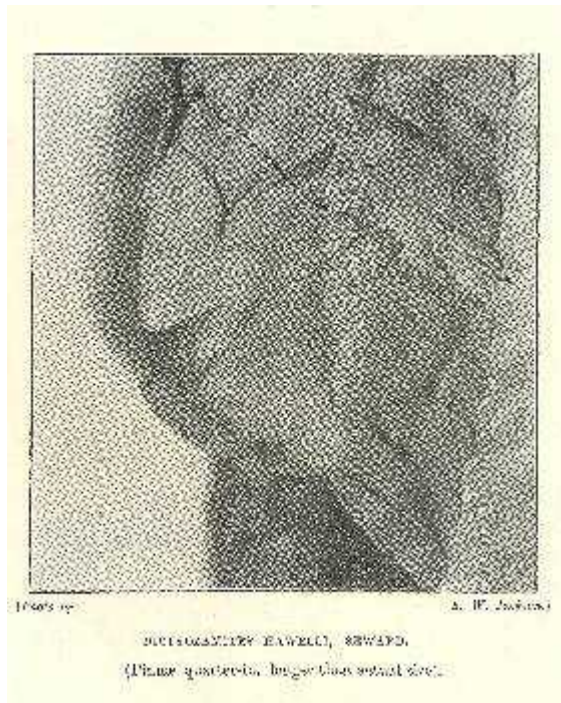


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BAJOCIAN PLANT BEDS OF YORKSHIRE

By REV. JOHN HAWELL, M.A., F.G.S.

Were it not for the testimony of the Yorkshire Rocks very little would be known of the vegetation of the Bajocian or Lower Oolite period, at all events in the European area. Since the time of Young and Bird and John Phillips, Yorkshire has been the classical locality for Bajocian plants. In the Yorkshire area the complete series of the Bajocian strata is as follows;-

Upper Estuarine Beds.

Grey or Scarborough Limestone.

Middle Estuarine Beds.

Millepore Bed.

Lower Estuarine Beds with Ellerbeck Bed or Hydraulic Limestone.

But these beds are not usually all present in anyone locality. The plants are found in each of, the three series of Estuarine Beds. The Lower Estuarines are the most arenaceous, and contain

thick sandstones, which can often be traced for considerable distances:

These beds have near their centre a marine band known as the Ellerbeck Bed. According to the list given by Mr. Fox-Strangways in his "Jurassic Rocks of Yorkshire," fifty species of plants have been obtained from these beds; He acknowledges, however, that some of these may possibly have come from a higher horizon. Only 13 of the number, however, pass up into the Middle Estuarines; which fact appears to show that, though: the deposit was being made more or less continuously, a very considerable period must have elapsed while the deposition was going on. The localities from which fossil plants have been obtained in this series are Hayburn Wyke, Saltwick, Whitby, Staintondale and Egton Moors.

On the Coast and in the Howardian Hills the Lower Estuarine series are divided from the Middle Estuarines by the Millipore Bed. But in the northern moorland area the Millepore Bed has died out, and consequently it is impossible, apparently, to separate the Lower from the Middle Estuarines. But where the separation can be made, at Gristhorpe and Cloughton, the latter beds have yielded 56 species of plants. Several of the plants recorded from Cloughton may really be from the Lower Estuarines, but of the 56 species referred to 54 have been obtained from Gristhorpe. It is the Middle Estuarine Beds, though their thickness is less than either of the other series above and below, which have yielded the largest number and the most perfect specimens of Bajocian Plants. Fossil plants are, however, difficult to determine, and it is probable that some so-called species are merely variant forms of one and the same species. Two species of marine fucoids have been recorded from these beds.

The Upper Estuarine series is more shaly than either of the other series. It includes, however, a few irregular bands of sandstone, and one or more beds of granular ironstone, and rests upon a massive bed of sandstone known as the " Moor Grit." From the sandstones in the lower portion of the series 11 species of plants have been obtained at White Nab, Red Cliff, Scalby and North Bay, Scarborough. About half of these are common to the Middle Estuarines. There are, however, in regard to these Yorkshire Bajocian Plants, so many doubtful identifications, and at the same time so much lack of certainty as to the precise horizon from which certain specimens were obtained, that the whole question needs careful re-investigation in the light of present day knowledge.

Some years ago my friend, Mr. J. M. Meek, of Redcar, brought for my inspection some specimens of *Tæniopteris*, *Williamsonia*, and other plants, which he had obtained from the Old Marske quarry. Early in 1902 he very kindly took me to the place from

which he had obtained his specimens. Since that date I have repeatedly visited the place, having obtained the sanction of Lord Zetland's Agent to investigate there, and with the valuable assistance of Mr. P. Huntington, Master of Ingleby Greenhow School, I have obtained hundreds of specimens. Many of these are in a fine state of preservation, and occur in a fissile ironstone, of which I have obtained the following analysis through the kindness of Mr. J.J. Burton

Total Iron (Fe)	42.9%
Peroxide of Iron (Fe ₂ O ₃)	61.28%
Ferric Oxide (Fe O)	Nil
Silica (SiO ₂)	15.3%
Manganous Oxide (Mn O)	0.65%
Alumina (Al ₂ O ₃)	4.88%
Lime (Ca O)	2.10%
Magnesia (Mg O)	1.15%
Phosphoric acid(P ₂ O ₅)	2.38%
Sulphur trioxide	0.16%
Combined Water and Organic Matter	12.20%...

	100%

The quarry in question, which has not, I think, been worked for at least twenty years, is on the northern face of the Upleatham outlier, about one mile south of Marske and 500 feet above sea level. The cause of the discontinuance of the working of the quarry will be evident to anyone inspecting it, for the massive sandstones are false-bedded and very irregular, and blotched with ferruginous concretions, some of which are solid little balls of iron peroxide, and others hollow box-stones. The sandstone is over-laid also in parts by glacial drift, and to a more harmful extent by profitless shales and ironstones. Plants occur throughout the whole extent of the quarry, where the matrix is suitable for their preservation, but I have obtained my finest specimens from the refuse thrown aside by the workmen in the process of exploiting the sandstone.

Most of the specimens I obtained on my earlier visits I was able to identify without much difficulty, but one form was clearly distinct from any plant mentioned by Mr. A.C. Seward in his "Jurassic Flora of Yorkshire," or figured and described in any work, which I was able to consult. I therefore asked Mr Seward if he would look at this plant for me, a request he very readily assented. On my sending the plant to him, he pronounced it to be a new species of *Dictyozamites* a genus which had only been recorded previously from India, Japan and Bornholm. Mr Seward was much delighted with this very interesting addition to

the Bajocian Flora of Great Britain, and proposed that he and I should prepare a joint paper for the Geological Society of London on the new plant and the Marske Plant Bed generally. Ultimately, however it was arranged that he should first describe the new plant, leaving me to deal with the more general subject in a subsequent paper. Accordingly Mr Seward, on 25th Feb 1903, read to the Geological Society a paper "On the occurrence of *Dictyozamites* in England," in which he named the new species *Dictyozamites Hawelli*. This paper is printed in the Quarterly Journal of the Society issued on 22nd May 1903, pp.217 to 233.

