rex Adelwlf Edelhelm consulem ut pugnaret
“contra alium exercitum apud Port cum exercitu Westsexiæ.
“Cumque dui complexissent, occiso predicto consule, Daci
“Victores exteterunt.”

A.D. 837 or 839.

“Therefore Adelwlf in the first year of his reign when he
 “himself stood firmly against the aforesaid enemy in one
 “part of his Kingdom whither from all sides there was
 “a massing together of the pagan hosts, sent the Consul
 “Alfhard with part of his army that he might overthrow
 “the Dacians who with 33 ships had effected a landing
 “near Hamton where a great slaughter of the enemy
 “having taken place he triumphed brilliantly. The King
 “Adelwlf also sent the Consul Edelhelm to fight against
 “another army near Port with the army of Wessex. And
 “when the two met together in battle, the aforesaid Consul
 “having been slain, the Dacians stood forth victors.”

Previous to this it has been stated that in the reign of King Brethric, A.D. 787, Haretha came over in three ships and is supposed to have landed at Portland.

Again A.D. 982, page 66, it is further recorded that—

“Anno DCCCCLXXXII. Ad provincias Dorsetsensium
 “tres naves piratarum applicuerunt et Portland
 “devastaverunt. Civitas Lundonia igne cremata est.”

“In the year 982. To the provinces of Dorset steered three
 “ships of the pirates to land and ravaged Portland. The
 “city of London was also destroyed by fire.”

The Anglo Saxon Chronicle, page 103, confirms this A.D.
 982—

“Anno DCCCCLXXXII. In this year arrived in Dorset
 “shire three ships of Vikings and ravaged in Portland.”

The same authority, page 150, records—

“Anno MLII. (1052). In this year died Alfyfu Sunna,
 “the mother of King Edward and King Harthenut Earl
 “Godwin together with his fleet hoisted his sails and they
 “at once betook themselves to Wight and there landed
 “. . . and then they went westward until they came to
 “Portland and then they landed and did whatever harm
 “they could do.”

These matters are referred to as probably giving the reasons and showing the necessity for building the Castle which tradition has assigned to William Rufus. The circumstances point to this tradition as being probably correct, for in Anno 1142, only about 40 years later, it is recorded that Robert, Earl of Gloucester, took this Castle from King Stephen for the Empress Maud.

The Castle may have been one of those, having regard to Portland's history and particularly to turbulent times, so well described by the Monk of Peterborough in the Old English Chronicle. He says of the English Lords—

“They foreswore themselves and broke their troth, for every
 “Nobleman made him a Castle and held it against the
 “King and filled the land full of Castles. They put the
 “wretched Countryfolk to sore toil with their Castle
 “building, and when the Castles were made they filled them
 “with devils and evil men. Then they took all those that
 “they deemed had any goods, both by night and day, men
 “and women alike, and put them in prison to get their gold
 “and silver and tortured them with tortures unspeakable,
 “for never were martyrs so tortured as they were. And
 “this lasted nineteen winters while Stephen was King and
 “ever it was worse and worse.”

I can find no other direct record of it later than that of 1142. It most likely devolved with the Royal Manor of Portland, of which Her Gracious Majesty is now the Lady.

King George III. gave Rufus Castle to Governor Penn.

The following extracts from the Public Records may be here introduced in connection with the History of the Island and the Castle :—

DOMESDAY BOOK.—Dorset. Land of the King. The King holds the island which is called Portland. King Edward held it in his lifetime, &c.

TESTA DE NEVILL.—Dorset. Hundred of Sherburn. “The Prior and
“Convent of Winchester hold Portland, &c., in free alms
“of the old feoffment of the Kings of England.”

ABBREVIATIO PLACITORUM.—Pleas before the King at Westminster, &c.,
Mich. 7-8 Edw. I. “In a plea between the Lord King pltf
“and Gilbert de Clare deft are set out several heads of the
“law touching the custody of the manor of Portland which
“belongs to the Bishop of Winchester.”

CHARTER ROLLS.—42 Hen. III pars innea mem. 2. Grant to
of *inter alia*. Portland Manor and Wyke Manor near
Portland in Co. Dorset.

Do. 43 Hen. III pars innea mem. 5. Grant to Richard de Clare
Earl of Gloucester and Hertford of Portland Isle with
members, viz., Wyke, Weymouth, and Helewell in Co. Dorset.

CHARTER ROLLS.—Miscellaneous Charters and confirmations of liberties
temp. Edw. III. From the Roll made 21 Edw. III while the
King was at Calais Edmund de Rupe Edwardi and Matilda
his Wife, &c., claim liberties on behalf of the Earl of
Gloucester in *inter alia* Wyke, Portland,
Weymouth market, and Heselwell in Co. Dorset.

ABBREVIATIO ROTULORUM ORIGINALIUM.—Mandate to Sheriff of
Dorset to seize into the hands of the King the manors of
Wyke and Portland, &c., 17 Edw. I.

Do. Grant restoring to Johanna Countess of Gloucester &
Hertford All lands lately seized into the King's Hands except
lands and tenements in the Isle of Portland. 25 Edw. I.

Do. Grant of custody of Manors of Portland and Wyke, &c., to
Richard Lovell, 8 Edw. II.

Do. Mandate to Richard Lovell regarding the Manors of Portland
& Wyke, &c., 10 Edw. II.

Do. Mandate to Richard Lovell concerning same Manors.
10 Edw. II.

INQUISITION POST MORTEM.—24 Edw. I. Gilbert de Clare Earl of
Gloucester & Hertford seized
of Wyke Manor surveyed }
Portland Manor surveyed } in Co. Dorset.
&c. &c. }

INQUISITION POST MORTEM.—35 Edw. I. Johanna wife of Gilbert de
Clare Earl of Gloucester, &c., seized of
Portland Manor surveyed }
Wyke Manor surveyed } in Co. Dorset.
&c. &c. }

- INQUISITION POST MORTEM.—8 Edw. II. Gilbert de Clare Earl of Gloucester & Hertford seized of
 Portland Manor surveyed }
 Wyke Manor surveyed } in Co. Dorset.
 &c. &c.
- INQUISITION POST MORTEM.—34 Edw. III. Elizabeth de Burgo wife of Theobald de Verdon seized of
 Wyke Manor }
 Portland Manor } in Co. Dorset.
 &c. &c.
- INQUISITION POST MORTEM.—43 Edw. III. Lionel Duke of Clarence & Elizabeth his Wife seized of
 Wyke Manor }
 Portland Manor } in Co. Dorset.
 &c. &c.
- INQUISITION POST MORTEM.—22 Ric. II. Roger de Morton Mari Earl of March seized of
 Wyke Manor }
 Portland Manor } in Co. Dorset.
 &c. &c.
- INQUISITION POST MORTEM.—3 Hen. VI. Edmund de Morton Mari Earl of March seized of
 Wyke Manor }
 Portland Isle, messuages, lands, &c. } in Co. Dorset.
- INQUISITION POST MORTEM.—Inquisitions of various years of the reign of King Henry VI. substitute a Henry Russell, for the Guild of St George in Weymouth
 Messuages, lands, &c., in }
 Portland and Wyke Regis, &c. } Co. Dorset.
- INQUISITION POST MORTEM.—Inquisitions *temp.* Edw. I., 7 Edw I., For the Bishop of Winchester
 Portland Manor }
 Wyke Manor } Co. Dorset.
- INQUISITION AD QUOD DAMNUM.—27-33 Hen. VI. Henry Russell of Weymouth Grant to Guild of St. George, Weymouth, of Messuages, lands, &c., in
 Portland and }
 Wyke Regis } Co. Dorset.
- ROLLS OF PARLIAMENT.—11 Henry VII. Manor of Portland confirmed to the Queen though expressed in a former Grant as being in Co. of Somerset.

PROCEEDINGS IN CHANCERY.—*Temp.* Elizabeth. Wm. Gardine pltf v Robert Well and Thomas Benvile defts. To obtain possession of divers land and tenements within the Manor or Isle of Portland which descends to pltf from his late father. Custom stated respecting the determining suits arising in the said island within the court there and not elsewhere.

IBID.—Bennett Jackman (single woman) pltf v Richard Knight and Roger Knight defts. Claim as heir. Eight acres of land in the Isle of Portland late the estate of John Jackman deceased being of the tenure of gavelkind.*

EXCHEQUER DEPOSITIONS.—Dorset 15 and 16 Eliz. Mich. The Queen pltf (Deft not named) concerning Manor of Portland and the demesnes of same.

EXCHEQUER DEPOSITIONS.—Dorset. Hil. 21 Eliz. The Queen by Hen. Howman Pltf v Robert Gardner Knt. and Wm. Gonynges Defts. As to Manor of Portland and customs of the Manor.

EXCHEQUER DEPOSITIONS.—Dors. Trin. 5 and 6 Geo I. Robert Andrews and Agnes his wife pltf v Augustin White and others defts. Manor of Portland (Dorset) and closes of land in the village of Weston in the Isle of Portland. Custom or usage in said manor of making a church or free-church-gift of customary lands, &c.†

EXCHEQUER COMMISSIONS.—Book of Commissions. Hilary 21 Eliz. Portland Isle, Dorset. Commission to enquire of certain articles touching lands in the aforesaid Isle.

MEMORANDA ROLL.—Lord Treasurer's Remembrances. Inquisition touching certain lands in the Isle of Portland in the County of Dorset. Hilary Commissions of Charles I.

PARLIAMENTARY SURVEYS.—Dorsetshire.

No. 12. The Manor of Portland with the rights, members, and appurtenances. Oct. 1650.

No. 13. Escheated lands in the Parish of Portland with the rights, members, and appurtenances. October 1650.

PRIVY SEAL DOCKETS AND WARRANTS.—Portland Isle.

* This shows that the custom of gavelkind prevails in this Island, as in Kent.

† This peculiar custom exists as follows—viz, that the Vendor or Transferrer of property attends at the parish church and in the presence of two witnesses signs the document.

Nov. 29, 1708 } Confirmation of a Warrant of Nov. 3 granting to
 MSS. Harl : 73, 48 } inhabitants of Isle of Portland 12d. for every ton of
 7 Anne } stone dug in the Commons in the Island (excepting
 stone taken for King's use by Warrant of Surveyor,
 Works). Power to inhabitants to dig stone according
 to ancient custom. Out of every 12d. 9d. to be held
 by Trustees for inhabitants during Queen's life, the
 3d. remaining to be accounted for in manner
 accustomed.

With reference to the general Historical matters connected with
 Portland—Rufus Castle and the Old Church—I may quote the
 following extract from Leland's Itinerary, *temp.* Queen Elizabeth
 (vol. 3, 2nd edition, 66-7)—

“Portland hath bene of anncient tyme be al likelihood
 “environed with the se and yet berith the name of an isle.
 “It is eminent and hilly ground on the shore of it and a
 “great plain yn the middle of it. The cumpace of it is
 “counted to be about 7 miles. . . . There is a castelet
 “or pile not far from the streate and is set on a high roche
 “hard by the se cliffes a little above the est end of the
 “Chirch. The Paroche Chirch that is but one at this
 “tyme in the isle is large and somewhet low builded in the
 “hangging rootes of an hille by the shore. The Chirch
 “and Paroche is about a mile dem. to go the next way to it
 “from the Kinges New Castelle in the Isle. . . . sum
 “say that in tymes past ther was a nother Paroche Chirch
 “in the Isle but I there lerned no certente of it. There be
 “very few or utterly no trees in the isle saving the elmes
 “about the Chirch. Ther wold grow more if they were
 “ther planted yet the isle is very bleak. . . . The
 “personage sette in the High Streat is the best building in
 “the Isle. The Bishop of Winchester is the Patrone of the
 “Chirch. The isle is the Kynges.

Coker, in his particular account of the Historie of Dorset
 published 1732, gives the following :—

“On the south point stands the onlie Church soe near the
 “sea, that for safetic of it they have beene forced to wall

“ the Church Yarde Banks almost of an incredible height,
 “ soe that it even afrighte one to look downe. Neare the
 “ Church but at least fiftie steppes of stone above it stands
 “ the walls of the olde Castelle, for scite before the
 “ invention of Ordnance, in man’s judgment impregnable ;
 “ yet was it both forced and wonne by Robert Earle of
 “ Gloucester, base brother to Maude the Empress and in
 “ her behalfe, what time shee waged Warre with King
 “ Stephen for her right. At this place in the year 1588
 “ the Spaniards with there supposed invincible Armie
 “ shewed to land ; but being prevented by the English
 “ between them there begun in the sight of a’l the Coast
 “ such a fight that they were forced to acknowledge their
 “ Armie vincible and to shift for themselves, though many
 “ hundreds of them came short home and two of their great
 “ shippes brought into Weymouth.

“ Portland hath plentie of excellent Quarries of stone that
 “ for solidnesse and durableness it is transported into
 “ London and that in great plentie. Sithence it pleased the
 “ King Anno 1610 by the advice of his Architecturers to
 “ make choice of Portland stone for the re-edifieing of his
 “ Banquetting House at Whitehall.

“ Concerning the name controversie hath arisen, some
 “ thinkeing it took name by reasons of the scite opposite
 “ to the Port of Weymouth, which opinion I cannot but
 “ reject. In that I believe it had to name *Portland* before
 “ the other had anie being. And therefore I will content
 “ my selfe with the opinion of the judicious Cambden,
 “ which is that it took name from one *Port*, a noble Saxon
 “ who in the yeare of our Salvation 703 arriveing there,
 “ much infested and annoyed these Coasts. After in the
 “ declineing age of Saxon’s Empire, Portland felt often the
 “ violent and furious rage of the Danes, who when they
 “ came as Scoutes Anno 783 to discover the goodness of

“the land and good places for landeing as also what
 “resistance the Inhabitants could make haveing then but
 “onlie 3 shippes in their companie touched first of all at
 “this Island whence (either for want of good landeing
 “which is most likelie for there is none, or beeing driven
 “by the inhabitants) they retired to Tingmouth in Devon.”

Hutchins, in his History of Dorset, states :—

“THE CASTLE.

“But little mortar or cement has been used in the
 “construction of the walls which are roughly built of native
 “Ashlar. Three of the sides are considerably larger than
 “the two others. On that next the Cliff are no openings,
 “which shew that it was originally constructed on the edge
 “of the Cliff. On the opposite side are two openings of
 “about 10 feet in height from the cills to the apex of the
 “pointed arches which are splayed internally to a width of
 “about 8 feet narrowing to about eighteen inches, but there
 “is no slit externally to represent the splay but about 5
 “feet from the cill a square stone is inserted with a hole
 “about 8 inches in diameter in the centre. There are four
 “other openings in the face towards the East and a smaller
 “one over a gateway in the narrow north-east face.
 “Exteriorly at the angles and in the middle of each of the
 “two principal faces exposed to assault are large Corbels*
 “formed of three stones projecting outwardly beyond each
 “other which probably formed the support of an over-
 “hanging gallery from which an enemy approaching the
 “walls could be advantageously annoyed with missiles.
 “These Corbels* are in groups of three close together.”

In Grose's Antiquities it is mentioned—

PORTLAND OLD CASTLE, DORSETSHIRE.

“This building which stands a little to the Eastward of
 “the Old Church and fifty steps of stone above it appears

* Query, Machicolations.

“to have been the keep of the Castle—it seems very
 “ancient—its figure a Pentagon—on its top are several
 “Machicolations and loop holes. The foundation of it was
 “much above the top of the tower of the Church and it
 “must have been almost impregnable before the Invention
 “of Ordnance. It is vulgarly called Bowe and Arrow
 “Castle and the Castle of Rufus probably from a supposition
 “or some tradition that it was built by that King. Anno
 “1142 it was taken by Robert Earl of Gloucester from King
 “Stephen for the Empress Maud.”

Referring to the description of the Castle given by the authorities, the wall on the south side has now disappeared, and the entrance which formerly existed is now represented by the present archway.

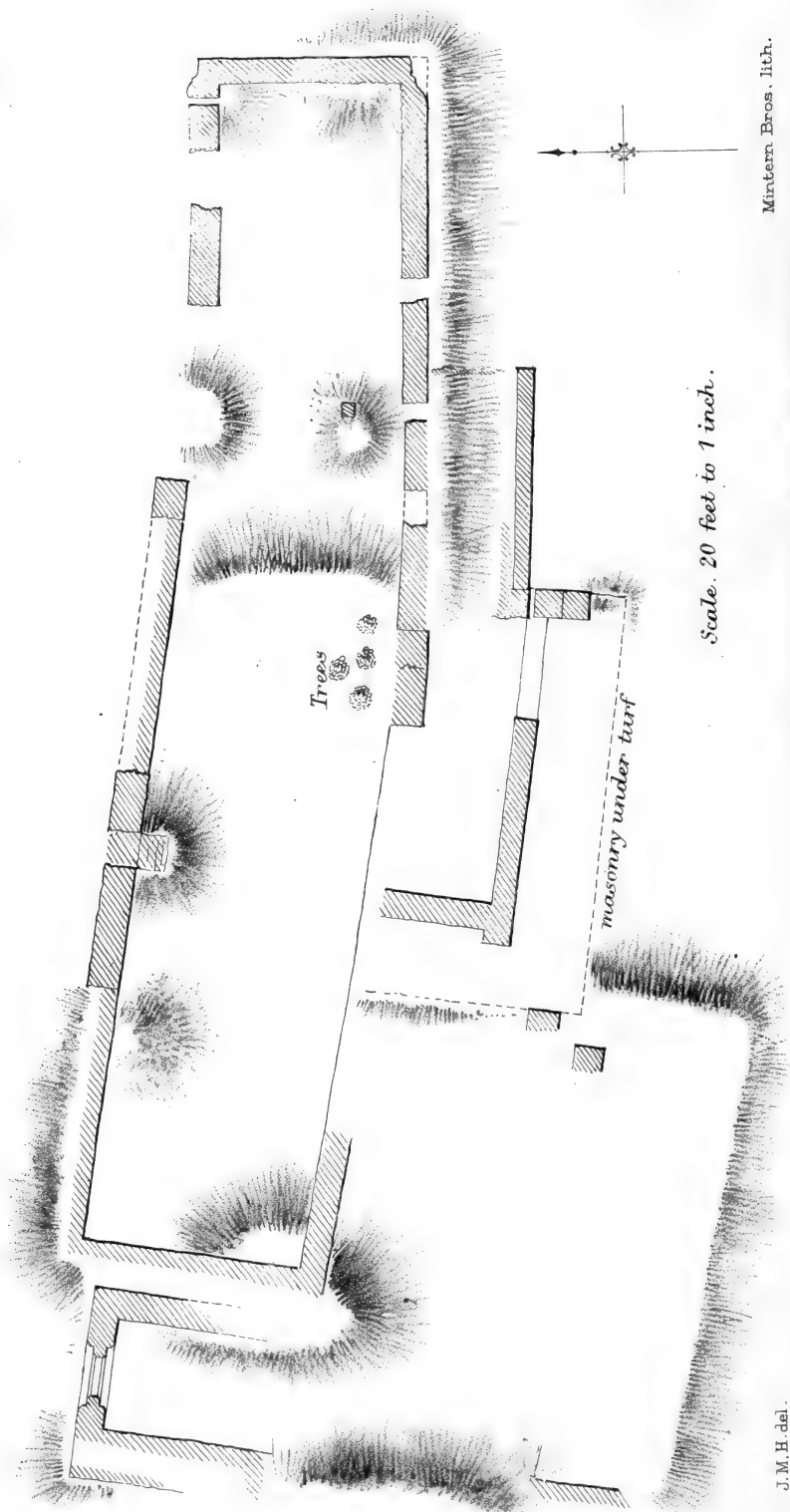
No trace remains of the “steppes of stone” referred to in Grose’s *Antiquities and Coker’s Dorset*.

As to the extent of the Castle we have no evidence, but I may here refer to the name of the field adjoining the Castle known as Castle “Hays.” The word “Hays” probably means an enclosure, and is identical with the Haha fence. A view of the Castle as it existed in 1756 is still extant (see Grose’s *Antiquities*).

THE CHURCH.