The following is a list of the species which I have up to the present time obtained from Marske:-

- Equisetites columnaris, Brongn.
- Cladophlebis denticulata, Brongn.
- Tæniopteris Vittata, Brongn.
- Tæniopteris Major, Lind and Hutt.
- Sagenopteris Phillipsi, Brongn. var major, Seward.
- Otozamites parallelus, Phill.
- Otozamites Feistmanteli, Zigno.
- Otozamites sp.
- Williamsonia gigas, Lind. and Hutt.
- Williamsonia pecten, Phill.
- Dictyozamites Hawelli, Seward.
- Nilssononia, compta, Phill.
- Nilssononia mediana, Leckenby.
- Nilssononia tenuinervis, Nathorast.
- Strobilus?
- Ginko digitata, Brongn.
- Gymnosperm Seed (Beania?)

So far, then, we have seventeen species, fourteen of which we may regard as having been identified with certainty. Since the Millepore Bed is not present in the Marske area, and the Lower and Middle Estuarines consequently must apparently be regarded as forming a continuous deposit, it becomes interesting to enquire whether the plants found here have the *facies* of the distinctive *flora* of either of these divisions of the Yorkshire Bajocian. Of the fourteen plants *Dictyozamites Hawelli* is new, and *Otozamites Feistmanteli* does not appear in the published list while *Equisetites columnaris*, *Tæniopteris vittata*, and *Williamsonia pecten* are plants occurring in both the Lower and Middle series of Estuarine deposits. Of the remainder there are only two which are recorded from the Upper Beds alone, viz., *Williamsonia gigas*, and *Otozamites parallelus*, the only locality for both of which is Whitby. On the other hand there are seven which are recorded from the Middle Estuarines alone, viz., *Cladophlebis denticulate* (Gristhorpe), *Tæniopteris major* (Gristhorpe), *Sagenopteris Phillipsi* (Gristhorpe), (I am not sure

whether var. *major* came from, which alone appears to be present at Marske), *Nilssonia compta*(Gristhorpe and Cloughton),, *Nilssonia mediana*(Gristhorpe and Cloughton), *Nilssonia tenuinervis* (Cloughton), *Ginko digitata* (Gristhorpe).

It will thus be seen that the Marske flora has on the whole a Middle Estuarine facies, some plants, such as *Nilssonia tenuinervis* which have never been recorded from the Lower Estuarines being extremely abundant.

I have stated that most of my plants have been obtained from a spoil heap, but on the same slab several pieces are often confusedly inter-mixed, and I do not think it will be possible in the Marske quarry to trace any zonal succession of forms. Still I shall attempt to do this, and at the same time to trace and work out the plant beds in other parts of the Cleveland district. *Equisetites columnaris* I have noticed in various parts of Cleveland as near Staithes, and particularly at Rudd Scar, Ingleby Greenhow, where fine stems from one to two feet or more in length used to be visible still in the upright position in which they grew. *Williamsonia pecten* I have obtained from the Upleatham quarry, from Blue Mells, Ingleby Greenhow, and from Ewe Crag Slack, Danby. The last mentioned specimen was in glacially transported material, but was pretty certainly local. I have a specimen of *Williamsonia gigas* which was given to me on his death-bed by my old friend the late John Watson, Parish Clerk at Ingleby for some fifty years. It doubtless came from the immediate neighbourhood of Ingleby. A specimen of *Tæniopteris* from the Kildale quarry occurs on a stone built into a wall in the village of Kildale. There are many fossil plants including portions of trees more than a foot in diameter in the Lower Oolitic shales and sandstones on Carlton Bank.

Before bringing this paper to a conclusion it may be well to summarise the conclusions arrived at by Mr. Seward in his paper "on the Occurrence of Dictyozamites in England, with "Remarks on European and Eastern Mesozoic Floras." Three species of *Dictyozamites* are now known, all of which occur in Jurassic rocks, viz *D. falcatus* from the Rajmahal Series of India, two varieties of this (var. *distans* and var. *grossinervis*) from Central Japan, *D. Johnstrupi* from Bornholm, and *D. Hawelli* from Marske. The genus has in the past sometimes been classed with the ferns, and sometimes with the cycads. In the absence of reproductive organs it is impossible to be certain of its affinities. As the reproductive organs of *Williamsonia* are now known we are certain that it was a cycad. *Dictyozamites* is one of several genera the pinnate fronds of which have a general resemblance to those of *Williamsonia*, and which we may, pending the discovery of their reproductive organs, class as *Cycadophytes*.

Mr. Seward goes on to discuss the striking similarity between the Floras of the East and West during the Jurassic times. He shows that several genera and species, which are entirely or almost identical have received names entirely different in different areas, and that consequently the general resemblance between widely separated Floras has been in large measure obscured. He reaches the conclusion that "the character of the vegetation of the world from the Upper Triassic Period to the Wealden seems to have been remarkably uniform and constant in its main features," and observes that "the marked contrast exhibited by the Paleozoic vegetation on the one hand, and the Tertiary vegetation (including that of the greater part of the Cretaceous era) on the other, to that which flourished throughout the whole Jurassic era is a striking fact, well worthy of more critical and extensive consideration than it has so far received." In the discussion on Mr Seward's paper at the Geological Society, Dr Blanford suggested that the Mesozoic flora may have originated from the *Glossopteris* flora which prevailed in the southern hemisphere in Palæozoic times, and is very distinct from the Permo-Carboniferous flora of the northern hemisphere. Since Mr Seward's paper was read he has delivered to the Botanical Section of the British Association, at its Southport Meeting, a Presidential Address on "Floras of the past: their Composition and Distribution." To this address, printed in the Geological Magazine, Vol. X, Nos. 11 & 12, I would refer my readers, who will find it of the greatest interest



WHORLTON-IN-CLEVELAND

By Rev. J. Cowley Fowler B.A, F.G.S.

There is evidence tending to show that our parochial area was inhabited as far back as Roman times. We are told that in 1810, a large silver vase was turned up by the plough near the old church. The vase, which was broken, contained a number of Roman coins of silver and square wedges of the same metal. According to Mr Ord, the coins represent Valens, Gratian, Theodosius, Honorius, and Arcadius, which seem to indicate that they had been deposited towards the decline of the Roman power in Britain.