Hutchins, in his *History of Dorset*, gives the following description of the Church :—

“Dedicated to St. Andrew 1475 was a large, ancient, but
 “rude fabric situated at the southern extremity of the
 “Island, so near that, to preserve encroachments, the
 “Islanders were obliged to wall the banks to an incredible
 “height. At the time of taking the Nona Inquisitiones in
 “the Reign of Edward III. it appears to have been burnt
 “and destroyed by the enemy. It consisted of a Chancel
 “and body very low and tiled which seemed to have been
 “built at different times. The tower was plain and
 “moderately high, but had no bell in it and was detached
 “near a yard from the body. The inconveniency of its



Troops

masonry under turf

Scale. 20 feet to 1 inch.

Mintern Bros. lith.

J. M. H. del.

GROUND PLAN OF THE RUINED CHURCH OR CHURCHES OF ST. ANDREW, PORTLAND.

“situation was owing to a pretended want of depth elsewhere. The Churchyard being made ground gave rise to a tradition that it was anciently in the centre of the Island which extended to ‘The Shambles.’”

An examination of the ruins appears to disclose the existence of the earlier Church, and that the present ruined Church was built within the scite of the older building.*

That the former Church existed on the same spot is most probable, and for obvious reasons, and the gravestones in the churchyard tend to confirm this view. From the shape and general description, some of them appear to be of the 12th century. On close examination one of them shows traces of a floriated cross upon the face of it, and on another there is a plain cross.

The Rectors of the Church of St. Andrew date from A.D. 1302, of whom a List is appended down to the induction of Dr. Henchman, in 1641, who is the person referred to in Grose's Antiquities.

Patrons.

Rectors.

The Bishop of Winton	John Golde de Warham pbr non May
The King; the Bishopric of Winton being vacant	1302 instituted by Henry, Rector of Swanich his Proxy
The Bishop of Winton	William le Blound clerk, on the death of Golde, instituted 19th July 1324
	Nicholas de Keinvent presented to this Parochial Church of St. Andrew, instituted 4 non February 1324
	William de Herwyton clerk on the resignation of Keinvent, instituted 30 November 1336
	John Petit clerk, instituted 35 November 1339

* I have made a ground plan which accompanies this paper.

Peter de Inkpene pbr on cesser or resignation of Petyt, instituted 15 February 1340

Philip Weston rector of Churchton on the resignation of Inkpenne Canon of Whorwel and prebend of Middleton Diocese Winton, instituted 5 August 1346

Exchanged with

Edward Chamberlyn rector of Draxthorp, Diocese Lincoln, instituted 3 February 1346

Exchanged with

John Fordinghey rector of Berlee, Diocess London, instituted 20 May 1365

John Stynkele, instituted 20 July, 1392

John Bernard Chaplain on the resignation of Stynkele, instituted 29 January 1396

Walter Lambarde rector of Hurst-Monceaux, instituted 6 November 1400

Exchanged with

John Roland Rector of Crekelade, instituted 14 November 1402.

Thomas Morton Clerk on Resignation of Roland, instituted 19 November 1423.

William Whithing or Whillying
Chaplain, instituted 20 December
1414.

Thomas Salthowe, pbr. on the
dismission of Whilying, instituted
16 January 1441.

Robert Alston, Chaplain, instituted
18 December 1473.

Exchanged with
William Osgodby, rector of Castleford,
Diocese York, instituted to the
Church St. Andrew 13 February
1475.

Exchanged with
Richard Jeffray, rector of Codford St.
Peter, instituted 14 February 1476.

Owen Watson

John Newman, pbr. M.A. on the
death of Watson, instituted 27 August
1533.

Thomas Gowlde, instituted 1550.

Evan Green, instituted 1570, died
1578.

Thomas Stoodleigh, instituted 9
January 1598.

Humphrey Henchman D.D. in 1641.
He was sequestered and paid £200 for
his composition.

I have left off here, as it did not appear interesting to continue the list to a later date.

An old drawing of the Church is shown in the "Gentleman's Magazine" of 1799, vol. 69, part I.

THE CHURCHYARD.

The Churchyard, which adjoins the Church on the south and east sides, contains the following Gravestones and Tombstones. The inscriptions are given so far as they can be deciphered :—

Three Gravestones before referred to apparently of the XII. century.

Tombstones to

Attwooll who died 11th of August Anno Domino 1670.

To Abel Flew who was buried October 25 A.D. 1676.

In life I wroath in stone
 Now life is gone I know
 I shal be raised
 By a stone and B
 Shuch a stone as giveth
 Living Breath and Saveth
 The Righteous from the
 Second death.

To Agnes Attwooll who was buried December 18 A.D. 1674.

To Robert Mitchell who departed this life ye 9th day of May,
 1680. Etatis suæ 63.

To Robert Pitt who deceased the 20th day of January A.D. 1690.

To Julan the wife of Robert Biett who departed this life the
 2nd May 1691.

To Mary Ferly who departed this life ye 10 day of March 1692
 aged 24 years.

To John Flew who died August ye 15th 1698 also of Grace his
 wife who died July 11th, 1740. Aged 89 years.

To Elizabeth Gilbert who died 16 August 1720.

To M. P. 1729.

To Robert Chiles who died 15 June 1733.

To B. S. 1741.

To John Stone who died in the year 1744.

To Henry Hellar.

To Andrew Stone who died 30 July 1764.

To M. M. 1760.

To Edward Pearce, Superintendent of His Majesty's Quarries in
Portland who died 12 June 1745. Aged 58 years.

To Lucretia wife of William Andrews who departed this life ye
5 April A.D. 1710.

To Abell son of Robert and Alese Pearce who died July 25
A.D. 1737.

“ Grieve not for me nor-be sad,
The shorter time I lived the fewer sins I had.”

To Susannah the daughter of Silas and Elizabeth Comben who
died ye 25 June 1737. Aged 31 years.

“ My friends and lover left behind
“ I pray for me no longer weep
“ I am espoused to Christ in
“ Heaven with God my
“ Marriage day to keep.

To William Attwooll died 1717.

To Sarah Flew died December A.D. 1729.

To Philip Durenth A.D. 1713.

To John Ayles who died 3 June 1723.

To M. M. 1760.

It would appear that no burials have taken place in this Church-
yard for upwards of 120 years.

The names of Attwooll, Flew, Pitt, Stone, Pearce, Andrews, and
Comben are still common in the Island.

THE VICAR'S HOUSE, PORTLAND.

It may not be out of place to refer to the ancient Vicar's House,
Portland. Grose in his Antiquities states :—

“It is pretended to have been the Parsonage House and although the living is a Rectory, is vulgarly called the Vicarage House. The Inhabitants know little about it but have a tradition that it was a fine place demolished in the last Civil Wars. It appears that Humphrey Henchman who was inducted into the Rectory 1641 A.D. was sequestered and paid £200 for his composition and that in 1643 one Henry Way was appointed to succeed him.”

“From the form of what remains of this Edifice it is more than probable it was an Oratory or small Chapel and as such might be a particular object of the rage of the Puritans among whom the demolishing a building of that kind was held a work extremely meritorious.”

The following is an extract from the Parish Book “Portland Island Ancient Records” :—

“To say one Personage House in the villidge of Wakem. Demolished and burnt down by the usurper Oliver Cromwell, and hant been rebuilded every since.”

CHURCH LANDS.

9 Edward VI. Eight acres of land in Brochhampton, in Portland, were held by Humphrey, Earl of Devon, of the Abbot of Abbotsbury.

Anno incerto, Henry VI. lands here were given to the Guild of St. George in Waymouth, which seem 2 Edward VI. to be granted to Richard Randal.

37 Henry VII. lands here belonging to Abbotsbury Abbey were granted to John Broxholm, &c.

TITHES.

The following is an extract from the Parish Book of Portland :—

The Hay put up in small Cocks, the person or proctor take the Tenth Cock. The Wheat are put in strait lines and the person or proctor take the Tenth Shive.

Barley and other Grain put up in Cocks or Shives takes the Tiths in the same manner.

Calfs sold, the person or procter take the Tenth penny soe sold.

Calfs killed by the owner, the person or procter has the left shoulder of the same.

Lambs are always Tithed. The owner first makes choice of two Lambs, if they have seven Lambs, the person or procter takes the Tenth Lambs, and if it soe happen there should be any odd lambs, the owner thereof is to pay the person or procter one half-penny each.

As to Henns—The person or persons that keep the same. The person or procter takes a egg for every henn and two for a cock, and collected on Good Friday.

As to Cows—The person or procter receive for every Cow one penny, what is called Cow wit, and yearly collected.

As to Fish—The person has the tithe of Fish drawn on Shoare.

As to Gardens—Every one pays. Each if larger, more, and this is generly collected on Good Friday yearly.

Easter offerings and other oblations paid by every parishioner, this allsoe is a ancient costume and collected yearly.

As to Wool of the Sheep the person or procter has the Tenth thereof.

Lambs Wool never Tithable.

If Sheep are sold with the Wooll on there backs before shorn to pay the person or procter twopence each sheep soe sold.

In submitting these observations for the consideration of the Society, it may be mentioned that they are principally based upon well known authorities; and however imperfectly they may have been presented to you, it is hoped that it has been clearly shown that Portland has an ancient history, and that it is not unworthy of the County of Dorset.





Rooks Planting Acorns.

By the Rev. O. PICKARD-CAMBRIDGE, M.A., F.R.S.,
C.M.Z.S., &c., &c.



IT will be in the recollection of some now present that I read some notes at a former meeting of our Club upon * Squirrels burying acorns in Autumn, and I observed that one season, subsequently, there sprung up numerous young oak trees where the burying had taken-place. Talking over this afterwards with my friend, Mr. Harting (Secretary of the Linnæan Society and well known as an ornithologist and general Naturalist), he mentioned to me a paper he had come across, written nearly two centuries ago, in which a very similar account was given of an extensive sepulture of acorns by *Rooks*. Mr. Harting has since very kindly sent me a copy of that much of the paper referred to which relates to this subject. The paper is entitled "An Essay towards a Natural History of Westmoreland and Cumberland, by Thomas Robinson, Rector of Ouseby, 8vo., London, 1709."

It is as follows :—

"About 25 years ago coming home from Rose Castle, early in the morning, I observed a great number of crows [*Rooks*] very busy at their work upon a declining ground of a mossy surface. I went out of my way on purpose to view their labour, and I found

* See Vol. xi., p. 27.

“they were planting a grove of oaks. The manner of their planting was thus : They first made little holes in the earth with their bills, going about and about until the hole was deep enough, and then they dropped in the acorn and covered it with earth and moss. This young plantation is now (1709) growing up to a thick grove of oaks fit for use, and of height for the crows to build their nests in. I told it to the owner of the ground, who observed them spring up and took care to secure their growth and rising. The season was the latter end of Autumn when all seeds were full ripe.” I have never seen the work from which this extract was made, and consequently do not know anything of the Author’s general ideas on Natural History or his tendency of thought, but Mr. Harting, who is well acquainted with it, appears to assume that the Author considered that the Rooks were moved by a conscious intention to provide a future grove for building their nests on that barren spot. I suppose that this “post hoc, propter hoc” argument will scarcely need remark or refutation in these days. But it would probably have appeared to be the height of absurdity to the 18th century observer to have suggested the simple idea that the Rooks were only following the very ordinary instinct of concealing the superabundant food which their immediate necessities did not require. This, however (just as in the case of the Squirrels), was, it appears to me, no doubt the fact. I have not myself actually seen Rooks burying acorns, but along side of our oak woods at Bloxworth the *heath* district extends ; and over this heath district, to the extent of half-a-mile, at least, in width, there spring up annually numerous young seedling oaks among the short stunted furze and heather. This has been so for generations past, so much so that a bare heather hill (on which may now often be seen many little seedling oaks from the previous year’s acorns) has borne, from time immemorial, and still bears, the name of *Oak-hill*. The soil here, and generally along this heath district, is such as to give no chance of the oak seedling ever growing up to anything larger than a mere bush, even supposing they escaped, which they seldom do, for even one year, the nibbling off by cattle, and especially by

the numerous rabbits infesting the locality. Once now and then, however, a plant does escape, being encouraged, perhaps, by an isolated spot of more fertile soil, or the generous protection of a furze or bramble bush, and grows up to a tree. These, however, are not numerous. Only one such exists in the district I have mentioned, and it has also from time immemorial gone by the name of "the" Oak Tree. This tree is now in a state of rapid decay owing to the gradual encroachment of the bog close by, which has turned its site into a swamp. The *bog* also has always been called "The Oak Tree Bog," but has lately, among ourselves, obtained the name of the *Paludum* bog, owing to its having been the spot where an exceedingly rare lepidopterous insect, *Pteropherus paludum*, was rediscovered a few years ago by one of my sons. (See Proc. D.N.H. & A.F. Club, vol. viii., p. 57.)

I have above observed that I have never seen Rooks actually burying acorns in this locality, but I have constantly seen them flying to fro there, both in Autumn and during winter, and I feel no doubt whatever but that they are the agents in the planting of those acorns which spring up thus yearly so far from the trees bearing them. It is too far for the agency of *Squirrels*, and still more so for that of *Mice*. Doubtless the Rooks do find and regale themselves in winter time, when hard pressed by frost binding up the fallows, on the *acorns* buried in the more sandy soil protected from freezing by the furze and short heather; but I imagine that nearly always the larger proportion escape, and if the soil were suitable and protection given from cattle and rabbits, oak groves would be found in after years just as our friend, the Rev. Thos. Robinson, found one growing up 200 years ago in Cumberland.





Roman Fortification, with special reference to the Roman Defences of Dorchester.

By the Rev. W. MILES BARNES.



IN studying Roman fortification two books will be found of infinite value ; the first the "Architectura" of Vitruvius, the second the "Epitoma rei militaris" of Flavius Vegetius Renatus. Neither of these works is printed in England, and the second seems to be very little known. When Vegetius wrote events were foreshadowing the fall of Rome, the Roman army and the Roman military institutions were already becoming disorganised, and the object of his book was to urge their reconstruction and the restoration of the ancient discipline. To such an extent had discipline been relaxed that the Romans had ceased even to entrench their standing camps, and they had met with disaster in consequence.* Even enquiries were no longer made after the customs which had formerly prevailed, and had been so long neglected. Yet though the ancient discipline was no longer maintained, it was by no means impossible to recover it ; in former ages the art of war, often

* *Dicat aliquis : Multi anni sunt, quibus nullus fossa aggere valloque mansurum circumdat exercitum. Respondebitur : Si fuisset ista cautela, nihil nocturni aut diurni superventus hostium nocere potuissent* (Lib. iii. c. 10.)

neglected and forgotten, had been as often recovered from books.* Vegetius hoped his treatise on military institutions might be means of reviving it again. He evidently wrote with that object in view; he proposed no novelties; he explained and urged the adoption of the ancient methods, which had been proved in past ages, and had the recommendation of the highest military authorities of those ages. If this is borne in mind, the peculiar value of the two books to us in our investigations about the walls of Dorchester will be perceived.

Vitruvius, who had been an engineer officer in the army of Julius Cæsar, wrote his book about B.C. 25. Vegetius dedicated his treatise to the Emperor Valentinian; it must in consequence have been written about A.D. 370. In points, therefore, on which Vitruvius and Vegetius are in accord we have practically an unbroken chain of evidence as to the manner in which the Romans fortified their towns between the years B.C. 25 and A.D. 370, and if, on examining the Roman works about Dorchester, we find they do not accord with the descriptions given by both these writers, we must conclude that either from the nature of the soil, or from some other peculiarity, it was not advisable to carry out the fortifications in the usual way; or that the walls here were originally built in accordance with the general rules of Roman fortification, but that the details, which do not now appear, have been destroyed at some subsequent period.

At first sight it might be thought that Dorchester was the site of a camp constructed by Vespasian when he subdued the Britons who lived in these parts, and that in later years the ditch was deepened and a wall built upon the rampart in the place of the palisade; and, thus strengthened, the spot was adopted as a site for the town Durnovaria.

* *Haec ex usu librisque antea servabantur, sed omissa diu nemo quaesivit, qui vigentibus pacis officiis procul aberat necessitas belli. Sed ne impossibile videatur reparari disciplinam, cujus usus intercidit, doceamur exemplis. Apud veteres ars militaris in oblivionem saepius venit, sed prius a libris repetita est, postea ducum auctoritate firmata (Lib. iii. c. 10.)*

Now in the first place we do not know that Vespasian found it necessary to construct a camp here at all ; if he did it would not in all probability be of a more formidable character than the Roman camp commonly was. According to Vegetius, when the danger was not imminent a camp was entrenched in this way ; a slight ditch was carried round the whole circuit only 9ft. broad and 7ft. deep ; with the turf taken from it a breastwork 3ft. high was formed within the ditch ; when there was reason to fear an attack by the enemy, the camp was surrounded by a regular ditch 12ft. broad and 9ft. deep. A parapet four feet in height was then raised on the side next the camp, with hurdles and fascines properly covered and secured by the earth taken out of the ditch ; the height of the entrenchment was thus 13ft. On the top of the whole strong palisades, which the soldiers carried with them for the purpose, were planted. Spades, pickaxes, wicker baskets, and tools of all kinds were carried by the army for the purpose. (Vegetius "Epitoma rei militaris" Lib. I. cap. 24).

A second difficulty is the irregular form of the space included within the rampart which surrounded Dorchester. Roman camps were not always parallelograms, but they were generally of regular form. "The form of the camp," says Vegetius, "must be determined by the nature of the country, in conformity to which they must be rectangular, triangular, or oval." The common form was the rectangle, and there was no reason, with the choice of ground before them, that the Romans (if they had a camp on this spot) should have formed it otherwise. One can scarcely imagine a more orderly and symmetrical arrangement than was to be found in the plan of a Roman camp. When the camp was marked out and the troops marched upon the ground every centurion could march his century straight to the spot it was to occupy ; but how could he do this in a camp with four unequal sides, in which the troops on one side of the pretorian street must be arranged differently to the troops on the other side, and especially if the form of the camp was changed day after day ? A third, and it seems to me conclusive, proof that the ramparts surrounding Dorset did not previously

encircle a camp is this—on calculating the area within the ramparts it will be found that a camp of this size would accommodate more than four legions with their auxiliaries (1) and Vespasian only had one. On the other hand the plan of a Roman town was rarely rectangular. Vitruvius recommends that it shall not be square, nor formed with projecting angles, but polygonal (*circumitionibus*) that the enemy may be seen from more places; for a part in which angles project is not easily defended because the angle protects the enemy more than the citizen (“*Architectura*” Lib. I. cap. 5.) In passing we may remark that the plan of the interesting Roman town of Silchester, which is now being excavated, was polygonal as recommended by Vitruvius. Vegetius bears similar testimony.

Let us see what was the nature of the fortifications which surrounded Dorchester. We must, however, first understand how cities were built at the time when Dorchester became a Roman possession that we may have some standard with which we can compare the works we shall find here.

The first consideration when a new town was to be laid out was the situation, and next the convenience and healthiness of the spot proposed; in these respects the Romans were most careful in the selection of their sites both for camps and town. Vitruvius devotes a chapter (Lib. II. cap. 4) to these points alone, whilst Vegetius lays additional stress on the importance of choosing a site naturally strong (Lib. IV. cap. 1). In these respects Dorchester conforms to the old Roman traditions; no stronger position than the town occupies could have been found in the neighbourhood; its healthiness is proverbial, and it is conveniently situated for water just above the Frome.

When the site was determined, the next point to be settled was the size of the proposed town and the plan of the walls. The buildings and streets were an after consideration. It is a misfortune that no exact plan of the Roman walls exists. It is said to have

(1) According to the system of castramentation which was practised about this time it has been computed that one thousand men would occupy 13,027 superficial feet (English).

been ruined for defensive purposes by the Danes, but considerable portions of it, and we may assume the whole of the foundations, remained up to comparatively recent times. On Speed's map, which was published in 1610, the foundations of the whole of the walls are figured, and I understand Dr. Stukeley to say that in his time the foundation of the wall could be traced. Since then most of the wall has been destroyed. In 1764 85 feet of it was pulled down and only 77 feet left standing. In the summer of 1802 another portion of the old wall was removed, and now little more than a fragment remains.