In what way these coins were placed there we shall never know, or by whom, Roman or Saxon; there is nothing else to connect the place with Roman times except, as some think, there was a Roman road from York, by Stillington, Yearsley (Camp), Oldstead and the Hambleton Hills, to Whorlton (Castle) and Cleveland---perhaps to Eston nab or Barnaby Moor (Camp). [Phillip's "Rivers & Mountains of Yorkshire" p.241]

The first historic information is found in "The Domesday Book for Yorkshire," in the "Terra Comitum Moritonienensis." It is named as being in soke to Hotun (Hutton Rudby), and is spelt Wirueltune, together with Codreschef (Scutterskelf), Blatun (Blaten Carr, near Great Busby), Goutun (Goulton, still in the parish of Whorlton), and Gratorne (Crathorne). In all, 20 carucates for geld, and 12 ploughs, which may be [there]: All are stated to be waste, except Wirueltune, in which there are 20 villanes with 8 ploughs. It was, therefore, a cultivated settlement at the time of the conquest, when it was bestowed by the Conqueror with a large breadth of territory upon the Count of Mortain in the Avranches, France—a younger son of Herleva, mother of the Conqueror—who fought at the Battle of Hastings, [Note R. H. Scafe on Domesday]. The old Saxon parish thus changed hands in a very forcible manner. The name Whorlton is evidently derived from "Whorl," which Skeat says is the same word as "Wharl," the name for a piece of wood or bone placed on a spindle to twist it by; the particular form " Whorl" may have been borrowed, he says, from O. Du, and introduced by the Flemish weavers. On this, the late Canon Atkinson said that Skeat would have modified his statement had he known of our Cleveland

"*Worvel*" or "*Wirvel*" so much anterior in date to " the Flemish weavers." The " ton" at the end of Whorlton is the Saxon for a settlement or place fenced in, equivalent to the Danish " by." Whorl Hill is a striking natural object, and therefore the settlement under the round hill would easily suggest the name. Scandinavian influence was very great here as portrayed in the nomenclature of persons, places and fields, etc., and of the townships or sub-districts of the Parish—Swainby, Huthwaite, Potto, Scarth, Trenholm and Scugdale. In fact, the Danes and their allies thoroughly colonised this part of the country and reduced its inhabitants to slavery, in a very different manner from the way in which the Northmen invaded, and held Normandy, simply by military tenure, as there is little evidence there of Northern blood or occupation, except in Bayeux and places in the vicinity of it.

The Meinells soon appear upon the scene as lords here.

Stephen, Son of Robert de Meinill, founded a religious house at Scarthe at the West end of the Parish—the site is known, but there are no remains; a stone coffin can still be seen in a field near.

In the second year of Henry III the custody of his whole barony within the County of York was given to the Archbishop of Canterbury.

Nicholas de Meinill was summoned to Parliament among the Barons from the 9th to the 16th Edw. III. He held the Manor of Whorlton, of the Archbishop of Canterbury, by the tenure of serving

the said Archbishop with the cup, in which he should drink, on the day of his Consecration." He left issue a daughter Elizabeth, who was first married to John Lord D'Arcy. The D'Arcy family held the Manor for several generations, "till Philip, Lord D'Arcy and Meinill, who married Eleanor, daughter of Henry Fitz-Hugh without male issue (6 Hen.V), leaving two infant daughters, his co-heirs, viz., Elizabeth & Margaret—Elizabeth married James Strangways Knight, and had Whorlton and other lands for her share upon the division."

Leland says "Whorlton in Cleveland was the principal house of the Lord Menell; which sense came Master Strangways in partition."

It is uncertain on whom the Manor devolved after the Strangways in the reign of Henry VIII, but it was found that Henry, Earl of Northumberland, was in possession [Inquisition at Topcliffe; 27 Eliz.] of the Castle and manor, etc, which had been granted to Matthew, Earl of Lennox, who married the King's niece. It then in some way reverted to the Percy family; then once more to the Crown, & finally to Edward Bruce, of Kinlos, descended from the Norman Brus, whose son, Thomas, was advanced by Charles 1 to be Lord Bruce of Whorlton. His son, Robert, was created Earl of Aylesbury by King Charles II, and it continued in that family until it was purchased by the late James Emerson, Esquire, of Easby Hall. Most of this information I have taken from Graves as the chief quarry from which we extract the history of Cleveland. There are other sources from which I have made notes, but space does not permit me to print them. However, it is worth noting that the above Earl of Lennox married Margaret, daughter of Archibald 6th Earl of Angus, by Margaret, daughter of King Henry VII. (sister of Henry VIII) and Mother to James V, King of Scotland.

Camden says "the issue of this happy match were Henry and Charles; the former of whom, by Mary Queen of Scots, had James VI, Monarch of Great Britain, etc." To have Mary Queen of Scots associated with the Manor is indeed to be linked with a great and never dying romance, and there is no wonder that there should be a tradition that "the faithful lines that bound her to Darnley were signed at Whorlton." With reference to this I have a most interesting letter from Major Martin Hume, who has just published "The Love Affairs of Mary Queen of Scots," from a study of State papers in the Record Office. He says "It is quite certain that the local tradition to which you refer is unfounded. Queen Mary never entered England until after Darnley's death, and positively never met him at Whorlton, if she herself ever went there, of which I can find no record. The only possible basis that occurs to me for the tradition is that the letters written in September and October, 1561, by the Countess of Lennox to Mary, proposing the Darnley match, may

have been addressed from Whorlton. Indeed, I am under the impression that I have seen "Northallerton" on one of these letters.

"The Castle and Manor were granted to the Lennoxes on the 12th July, 1544, the keepership and custody having been given by the King to Hugh Askew in the previous year on the death of the owner, Sir J. Strangways. I do not find the Meynells in connection with the place until long after, and I believe that Whorlton was one of the actual residences of the Lennoxes until their disgrace and attainder. It is likely therefore, that Darnley and his father may have halted at the house on their respective journeys to Scotland, and may have corresponded with Mary from there. It is possible also that some confusion may have arisen from the fact that Mary actually did pass a night at *Walton Hall*, near Chesterfield, on her way South, 1568. You can however most confidently contradict the assertion that 'the fateful lines that bound Mary to Darnley,' were signed in one of the Chambers of Whorlton Castle. They were signed at Stirling."

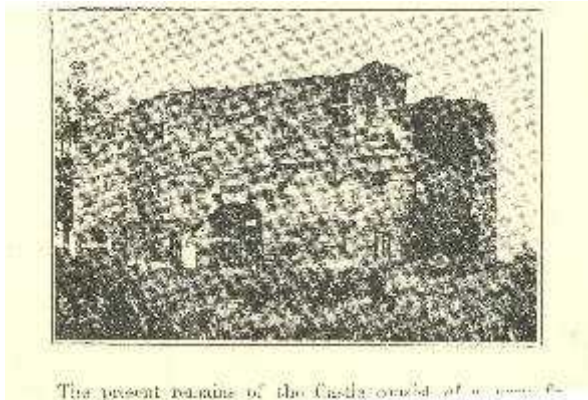
Graves says, quoting from Kirkby's Inquest (1285), "all lands belonging to the Meinills were exempt from the payment of Danegeld, and that Nicholas de Meinill, in the reign of Edward I., obtained a Charter for keeping a fair here, and also had a grant of free-warren, free chace, and divers other privileges within the Manor."

An Inquisition "Post-mortem" was taken, 30 Edw. III, on the death of John Lord D'Arcy, and showed that the Castle and Manor of Whorlton, with other lands, had come to him by marriage with the sole daughter and heiress of Nicholas de Meinell, and had been granted to Thomas Swinford and John Charteray in trust, etc.

A second Inquest was taken at Yarm (42 Edw. III.) "by which it was found that Elizabeth, the daughter and heiress of Nicholas de Meynell, held at time of her death the Castle and Manor of Whorlton in demesne, as of fee together with the villages of Whorlton and Swainby, etc., and that the Castle at the time was of no annual value, 'ultra reprisas,' etc."