As to the manner in which walls of fortified towns were built we have the clearest evidence. The principal ditch was first marked, then dug out. This ditch was wide and deep, the soil dug out of it was used to form a rampart on the town side ; the ditch was deepened close to the rampart to receive the foundation of the wall. On the other side of the rampart a second wall was built to keep the rampart in position and to back it up, and the soil between them was well rammed down. Vegetius explains the construction simply : "A rampart, to have sufficient strength and solidity, should be thus constructed. Two parallel walls are built at the distance of 20 feet from each other, and the earth taken out of the ditches thrown into the intermediate space and well rammed down. The inner wall should be lower than the outer to allow an easy and gradual ascent from the level of the city to the top of the rampart. A ram cannot destroy a wall thus supported by earth, and in case the stonework should by accident be demolished the mass of earth within would resist its violence effectually." Vitruvius' plan was similar but more elaborate. He advises that the main wall shall be tied from front to rear with olive wood beams, and the two walls united by cross walls "disposed as the teeth of a comb or saw usually are, for when this has been done the great weight of earth (between them) will be distributed into small parts, and so will not be able by the pressure of its united weight to push out the substructure of the walls in any degree" (Lib. I. cap. 5). These zigzag cross walls tying the main

walls would add greatly to their strength. The distance of the two walls from each other would, of course, determine the width of the terrace upon the rampart between them ; this was not always the same. Vegetius, as we see, gives 20 feet as a convenient width. Vitruvius, after describing the manner of building the outer wall, adds "moreover the foundation of the substructure on the inner side should be so far from the outer (wall) as to afford sufficient space within that the cohort may stand on the breadth of the rampart for defence as it is drawn up in line of battle." The width of the terrace at Pompeii is about 15 feet. Generally the inner was much lower than the outer wall, though in some cases it was higher, as at Pompeii, and thicker, as in the fortified camp of Saalburg, in the Taunus mountains, near Homburg, the outer wall of which is only five feet thick, whilst the inner is seven feet. ("Lives of the Greeks and Romans," described from ancient monuments, Guhl and Koner.) The inner wall at Dorchester may have been higher and thicker than the outer ; but high or low, thick or thin, the general rule was to make a rampart for the defence of a town with a wall on either side of it and a wide ditch outside ; and the point to which your attention is specially directed is that we have the remains of one wall only at Dorchester. Where was the other ? The fragment that remains has some appearance of having been part of the inner wall. Many persons will remember the remains of the ditch, the hollow road now filled up, parallel with the walks and some yards from the wall ; the outer wall should have been on the edge of this ditch. We have further evidence of the masonry now standing being the inner wall from the excavations made here by the Dorset Field Club some years ago, when a Roman paved way was found at the foot of the wall on the inside four feet below the surface. It is a great pity the excavations were not carried further to find out the width of the paved way and to obtain conclusive proof that it was level with the ancient town, as we presume it was, and therefore answered to the broad way in stationary camps upon which large bodies of troops could be manœuvred, and along which they could be sent to any point of the

wall threatened by the enemy. There must have been a second wall some 15 to 25 feet from this one, for the Romans, if they had found the chalk so solid as to be a sufficient protection against the ram without the support of a stone wall, could not—if we can trust Vitruvius and Vegetius—have given the enemy the protection of the ditch and the advantage of the high ground of the rampart in making an assault, it was so distinctly opposed to their general practice. This shows the importance of making further excavations, and the spot which appears to offer the best results is by the West Walk Cottages. A trench cut across the rampart here should reveal its construction and lay bare the foundations of both walls, unless they have been completely removed, as they have been in the South Walk; but from the form of the rampart here it does not seem likely that *every* trace of the walls has disappeared.

Vitruvius gives the rule for the thickness of walls. They should be sufficiently thick “for two armed to pass each other with ease.” The old walls of Dorchester are stated by Stukeley to have been twelve feet in width; allowing for the parapet and battlements, there would be left ample room for two armed men to pass each other. I would just add here that it is not clear from Dr. Stukeley’s description whether he is speaking of the wall or of its foundation; if the latter, the wall may have been nine or ten feet in thickness. As to the original height of the wall, the height to the top of the portion now standing is about eleven feet above the paved way. Stukeley says: “I saw the foundation of it (*i.e.*, the wall) in a sawpit laid upon solid chalk. It is yet twelve feet high,” which suggests that there were indications that it had been higher. Suppose it to have been sixteen feet originally, add 4·6 for the parapet and battlements, and you have a total height of over 20 feet, and this, remember, for the inner wall, if it *was* the inner wall, which was generally lower than the outer one and less strong.

The directions of Vitruvius for building town walls include the construction of towers. “Moreover,” he says, “turrets must be projected outwardly, so that when the enemy wishes to storm the wall he may be wounded with missiles on his exposed side from the

towers right and left." Whether the walls which surrounded Dorchester had or had not towers could only be decided by uncovering the foundations, if they still exist; as the fortifications are so strong in other respects there is no reason for assuming that they were deficient in this.*

"The intervals between the towers must be so contrived that one must not be further from another than an arrow's flight, so that if any of them is attacked the enemy may be repelled by scorpions and other pieces of artillery from the towers to the right and left. . . . Also over against the interior sides of the towers the wall must be divided by intervals as wide as the towers, that the footways bridging them may be within the towers, and these must not be fastened with iron, so that if the enemy has seized any part of the wall the defenders will cut it away. If they do this promptly they will prevent the enemy from penetrating the rest of the towers and wall without casting themselves headlong (into the hollow of the tower)." These wooden drawbridges were a very ingenious way of isolating the portion of the wall attacked. Of gates, there were in all probability four at least. We know the position of two of them. The foundations of the west gate were observed at the top of High-street (1) * where they are marked on the Ordnance Survey map; and no one appears to question that the south gate was at the end of South-street.

There is a little difficulty about the position of the east gate. Hutchins says "In making the new road (*i.e.*, the portion of the London-road leading out of Dorchester to the east) a little to the

* "There were probably towers at the corners; the mounds and the curves which the walls formed there instead of angles which can still be traced, are some evidence of it. It was a common practice to round the corners of the fortifications of Roman camps and towns, and on the mounds within these rounded curves of fortifications, towers were frequently built. The Roman tower which still remains in the fortifications of York is in this position (see *Archæological Journal*, vol. 31, p. 226).

* (1) Dr. Stuckeley, in his map of Durnovaria, dated August 22nd, 1723, represents the Durngate-street as continued through the town, with the west gate at the end of it, on a supposed road to Ischalis.

east of Seager's orchard at the entrance into Dorchester—the Ickniel-street was discovered and crossed. If this Roman road was crossed there, its probable course would be towards the left of the east gate; and it is very improbable, if the gate was at the end of the High East-street, that the road would have been constructed in this way. The custom was to turn the road to the right of the gate “so that the right sides of the attacking troops which are not covered by their shields may be open to the weapons of the besieged” (Vitruvius, Lib. I., cap. 5). If the gate was at the end of Durngate-street it would be in the right position both for this road and for the road which apparently passed through the Roman Cemetery at Fordington, from which a branch may have passed over the ford. The Cornhill was for centuries a market. Was it in Roman times a *Forum Venale*? and did the road from the east gate run into it at one end, and the road from the west gate at the other? if so, it was not an arrangement for which there is no precedent. But to my mind the position of the east gate will not have been conclusively proved until its foundations have been laid bare, when it is to be hoped they will be mapped.

There is nothing to show where the north gate was situated. There was a north gate at the time of the commonwealth, for we have particulars of the manner in which it was fortified. We should naturally look for the north gate at the foot of the Friary-lane. There is no evidence that it was there, but if it were, there was room on the south bank of the Frome, though there is not room now for a road in the direction of the Charminster-road.

As to the construction of gateways generally, we have precise particulars. At the ends of the gateways were double-leaved gates. To secure them against fire Vegetius says they were covered with “raw hides and iron plates, but the ancient invention is the best for the purpose; it is a work (*propugnaculum*) thrown up before the gate with a portcullis (*cataracta*) at the entrance suspended by iron rings and ropes. If the enemy enter the work the portcullis is let down and they lie at the mercy of the besieged. The wall above the gate should be perforated in several places that water may

be poured down to extinguish the fire when occasion requires." This accounts for the openings over the gates of Pompeii, which appear to have puzzled some antiquaries.

We have now the fortification complete so far as this ; an inner wall 12ft. thick, a rampart 15 to 25ft. wide, with an outer wall retaining it, the whole about 40ft. in thickness (1),* a deep ditch on the outside of that again, possibly towers in the walls some eighty yards apart.

This seems formidable enough, but the fortifications of the town were much stronger than this indicates. Vitruvius says special care ought to be taken that "there may not be an easy approach to attack the wall, but that the wall should be surrounded by steep places, and so contrived that the road up to the gates may not be direct but inclined to the left, &c." At Dorchester the position was strengthened in this way by throwing up two lines of ramparts outside the walls. When I was a boy the ridges of these two lines were very apparent, and one at least is clearly seen on the south side, and one, if not both, may still be traced on the west. As the ditches were cut in the solid chalk, it will be possible by cutting a trench across them to find out exactly what were their original forms, their depth, and width.

I have not discussed the question whether Dorchester was a stationary fortified camp (a *castra stativa*), because as a fortified garrison town it was that, and something more ; if it be contended that Dorchester was a *castra stativa* for troops only, there will be the difficulty of its size. I cannot find an instance of such a camp being constructed five times as large as was required. Even the enormous camp of Gamzigrad, in Servia, which is remarkable as being one of the largest known, is not so large. Poundbury, as regards size, is much more like what we should expect the

* (1) This seems unnecessarily strong, but it must be remembered that battering rams, and other engines of enormous size and power were used in warfare at that time. Vitruvius speaks of a balista which threw a stone 360lbs. in weight, and of a tortoise constructed by Agetor the Byzantine, for filling ditches and undermining walls, which was 60ft. long and 18ft. broad.

construction to have been if such a purely military camp was required in the neighbourhood ; but this, from its construction, Poundbury could not have been.

Dorchester, however, in its plan has much in common with the military camp. It reveals its military origin and the hand of a military architect. The South-street answers to the Pretorian-street, the High-street to the *Via Principalis*. There is no reason to doubt that the *Arx* itself stood on the Castle Hill, the barracks of the soldiers between it and the walls ; the Roman remains found near there by Mr. Hogg and others have very much that character.





Yetminster Church.

By the Rev. C. H. MAYO, M.A., R.D., Vicar of Long
Burton with Holnest.



THE village of Yetminster, as we have seen in our ramble to-day, is pleasantly situated in the opening of the hills through which runs the little brook which joins the Yeo at Bradford Abbas, and from its position has gained the name it bears of Gate Minster, which, like another opening at Corfe's Gate, similarly named, gives access through the natural boundary of the hills to the stretch of country beyond. It is furnished, above the average, with quaint 17th century houses, one of which bears an inscription which may serve as a puzzle to the members of this society.

AN + DO	IO + DO +
1607 +	RE + DE +
BE + DO	AN + SN
HA + ED	DE + IN

At a conspicuous point in the village stands the church, an interesting subject for architectural study, and a landmark which may be noted from the hills for a considerable distance. The

parish is extensive, and, together with the daughter Chapelry of Chetnole, occupies upwards of 4,300 acres, and when it formerly comprised the adjoining parishes of Ryme Intrinseca, Clifton Maybank, and Leigh—the last only separated from it in 1849—it must have been one of the most important in the neighbourhood. To this position testimony is borne by a custom still remembered by the old people of Minterne as having existed in their fathers' days, if not in their own, that the bearers of corpses for burial from Middlemarsh to Minterne, on reaching the summit of the range of hills at Dogbury, would stand and "face the Mother Church," as they express it, that is, the church of Yetminster, about four miles distant as the crow flies, thus testifying to the prominent position occupied by this minster and parish in mediæval Dorset. Yetminster contains four manors, and supplied the endowments of two Prebends, and partly that of a third, in the Cathedral of Sarum. At the date of the compilation of Domesday it belonged to the Bishop of that See—a certain William holding of the Bishop some six hydes out of the entire 15 at which the estate was then rated—and in all probability it may have formed a part of the ancient endowments of the See of Sherborne. On the foundation of the Cathedral Establishment at Old Sarum by Osmund, Saint and Bishop, it was one of the original estates given by him in his charter of A.D. 1091 for its maintenance. (Reg. Osmund, Vol. I., p. 198. Rolls' Series, 1883.) Here the Dean exercised Peculiar Jurisdiction, except that in some respects his authority was ousted by the Prebendary of Yetminster and Grimstone, two years out of every three. Such being the ownership of the land, Yetminster has naturally failed to be the seat of any great manorial families. Their place has been taken by Ecclesiastics or their Lessees, who occupied the position of landlords. Lists of the holders of the three Prebends are extant, dating from the year A.D. 1226, when William de Len held the Prebend of Yetminster Prima (otherwise called Superior, Overbury, or Upbury), Tancred that of Yetminster Secunda (otherwise Inferior or Southbury), and R. de Maupodre the Prebend of Grimstone and Yetminster, which has a double

name from being maintained by estates in both these parishes. Some illustrious names are found in each of these lists, Yetminster Prima having been held by William of Wykeham, Bishop of Winchester, and founder of the two S. Mary Winton Colleges, 1361 ; by Henry Chicheley, Archbishop of Canterbury, 1397 ; by James Stanley, Bishop of Ely, 1492 ; by Thomas Thirlby, Bishop of Westminster, Norwich, and Ely, 1537 ; by Isaac Barrow, master of Trinity College, Cambridge, 1671 ; and by Bishop Butler, author of the "Analogy of Religion," 1721. Yetminster Secunda, by Chicheley, 1400 ; by William Dudley, Bishop of Durham, 1471 ; by Reginald Pole, Archbishop of Canterbury and Cardinal, 1519 ; and by Henry Cole, Provost of Eton, 1539 ; and Grimstone and Yetminster by Thomas Polton, Bishop of Hereford, 1408 ; by Hugh Parry, Bishop of S. David's, 1467 ; by William Barton, Suffragan Bishop, 1515 ; and by John Elton, 1519—1547, an ancestor of my own, and the founder of a Fellowship at B.N.C., Oxford.

The annual value of these Prebends at various periods may be seen in the following table :—

	1226.			1291.			1535.		
	£	s.	d.	£	s.	d.	£	s.	d.
Yetminster and Grimstone ...	13	6	8	20	0	0	32	1	10½
Yetminster Prima* ...	5	6	8	8	13	4	22	0	0
Yetminster Secunda* ...	5	6	8	8	0	0	18	0	0

Two of these—viz., Yetminster Prima and Secunda—are now in lay hands, Mrs. Frances Jane Ffooks being the Lady of the Manors thus denominated, while that of Yetminster and Grimstone belongs in reversion to the Ecclesiastical Commissioners, Mrs. E. H. Fitzherbert being at present the lessee. The fourth Manor, which is called that of "Yetminster," without any further addition to the name, was squeezed from the See of Sarum in the reign of Elizabeth, and belongs to Mr. Digby, of Sherborne Castle.

To pass from the general history of the parish to the Church of S. Andrew, which we are visiting to-day, it is hardly necessary to

* Called "Prebenda Dni T'isij," *i.e.* Thydisii, and "Ricardi de Coleshull," respectively, the holders in 1284.

call your attention to the handsome battlemented tower, porch, and aisles in the latter period of the Perpendicular style, with the disproportionately long chancel, constructed in a poor imitation of Early English, which are now before you. I say "a poor imitation of Early English," for it is scarcely possible to suppose, with Mr. Christian, that the Prebendaries of Yetminster in the 13th century, having before their eyes the superb example of that style in their Mother Church of Sarum, could have erected the chancel, which now stands eastward of the nave. The ill-fitting heads of the windows, the poverty-stricken chamfers in lieu of mouldings, the want of uniformity in the lights of the east window, and the general roughness of the work would have been an abomination in the eyes of William de Len, or Tancred, or whoever they were, who occupied these Prebends at the date when the Early English style was in vogue. A glance at the base of the E. E. font, recently recovered, with its delicate mouldings, will show us what these early builders would have done, had their hands been given to the work.

Briefly to indicate the principal points which were to be observed before entering the church, I may mention the numerous external crosses (*viz.*, crosses patee within a circle) to be seen on three of the tower buttresses, on the buttress near the south door, on the jamb of the window between the north porch and the tower, together with a small cross patee also to be observed at the apex of the tower door below the hood-mould—the Holy water stoup hollowed in the external buttress, near the south door—and the five small windows, blocked at the present restoration,—*viz.*, two in the east gable of the nave, one near the eastern window on the north wall of north aisle and on either side of the corresponding window in the south aisle intended to give light to the rood gallery.

In regard to the chancel, the west and south windows nearest the nave have similar crosses to those already mentioned, and the eastern buttresses also bear them, but one below and the other above the plinth. It is noticeable that the crosses on these buttresses are cut in what I am informed is Nettlecombe stone, the other dressings of

the church being of stone from Hamhill. They may have been removed to their present position from an older chancel. There are also to be seen the traces of foundations at the base of the north and south walls, which seem to indicate that the chancel at one time stopped short about ten feet west of the present termination, and the line of a straight joint appears running down beneath the north-east window. The head of a small doorway in the north chancel wall is indented with a rectangular splay, forming the base of a niche, of which the wall above bears no further trace, showing that if this stone is in its original position the wall above has been re-built.

Entering the church, which has recently undergone a judicious restoration under the direction of Mr. G. R. Crickmay, and which it is not now necessary for me to describe, we observe the Perpendicular font, formed of one piece with a section of the adjacent column—the old Purbeck base of the Early English font already mentioned, a circle with four smaller circles for pilasters, found inverted on the floor at the north-west corner of the tower—the grand brass of John Horsey, who died 8th of July, 1531, and Elizabeth, his wife, daughter of Richard, and sister and heir of Robert Turges, of Turges Melcombe, Dorset, recently re-fixed by one of the family, Major E. R. Horsey—the matrix of another brass which the writer discovered before the restoration commenced—the spaces formerly occupied by two altars at the east end of the aisles with their piscinæ, the northern piscina, like the font, being formed out of the same block as the semi-pillar of the eastern member of the arcade, the bracket near this north altar for the support of an image, two small carved figures, found during the restoration, two stone brackets, carved with foliage, the southern ancient, the northern a recent reproduction (1889), which carried the rood beam—some specimens of 15th century seating—and lastly, the fragment of a wooden screen, which once divided the chancel from the nave.

Looking at the roof we observe remaining certain traces of ancient colouring, the sacred monogram I.H.S. crowned, alternating

with suns in splendour, the colours employed being white, red, and black, and bands of colouring on the pillars of the arcades. One boss on the nave roof is important. It bears a white horse's head, bridled—the Horsey crest—indicating that the Horsey who possessed Clifton Maybank at the date of the erection of the nave, &c., was much concerned in the success of the work. It will be interesting to endeavour to establish his identity. Assuming that the internal decorations are coeval with the erection of the building, the sun in splendour will show us that the nave dates from the reign of Edward IV., 1461—83, who had adopted this device as his badge, which stood him in so good stead at the Battle of Barnet, 1471. We shall readily recall the lines in the third part of Shakespeare's Henry VI., Scene II. :—

Edw. : Dazzle mine eyes, or do I see three suns ?

Rich. : Three glorious suns, each one a perfect sun ;
 Not separated with the racking clouds ;
 But sever'd in a pale clear shining sky.
 See ! see ! they join, embrace, and seem to kiss,
 As if they vow'd some league inviolable ;
 Now they are but one lamp, one light, one sun.
 In this the heaven figures some event.

Edw. : 'Tis wondrous strange, and like yet never heard of.
 I think it cites us, brother, to the field,
 That we, the sons of brave Plantagenet,
 Each one already blazing by our meeds,
 Should notwithstanding join our lights together
 And over-shine the earth as this the world.
 Whate'er it bodes, henceforward will I bear
 Upon my target three fair-shining suns.

During this reign three Horseys held in succession the Clifton property—Henry, who died 1461-2 ; Thomas, his brother, who died 1468-9 ; and John, the son of the latter, who married the heiress of Turges, and enjoyed the estate for the long period of 62 years, dying in 1531. Of these three possible builders the first may be excluded as having died when the reign had scarce commenced. We have then to choose between the father and son.

Of these it is far and away most probable that the latter was the person interested in the building, as he entered upon the estate at an early age, being only six years old when his father died, so that ready money may have accumulated during his long minority, to which would be added the ample means placed at his disposal through his marriage with the heiress. If this conjecture is correct the building of the church would be his first work on attaining his majority, and the brass which the church now so fortunately possesses would represent the Esquire and his spouse who saw, principally, it may be, through their own bounty, the present handsome Perpendicular building rise from its foundations. John Horsey's will is still extant (dated 1 May 23, Henry VIII. 1531, pr. July 1532.—16 Thower), and in it he desires to be buried at Eatmister, and bequeaths 40s. to "the maintenance and reparacion of the Church of Eatmyster underneath the condicion that I be prayed for in the Bede Roll yerely."

John Horsey was "felix opportunitate mortis." He did not live to see the expulsion of the monks from Sherborne, 11 March, 1539, with which, perhaps, he would not have been in sympathy, as he had a daughter a nun at Barking, nor did he see his son enriched with the spoils of Church property, nor the church of Yetminster, which he evidently loved, robbed of its vestments and valuable ornaments by the rapacious commissioners of Edward VI., 1550, one of whom was his grandson.

By the way, when these commissioners, who were Giles Strangwayes, George Delalynd, John Horssey, and Thomas Trenchard, all members of good Dorset families, came to Yetminster, they found "5 bells in the tower, 1 suyt of vestments with a cope of blue velvet, 1 suyt of vestments of black wosted with a cope, 1 payre of vestments of whyt saten, one paire of vestments of red wosted, 1 paire of blewe chamlet, 1 peyre of blewe sylk, 1 paire of blewe wosted, 1 cope of greyne sylk, 1 cope of whyt fustyaïne, 2 bann's of—clothe, 2 surpleces, 6 altar clothes, 1 chalis parcell gylte, 4 towells. To the Churche use apoynted by the said comysson's the chalis with the cope of whyt fusteyne,

with all the table clothes and surples. The Rest comytted to the charge of them under wryten," *i.e.*, till arrangements could be made for carrying them away. The names are those of John Turner, curate, Thomas Mundaye, John Myller, Thomas Carter, churchwardens, and Wyllm Sherry. Wyllm Wylles, Walter Phelpes, John Aylvord, parishioners. (Queen's Remembrancer's Miscellanea. Church Goods, Dorset, 2-17.)

One remark only need be made upon this transaction—*viz.*, that the cope was evidently a vestment of undisputed legality, otherwise no specimen of it would have been left. But, if lawful, the abduction of the others becomes simple robbery. And such was really the case, for in the instances where a church happened to possess two chalices the commissioners abstracted one of them, and unblushingly left the *worst* for the use of the parishioners.

At this time we have seen that there were five bells in the tower, the number still to be found there, though all but one have since been recast. This one bell bears the inscription "*Ora mente pia pro nobis virgo Maria.*" The others are dated respectively 1595, 1608, 1610, and 1655, the last again cast in 1889.

1. B flat. 8 cwt. Diameter, 34 ins.

"W.C. R.R. P.S. C.W. T.P.
AN.NO. DO.MI.NI. 1610."

2. A flat. 10 cwt. Diameter, 35½ ins.

"AN.NO. DO.MI.NI. 1595."

3. G. 12 cwt. Diameter, 38½ ins.

"O.R.A.MEN.TE.PLA.PRO.NO.BIS.VIR.GO.MA.RI.A"

4. F. 15 cwt. Diameter, 43½ ins.

"Bee mindful of thy latter end
For thou must die youth or age
As hath thy freinde.

T.K. T.D. N.B. C.W. ANNO DOMINI 1655."

5. E flat. 18 cwt. Diameter, 48 ins.

"I sovnd to bid the sick repent
In hope of liefе whene breathe is spent."

Below this last inscription is a handsome stamp, representing the lion of S. Mark, within a circle. It is followed by the word Wolddis, and date 1608.

The chalice mentioned in the foregoing inventory has been replaced by a good Elizabethan chalice, with paten cover, bearing the small black letter *g*, which indicates the year 1571. The maker's mark consists of the letters A and B linked together. Another paten, of the date of 1752, was given much later by Ann daughter of John Abingdon, Esq., of Over Compton, the wife of H. C. Floyer, Esq., of Stratton.

Yetminster also once possessed a pair of organs. In "The presentment of the Vicar, Churchwarden, and Sidemen of Yetminster in the triennial Visitation of the Right Worthy and Reverend Deane of Sarum, the 15th day of September, 1635," it is stated "Imprimis, to the sixth Article concerning the Church Goods and the Ornaments thereof, we do present that the Organs of our Church of Yetminster are decayed and sold from the Church, and we desiar to have them restored again." History repeats itself; and if the Vicar and churchwardens were in the year of grace 1890 to put their wishes into writing, they could not state their case more accurately than in the words of their predecessors 255 years ago.

The existing registers, unfortunately, do not date earlier than the year 1677, but a memorandum by John White, who became vicar two years later, mentions that he had in his possession another book beginning in 1558. Who will seek for this old book, which even now may be lying hid in some office or muniment room, whither it has gone astray from its proper place of custody?

Traces of distemper painting, comprising the ten Commandments, the Creed, and a skeleton with scythe and hour-glass, standing on a globe, with various texts and mottoes, adorned the walls of the church, but unavoidably perished at the recent restoration.

One monument in the church, besides the brass, deserves attention—viz., that of Bridget, wife of John Minterne, of

Batcombe, and second daughter of Sir John Browne, of Frampton, Knt., who died 19th July, 1649, now removed from the north-east corner to the west wall of the north aisle. The Minternes were the owners of Newland, in the former parish, and curious stories are even now in circulation among the peasantry, relating to the infernal operations of one member of the family, known as "Conjuring Minterne." Probably he was possessed of more scientific or literary acquirements than the ordinary run of Dorset gentry of his day, and this fact, if fact it was, may have invested him with a halo of supernatural renown. He is said to have leapt, on horseback, from the top of Batcombe Hill, over the church tower, upsetting a pinnacle in his course; and other stories, equally remarkable, are still told about him.

The following pathetic lines, which are of frequent occurrence, are to be found in the tower of the church :—

*“ Our life is nothing but a winter’s day
 some only break their fast and soe away
 others stay dinner and depart full fed
 the deepest age but supps and goes to bed
 he’s most in debt that lingers out the day
 I dy’d betimes and have the lesse to pay ”*

Yetminster Church is also the burial place of Arthur Cosens, Esq., Sheriff of Dorset in 1807, who died 24th June, 1810.

Among the vicars of Yetminster, the sad case of William Bartlett should not be passed by. He was instituted on 17th March, 1607, and had a dispensation to hold in addition the Rectory of Church Knowle, 12th November, 1627. On the beginning of the civil troubles he was deprived of his Rectory by the ordinance against Pluralities and of his Vicarage by the Committee of the County, and was plundered and imprisoned at Westminster, 1646, and sequestered from his temporal estate. A letter written by him on the 18th October of that year, after he had been 22 weeks in prison for conscience’s sake, may be read in Walker’s *Sufferings of the Clergy*, pt. II., p. 198.

Yetminster seems to have rejoiced in the possession of three churchwardens. Three names occur in 1550, and again on the bells dated 1610 and 1655. A churchwarden and two sidesmen signed the presentment in 1635, and three names also appeared on the Commandments, formerly painted on the church wall, and on the cover of the parish register, 1677. This may be accounted for on the supposition that one was elected for the mother church and one each for the two chapelries, following the lines laid down for the election of the Reeve at the Michaelmas Manorial Court, when three names were submitted by the Homage to the Steward, whereof one must dwell at Leigh, the second in Chetnoll, and the third in Yetminster, from whom the Steward chose one to serve in the said office.

This parish has produced, so far as I am aware, no distinguished native or resident, unless we except Benjamin Jesty, who, having discovered in his own person the prophylactic effects of cow-pox taken direct from the animal, had the fortitude to vaccinate his wife and children, in the year 1774, some 22 years before Jenner had made similar observations and experiments. The latter, however, received the tribute of fame and the Parliamentary Grant. Jesty was buried at Worth Matravers, in the Isle of Purbeck, and his tombstone there records that "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 *Cowpox 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." He died 16th April, 1816. One famous man, though not a resident in Yetminster, is connected with it as the charitable founder of a boys' school. I mean the Hon. Robert Boyle, of Stalbridge, one of the original members of the Royal Society, who, by his will in 1691, bequeathed the funds from which a school was built for the *free* education of 10 boys of Yetminster, 6 of Leigh, and 4 of Chetnole. A new scheme, converting it into an ordinary elementary boys' school, was made on 10th April, 1873.



On a Remarkable Deformity in a Flowering Head of Charlock.

By NELSON M. RICHARDSON, B.A.,
F.E.S.



ON the 25th of May, 1889, I was walking along a path through a corn field, on Radipole Farm, near Weymouth, on the look-out for anything interesting, but chiefly for anything entomological, which would probably at that season take the form of a rolled-up leaf or spun-up shoot with a larva inside, when my attention was arrested by a flowering stem of charlock, or wild mustard (*Brassica arvensis*), two or three yards from the path, which had a very peculiar appearance. The plant was abundant in the field, but this stalk seemed to be deformed in some way, so I picked and examined it. This flower stalk is quite normal until within three or four inches of the tip, at which point it gives off a small thin branch just over $\frac{1}{2}$ in. in length, which again joins the main stem about $2\frac{1}{2}$ in. higher up, this main stem being bent over downwards so as to meet the small branch, forming a closed somewhat circular figure, nearly an inch in diameter. After this second junction the main stem continues its course for more than an inch, and terminates in the usual way with a few small flower buds--in fact, if the small joining branch were removed and the stem stretched out straight, there would be nothing strikingly remarkable about it.

On the piece of the stem which I have preserved, and which is altogether about $6\frac{1}{2}$ in. long, there are six pods below the point where the connecting branch diverges from it, two of these being within $\frac{1}{8}$ in. of this point. On the curved piece of the main stem there are, or rather have been, eight seed pods, and beyond the second junction are numerous seed pods and flowers, one seed pod being exactly level with the junction of the stem and branch. On the connecting branch, and almost exactly in the middle, is a very small but perfect bud, just like those at the tip of the main stem, and on this branch, quite close to its upper junction, is a second small bud. These I regard as of great importance in working out the history of this monstrosity.

The only other peculiarity in the stem that I think it worth while to describe is a long groove which begins about $\frac{3}{4}$ in. below the first junction, and continues its course up the main stem to near the tip. The stem is naturally covered with very small longitudinal grooves, so small that it would more correctly be called striated; and it is out of one of these tiny grooves that the larger groove of which I am speaking, arises. In some parts this groove looks more like a split, as if one had drawn the point of a knife down the stalk and the edges of the wound had gaped open. The groove becomes gradually larger from its origin to the first junction with the connecting branch; it then suddenly increases in size and remains large between the two junctions, after which it is less definite and distinct.

It is important to notice that the ends of the connecting branch are immediately adjacent to the groove, and both spring from the same side of it, which is very strong evidence that the branch is in some way connected with it; but the groove is large enough to take in many threads of the size of the little connecting branch, which is not much thicker than a strong sewing thread.

There would be no great difficulty, in the case of a plant or tree sufficiently large to manipulate, in grafting a branch in this position, so as to join any point of the stem to a second point higher up; and such cases do occasionally, I believe, occur in nature, where a branch

of a tree crosses and rubs against another branch, and they gradually grow together ; but it would be difficult to apply this explanation in this case, as it would be hard to shew how the top of the shoot had got bent round, and also how the little shoot had remained firmly pressed against the larger shoot sufficiently long to effect a complete junction.

The explanation which I would suggest is that a wound was made in an ordinary flowering shoot whilst young, perhaps when very small indeed, when the whole thing was only a bud. If at this early date, it would have been but a very minute puncture, which would probably in 19 cases out of 20 have healed up by the sides again growing together : or it may have been a small slit in the stalk made at a later date ; it must, however, have been made not later than when the main stalk between the points of junction was $\frac{1}{2}$ in. long—the present length of the connecting branch.

This accident, whatever was its cause, perhaps a thorn or a blow, divided the stem into two parts, the smaller of which I have spoken of as the connecting branch. It would be likely that such a narrow thin little strip of bark would be stunted and unable to keep pace in growth with the other part, which included almost all the stem ; hence, whilst this little threadlike portion was almost stationary in size, the remainder of the stem grew on, until at the time that I found it it measured $2\frac{1}{2}$ in., or five times the length of the other portion which had become detached from it. This latter, being sufficiently strong to hold it, caused it to curve round into the shape which it has taken.

The groove represents the place from which the connecting branch was removed, but it has grown and widened out with the growth of the stem. The buds on the little branch are very much stunted from the small amount of nourishment that could flow to them along such a minute stalk, which also, no doubt, exhausted much of its energy in healing up its inner side where it was severed. This wound to it would represent half its surface, whereas the corresponding wound on the main stem would be to it but a trifle. It is interesting to note that of the eight buds on this portion of the

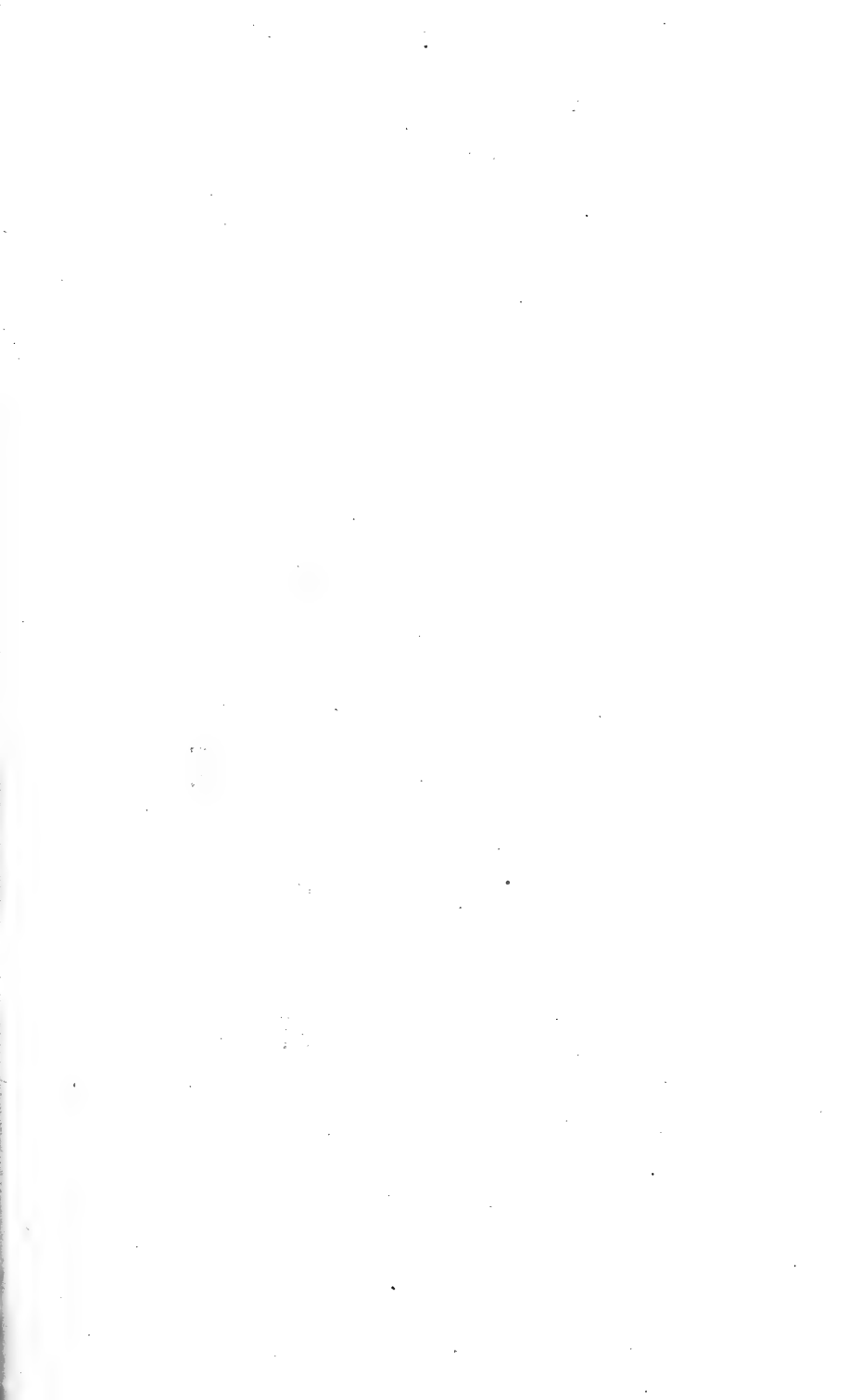
stem, two only are opposite, the other six being single, so that four buds are missing, as the plant produces its flowers in pairs, and there are only two single flowers on the small stalk and six on the large stalk.

One difficulty that I see is that the groove extends above and below the divided stalk. I should say that this was probably caused by the tendency that we see in any plant of a split in a branch to continue its progress at each end along the grain of the wood.

Whilst I am on the subject of vegetable monstrosities, I may mention a carline thistle which I found at Portland the other day. The plant is only 9in. high, and has two flowers; one ordinary one on a little side branch, and one very extraordinary one, which looks as if it were composed of six or seven flowers, as the surface occupied by its florets measures 7in. in length and only about $\frac{5}{8}$ in. in breadth, so that the length is eleven times the breadth! It is something like a cockscomb. The most striking part, perhaps, to the picker of it is the frightful array of prickles below the flower; it seems as if 20 flowers had here united their forces instead of six or seven.

I should add that the stalk is flattened in much the same proportion as the flower, but the root is quite normal. The explanation of this I shall leave to the botanists of the Field Club.







H. M. Richardson del.

Mintern Bros. Chromo lith.

1. *Tinea subtilella*. 2. *Gelechia ocellatella*, var. 3. *Laverna lacteella*.
4, 4a. *Tinagma betulæ* & work of larva in birch leaf.

EXPLANATION OF PLATE.

1. *Tinea subtilella*, Fuchs. Discovered as a species new to Britain by Mrs. N. M. Richardson at Portland, August, 1890. Fourteen specimens have altogether been taken in that month and August, 1891, by Mr. and Mrs. Richardson, and two by Rev. C. R. Digby.
2. *Gelechia ocellatella*, Sta. This pink variety was bred, together with others of the ordinary form, from larvæ collected at Portland on *Beta maritima* by Mr. N. M. Richardson, June 28th, 1890.
3. *Laverna lacteella*, Sta. From specimens taken by Rev. O. P. Cambridge at Bloxworth, and by Mr. N. M. Richardson at Whatcombe, near Blandford; Mr. E. R. Bankes has also bred this species from larvæ collected by him at Bloxworth—all in 1890.
4. *Tinagma betulæ*, Wood. From a specimen taken at Bloxworth by Rev. O. P. Cambridge in July, 1887. The mines of this species have also been observed at Whatcombe by Mr. N. M. Richardson, and the perfect insect was taken in some abundance at Bloxworth in June, July, and August, 1891, by Messrs. O. P. Cambridge, N. M. Richardson, and E. R. Bankes; and most probably it occurs elsewhere in the county amongst birch.

The life history of this species was worked out by Dr. Wood, in Worcestershire, from the slight clue afforded by the holes in the birch leaves, and the moth, which was thus discovered, was described as new to science in October, 1890 (E.M.M. xxvi., 261). The egg is probably laid on the outside or in the substance of a young shoot of birch. The larva, when hatched, mines upwards in the birch twig, and in the late summer, when almost full-fed, turns off into a leaf stalk, through which it proceeds into the substance of the leaf. Having mined into it a short distance, it cuts out from the upper and under cuticles corresponding oval pieces (fig. 4a), which it lines with silk, closing them together except at one end, so as to form a sort of bag-like case. Carrying this on its back, it descends from the birch tree, and, having found a convenient resting place, fastens up the mouth of its case and turns therein to a pupa, from which the perfect insect emerges in the following summer.