It is remarkable that a coin of the time of Edward III, a Counter made in imitation of the coins of France of the time, should have been found in the moat of the Castle a few years since. On the obverse it has a shield charged with three keys on a bend surrounded with crowns and lions, and round it EDWARDUS REX REGNAT. On the reverse an arrangement of "Fleurs-de-lis" at the ends of a cross with equal arms, in a kind of square with the words around GARDE ROBE REGIS. These counters were not the current coin of the realm, but were used by the King's Chamberlains for counting the expenses of his privy purse. Hereby possibly hangs a tale!

THE CASTLE



The moated mound on which the Castle is built has no doubt been a stronghold from very early times, just such a mound as any people in bygone times would have fortified; with a deep impassable morass on the North, forests all round, and the land falling a way from it on all sides, it was naturally a strong position. Its history is buried in oblivion in the remote past; at present it has to the East very considerable earthworks and trenches extending over certainly 50 acres or more, and the difficulty is to assign any date to them or to be certain that they all belong to one period. We know the Normans built on moated mounds of this description in Normandy where the mounds are still to be seen (known as *Mottes* in Norman French), as the sites for Wooden or stone castles having courts outside surrounded with earthworks. Three such courts can be traced to the E. and S.E. of Whorlton Castle and there is also an outer moat quite straight going North and South about 100 yards from the inner moat. This appears to have been the Anglo-Norman type as well, and it was by a system of small, fortified forts or castles—really on the blockhouse system of Lord Kitchener—extended all over the country, that the Normans overawed and held the land. We should perhaps not be far from the truth if we took it for granted that a Norman castle of the usual type was built here shortly after the Conquest, possibly on a Danish moated mound, very likely by the Count of Mortain, or by the Meinells.

The Norman Conqueror laid it upon his more fortunate followers as their first duty to secure their lands by building castles, which should dominate the surrounding country. Be this as it may, we have seen there was a castle here in Edwardian times. Are we to imagine that Edward III was actually here, from the finding of the

coin I have already mentioned? Did one of the King's Chamberlains actually drop this particular counter into the moat on one of the King's visits? It must not be forgotten that monarchs in those days travelled about a good deal, and held their courts in many parts of the country, and administered justice etc., and this is one of the chief of the petty castles at the west end of the valley leading from the Vale of York to Mulgrave Castle, along a line of Baronial Castles. The large crescent shaped earthwork North of the Church is a puzzle, and may not have been connected with the Norman fortress at all, but a Saxon one, as they were of large area to protect numbers of people: the Burghs built by Saxons seem never to have had moats, and to have been simply enclosures, differing from the moated mounds of the 9th and 10th centuries.

The present remains of the Castle consist of a very fine Gateway-tower, with the Arms of Meinell, D'Arcy and Gray, and Graves thinks the Castle was erected or repaired about the latter part of Richard II; this was probably the case, and the architecture is 14th century.

The walls are enormously thick and have within them stone stairs and passages---there was a double portcullis and a beautifully groined passage between them 10 feet wide, and a guard room on either side, with rooms over them containing fire places; this groining was pulled down some years ago---a great piece of vandalism---there was a draw bridge over the moat and the mound was walled all round, some of the foundations remaining. When the new Church was built a quarter of a century ago, the foundation of the buildings inside the base-court were dug up for the foundations of the Church, and no plan appears to have been made of them---this is much to be regretted, as it might have settled the question of the Castle Chapel. The vaults, which still remain, are of very rude construction and are probably parts of the first castle. It is not known when the castle was dismantled, but in Camden's time it was stated to be "old and ruinous." Local tradition says that Cromwell bombarded the Castle, which was held by the Royalists. The Roundheads attacked it first on the East side from the Whorl Hill, but found their shot went over the Castle; they then moved West to a field on the Ingleby road and planted their cannons on the rising ground in the middle of it, and ruined the old feudal pile; the Protector himself being ill at Northallerton. There is certainly a mark on one of the stones on the East side of the gateway, which could only have been made by such an instrument as a cannon ball, the stone being crushed by the blow. There is the usual well and the Castle or moats was supplied with water from Whorl Hill; the wooden pipes have been seen in digging.

The inhabitants clustered round the Castle for safety, and lived in miserable hovels of wattle and daub. There is a local tradition of a

hall having stood in one of the fields on the low road going from the old Church to Faceby, said to have been pulled down in the early part of the last century; this is the only trace of a large house apart from the Castle which I have been able to discover. It was not until a comparatively late period that farmhouses were built in this part of Yorkshire away in the fields from the village, owing to the country not being sufficiently settled and safe. In Belgium "the battle ground of Europe," large farmsteads are found almost everywhere, built in a quadrangle and fortified all round; often with a watchtower; Hougomont on the Field of Waterloo being a good example.

The Peel Towers, celebrated in Marshman's Warfare or Border Minstrelsy, the strongholds of men who lived by "snaffle, spur and spear," and drove in their cattle when the Scotch made a raid, can scarcely be called fortified farm houses.

The Castle in the Middle Ages was surrounded with an extensive park. "Time has moulder'd into beauty many a tower, which when it frownd with all its battlements, was only terrible."
(Mason)

Sir James D. Mackenzie, when he published his fine work "The Castles of England" in 1896, regretted that he could not find room to say much about Whorlton and the other Cleveland Castles. In one of his letters he remarks, "Why I wonder should they have sought to protect a region bleak and high as Cleveland, with such a line of fortresses? It lay, too, out of the line of traffic."

It must, indeed, have been a wild inhospitable district of hill and dale, forest and morass, with practically no roads and the haunt of packs of wolves and wild animals, but the new possessors, the Norman adventurers, were obliged to fortify their possessions, and with the full consent and wish of the Conqueror, as so many outposts and garrisons.

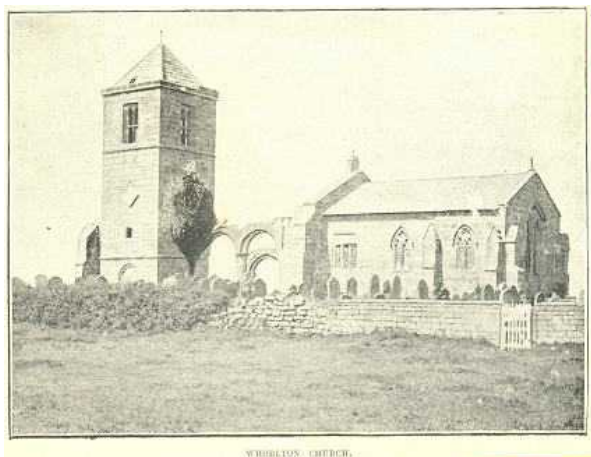
In the Church at Dives, in Normandy---where the Conqueror had his boats built, and from whence he sailed for England---the names of his companions are painted on the West end---many hundreds--names well-known amongst us now, such as Harcourt, Beaumont, Lacy, etc, Certainly a most interesting memorial of the event!

The Cure is naturally anxious to preserve the fine old Norman Church (as it is in part) and he makes an appeal to the inhabitants of Dives as the descendants "de Guillaume le Conquerant" to assist him! As we read this some years ago, my friend remarked with a laugh, "I think it is much more likely that we are the descendants of the companions 'de Guillaume le Conquerant,' than the present inhabitants of poor little Dives!" Certainly these companions of the Conqueror never went back to Dives, and were content to settle

down and enjoy the wild life of England and their newly acquired lands.