Fig. 4a represents the birch leaf after the larva has left it. It now appears that the work of the larva had been observed in 1885 near Hamburg by Dr. Sorhagen, who proposed for the moth (not then known) the name of *Heliozela Hammoniella*. A very full and interesting description of the larva and its habits is given by Dr. Wood in Entom. Monthly Mag. xxvi., 261. (See also E.M.M. xxvii., 48, 299, and Stettin Entom. Zeitung, 1891, p. 133.)





Occurrence at Portland of *Tinea subtilella*,
Fuchs,

A SPECIES NEW TO THE BRITISH FAUNA.

By NELSON M. RICHARDSON, B.A.,
F.E.S.



IN an afternoon early in August, 1890, Mrs. Richardson and I were collecting at Portland, and I had left her for a short time to look for one or two species which occur on some steep slopes, when she caught a very small moth and boxed it with some difficulty and soon afterwards a second.

She was immediately struck by the very hairy appearance of its head and shewed me the moths as soon as I rejoined her, but as it was then growing dusk we were unable to make much out of them, though they did not look like old acquaintances. We caught no more on that day, but on examining the insect on the next morning we came to the conclusion that it was probably a *Tinea*, and if so, new to Britain, as it did not belong to any of the known British species. Mr. Stainton has since kindly named it for me from German specimens in his collection. As might have been expected, we went several times to Portland in pursuit of this little creature, but took altogether only eight specimens between us. The weather was not good during the early part of August on the days on which we went, and moths did not fly much.

Tinea subtilella flies in favourable weather for a short time late in the afternoon with an irregular sort of flight, and when it settles on a stone or leaf generally runs away at a great pace and is a very difficult insect to get safely into a pill box. If one does not succeed at the first attempt, one is not likely to do so afterwards, as it will probably have disappeared amongst the stones or in a bush, and will not come out again until one has gone away. It is hard to get in good condition, as its movements are so quick and continuous—it runs round and round in the box when caught, which takes a good many of the scales off its wings, and it is not easy to set it without damaging it. It is a pretty little moth when alive, when perhaps the most conspicuous feature in it is its eyes, which stand out like little black beads from the sides of its head, and are well shewn off by the pale ochreous ground colour of its wings. The top of its head, which is pale reddish ochreous, is also striking from its extreme hairiness.

There is no British species of the genus *Tinea* very closely allied to *subtilella*, the one it most resembles being *biselliella*, which is, however, much larger—about twice the size—and has not the dark scales at the tip of the wing which are present in *subtilella*, besides differences in the structure of its maxillary palpi. With the exception of what Stainton (Nat. Hist. Tineina, Vol. xiii., p. 34) speaks of as “the semi-mythical *subammanella*, which is only represented by the two anterior wings in my collection,” and of which the size is given as 3”, *Tinea subtilella*, with an expanse of $3\frac{1}{2}$ ”, is the smallest British species of the genus, though from its light colour it is by no means the most inconspicuous.

The following is a description of the imago (see also Ent. Monthly Mag., Vol. xxvii., p. 14).

Exp. al., $3\frac{1}{2}$ — $3\frac{3}{4}$ ”. Labial and maxillary palpi both much developed. Head very hairy, pale reddish-ochreous; eyes black, very conspicuous when the insect is at rest. Fore-wings and fringes shining pale ochreous with a slight appearance of a darker greyish spot at the tip of the wing, and with the costa at the base also somewhat darker. Hind-wings and fringes very pale greyish-

ochreous. Antennæ, legs, and thorax pale ochreous, like fore-wings; body more the colour of hind-wings.

This moth was first taken by Herr Fuchs on July 12th, 1878, at Bornich in the Rhine district (Rheingau), on the walls of old vineyards. He observes that to catch it with the net was not difficult, but to see it in the net was not so easy, and in the attempt to box it when in the net he lost many specimens. On cooler evenings it was less active and sat quietly on the stone walls of the vineyards, and was then more easily boxed.

Probably, Herr Fuchs used a white net, in which it is most difficult to see a small light-coloured moth, whereas I generally use a green net, which makes the boxing an easier matter; my difficulty was to catch it in the net.

This is the smallest of six species which Mr. Stainton tells me that Herr Fuchs found on the vineyard walls. Four of these have not yet been detected in Britain, and the remaining species, *Tinea nigripunctella*, which Fuchs took in plenty, is rare with us. I once took one in a stable at Portland, but have never seen any more specimens, so that it would appear as if this species was not there associated with stones or walls. It is most often, I believe, found in outhouses, but I do not think that the larva is known. It would be interesting if it were to turn up amongst the stones at Portland, especially if accompanied by any of Herr Fuchs' four other species. This genus is very uncertain in its appearance, and amongst our British species are several very rare ones, some of which are, so far as I am aware, only known in this country by the simultaneous capture of a few specimens. It is therefore by no means unlikely that others are still to be found, in spite of the immense number of collectors that are now spread all over the country, and I hope that the ensuing season may shew that the resources of Portland are not yet exhausted, though so-called civilization is doing its best to destroy the insects by making a new railway, and the collectors of them, by the establishment of a new rifle range at which rifles are used which, I am told, carry two miles, the shooting with which takes place straight along the undercliff.



A Study on the work of Preservation
OF THE
Church of St. Nicholas, Studland, Dorset,

FROM ITS ORIGINAL FOUNDATION BY THE SAXONS TO THE DATE
OF ITS COMPLETION BY THE NORMANS.

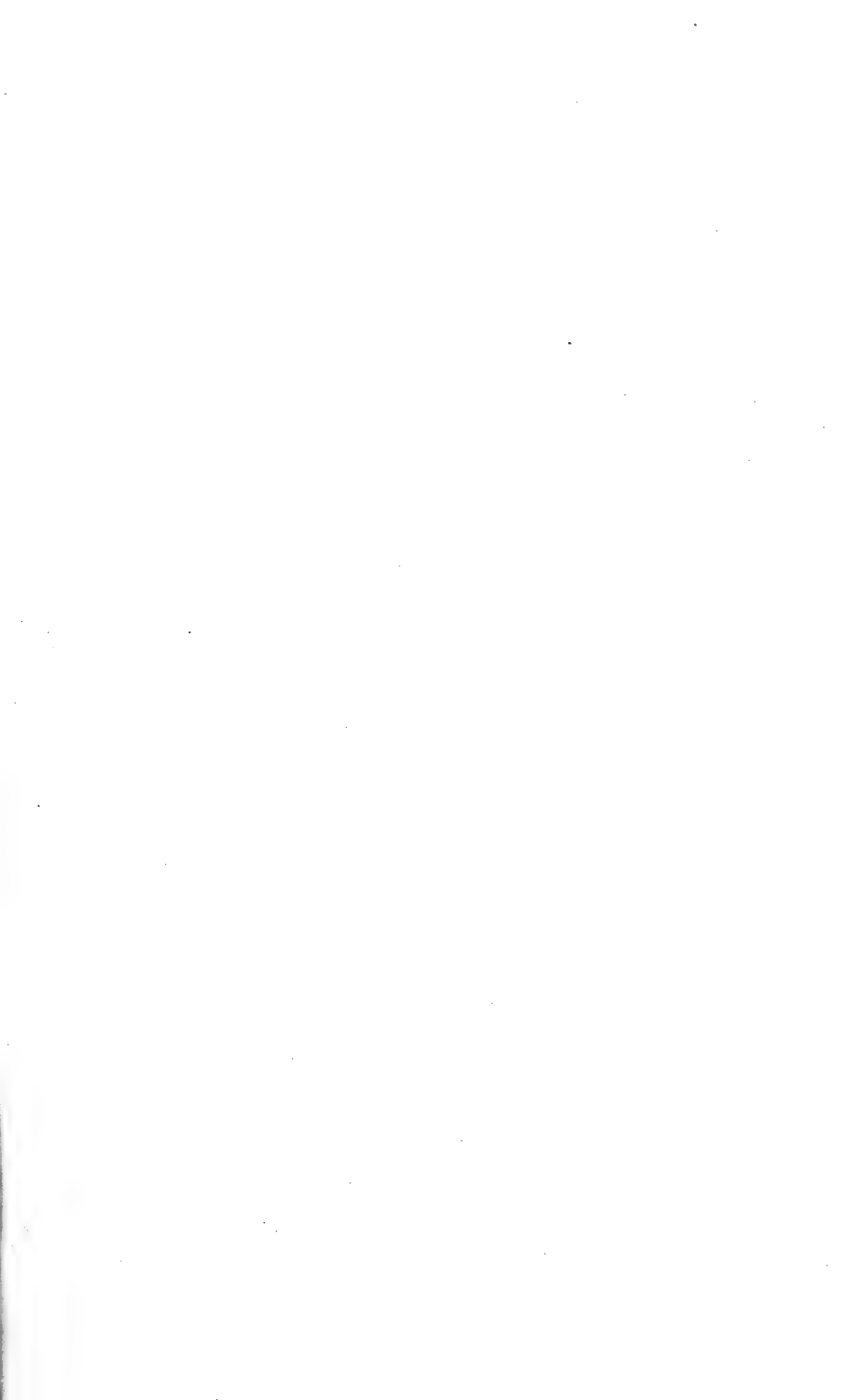
By WILLIAM MASTERS HARDY
(*Swanage, Dorset*).

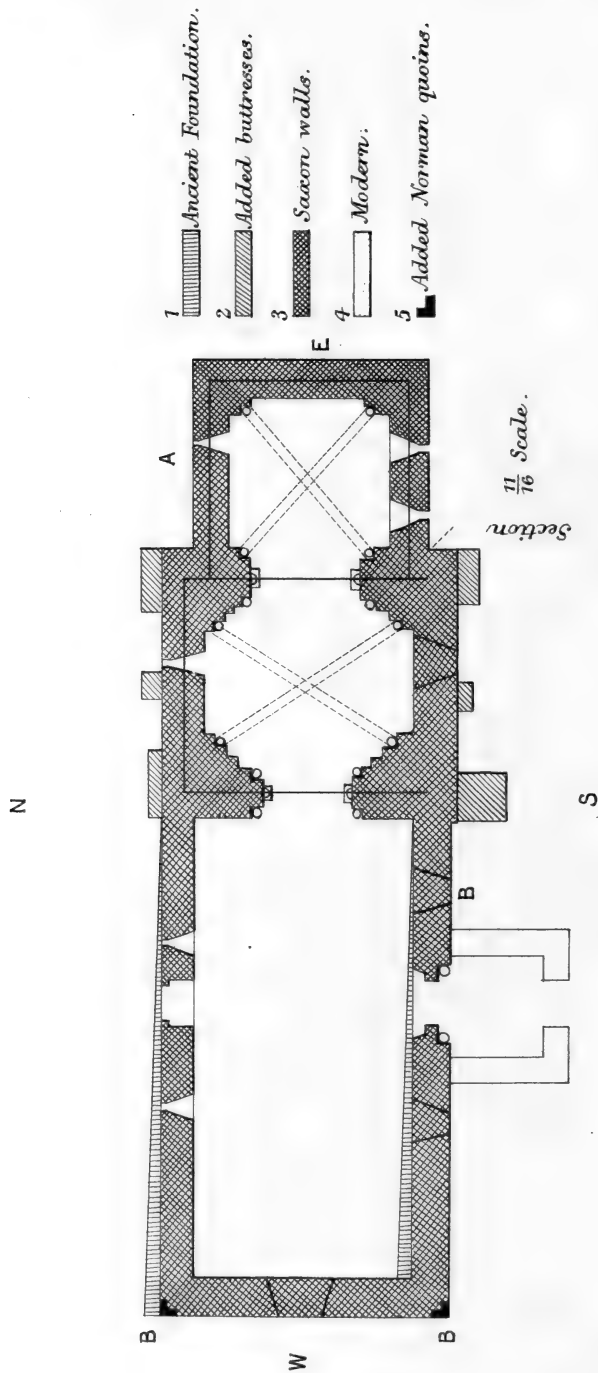


THE SITUATION OF STUDLAND.

THE village of Studland is beautifully situated on the east coast of the Isle of Purbeck, Dorsetshire, near the entrance to Poole Harbour, and the site of the church lies three miles north of Swanage and six east of the historical Corfe Castle. Away southward swell the Bollard Downs, terminating eastward in the "Old Harry Rocks," which break the waves from entering Studland Bay. Elms, cypresses, and yews (the latter must be over a thousand years old) shelter and literally preserve the unique building. For instance, in 1881 a strong S.W. gale was not felt in the ancient churchyard.

In the year 1880 the rector, the Rev. C. R. Digby, B.A., and his churchwardens (Mr. A. M. Luckham and Mr. J. Gould), after receiving suggestions from the Society for the Preservation of Ancient Buildings, determined to save the church from a threatened and utter collapse. There were immense cracks in the walls and arches of the tower, rendering it far from secure.





Heavy shores were, therefore, set at the dangerous angles to receive the thrust of the interior arches and groinings, and a cutting, 7ft. wide and from 4ft. to 12ft. deep, was excavated in sections at an average distance of 3ft. from the walls (thus leaving space for their subsequent underpinning) and filled in with concrete. This extended from the east end of the chancel to the west end of the nave. An account of interesting relics found during these operations will be found on page 177.

The work of preservation was vigorously commenced in the summer of 1881 by Mr. W. M. Hardy, of Swanage, under the direction of the Diocesan Surveyor, G. R. Crickmay, Esq., architect (Westminster and Weymouth). The tower was thoroughly shored and encased, and the interior arches were wedged up with strong centres; then the underpinning commenced. This was found both difficult and dangerous, so that short sections of wall, from two to three feet at a time, were proceeded with, and even then, while the brickwork was being carried up, the core of the wall ran down like sand in the hour-glass, especially when, on one occasion, the volunteer artillery at Swanage, in close thick weather, were at heavy gun practice.

The new work was set in wider than the base of the walls and piers within and without (except at the east end of the chancel) and carried from A B B B on plan. Underpinning was unnecessary for the rest, but the foundations were cleared out, Portland cement concrete rammed in, and a water gutter hollowed on the surface.

An interesting example of "The Twist" * was revealed during the excavations. The old foundation appeared eighteen inches out from the plinth at the N.W. corner, diminishing to nothing at the chancel, while on the S. side the plinth-line was the same distance the other side of the foundation line, the error tapering to nothing at the middle buttress of tower. Further investigation showed that inside on the north foundation and outside of the south a fresh line

* The "Twist" found in churches and cathedrals is that divergence in the line of the choir from that of the nave intended to convey to the spectator the inclination of our Lord's head on the Cross.

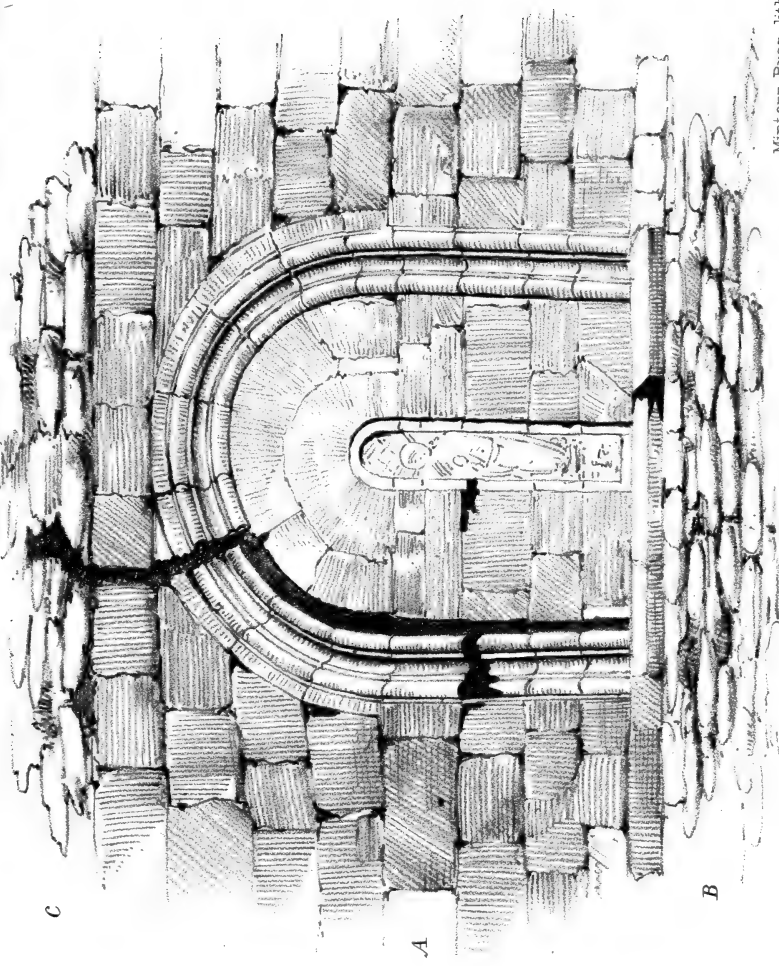
of foundation had been laid down, as if the workmen had set about their task with line and square, but when the ecclesiastical authorities arrived to lay the corner stone they ordered the rather common "twist" to be observed.

Many indications were discovered that all the faced stone inside and out, even the plinth and thin stone foundation which bears it, were additions to an earlier building of rubble-work. (Pl. I., fig. 2). The band of ashlar-work each side of the chancel was a thin face of stone with no bond into the wall. This started our enquiries, and we became more convinced as we proceeded. On the south side a large window or doorway had been cut of the full size and deeper than the ornamental moulding, and there an arch of brick was turned which went through the wall.

Blunders of the early builders came to light during the excavations sufficient to account for the sinking of the fabric. The early builders found that one part of the ground consisted of soft red sand, so soft that no pickaxe was needed to remove it, and another section of hard sand and ironstone. To obviate building on such an unequal basis they threw in a layer of strong pipe-clay about three feet thick and five wide, which appears to have been well consolidated. Perchance they dreaded building "a house upon the sand," though there was no fear of floods in this situation, and neglected to notice that their clay was a part of the "house," and, as it happened, the clay about four feet from the floor line became soft and the worms (an example of the Darwinian observations) made the clay a favourite haunt, and burrowed it through and through, softening and weakening the whole foundation, threatening the final collapse of the fabric.

Upon this clay the foundations, formed of very rough sandstone filled in with sand and earth without mortar of any kind, were put in up to the ground line. Here were more relics (which, see p. 177).

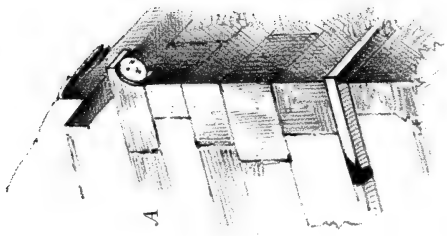
Ecclesiastical customs further aided to endanger the church—*e.g.*, the endeavour of the Monks to bury their dead near to the Holy Place causing them to dig the vaults and graves close to the



Mintern. Bros. lith.

NORTH WINDOW OF CHANCEL.

Fig. 2.



A. NORTH EAST CORBEL ON TOWER.

Fig. 1.

J.W.B. Gibbs del.



foundations, some sepulchres were deeper than the original substructure, particularly on the south side (fig. 3 on plan) ; and it appeared evident also that the Saxon builders did not foresee that their Norman successors would raise a weighty superstructure on the weak basis of their workmanship.

SECTION OF THE CHANCEL WALL AND FOOTING.

(Marked on Plan).

A. Base of pillar, standing upon two courses of thin flat stone, was simply tucked under at a later date.

B. Foundations, large sandstone rock put in roughly, and to a depth of about four feet.

C. A course of flints regularly " pitched " like a floor.

D. A bed of white clay of varied thickness. When wet it was as slippery as grease, and ran into a creamy substance, although dry it became very hard and difficult to remove with the pickaxe.

THE MORTAR

used gives evidence of an earlier and a later building operation. That of the earliest portion of the building—namely, the core between the walls, the rough-footing, and rubble-work—had little lime in it, and the loamy sand and fine grit had been taken from the churchyard, and in colour was umber. The mortar of the ashlar work, piers, and arches, which may be classed as Norman work, was whiter and of better substance, chiefly consisting of lime and grit in equal quantities like that in the work at Corfe Castle ; while both work and mortar of the S.W. buttress, which may be assigned to the 14th Century, was the best, the mortar being as hard as cement.

To preserve the chancel a brick beam, two feet by eighteen inches, was built in all round the walls just above the window arches, and in the centre of this beam a hollow was left, through which were run tie-rods an inch-and-a-half thick, and these were fastened at each angle by nuts and screws. Upright bars were placed at the angles. A couple of sets of bars connected, one running round

the imposts of the arches and the other six feet higher, were worked into the tower.

Although no hammering was allowed the insertion of these bars was a ticklish task, but happily no accident happened. About half-way up the tower, at the N.E. angle, the ashlar had to be removed three feet in height by twenty inches broad. There the core commenced running until no less than eight feet above the hole was entirely emptied out.

The whole of the plaster on the interior walls was picked off. Then the difficulty had to be met how should the chancel arches be kept up? For the cracks had been filled up of old with wooden wedges and plastered over. These having decayed, and the walls being a mass of small flints, chalk, and loamy sand (for there was nothing solid), the core came rattling down like dust directly the plaster was disturbed through the cracks in the groining where the wedges had been fixed. The difficulty of the running core was overcome by removing the loose stones directly the running ceased, washing out the cracks, filling them with Portland cement-grout, and treating the outside face with red sandstone. Underneath the whitewash fresco paintings of figures were found on the lower parts of the groined arches and on the walls round. Traces of these frescoes are now visible. The diagonal ribs were discovered ornamented with red and blue lines.

A STUDY OF THE STRUCTURE.

Insertion of Norman into earlier work (Saxon surely) meets the investigator on every hand. To effect this insertion the Norman masons carefully drew out the rubble-work and fitted the new ashlar in the old.

Outside the eastern wall of the chancel is an illustration of early rubble-work intact from foundation to roof. The original plinth and quoins remain. A Gothic window is inserted into this wall. Of old there does not appear to have been any window, except in the gable a small Norman loophole without decoration, and which had no glass but was closed by a wooden shutter. On the gable-

end there is a cross of modern date roughly worked. In a sketch by the Rev. John M. Colson, 1858, the gable is represented as "hipped-in." On removing the old roof it was patent by the timber that though there were no outward signs the sketch was trustworthy. Some of the stones of the ancient eave's-course were (removed from their original place), and were worked into the south wall as ashlar on some occasion when the roof was being repaired. The moulded corbels on each side of the gable remain in their original position, and formed part of this course, which once ran the entire length of the eaves on either side of the chancel. Three or four of the stones can easily be seen below the eaves on the south.

THE NORTH WALL OF THE CHANCEL

reveals how the Norman insertions were made. For five or six feet from the foundation there is the rough early rubble-work (pl. I., fig. 2, B). Then can be seen a belt of ashlar (pl. I., fig. 2, A.), into which a pure Norman window has been inserted. The coating of ashlar from six to nine inches on the bed is inside and out, but the core of the wall (found while fixing the iron binding rods) is of rubble, and (pl. I., fig. 2, C.) this rubble continues *above* the ashlar until the roof is reached, while the Norman work is notched into the ancient quoins at the angle, and so straight-faced as to leave the older wall crooked.

A CONSECRATION CROSS

is carved in a N.E. angle quoin about five feet above the plinth, another on the capital of the column in the interior on the same level, and there are more crosses at different angles in the chancel.

As on the S. side a moulded eave's-course surmounted this N. wall, at the top of which, near the tower, is a small doorway leading to the tower and priest's chamber over the chancel, evidently reached by a ladder from the exterior. If there was, at one time, no rectory it is supposed a travelling priest did duty and used the chamber as his abode.

The serious nature of the settlement, producing from four-and-a-half to six inches difference, is observed over the arch of

the small window. It seems miraculous that the chancel kept erect so long.

THE SOUTH WALL OF THE CHANCEL

was made, in all respects, like the northern, and it is again observable that there is a difference between the original rubble and the added ashlar. The angle quoins are Saxon. A moulded Norman window has been inserted, afterwards converted into a doorway, perhaps for the convenience of the clergyman as there is no vestry. In the seventeenth century this window was restored. Over it we find modern ashlar-work, as if to strengthen this wall, which seems the weak part of the church, and here were built in in the old times eave's-course.

A SQUINT

of later date points directly in the interior of the church between the choir and the chancel, where there is a raised stone platform about six inches high betwixt the choir and the chancel. Perhaps the altar stood here and the opening was made for the convenience of those attending the Lady Chapel. The squint has a rebate in the head for a wooden shutter, and part of the hooks remain.

A curious instance of reverence interfering with security came to light on this side. About 1840 a buttress was built at the S.E. angle, thirteen feet high and two feet six inches by two feet, battering slightly on the S. front, solid, notched into the ashlar, and tied in the angle with irons. As the buttress was dragging down the wall orders were given by Mr. Crickmay for removal. Lo ! three feet under the plinth a leaden coffin, a stone three feet square across it, upon which the buttress had been erected ! The coffin had given in three inches. This buttress has not been replaced.

THE TOWER

also shows signs of Saxon origin. At first built of square rough rubble-work to the height of the present string-course (in earlier times the eave's-course), half-way up its modern height, and roofed in at the same pitch as the nave and chancel. Then there were no

buttresses, since the foundations of these erected since bear clear traces of being added to ancient masonry. (Fig. 2 on plan.)

Two small windows were undoubtedly in the centre of the N. and S. walls. There are the remains of sandstone window jambs with no grooves for glass but rebates for shutters. The roofs were probably thatched with reed.

The buttresses have been inserted to strengthen the walls outside, while inside we find massive columns and arches added to the earlier wall to enable the Normans to safely raise the superstructure.

Above the string-course the ashlar has been carried up and *worked in with the buttress*, a fact which should make the argument for a Saxon building earlier than the Norman alterations perfectly conclusive.

It was clearly the intention of the latter masons to carry the tower six feet higher than they did. At the top are parts of four windows, one in either wall, at each jamb bases and columns, the latter three feet six inches, without capitals, as if the builders determined to finish off with semi-circular arches, but probably the building showed a tendency to settle, the mixed work at the bottom not bearing the strain, so the windows were built up level with a thickness of walling (three feet six inches), and the two flat gable-ends E. and W. one foot six only, to give a slight run to the roof.

It is to be noticed that the two skew-stones at the bottom of the water-table on E. side are worked to the proper pitch of the roof, but on the W. side they are worked at a different angle, being, it would appear, the ancient skews, when the tower roof was parallel to that of the nave, as if the builders covered in *pro tem*. The tower is now strong enough to bear completion.

The roof was found to be of rude carpentry, great timber principals, purlins, and rafters with rough oaken shingles laid across about three inches asunder covered with cast-lead 3-16th inch thick without wooden rolls, and the lead in good condition. The earliest date scored thereon is 1381.

In the *northern wall* a perfect Norman window has been inserted out of centre in order that the mid-buttress of the three flat buttresses to the side of the tower should have its true position. The appearance of these is curious. They are not alike, and the W. one does not set back (like the eastern) in order that it should come out level with the eaves, or perhaps the earlier work was not upright, against which the buttress has certainly been built.

The iron eave's-gutter was supported on iron brackets, and at Mr. Hardy's suggestion it was decided to use a corbel for that purpose. He drew a stone from the quoin, and discovered that the inner end of the stone was a carved head similar to those round the eaves of the nave, and this head now forms the corbel at the N.E. corner of the tower. (Pl. I., fig. 1.)

The south wall of the tower had a strong buttress placed against it at its S.W. angle (see plan), probably in the sixteenth century. Before this it appears as if there were three flat buttresses like those on the N. To the E. of the mid-one there was a small window, for, on removing the plaster inside, the Norman arch was disclosed. About the seventeenth century a larger window was inserted with a brick arch, which is now cemented over.

THE EAST END OF THE TOWER

is of Norman ashlar-work excepting each side of the doorway (into the bell loft from the priest's chamber), which is rough rubble-work. This doorway is square-headed and square jambs. The east window of the tower has two moulded jambs—a round centre column of sandstone—and the stone head was added in the place of a wooden lintel in 1881.

THE WEST WALL OF THE TOWER,

from nave gable to roof, is of Norman ashlar-work. The window (above the nave) not quite so wide as the others, is in the same style with foot ornaments to the columns like those in the chancel. A wooden lintel was removed in 1881 and a stone head put in its place.

Opposite to, and level with one at the E., is a square-headed doorway, at the bottom of which, in picking off the plaster, a rough groove, the whole width of the N. joint, was brought to light. This is at the entrance to the bell loft, and, as each of the four bells (see Bells, p. 177) will go through the opening except the largest, and its rim is the exact width given by the extra groove, it was evidently knocked out to admit the big bell.

THE NAVE.

The exterior of the nave is adorned with strange Norman corbels along the eave's-course of rude workmanship and vulgar design. Iconoclasts have smashed the most interesting. Cheek by jowl with stones, bearing these curious decorations, are some heads showing advanced skill, chiefly designs of animals. The harebell represented within the building also figures upon some of the corbels, and one of an octopus on the N.

THE SOUTH WALL OF THE NAVE,

up to the eave's-course, is mainly rubble-work. The porch is modern. (Fig. 4 on plan.) There were probably two narrow Saxon windows in this wall similar to those on the N. (The two quoins, fig 5 on plan, are ashlar.) The old doorway was here also. Two large semi-circular windows have been inserted, one each side of the porch. The doorway is Norman. The plinth is in good condition, having been buried in the soil. It has been surmised that the Normans inserted the plinth and seven-inch course of ashlar on the top of it when they altered the church. The N.W. (pl. I., fig. 2) small window proved an interesting study.

It certainly displayed both outside and in, similar to those of the Saxon church of S. Lawrence, Bradford-on-Avon, but the Normans inserted jambs and arches in the outside part of the window, which account for the two arches found here one inside the other. The N.E. window was evidently like this one, but a doorway had to be cut through, to reach which a flight of steps outside led to the entrance of a gallery, which was constructed about the middle of last century along the N. side of the nave.

THE WEST END,

it is believed, was a plain wall with no window. The Saxon work rises as high as the eave's-course. There is now a large semi-circular window of a late date with plain jambs. Probably there was a gable-end with water-table, but this has been rebuilt. A fine old Maltese cross stands at the gable-end.

THE INTERIOR OF NAVE.

The floor line is remarkable in running towards the chancel—three to four inches in ten feet. Under the floor are from three to four feet of human remains and sand.

In taking off the plaster to fix a match-board dado on the north and south walls a line running all round the nave parallel with the floor line was discovered, $2\frac{1}{2}$ inches wide, of red and blue distemper. This colour was laid on very thin plaster close to walls and finished off at the jambs of doorways with ornamental finials.

INSIDE THE CHANCEL

are four columns (see plan), one at each angle, with a groined arch, the diagonal ribs of which are semi-circular stilted. The groins are of Purbeck "burr" and soft enough to be carved with a knife, wondrously light for such architecture, being porous; the "burr" is unfitted for facing. The stone can be obtained only from rocks which appear at low tide thirty yards E. of the stone quay at Swanage. There are no other arches in the neighbourhood turned with this stone. A proper radiation has been maintained of the stones in the arches.

The rough rubble-work of the three walls reaches a height of about four feet.

Above the E. window, one of a later date, a large crack filled in with red sandstone shows the settlement. As a whole the window went to the S. and drew the jamb from the rubble work. The outside N. jamb projects two or three inches from the inner.

The later builders left the E. wall of the chancel untouched. The N. side was hidden by plaster until the preservation. It has

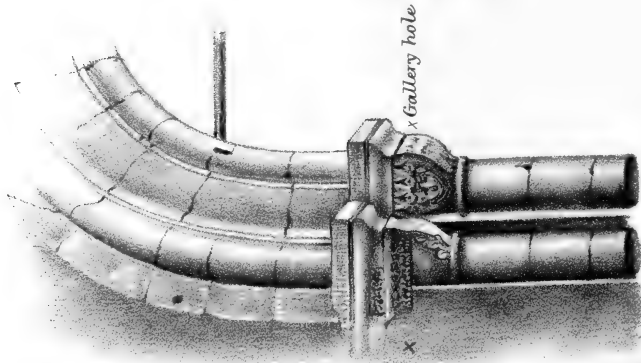


Fig. 1.

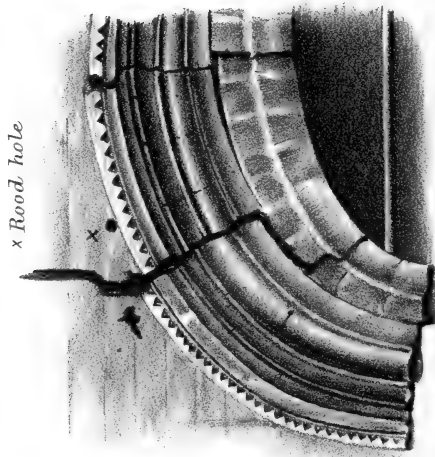


Fig. 2.

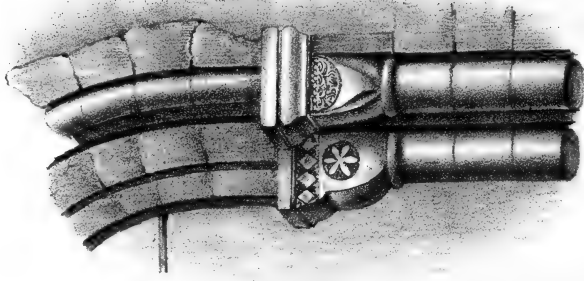


Fig. 3.

a Norman window with a splayed arch and ashlar-work running level with the sill up to the groin. The ashlar is from six to nine inches on the bed, so that the facing only of the rubble-work could have been removed to build this. Here, again, the ancient work appears crooked. The window shews the effect of the collapse of the fabric. The crack is filled in with red sandstone. The jambs have been cut about very much.

Here stands an altar-tomb of Purbeck marble ; the brasses which were on the shield have been demolished.

Three of the Colson family filled the rectorial office for more than a century. The stained glass window in memory of the Rev. T. Colson, forty years rector, is dedicated to the patron S. Nicholas. There is also a marble tablet in memory of the Rev. J. M. Colson, rector for fifty-one years.

The floor (from the choir to the chancel) has been restored to its original lines. It was level with the top of the bases of the columns. The ancient bases and the skirting-courses were discovered during the excavation. The tombstones have been relaid, as near as possible, in their former positions.

THE COLUMNS OF THE CHANCEL

need a few words of explanation. The N.E. capital bears the consecration cross ; that of the S.W. possesses but one perfect, the others being destroyed when the faces of the capital and of the rib, starting from the N.E. capital, were cut off to make room for the tablets. The S.E. column is carved differently to the others. The S.W. and N.W. columns and pilasters were destroyed, with the exception of the bases and about six inches of the shafts. Pilasters without any column were added here and at the N.W. to strengthen the old capital in 1881.

INSIDE THE CHOIR

the bases of the columns on the platform are six inches higher than those of the chancel. The Norman arch suffered severely (pl. III., fig. 2), by the settlement, and became very distorted.

There is reason to believe that it is built inside a Saxon stilted, square-faced arch, the capitals of which are about eighteen inches higher than the latter, which are cut in behind the earlier moulding. All the arches are slightly stilted. The earliest capitals are unique in decoration, the subjects being fern and harebell simply treated, why not acanthus? as at S. Mark's, Venice, and also in Romanesque work. The two rough corbels under them (very plainly inserted since the Saxon work) seem to have supported a rood-beam; the three holes to fix the rood to the ashlar-work are seen above the Norman arch. (Pl. III., fig. 2^x.) And over these are the remains of a fresco, representing a standing figure, with one kneeling on either side of him.

Zig-zag moulding (surface carving) ornaments the outer moulding of the arch. The window dedicated to the Virgin Mary is in memory of Miss L. C. Luckham, and is dated 1884.

The walls of the choir are of rubble-work. The bell loft is above. The ceiling, which is groined as in the chancel, is supported by Purbeck "burr," and the skirting-course runs round, as in the same portion of the chancel.

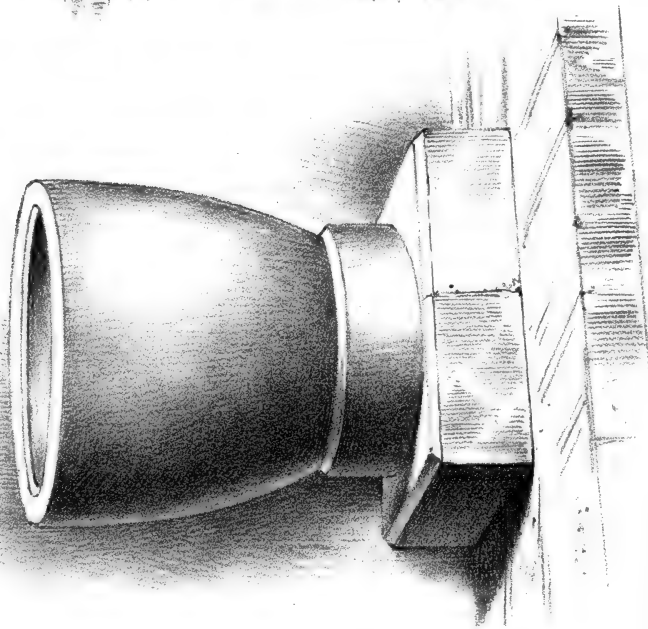
The nave arch again shows the settlement. Here stands a slightly stilted Norman arch, with hatchet and basket moulding on the capitals. The basket work is to be noticed as it occurs.

The end beam of a side gallery was once inserted in the N. capital (pl. III., fig. 1), the hole of which, six inches square, is stopped with Roman cement, and carved to imitate the stone—an unsightly botch. Rudely-carved foot ornaments, very like those at Wimborne Minster, are at the bases of the columns.

The stained glass S.E. window perpetuates the memory of one of the Bankes family.

THE FONT

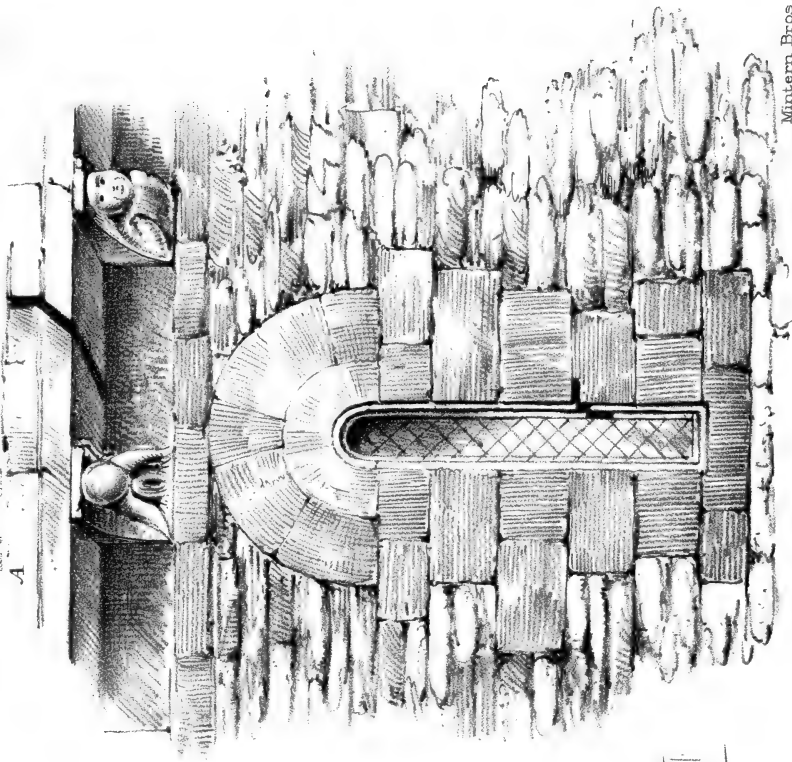
stands under the gallery at the W. end of the church (pl. II., fig. 1), very ancient, rudely axed out of Purbeck "burr," with a rim four inches thick, and it was either lined with lead, or rimmed for a cover—perhaps both. The stone which supports the bowl is a



J. W. B. Gibbs del.

FONT, STUDLAND.

Fig. 1.



Mintern Bros. lith.

WEST NORTH WINDOW OF NAVE.

Fig. 2.



window head, similar to the one inserted in N.W. window (pl. II., fig. 2), evidently taken from the N.E. nave window.

THE BELLS

lend scope for conjecture. Three were cast in the seventeenth century, but the large one bears the astonishing date 1065; that is about the supposed date of the rubble-work of the earliest builders of the church.