Since writing the above I have met with the following information relating to the Castle in "Clarke's Mediæval Military Architecture," a standard work :-In describing the English Rebellion in the reign of Henry 11., and mentioning the rebels, he remarks: "It included Umfraville of Prudhoe, De Vesci of Alnwick, Ros of Hamlake, Bruce of Whorlton and Skelton, and in the South almost all the great Barons;" and again further on "Killarby, Albruck-on-Tees, and Cardwell were early Castles, as were Armanthwaite, Bowes, Hatlesey [Harlsey ?], Sigston and Whorlton." This proves that my conjecture that there was a Castle here in the early Norman times is correct.

THE CHURCH.



In all probability a Saxon Church stood on the site of the Norman Church. Saxon Churches are known to have existed at Ingleby Arncliffe, Crathorne, Kirklevington and many other parishes in the neighbourhood, where Saxon remains have been found.

* For previous Note on Whorlton Church with illustration refer to page 13 of present Proceedings.

So far as I know, however, no Saxon remains have been found at Whorlton; the Church might have been of wood or stone.

The Architectural history of the present Church appears to be as follows:--First a Nave and Chancel were built in the early part of the 12th century, then a North Aisle was thrown out and an Arcade built of three arches with cushion capitals, the centre one having dragons sculptured round it. The North Aisle was usually built first: in case of enlargement; the North side in the ideas of those days was given up to evil spirits, and no one would be buried there, neither will people in the present day in some parishes; thus it was not a question of disturbing the dead.

In the 13th century the South Aisle was built, the Arcade being Early English, the bases of the columns--which are round-- showing the water moulding; the arches are round, corresponding with those in the North Arcade. The Norman Chancel, the plinth of which remains for half the length of the present Chancel, probably ended in a round apse like the neighbouring Norman Church of Hilton; part of the Norman wall remains on the North side, and has a round-headed window in it now blocked up. There appears to have been an altar on either side the Chancel arch, making three in all, after the English use. In the Greek Church the rule is one Church one altar.

The Chancel was rebuilt in the 14th century with a square end; in the North wall is a large arch under which is the 14th century Meynell tomb, which pierced this wall, communicating with the Chantry Chapel on the North side, now pulled down, the windows being inserted in the Chancel of the new Church, half a mile away, at Swainby; at the East end of this arch and tomb is a single lancet window with one cusp. The South wall was originally pierced with three two-light windows and a priest's door, now blocked up; the western half of the South wall was rebuilt or refaced probably in the Elizabethan period, when the square-headed window was inserted, having over it the Bate arms--viz., Sable, a bar engrailed, arg. between three dexter hands, or; and on a shield adjoining is the following inscription: ORA TE PNO BIS A.D. 1621 ("Orate pro nobis"); this inscription, with the sculptured hands, is also on the inside wall of the Chancel. Graves thinks it is in memory of William Bate, of Eston, who married Elizabeth, daughter of Marmaduke Harperly, of Whorlton, and died 13th October 1621. The South wall had evidently become unsafe and was rebuilt, and in the middle of it a handsome buttress was built in the 15th century to strengthen it; the priest's door label is not Gothic. There is here a low-sided window, commonly called a Leper Window; these windows are very common in most parts of the country, and much has been written about them. The late Mr. Matthew Bloxam told me some years ago that he thought they were confessional windows, used by the Regulars (Dominicans and Franciscans, etc.), who interfered greatly with the Seculars (*i.e.* the Parochial Clergy), and heard confessions through them. Mr.

Bloxam found a document of the Reformation period thus describing them, and ordering them to be blocked up. A most exhaustive and scholarly paper has recently been written on these interesting windows by the Rev. Canon Hodgson* He clearly demonstrates that they were for the exhibition of lights wherewith to dispel evil spirits. Lights were also burnt in churchyards and in niches on crosses both in England and on the Continent, known as Fanaux, Lanternes des morts or colonnes creuses des cemetieres, etc. The present East window is late perpendicular, and contains some of the original painted glass. The Piscina remains, with the drain cavity fluted: there is a hollow moulding in the underside of the arch, the same section as in the large arch over the Meynell tomb; there is an aumbry on the North side.



DOGWAY IN NORTH WALL OF CHURCH.

* For a brief description of Livenston Church refer to page 74, of present Vol. of Proceedings.

In front of the Chancel arch there was a Rood-loft, the doorways to which still remain in the walls---from this the Gospel and Epistle were read, and sometimes the Sermon preached, and important documents read to the faithful. Rood-lofts became common in England in the 14th century; many fine examples may be found particularly in Devonshire and Cornwall, as well as in Wales, with exquisite carving. They are also found in Brittany, and some may be seen in Normandy. The Altar Table is perhaps a copy of a previous one of the Elizabethan or "Restoration period." The Church has been rich in stone brackets or corbels; two are placed one on either side of the altar, coarse and heavy in design, and no doubt they supported statues. There are also two stone corbels at the base of the mullions in the East window, inside, carrying the heads of a King and a Bishop; they are artistic in design, almost unique, and carried, no doubt, images or candles.

It must be remembered that in the middle ages every village had its Guilds: everyone belonged to some Guild, which was always connected with religion, and had part of the Village Church assigned to it. "Men, women and children had each their own Guild and before the image of the Patron Saint of the Guild a light was kept continually burning to drive away evil spirits, and to invoke the aid of Almighty God and his Saints in protecting his servants from the snares and frauds of the Devil. Wax for the candles was provided by the members of the guild, and fines for a breach of the rules were often levied in wax.

*"Archæologia Æliana," Vol.xxiii

Sometimes members left money in their wills to support the lights."*

The Village Guilds were of great benefit religiously and socially, and amongst other things they often undertook the repair of the Church, and the renovation of vestments, books, and other things belonging to the Church. No doubt the brackets in Whorlton Church were used in connection with the Village

Guilds; other brackets also were, I believe, in the Chantry Chapel on the North side which was unfortunately pulled down a quarter of a century ago: it appears to have been about the size of the Chancel, and had a squint into the Chancel for seeing the Elevation of the Host. Graves gives a list of Cantarists---it was known as the D'Arcy Chauntry. The gable over the Chancel arch bears a beautiful 14th century Sanctus Bell-cot.

The celebrated oak effigy in the Meynell tomb, Mr. W. H. St. John Hope gives as early 14th century on account of the habit, and especially the knee caps---the feet are in leather socks: the supporters on the tomb are two Bishops in the act of blessing--the amice can be seen round the neck. This is supposed to be the monument of Sir Nicholas de Meynell, and the effigy is cross-legged with hands in prayer, and a dog at his feet---there are eight shields on each side of the altar tomb on which the effigy rests, charged with the arms of the families with whom the Meynell family were connected, as Graves concludes, viz.: those of Roos, Latimer, D'Arcy, Gray, Neville, and Fitz-hugh; the opposite side of the tomb bears an equal number of shields, in some cases with the same arms. Torr gives 2 Testamentary burials, 9th July 1529, Hen. Conyers of W. Lathes, in Clyveland, Esq., to be buried in the Chapel of Whorlton before the Crucifix. 30th January, 1577, Joh. Strangwayes, of Strathonbarge, gent., to be buried in the Parish Church of Whorlton There is a farm close to Swainby known as West Lees. The font is Norman of a severe type.