S. Æthelwold's Benedictional shows five bells in a tower of the tenth century. Bede, A.D. 674, mentions "the hearing the well known sound of a bell," perhaps one of hooped wood in an open turret, and maybe the Studland bell was at first in such a turret, and was taken down when the tower was enlarged. This bell bears an inscription *in English*—"Draw nigh to God." It has been suggested that the date should be 1605; but it is not, it might have happened in reversing the figure in casting.

Again, it is an *inferior bell* to the rest, showing fire-cracks and sounding ill. The learned in campanology should doff their coats and examine the problem. They have never done this. There were certainly cast bells in England thirty years before 1065.

INTERESTING RELICS

were unearthed during the excavation of the trenches for underpinning purposes. Three distinct layers of burials with the upper graves of the modern type, the second "cists," for which rough, unhewn, Swanage stones had been used to surround and cover the bodies, and beneath these, lying in a line approaching N.E. to S.W., were "cists" formed of rough local flints and some stones. The remains were re-interred at a greater depth in the hard sand beneath the concrete.

Under the S.E. corner of the tower it became necessary to go down twelve feet. In excavating, a brick grave containing a coffin was found touching the S. chancel wall. There was no inscription and it was reburied under the yew tree, thirty-two feet N. of the N. door of the nave.

Four feet from the N. chancel window another rough Swanage stone "cist" was discovered, but not disturbed. And between the tower buttress and the S. porch a "cist" of hewn stone, corresponding to the Norman work of the church, was found and had to be removed.

In the old foundations were bedded massive stone steps, rudely axed, with morticed holes, about four inches square, to admit the door-jambs—evidently non-ecclesiastical—evidently remains from some very ancient villa, Saxon holding, or strong keep, worked out of local sandstone of the consistence of the hoary and lonely Agglestone Rock on the heath. Also a huge keystone of an arch, suitable for a radius of five feet, was turned up; likewise a hand-mill formed by two round stones about eighteen inches in diameter, one of them having a hole at its centre.

IN CONCLUSION

I think that the facts herein contained speak for themselves, and deserve from antiquarians their best consideration. At every point there are problems for which there seems to be but one legitimate and logical solution—viz., that a Saxon, rough, rubble-work building, was improved by Norman insertions. If so, then the church at Studland is one of the most ancient remains in our country, and deserves to have its fame spread and its uniqueness recognised. With facts before us of original foundations (see plan), old red sandstone steps, and stones to match, and window jambs, and mouldings, &c., very roughly axed, we are bound to say that on this site building operations were carried out at a very early date. It might have been a Roman stronghold or look-out hiding-place for the use of the good people of Wareham, Corfe Castle, and Wimborne. We also find that in the middle of the seventh century S. Aldhelm built a church near his own estate "not far from Wareham, in Dorset, where Corfe Castle stands out in the sea," the remains of which are still visible, as has been pointed out by Mr. T. Bond in his valuable Treatise on Corfe Castle, in the south wall of the western, or second ward. From architectural peculiarities

traceable in Worth and Studland Churches, and S. Martin's Church at Wareham, these buildings, in their original form, may be assigned to the time of S. Aldhelm, if not to his personal superintendence.





Our Ancient British Urns.

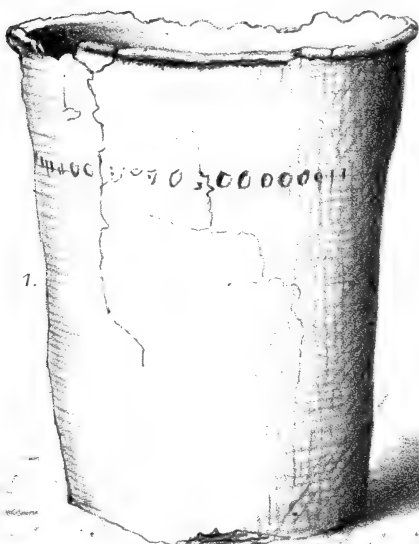
By Dr. WAKE SMART.



WITH a wealth of Ancient British pottery in the cabinets of private collectors in Dorset, and in the public Museum, and in Libraries with illustrated works relating to the subject, I am not aware of any attempt having been made to reduce the facts thus obtained to a systematic order or classification, by which their value may be better understood and appreciated. It may be thought a presumption on my part to attempt or even suggest any action of the kind alluded to, and, if induced to do so, my motive will be simply to place the facts we have at hand in a clearer light, with the hope of improving our knowledge and increasing their value as historical data.

In his "Description of the Deverel Barrow, opened in A.D. 1825 by William Augustus Miles, Esq.," there is an introductory letter from his friend and patron, the late Sir R. C. Hoare, Bart., of Stourhead, wherein the worthy Baronet writes as follows:—"I have been for many years past engaged in opening the numerous barrows about Stonehenge, Abury, and Everley, in Wilts; and you have been more fortunate in this *one* Tumulus than I have been in *hundreds*; nor have I, in my Museum, more than one [urn] of the upright form, like those numbered 2, 3, 7, 12, 15, 22. I can safely pronounce your urns to be of the earliest British manufacture,

SIX CELTIC URNS. IN THE DORSET COUNTY MUSEUM.

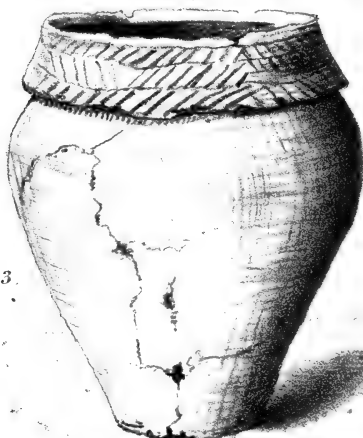


1.



2.

(Cylindrical) Winterborne Clenston Given by M^{rs} Michel
(Cylindrical) Winterborne Whitechurch. (Shipp Coll^o.)



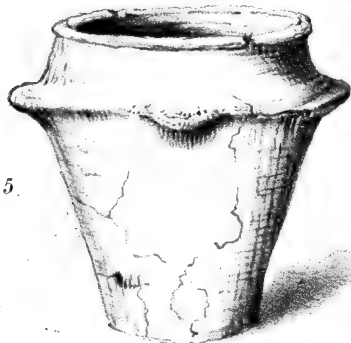
3.



4.

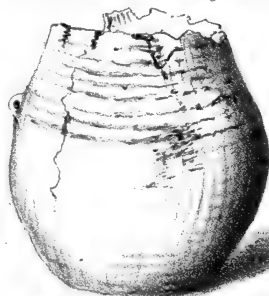
(Conoidal) Winterborne Abbas. Given by M^r Manfield.

(Conoidal) Near Wareham. Cunnington Coll^o.



5.

(Conoidal) Roke Down. Warne Coll^o.



6.

(Globular) Winterborne Whitechurch.
Warne Coll^o.



which their coarse texture will sufficiently evince ; they also differ materially in form from those I have found ; but still the favourite zig-zag ornament of the Britons is observable in *your* urns as well as *mine*.”—(Dated, 1826.)

Now let me observe that in this quotation there exists the germ of a classification that has never reached the stage of maturity. And it is my wish now to invite particular attention to these striking remarks, and to deduce from them some important considerations. In his interesting book Mr. Miles gives us six Plates, which contain nineteen figures of urns from this barrow, of which those whose numbers are referred to by Sir Richard Hoare are all of an unusual type, being more or less cylindrical, such a type as he had never but once, as it seems, met with in Wiltshire. This is a remarkable fact in the experience of such a close observer, and must point without doubt to a distinct difference between the sepulchral urns of Wilts and Dorset. These Dorset urns, of cylindrical shape, would seem to denote an earlier style of manufacture than those he had found in Wiltshire. I shall return to these Plates again presently, but at this moment call attention to the fact that the urns numbered 2, 3, 15, 22 are not only cylindrical, especially so the two last of them, but are also, according to Sir R. Hoare, of coarse texture, and ornamented in a very rude manner with irregular marks or indentations, which may have been made by the workman's finger-nail, or, as No. 2, a band of circular impressions, which may have been made by the ball of his thumb. In Mr. Warne's Plates to his work on "The Celtic Tumuli of Dorset," on Plate 3, Pokeswell, there are figured two urns of this type ; and in Plate 5, Rimbury, there are several of this form with similar rude and simple ornamentation. Now the question naturally arises, whence is it that these primitive forms are found in Dorset, and not in the adjoining county ? The question may admit of a two-fold answer : 1st, that the one county was peopled with an earlier race of people ; 2nd, that the other, if peopled with an equally ancient race, had undergone changes which its neighbour had not experienced. I am disposed to accept the latter explanation.

Our earliest civilisation has come to us from the East. If so, in the natural course of events the Wiltshire Plains would receive the earlier beams of that civilisation which, gleaming from the Dover Cliffs and the shores of Kent, made its way along the course of the Thames, and through the Wilds of Andred to emerge with clearer effulgence on the Plains of Wiltshire. Without pursuing the metaphor, we may imagine that the Belgæ, a commercial, if not a warlike people, would prove themselves to be the pioneers of the Bronze Age, and thus these incursions would gradually supersede old customs and habits, and introduce new methods of art, in clay as well as metal. Thus I can conceive that the Bronze Age established its footing in Wilts before it settled itself in Dorset; consequently old habits, old customs, and modes of thought continued longer amongst the Celtic race of Dorset. To assign a date to the period when these changes began is beyond our power, but we shall not be far wrong if we carry them back several centuries before the Roman Invasion. Stonehenge is unquestionably a monument of the Bronze Age; Abury of the Stone Age. It is a fact that Bronze Weapons, the elaborately ornamented Drinking Cups of fine texture, and the Incense Cups, as they are called, are all more frequently found in the Tumuli of Wilts than of Dorset, pointing to the higher generalisation that the Bronze Age was established in our neighbour county before it revolutionised Dorset.

Now, to return to the Deverel Barrow. Of the nineteen or twenty urns which are given by Mr. Miles, ten of these are of the globular form; all of them embellished with bands of linear indent, and some with the vandyke or chevron pattern also, round the upper part or neck of the urn. They have many of them perforated ears or loops to admit a thong or twisted vegetable fibres for suspension. This globular shaped vessel is by no means uncommon. Thus in Plate 2, Celtic Tum., there are two of this kind shown from barrows on the Ridgeway and Came, each ornamented with the usual circular and zig-zag lines. In Pl. 3, Pokeswell, two of this description; in Pl. 6, two more from Whitechurch. At Plush in

1871 a large number of sepulchral urns were discovered in a bed of large flints; there were, it is said, so many as 30 or 40 which contained bones and ashes, all of which were destroyed with the exception of two or three, two of which were of globular form with band of indented lines round the upper part. [See a communication from the late Canon Bingham, F.S.A., in *Proceed. Soc. Antiq.* 2nd S., Vol. 5, p. 112.]

In "The Barrow Diggers," Plate 8, are figures of two urns of this form which were obtained from barrows on Charlton and Littleton Downs.* A third urn from the same spot by Mr. Durden is of the sub-cylindrical shape, 18in. in height and 10½in. in diameter of mouth, rudely impressed with the finger and thumb. Urns of the globular form have been so often found in the Dorset barrows, and so rarely elsewhere, that we are induced to claim them as peculiar to this county. This suggestion was first made to me by Mr. Moule, who was quoting the "Archæological Journal." It may not be easy to explain the origin of peculiarities of style in an early period, but there can be no reasonable doubt of the fact. We must bear in mind that at this period fictile vessels were hand-made without the potter's wheel, and that consequently much depended on the taste and skill of individual workmen. The size of these globular urns varies a good deal. The specimens in our Museum measure thus: 1. From Whitchurch S. Farm (Celt. Tum., pl. iv.) ; height, 11in. ; diameter of mouth, 7¾in. ; girth, 2ft. 11in. 2. Pokeswell (Celt. Tum., pl. 8) ; height, 8¾in. ; diameter of mouth, 7in. (?); girth, 2ft. 8in. (?). 3. Chesilborne; height, 8½in. ; diameter of mouth, 7¼in. ; girth, 2ft. 1¾in. In the last place I will draw attention to a third description of cinerary urns, of which we possess some striking examples, and which are more generally

* This somewhat singular work is attributed to the pen of the late Rev. Charles Woolls, curate of Sturminster Marshall. It is dedicated to the Rev. Thomas Rackett, M.A., F.R.S., F.S.A., rector of Spetisbury. It gives an account of the excavation of a large barrow at Shapwick with much expense, time, and labour, and very little profit. There are some valuable notes in the book, and a few good plates of antiquities, &c. Printed by Mr. Shipp, Blandford, 1839, p. 122.

known than those of the two other kinds already mentioned, and are more widely distributed throughout this country. These vary much in size, in modification of form, and in modes of ornamentation, yet are reducible, as I think, to one and the same principle of classification, as I will endeavour to shew before I conclude this paper.

In a very charming little volume written and published by the late Edward T. Stevens, F.S.A., of Salisbury, entitled, "Jottings on some Objects of Interest in the Stonehenge Excursion of the Wiltshire Archæological and Natural History Society," on August 24, 1876, two years only before the author's lamented decease, a deplorable loss to archæological science, he, on p. 179, speaks of "barrel-shaped" urns, which, it is said, "although rather common in the barrows of Dorset, are rare in those of Wiltshire; only one from a barrow within a third of a mile from Stonehenge is figured by Sir R. C. Hoare. It is the largest obtained by him entire, and measures over 22in. in height" [and 15in. in diameter of mouth].* These dimensions, however, have been exceeded by those of an urn found at Bishopstone in 1867, now in the Blackmore Museum: "The largest hitherto found in Wiltshire, 'barrel-shaped,' and measures over 24 inches in height." (P. 177.) Unquestionably, it is a noble specimen of cinerary urn, but why Dr. Thurman should have classified it as "barrel-shaped" is not so obvious. Strictly speaking it is not at all of that form; conoidal would, I think, have been a more appropriate designation. Urns partaking of this character are certainly very well known in Dorset, whilst a true "barrel-shaped" one would be rarer than any other form known here.† By the kindness of my friend, Mr. Moule, our excellent

* There is a figure of this urn of conoidal form in a Pamphlet by Sir R. C. Hoare giving an index to his discoveries in the Barrows of Wiltshire, with plates of the different kinds of Tumuli. This Pamphlet is become very scarce. Shaftesbury: Rutter, 1829.

† There are two examples of this bi-conoidal type in the Dorset Museum; they are small urns, but well marked specimens of this rare form; one in Mr. Cunnington's collection from Little Puddle, the other in the Warne collection.

curator, I am enabled to give the dimensions of a few of this *conoidal* class of urns in the Dorset Museum :—1. From Winterborne Clenston, urn, height, 21in. ; diameter of rim, 15in. 2. Whitchurch (Shipp collection), ditto, height, 20½in. ; diameter of rim, 17¼in. 3-4. Lord's Down, Dewlish, ditto, height, 16½in. and 16in. ; diameter of rim, 13½in. and 13in. 5. Rimsbury (Warne collection), ditto, height, 16in. ; diameter of rim, 9¾in. 6. Winterborne Abbas (by the late Mr. Manfield), ditto, height, 16in. ; diameter of rim, 11¾in. One of the finest urns of this class ever found in Dorset was disinterred by Mr. Shipp from a barrow on Roke Down, and is now in Mr. Durden's Museum. It measures 18in. in height, 13½in. diameter of mouth, 15in. diameter of bulge, and 7in. diameter of foot. Its contents were thirteen gallons of earth, ashes, and human bones. (Celt. Tum., Warne.) This affords a criterion of the capacity of these large urns. On Whitchurch Downs in 1864 Mr. Shipp discovered an urn 22in. in height, and in circumference 53in. It was of plain cylinder shape, decreasing in size to the bottom (*conoidal*), and contained calcined bones and rudely chipped arrow heads. It has a greater capacity than the Roke Down urn, and is the largest yet found in Dorset. (Celt. Tum. No. 41, Warne.) On Launceston Heath Messrs. Warne and Shipp excavated two barrows, from one of which they obtained a fine urn 19in. in height, 14in. diameter of mouth, with 16in. diameter of bulge, ornamented round the top with a series of vandykes resembling pointed Gothic arches, and vertical lines to the foot. The other urn was less ornate, but very like the other in form and size. (Celt. Tum., Vignette.) From Bloxworth Down an urn 17in. in height and 15in. in diameter, filled with calcined bones and ashes, was found (*ib.*) On Boveridge Heath an urn of coarse material 9½in. in height and 12in. diameter of mouth, simply and rudely ornamented, inverted over a deposit of calcined bones and protected above by a large sandstone * (*ib.*) From Merley Heath the Rev. John Austin procured a fine urn—height, 17in. ; diameter

* This urn has been lost, but from a sketch of it which I have it might have been included in the globular class.

of mouth, 12in. (Plate 7, fig. 7, Celt. Tum.) In "The Barrow Diggers" (plate 9, fig. 4) is a fine urn from a cairn of flints at Puddlehinton—9in. in height, 7in. diameter of mouth, 24in. circumference at the top, and 16in. at the foot. This urn is one of a numerous family which present a great variety in form and ornamentation, extending from the base of the cone or shoulder of the urn to the rim or mouth. All such are of the conoidal class.

I have adduced examples enough to illustrate the classification I have adopted in this paper, which resolves itself into the three following heads, viz. :—

1. Urns of the cylindrical or sub-cylindrical form.
2. Urns of the globular form.
3. Urns of the conoidal form.

And in conclusion—

"Si quid novisti rectius illis
Candidus imperti ; si non, his utere mecum."

T. W. W. S.

May, 1891.





The Portland Stone Quarries.

By Mr. A. M. WALLIS.