The tower, built about the year 1400, is very similar to the tower at Danby Church: it is square, without buttresses, it is of the usual type; in the upper storey the four sides are pierced each with a two-light window & transom---here were the bells---the tower was finished with an embattled parapet, the original roof having decayed long since. The North side was built over the Western arch of the South Arcade; the foundation has given way on the South side, and the tower now leans 22 inches towards the South. Several 13th and 14th century gravestones are built into the tower, and there is what appears to be a Holy Water Stoup on the inner wall in the nave. At this time the aisle

tower was finished with an embattled parapet, the original roof having decayed long since. The North side was built over the



THE MEYNELL TOMB.

walls appear to have been pulled down and the arcades walled up with square-headed windows in the arches.

The tower still contains one of the Mediæval bells, bearing the inscription, "Sancta Maria ora pro nobis." There is a "cross" stop between every two letters; the S of nobis is on its side, and there is a founder's stamp on the rim, very difficult to make out; the height of the bell to the crown is 1 ft. 8 ins., and the diameter at the mouth 1 ft. 11¼ ins. By his will of 7th July, 1528, "William Swanne, of Swanneby, in Whorlton parish," desires "to be beried in the kirke of the Holie Roode in ,Whorleton," to which he gives 10 li. "to by a bell, the which xli. is in Master William Grene hand, and this bell to he hallowed, and carried, and hongyn of my propre costes" [Test. Ebor. v. 249.] This may refer to the bell we still have in the tower, as the lettering is of the same period, or to one of the lost ones. The Church and Castle are rich in mason's marks, and the Church has many markings on its walls said to be made by sharpening spears and arrow-heads when men went about armed with spear and cross-bow: these markings are found all over the country more or less, and are common in Wales. Many of them have the appearance of having been made by sharpening weaver's shuttles. They are numerous in the old weaving districts; many of these markings, moreover, exist where an arrow shaft could not be wielded. The Parish Registers commence in 1689.

The connection of the old Norman Church with the Castle is interesting, but perplexing. On the West side of the Churchyard there is an earthwork, and traces of another one on the East near the lane--there can be little doubt that the Church was within the earthworks, and there are known instances where a Norman Church and Castle are within the same inclosure. Dr. Atkinson says, in one of his letters he does not think the Church was ever the Chapel of the Castle and that the distinction between the Parish Church and the Castle Chapel was a marked one, as the Castle Chapel was essentially a private Chapel. He remarks further:- "That Whorlton Church may have been, as well as have been called, a Capella or Chapel, I do not in the least doubt, for I think there is reason to infer, if not to conclude, that that was precisely its status at one period of its history--that that history or rather the history of the entire Parish of Whorlton is very obscure.

My impression is that in 1529 Whorlton Church was, as to absolute status, a 'Capella' merely, quite possibly a 'Capella Parochialis,' but still, such in contradistinction to an 'Ecclesia Parochialis' I am not at all certain as to the precise intention of your first extract from Torr. I do not think it likely that 'the Free Chapell within the Castle of Whorlton' means the assumed (and I think necessarily assumed) Castle Chapel, or that it was, within the unused precincts of the Castle. It was within the precincts of the Castle [and honor] of Whorlton (it may have been within the precincts of the Castle if, as I think possible, the precincts included a very much extended area), and neither more or less than that is probably what was intended." This is a point, which, we fear, will have to remain unsettled. The foundations of the Castle were dug up in the quadrangle as we have seen. It is worth noting, however, that the two arches at the West end of the Church were built on to the Norman Nave, about the time of Richard II, when the present Castle was re-built; this points to an increase in the population.

The Church is dedicated to God in the name of the Holy Cross—in allusion to the legend of the finding of the Holy Cross by St. Helen. One hundred and six Churches in England are named "in honour of this festival, some under the name of the Holy Rood and several under the corruption of St. Cross."⁽¹⁾

One other thing is connected with the Church, the old grant of a fair. "Nicholas de Meinell claims to have a market in Weolton (an error in the MS. for Whorlton) by a charter of my Lord Edward the King, and warren park and game."⁽²⁾ What these particular privileges of market were we do not know.

The site of the old market cross is pointed out by local tradition as being about 100 yards or so S.E. of the Churchyard, where there is a dip in the field by the lane.

In those days markets were commonly held in or near to Churchyards; the Church and Churchyard were the only places of resort in most parishes. The market cross was set up here for the sake of reverence, and the influence of religion in making people honest in their transactions. When markets were removed to towns, the fairs were opened by the Parish Priest, thus giving the proceedings the sanction of religion. "Every town had its cross at which engagements, whether of it religious or worldly interest, were entered into."⁽³⁾

We must add that the tower of the Church had a new roof put on it in 1891; the gable over the Chancel arch was rebuilt, a buttress built on the North side of the arch to take the thrust, and other repairs were executed at a cost of £127. The former roof bore the date T. E. 1722, and the top of the tower had actually been repaired with the stonework from the North gable of the Meynell tomb.

Had the pages been wider,
My tale had been longer.

- (1) Parker's Calendar of the Prayer Book.
- (2) Kirkby's Inquest, Vol. 39, Surtees Society. Note, on July 16th, [3 Henry III. the King granted a charter of free warren, market, etc., in Yelverton (Whorlton) to Nicholas de Meinell, which was "confirmed by Ed. I. Nov. 24th, 1281, on the authority of Ord.
- (3) Brady's Calendaria.

DISCOVERIES AT LIVERTON CHURCH*

By T. M. FALLOW, MA, F.S.A.

*For a brief description of Liverton Church refer to page 7A of the present Volume of the Proceedings.

As most of the members know, the ancient Church of Liverton has been undergoing the process of restoration during the last few months. Discoveries of some interest have been made. The two bells on being removed were both found to be of mediæval date. One is quite plain, but around the other is an inscription in Lombardic characters, somewhat worn---

+ VOCOR MARIA DMA

i.e. "I am called the Lady Mary". The R's are reversed and the contraction DMA for Domina should be DNA, but such errors are common on ancient bells. I had some difficulty in reading the inscription, but I sent a rubbing to Canon Fowler, of Durham, who agreed with my reading as far as it went, and solved the DMA, which I had failed to make out. Canon Fowler calls attention, in reference to the legend on this bell, to the Lady Bells of Lincoln Minster. Both the Liverton bells are of considerable interest, and although sent away to be re-cast, it has since been decided to preserve them in the restored Church.

Another discovery made is that of a fine grave slab with a floriated cross and a sword incised on it. In the middle of the stem of the cross is a shield of arms charged with a cross engrailed, which were the arms of the Fitz Conans, who owned Liverton prior to 1316-7, when the property passed into the hands of William le Latimer. It seems probable that the grave over which this slab was laid, and in which a skeleton was found, was the grave of Sir Henry Fitz Conan, who was alive in 1302-3, and died soon after.

made. The two bells on being removed from the bell turret were both found to be of mediæval date. One is quite plain, but round.



INTERIOR LOOKING EAST (BEFORE RESTORATION).