CARRYING stone in Portland dates back from a very early period. The banqueting house at Whitehall was constructed of material brought from Portland in 1610. After the great fire of London it took the form of a trade. St. Paul's Cathedral and other public buildings were built of Portland stone. All of the quarries are worked from the top, and it was necessary to remove from ten to fifty feet of the superincumbent Purbeck beds before the Portland beds could be reached. The site chosen was near the edge of the cliff where the Purbeck beds could be conveniently disposed of and not far from the place of shipment of which there are many evidences; remains of piers may be traced around the island. Few would believe that a pier was ever erected in the West Bay, but there is one, however, at a place called Little Bow, near the Tar Rocks. The Purbeck beds are locally known as *Rubble* and *Cap*—1, Rubbly bed, composed of clay and shivered stone; 2, clay seam; 3, hard slate; 4, bacon tier, composed of stone and clay; 5, seam of clay, dark brown, streaked with green; 6, a layer of soft stone called *aish*, which, when solid, is very white and used for whitening hearthstones and doorsteps; 7, soft bur stone, coarse-grained, and used in the

island for building. The bur rests upon the dirt bed, which at one time supported a forest; silicified conifers and cycadea, locally known as bird's nests, occur in some profusion, the trunks of the conifers penetrating through the soft bur above. The roots occur occasionally in the underlying *cap*, which, with the scull cap terminates the Purbeck series. The dirt bed is only about a foot thick, so enormous has been the pressure to which it was subject. Stumps of trees are found standing five or six feet above, which measure from four to five feet in diameter. They usually bend towards the south-east. In addition to these fossils the dirt bed contains rounded blue stone, which, when broken, gives off a disagreeable smell. The *cap*, which is from six to eight feet in thickness, intervenes between this and a second dirt bed in which cycadea (bird's-nests) occur. It is a very hard stone, and forms a bed which has to be blasted before removal. The last bed of the Purbeck series is the *scull cap*, from two to three feet thick, and which rests on the Portland bed. Various means are employed for blasting this hard obstinate *cap*, the one mostly in vogue at present being dynamite fired by electricity. Several holes can be exploded simultaneously. These are made with a drill of steel from four to five feet in length and about an inch and a-half in diameter with a flattened cutting edge which, being wider than the bar, makes the hole large enough for the bar to clear it. When the drill has been driven down to its full length a bar of iron from eight to ten feet in length with similar cutting edges is substituted. This bar, termed by workmen a *juniper*, is held by two or three men, and is continuously lifted up and let down with force until the hole is of sufficient depth. The holes are usually placed in a line six or seven feet apart and from eight to twelve feet from the outside. When charged with dynamite and the fuse ready two very fine wires insulated with gutta percha are fixed to a rod of wood which keeps them in position. The detonator, which is placed in a small cartridge of dynamite, is attached to the fuse and secured in such a way as not to allow the admission of water, which is poured into the holes after the introduction of the detonator. Two stout

insulated wire cables attached to hand reels are fastened to the two outside holes ; these are of sufficient length for the operator to keep at a convenient and safe distance, and he, after connecting the cable with the electric apparatus, fires the dynamite. Another method is by wedging. To effect this iron *pigs*, or pieces of iron 16 inches long, four broad, and two and a-half thick are used. Two of these, placed one on the other, are inserted along the face of the bed in several places ; sometimes there are as many as eight or ten of them ; four large wedges are hammered in between the pig irons. A man armed with a sledge hammer from 16lb. to 20lb. in weight is required for each set of wedges. When all are ready every man strikes with accurate precision to the time given by the leading hand. This is termed reaming the *upper cap*. Each quarry is worked by four or five men and a boy, termed a company. In case more hands are wanted, others are borrowed from a neighbouring quarry, who are expected to bring their own tools with them. These are repaid by lending quarrymen on the same terms. A block of stone weighing two or three hundred tons can be moved by this method. It is then blasted, and the pieces are removed by a crane on a trolley and thrown away. The scull cap, which is equally valueless, is treated in the same manner, but with less difficulty and trouble. This is the lowest bed of the Purbecks, and is succeeded by the Portland beds. The first of the series, called the *roach*, has several joints passing through it named according to the direction they take—souther, east and wester, north-easter and south-easter, or raingêr. Fissures, termed by the islanders *gullies*, from one to three feet in width in a south-west and north-west direction, and from 30 to 60 yards apart, form the headings of the quarries. The quarryman's object is to find a suitable joint, which is sometimes difficult, as they are often closed up. A thin layer of soil usually covers the *roach*, and is very hard, but with the aid of a pointed tool it will fly out along the joint. Holes, or trenches, eighteen inches long, from eight inches to a foot deep, and six inches wide, are worked through the joint, the number depending upon the size of the rock which is to be moved. Iron pigs are then hammered

down tight ; between these wedges are introduced, made of the best Swedish iron and weighing from seven to nine pounds each. After a few blows from sledge hammers the rock cracks along the joint ; occasionally the rock will not *start* and the trenches will break up ; this is called *spurring*, and fresh trenches have to be made. Minute shells occur under a thin bed lying on the top of the *roach*. As soon as the piece is separated from the bed the wedges are driven down, and with the aid of flat pieces of iron it is moved six or eight inches apart ; this is called *reaming*. Some of these pieces, weighing from 150 to 300 tons, can be moved by seven or eight men only. During the process of moving these large pieces, some of the joints will occasionally separate, and if not it is disjoined by force, it is then turned on its side by the help of a crane. Before the introduction of this useful and labour-saving machine it was usual to borrow men from the neighbouring quarries. Huge pieces used to be turned with iron bars and cog-wheel jacks by ten or twelve men, some of whom would *heave* on the jacks while others took a short nip with the bars. When everything was ready one man would say "Stran all so-o ay-so-ay," when the rest would haul with all their strength as each syllable was uttered. The process is called "hauling the rock down." When in this position the next thing to be done is to detach the *roach* from the underlying whit bed, to effect which a V-shaped pit or trench is made at the junction, into which thin pieces of iron from ten to twelve inches long and capable of standing great pressure are introduced. These are then tightened up with wedges ; a few strokes of a sledge hammer will effectually separate it from its associated bed. *Roach* varies greatly in different parts of the island both in structure and thickness ; it usually consists of numerous casts of shell. At the *Bill* the *roach* is made up of small oyster shells. It makes good material for rough walling, is very porous, and not affected by frost. It is well adapted, too, for sea walls and foundations of buildings. When in large blocks and laid in its natural position it will resist any amount of pressure. The whit bed to which the *roach* is attached when discovered is set apart for use, and if free from joints large

blocks of from ten tons and upward can be brought under the quarrymen's hammer and *squared*. In squaring the largest side is usually taken first in a vertical position. The tool used is called a *kivel*; it is a kind of hammer weighing from six to eight pounds; the head is oblong, three inches in length and one inch and a-half wide, slightly hollowed so as to give it two cutting edges; the other end is pointed and termed a *broach*; the handle is a little more than two feet long; a larger *kivel* from 16lb. to 20lb. in weight is used to break off the large pieces of rough stone, which is called "knocking off the rough." The quarrymen are so accustomed to the work that they can guide the tool with the utmost precision, and, by keeping time with each other, make every stroke effective. As soon as the rough portion is removed by the *kivel* the block is chopped over with an axe, which gives the stone a rough finish; it is then turned over and *squared*. A competent man measures the stone when it is finished and marks the number of cubic feet it contains. The trade mark of the firm and the quarry mark are cut upon the face of the block by the quarrymen. Sixteen cubic feet is allowed for a ton of Portland stone or roach. A block may be known whether it is sound by striking it with a piece of iron or some hard substance. If sound it will give a good ring, but if rotten or *venty* it will give a discordant sound, and by placing the hand on the stone when striking it the vent may be detected by a slight undulating motion. In some parts of the island the whit bed is intersected by hard silicious seams or *bars*, as they are locally termed. The stone is generally lifted or split along these *bars*. At others there are two or three seams of shells which run parallel to the bed; they generally consist of *Perna mytiloides* and *Pecten lamellosus*. The stones from these quarries are generally of large size but inferior quality. The stone from the north part of the island is the best; it holds its length from five to eight feet, it is free from shells, and composed of oolitic grains; its colour is brownish or buff colour, and easily worked. It stands all weather, and can be easily distinguished from the white whit bed. The usual fossils met with in the whit bed are teeth, vertebræ, and bones of fish.

A layer of flint from six inches to a foot thick separates it from the *lower* whit bed, which varies in thickness from two to five feet; below it again is another flint seam succeeded by a bed of whitish stone intermixed with large black flints. This bed, too, rests upon a seam of flint fifteen inches thick. In some parts of the island these beds are absent, and the whit bed rests on the *curf*, with a thin seam of flint or *shelly bar* intervening. The *curf* is usually sand, and capable of being squared up into blocks. It is very white, compact, and not oolitic, but is useless when underlying the whit bed and flint. From the *curf* downwards the large Ammonites and Pleurotomaria occur, but they predominate in the *curf*. The base bed differs widely in different parts of the island. When protected by the Purbeck and Portland beds the stone is white with a fine oolitic grain. On the west side of the island, however, it is soft and in a rotten condition, and quite useless for quarrying. In the quarries when the base bed underlies the whit bed, which is not adapted for the market and is unprotected by the Purbeck bed, it is of good quality, eight feet thick, and harder than the protected base bed. Although this stone is good for building purposes, it cannot be relied on like the brown whit bed, and owing to its more compact material is liable to be affected by frost. The joints are more open than those of the whit bed, and it is cut up to size with greater facility. It is the lowest bed that is of any economic value, and is often called the *Base bed*. There are some twenty or thirty beds on the west side of the island intervening between it and the Portland clay and sands, fifty-five feet thick in the aggregate. Some of these are quarried by the prisoners for building and for the fortifications of the Verne Citadel. Two of them, termed flat beds, were used for the Admiralty works at the Breakwater. They are about three feet thick, of a white to a bluish-gray colour, with hard close grain containing a high percentage of silicate. It is a good building stone when defended from the weather. This and all other close-grained stone is unfit for use when the sea bottom is muddy, being liable to the attacks of boring worms.

CURIOUS CUSTOMS.

There is a curious old custom which is still practised by the quarrymen called "The Jump." On the return of a newly-married man belonging to the quarry to his work arrangements are made for the *pay off*. It was compulsory at one time for the men to pay five shillings or to *jump*; now it is a matter of choice whether he will do either, but as a rule he will not get much peace until he has complied with the general custom. When a *pay off* is to take place notice is given to the men of the neighbouring quarries. Sometimes five or six sets of quarrymen will assemble and dine together. As soon as dinner is over preparations are made for the *jump*. A piece of thin wood is held at one end by the man who was last married, and at the other end by the man who is likely to be married next. The piece of wood is held at a convenient height to jump it with ease, the married man standing on one side and the unmarried man on the other. A man stands by the side of each man who holds the board armed with a stick, whose duty it is to strike him while he is jumping. Before he begins another man stands forward, and with his hat off he reads the law, as it is termed, the custom, which is as follows:—"Young men and bachelors, I bid you all adieu, married men and Kohers I come unto you." The jump is to be made while the last sentence is uttered. This is generally repeated. He then reads the law relating to those who do not observe the rules, such as omitting to take their hats off, talking, or otherwise out of order. The afternoon is then spent in a genial manner. I consider the above originated from some ancient marriage custom, probably Celtic or Saxon. There are many Celtic words in common use in Portland. *Kimlin* is familiar to every Portlander. It designates one who is not a native of the Island, and although he may have resided many years there he is still a *Kernlin*. *Drew* a way through a kind of stile, and many other words are in use among the people here. There is another custom now obsolete termed *Binding-day*, which persons now living can remember. It was observed on the Wednesday of the seventh week after Christmas Day, when men and women took anything

they could lay their hand on from their neighbours, including wearing apparel, which could be redeemed by paying a small tribute. On that day there was no law to interfere. The custom is said to have originated from an attack upon the islanders by some foreigners, who killed all the men they could find on the island and saved the women alive. Many men hid themselves, and when the foreigners thought they had gained the confidence of the women and were safe they and the men who were hidden rose and killed the foreigners.





Report on the Returns of Rainfall
AND
Observations on the Flowering of Plants and
Appearances of Birds and Insects
IN DORSET DURING 1890.

By M. G. STUART, Hon. Sec.



THE report for the year 1890 is drawn from returns made from schedules, which were prepared by a Committee in the winter of 1889 to suit the features of the Fauna and Flora of Dorset. The importance of a uniform system of making these observations becomes more apparent since the experiment of drawing out a return for the County has now been carried on for three years in succession. Mr. Edward Mawley, the Phenological Recorder to the Royal Meteorological Society, in a paper read before the Hertfordshire Natural History Society in 1891, draws attention to this matter. He says the observer should watch "the same individual trees and shrubs, and as regards

herbaceous plants those growing in precisely the same spots each year." Further, the trees and plants should be average mature plants, situated in neither very exposed or sheltered positions. The first flowers on each plant should be carefully watched for. He defines a plant to be in flower when the stamens on the first blossom of it first become visible. The object of each observer should be accuracy in the recorded observations, whilst attention should be concentrated on a few unmistakable species.

OBSERVATIONS ON THE APPEARANCE OF BIRDS IN DORSET
DURING 1890.

	Weymouth.	Whatcombe.	Corfe Castle.	Bloxworth.	Keystone.	Childe Okeford.
Cuckoo	Apl. 28	Apl. 13	Apl. 16	Apl. 16	Apl. 23	Apl. 19
Swallow	Apl. 28	Apl. 4	Apl. 14	Apl. 16	Apl. 4	Apl. 13
Sand Martin ..	—	June 2	Apl. 15	—	—	Apl. 16
Swift	May 16	Apl. 30	May 4	May 8	May 8	—
Goatsucker ..	May 12	May 21	May 22	<i>a</i> May 3	—	—
Landrail	—	May 5	May 15	—	May 12	May 1
Nightingale ..	—	Apl. 22	May 2	Apl. 16	—	Apl. 13
Wheatear	May 2	—	Apl. 14	Apl. 15	Apl. 8	May 10
Woodcock	—	Oct. 13	Oct. 21	—	Nov. 7	—

Mr. Richardson mentions that he has not observed the Wryneck at all this year. The Corncrake, which is a fairly common bird in the neighbourhood of Weymouth, has not been noticed, nor has the Redstart.

From Swanage, Mr. Andrews writes, the first Wheatear was seen on the 13th of March, and the first Swallows on the 12th of April. These latter remained with us, also Martins, until the day preceding the great frost—viz., Nov. 25th; on that day, as on several previous days, numbers of each class could be and were observed.

The Appearance of	Was noticed at			
	Weymouth.	Whatcombe.	Corfe Castle.	Childe Okeford.
Frog spawn...	—	Feb. 12	—	Mar. 25
Viper... ..	June 2	Mar. 12	April 4	—
Ringed Snake	—	—	—	April 9

a Song May 7th.

OBSERVATIONS ON THE FLOWERING OF PLANTS, 1890.

	Weymouth.	Corfe Castle.	Dorchester.	Bloxworth.	Whatcombe.	Childe Okeford.
Wood Anemone ..	Apl. 22	Mar. 19	—	Mar. 15	—	Mar. 31
Lesser Celandine ..	Feb. 20	Feb. 8	Jan. 27	—	Feb. 9	Jan. 27
Marsh Marigold ..	—	Mar. 15	Mar. 26	—	Mar. 26	—
Dog Violet ..	—	Feb. 27	—	Mar. 30	—	Mar. 16
Greater Stitchwort ..	May 10	Mar. 12	Apl. 10	Apl. 4	Apl. 14	Mar. 30
Herb Robert ..	May 2	Apl. 29	—	Apl. 29	Apl. 22	May 6
Horse Chestnut ..	May 4	May 4	May 1	—	May 5	May 5
Bush Vetch ..	May 16	May 10	—	—	May 13	May 1
Blackthorn ..	Apl. 5	Mar. 20	Mar. 31	Mar. 30	Apl. 3	Mar. 28
Hawthorn ..	May 3	May 9	May 10	May 8	May 20	Apl. 25
Ivy ..	Sep. 26	—	—	—	Oct. 4	Mar. 30
Dogwood ..	June 14	June 18	—	—	June 4	May 7
Elder ..	May 29	—	June 6	—	May 31	May 24
Wild Teazel ..	July 30	July 21	—	—	July 31	—
Devil's Bit ..	—	Aug. 9	—	—	Aug. 30	—
Knapweed ..	June 14	June 18	—	—	July 16	—
Field Thistle ..	May 30	July 18	—	—	July 21	—
Coltsfoot ..	—	Mar. 14	—	—	Mar. 17	Mar. 30
Yarrow ..	July 10	June 19	—	—	June 4	—
Ox-eye ..	May 26	May 19	—	—	May 12	Mar. 28
Mouse-ear Hawkweed	—	May 16	—	—	May 22	—
Harebell ..	—	July 21	—	—	June 30	—
Greater Bindweed ..	June 29	—	—	—	July 26	May 22
Ground Ivy ..	Mar. 15	Mar. 17	Apl. 19	Mar. 23	Mar. 29	Mar. 16
Wych Elm ..	Mar. 15	Mar. 11	—	—	Feb. 20	Mar. 22
Hazel ..	—	—	—	—	Jan. 27	Feb. 21
Cowslip ..	Apl. 20	Mar. 24	Apl. 3	Apl. 5	Apl. 1	Mar. 28
Spotted Orchis ..	—	—	—	May 29	May 28	May 28
Bluebell.. ..	Apl. 23	Mar. 27	Apl. 3	Apl. 5	Mar. 31	Mar. 28

OBSERVATIONS ON THE APPEARANCE OF INSECTS, 1890.

	Weymouth.	Corfe Castle.	Whatcombe.	Bloxworth.	Childe Okeford.
Cockchafer	May 12	—	May 9	May 18	Apl. 2
Bloody Nosed Beetle ..	May 20	—	Mar. 26	Apl. 6	—
Glowworm	June 24	—	June 4	Aug. 4	—
Wasp	May 3	Apl. 8	May 22	Apl. 3	Apl. 20
Large Garden White Butterfly ..	May 3	—	Mar. 28	Apl. 4	—
Small Garden White Butterfly ..	Apl. 16	Apl. 5	Apl. 6	Mar. 22	Apl. 10
Orange Tip Butterfly ..	May 12	May 11	Apl. 1	May 1	May 24
Meadow Brown Butterfly ..	July 1	July 4	Apl. 8	—	—

The Rev. O. P. Cambridge writes :—“ The general character of the year has been its cold, cheerless sunlessness, especially during June, July, and August. It has been the worst *entomological* year I have known for many years past ; scarcely even a wasp (though

wasps were in great abundance at Cadbury, Somerset, during luncheon time at the Field Club meeting on August 29th). The year has also been remarkable for the almost complete absence of thunderstorms."

RAINFALL RETURNS FOR DORSET DURING 1890.

January ..	Langton Matravers.	5.15	3.01	5.14	3.93	4.23	4.59	3.81	2.61	3.47	4.59	3.98	4.63	3.60	3.11
February ..	Pool.	0.90	0.94	0.78	0.91	0.85	0.77	0.82	0.86	0.77	0.84	0.87	1.00	0.74	1.03
March ..	Smedmore.	3.23	1.34	1.41	3.20	1.42	1.32	1.08	1.12	1.18	1.40	1.41	1.65	1.77	1.62
April ..	Greeth Grange.	3.17	2.67	3.12	3.20	3.38	3.23	2.96	2.71	3.03	3.31	3.31	3.67	3.33	4.36
May ..	Binegar Hall.	2.43	2.40	2.80	1.92	2.02	1.31	2.46	2.42	1.80	2.07	2.15	2.61	1.83	2.11
June ..	Bloxworth.	2.81	2.86	2.87	2.68	2.21	2.91	2.56	2.42	2.27	3.18	2.40	3.17	1.83	3.05
July ..	Weymouth.	3.22	3.12	3.11	2.61	2.98	3.15	2.68	2.08	2.70	2.96	2.94	3.42	2.91	3.75
August ..	Lytchett Minster.	2.65	3.26	3.11	2.61	2.98	3.15	2.68	2.08	2.89	3.04	2.78	3.42	2.91	3.75
September ..	Bere Regis.	2.58	2.67	3.09	2.71	3.41	2.95	2.47	2.91	2.89	3.04	2.78	3.27	2.70	3.25
October ..	Wyke Regis.	1.40	1.34	1.37	2.39	2.28	2.66	2.25	1.39	1.64	2.40	1.86	2.78	0.94	1.99
November ..	Weymouth.	0.89	0.77	0.85	0.69	1.01	0.96	0.75	0.84	1.17	1.14	0.87	1.64	1.66	1.74
December ..	Lytchett Minster.	2.97	2.93	3.16	2.65	2.95	2.68	2.61	2.52	2.72	3.01	2.35	2.68	2.38	2.20
December ..	Langton Matravers.	1.58	2.23	1.28	1.69	*1.53	1.69	1.47	1.31	1.60	0.26	1.67	1.28	1.68	1.82
Total ..	Langton Matravers.	27.04	29.47	28.26	26.62	28.27	28.02	25.92	21.76	25.24	27.99	26.79	31.80	26.45	30.03
Altitude above sea level ..	Langton Matravers.	—	—	—	—	200ft.	—	—	79ft.	80ft.	270ft.	100ft.	500ft.	244ft.	—

* 1.28 of the December rainfall was from snow on the 15th and 20th.

ADDITIONAL RAINFALL RETURNS.

General Pitt Rivers sends the amounts of rainfall registered at the Larmer Tree during 1890 as 33.41 inches, showing an excess of 1.16 over that of Rushmore, distant about one mile to the north-east.

At Swanage 25·23 inches were registered, of which 0·65 fell in the form of snow on the night of December 18th, but as the temperature was above freezing point (*i.e.*, 33° F.) this melted as it fell. Mr. Stillwell, at Langton Matravers, states that in February the total rainfall was only 0·83, of which 0·56 fell on the 14th.

The day on which the greatest amount of rain fell—

At Langton Matravers was on Sept. 21st, then 0.82 in. was registered.

„ Wyke	„	Aug. 9th,	„	0·78	„
„ Whatcombe	„	Sept. 26th,	„	1·33	„
„ Gillingham	„	Aug. 9th,	„	0·85	„
„ Rushmore	„	Aug. 18th,	„	1·18	„

The rainlessness of the month of February will be evident from a perusal of the adjoining table. The small number of days on which rain fell during this month is also noticeable—*e.g.*, appreciable rain was registered only on

7	days at	Wyke
6	„	Bloxworth
5	„	Whatcombe
7	„	Rushmore
7	„	Shaftesbury
9	„	Gillingham



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