The other is an inscription in Lombardic characters, somewhat worn—

+ VOCOR MARIA DMA

i.e. "I am called the Lady Mary." The R's are reversed and the contraction DMA for Domina should be DNA, but such errors



INTERIOR FROM ALTAR LOOKING W. (BEFORE RESTORATION).



TITZ-CONAN GRAVE SLAB.



INTERIOR LOOKING EAST (DURING RESTORATION).



EXTERIOR VIEW OF BUILDING.

NOTES BY THE LATE R. LOFTHOUSE

The following notes are from notes of the late R. Lofthouse left in diaries or published in papers not likely to have been seen by many, if any, of our members, and it is proposed to publish them from time to time in the Proceedings, as long as they are in the opinion of the Editor of sufficient interest. I may say that he left notes on a variety of subjects-Natural History, Topography, and, Archæology, with special reference to the Cleveland district.

T. A. L.

BIRDS NESTS IN STRANGE PLACES

Birds sometimes choose very curious and odd places for their nesting sites, even in localities where there would seem to be endless choice of suitable resorts. I have seen a chaffinch's nest placed high up in a lofty tree, and although they are usually found at a height of six, seven, or eight feet, I have got one within a foot of the ground, containing two eggs.

Robins usually build in a hole or depression, or in what in some parts of Yorkshire is called the "Cam" side of a hedge. I have seen one, however, placed on the shelf of a gardener's tool-house between two flowerpots. The bird's means of ingress and egress to and from the house was by a small hole in a broken pane of the window. Here it hatched and reared its young successfully, the gardener, to his credit be it recorded, being careful not to disturb it.

Blackbirds most frequently build their nests in hedges or shrubs. One, however, built its nest in the open portico of a villa. There was a column at one side, and on the opposite side the column rested on a large carved boss, three or four feet from the ground, built into a projecting part of the building. At the back of the boss, between the column and the wall, the blackbird had placed its nest, and although people were frequently passing in and out of the building, the bird was sitting at the time I saw it, and as the proprietor seemed very proud of its presence, I have no doubt it carried off its young in due time.

The yellowhammer is perhaps one of the most timid and shy of our birds. Its nest is generally placed in a low bush of thorn, wild rose, gorse, or in long tangled weeds. I once saw one placed in a depression on the side of a small heap of road scrapings, by the side of a much-frequented high road. It was covered with a little overhanging grass, and was not two feet distant from the track of the wheel of every cart that passed; it contained two eggs. On visiting it subsequently I found that it had been

forsaken. I have also found a white-throat's nest in a similar position, but nearer, if anything, to the cart track, though in this case the road was a private road, and perhaps not quite so much used.

The wren builds a nest, which is hard to find, not so much on account of its being hidden away in out-of-the-way places, as from its exact resemblance to the substance on which it builds. The nest is often placed in a hollow on a moss-grown thorn stump, so exactly resembling the surroundings as to be exceedingly difficult to find. It is also sometimes built in a hole in a piece of old masonry, just like an accumulation of old dried leaves, such as one might have expected to lodge there. One was found in a dead, bushy branch blown from a tree. Close to where the branch had been broken off another branch had grown, which had likewise been broken off, forming a hook. This, in its descent, had hooked on to a branch a few feet from the ground, and amongst the dried twigs thus suspended the nest was formed. It could have been unhooked and carried away complete.

Blue tits have been known to nest in all kinds of odd places, usually, however, in holes in trees, sometimes in bottles, etc. One built in an old disused pump. A few seasons ago two nested in two different cast iron gateposts of an iron fence by the side of a much-used carriage drive. Each of the gate posts had a small, square hole about three feet from the ground: here the birds entered. The posts being hollow, the nests probably were placed at the bottom. I believe they both carried off their young.

Water hens and even wild ducks have been known to nest in trees. The sheldrake usually has its nest in a rabbit burrow or other hole. One built some time ago in a cast iron pipe that passed through a slag bank; another built more than once in a hole on the top of a straw stack ten feet high. The sedge warbler's nest is usually placed not far from the ground, but I have found one on the ground amongst tall grass. I have also found one placed in a hedge three or four feet from the ground.

The chaffinch is one of our most skilful builders of a nest. It is formed outside of moss and lichens from the trunks of trees, and lined with hair and feathers. It is about two and a half inches internal diameter, and altogether a most beautiful and compact structure. I found one built on a birch sapling, so exactly resembling the bark of the tree that it was impossible to detect it at a few yards distance, and the resemblance to the white bark of the tree was got in this instance with a liberal use of old newspaper woven in with the moss.

*The above notes all refer to nests that have been found in the Middlesbrough district. T. A. L.,

**SOME NOTES ON FOOD OF THE HEDGEHOG
(*ERINACEUS EUROPLEUS*.)**

On 9th July 1900 I found a hedgehog entangled in stop netting at the end of Tennis Lawn in my garden at Linthorpe, Middlesbrough.

It appeared to have fed a good deal on beetles, there being numerous wing cases in the excrement, some of metallic green colour. The hedgehog was kept in the stable yard where it soon found a retreat under wood building; it came out from its hiding

place in the evening just at dusk. The *first* night I gave it some milk with bread soaked in it. In the morning the milk was all gone but the bread was left. The *second* night I gave it a young blackbird about full grown, some milk with bread as before, and some moths. The blackbird disappeared all but the wings and feet, also the milk and the moths. The *third* night I gave it a young thrush, also about full grown, a saucer with water and a large number of moths. The thrush, the water and the moths were all gone. On the *fourth* night I gave it a number of moths, a hen's egg, and some cooked tongue and water. The moths, the tongue and the water were gone, but the egg remained. On the *fifth* night it had a lark, some moths and water. The lark disappeared with the exception of a few feathers, and also the moths. On the *sixth* night it had moths and snails which were gone in the morning; and on the *seventh* night I gave it a bantam's egg, a few moths and some cooked meat. The moths had gone, and probably a little of the cooked meat, but not much, the egg remained. It had been moved however, and was slightly cracked. It was found in the grate of a gully, the yard being sloped down to the gully. It had probably been rolled there having been disturbed, and that might have caused it to be cracked. The night I gave it the hen's egg, I watched it for some time; it rolled the egg over once or twice, then left it.

Every Natural History states that the hedgehog eats eggs (game eggs I presume). The bantam's egg could be no larger than a pheasant's egg. One of the nights a cooked potato was also given to it, but that was also left and not eaten or touched that I could notice. I tried the hedgehog again with a bantam's egg but again it did not eat it. I also tried it with cheese, cooked meat, strawberries, lettuce, cabbage etc. but it did not eat them. Its chief food appears to be beetles, moths, snails and grubs, and probably small animals

and birds when it can catch them. I tried it with snails and it seemed to eat them greedily, but moths seemed to be its favourite diet

**NOTES ON THE OCCURRENCE OF THE GRASSHOPPER
WARBLER (*LOCUSTELLA NÆVIA*) AT LINTHORPE,
MIDDLESBROUGH, IN 1897.**

MAY 12--Grasshopper Warbler. One has been here some days. It sings mostly in the mornings and evenings, but also through the day and night, and I have heard it as early as three o'clock in the morning, It has been intensely cold weather for a day or two, still it sings,

The song at times is very shrill and distinct, at others very faint, as if a long distance away. Sings most on warm evenings. Generally does not begin to sing until late in the evening, about eight o'clock. Sung up to beginning of July, but gradually less often and less distinctly.

JULY 26--In full song before dusk, not quite so loud as earlier on, May and June.

**EARLY APPEARANCE OF THE REDWING (*TURDUS
ILIACUS*) IN 1900.**

AUGUST 24--Large flocks of redwings have invaded the garden (at Linthorpe, Middlesbrough) lately. The weather has been wild and stormy. There were also a good few blackbirds and thrushes. This seems an early date, and it is probably owing to the stormy and cold weather.

**THE OCCURRENCE OF THE LITTLE BUNTING (*EMBERIZA
PUSILLA*) AT TEES MOUTH (CO. DURHAM).AN ADDITION
TO THE NORTH COUNTRY AVI-FAUNA.
BY C. E. MILBURN.**

On October 11th 1902, my companion (Mr. C. Braithwaite) and I Were "working" the sea walls at Tees mouth--as is our custom at this time of the year--for small migrants, and when near the Snook, near Seaton Carew, a small bunting flew out of the long grass at our feet and settled upon a piece of slag at the foot of the wall. The first glimpse of it made us both remark that the bird was a stranger to us, and on obtaining a good view of it as the bird watched us from its perch, it was decided to obtain it. The bird presently flew into some long grass and then over the inner wall, uttering a "tick, tick, tick" call, when my friend shot it. Mr Harwood, our Club member and Mr. Swales, of Sleights, were with us on the following day, and the former friend skinned and set the bird up and forwarded it to the Kensington Museum, where it

was identified by Mr Ogilvie Grant as being the Little Bunting (*Emberiza pusilla*), which is only the second example for the British Isles. The first was obtained near Brighton, about November 2nd 1864.

Our specimen was exhibited at a meeting of the British Ornithologist's Club on October 22nd 1902, and is by dissection a female.



“FLINT JACK,” HIS LIFE HISTORY*

BY W.G.CLARKE.



"The very Prince of fabricators of antiques," was the description of "Flint Jack" given by Mr Llewellyn Jewitt, F.S.A, in an article in the "Reliquary" for October 1867.

It is improbable that "Flint Jack" surpassed some of the Brandon knappers of the present day in the production of spurious flint implements, but none of these can claim his wonderful versatility.

Prior to his death, and when his fame was at its highest, there appeared various articles in the magazines dealing with this wonderful impostor. The details of his life have chiefly been culled from these, although various correspondents have rendered material assistance. In addition to the article mentioned, others were published in the "Malton Messenger," "All the Year Round," the "People's Magazine," and the "Catalogue of Salisbury Society."

So far as can be ascertained, "Flint Jack's" correct name was Edward Simpson, and he was born in the village of Sleights, near Whitby, in the year 1815. He was, in later years, equally well known as John Wilson of Burlington, and Edward Jackson; while his other *aliases* included "Fossil Willy" (on the Yorkshire coast); "Bones" (at Whitby); "Shirtless" (in the Eastern Counties); "The Old Antiquarian" (Wilts and Dorset); "Snake Billy," "Cockney Bill," and "Flint Jack" universally.

His father was a sailor; and at the age of fourteen Edward Simpson entered the service of Dr. Young, the historian of Whitby, from whom he acquired his knowledge of geology and archæology, frequently accompanying his master on fossil-hunting expeditions. He left Dr. Young to serve Dr. Ripley, with whom he remained until the doctor's death in 1840. At the time he was described as an "active and more than ordinarily intelligent young fellow." Upon his master's decease, Edward Simpson took to a roving life around Whitby and Scarborough, gathering and cleaning genuine fossils. During this period he appeared before the Scarborough magistrates for some offence, but escaped on the plea of being a geologist.

*Reprinted by permission from the Transactions of the Norfolk and Norwich Naturalist's Society, Vol.vi.

In 1843 he was shown a barbed flint arrowhead by a dealer in Whitby, who asked if he could make one like it. At first he had many failures, and was musing one morning, when he took off the hasp of a gate, and with the curved part absent-mindedly struck a piece of flint. A flake flew off, and he tried again, soon acquiring the knack of chipping however he wished. At that time he could make and sell fifty flint arrowheads per day. Thenceforth dates the extraordinary supply, and the life of imposture, which he led for so many years.

The distinctive signs of prehistoric flint implements were then not so well understood as they are at the present day; and although no fault could be found with the *shape* of the spurious implements made by "Flint Jack," the *chipping* was of the crudest description. The spurious implements made by Brandon knappers nowadays are distinctly superior. He studied various antiquities in museums, and set himself to the fabrication of all kinds of antiques, for which purpose he spent years in comparative seclusion. In the beginning of 1844 Edward Simpson was at Bridlington, and by judiciously leavening his spurious with genuine implements, made a collection of six hundred "genuine" for a local antiquary. He ordinarily walked thirty or forty miles a day, vending his wares and collecting materials. Towards the end of the year he started making British

and Roman urns, first near Bridlington, and then near Ravenscar, After a "baking-day" he would proceed either to Whitby or Scarborough, and there dispose of his "collections," which he solemnly declared were taken from tumuli (pronounced *toomoolo* by him) on the moors. These urns were too thick in the walls, of wrong material, ornament, shape, and burning, but the knowledge of British antiquities was then but small, and there was little risk of detection. "Flint Jack" was asked his opinion of a set of *genuine* implements, and, in a moment of weakness, confessed that he made them. At Malton, he sold a local antiquary a spurious hatchet of ironstone for one shilling. Out of an old tea tray, at Pickering, he fashioned a Roman breastplate, which he sold without difficulty. A Roman milestone having then recently been found, " Jack" fashioned one out of a slab, lettering, grinding, chipping, and then burying the stone for subsequent exhumation. This was sold to a medical gentleman for £5. He made other inscribed stones, one of which was for long a puzzle to antiquaries.

In 1846 Edward Simpson took to immoderate drinking, and remained in poverty to the end of his life. He made a flint comb, which the antiquaries of that day thought might have been used for tattooing. The same year (1846) he started on his first tour. At Hull, he sold a spurious axe to the Mechanics' Institute; at Lincoln, spurious implements to the museum; at Newark, he first began making fossils; and at Cambridge, he deceived the curator of the Geological Museum and a local optician with fossils supposed to have come from the chalk and greensand. He also visited, on this tour, Newmarket, Brandon, Thetford, Norwich, Yarmouth, Ipswich, and Colchester. In the neighbourhood of Yarmouth, he made the acquaintance of an "archæological parson, easy to do," who gave an unlimited order for British or Roman antiquities. "Jack" soon produced a valuable assortment, with forms quite unique, the invention of his own fertile brain. At Colchester, he fell in with a travelling Jew, whom " Flint Jack" duped wholesale. From thence he went to London, and made the acquaintance of Mr. Tennant of the Strand, to whom he sold spurious fossils, flints, and antiquities. On his own confession, he also deceived the British Museum folk. He remained in London a year, and at length feared the museums might become overcharged with his implements. He also made spurious fibulæ, coins, seals, rings, leaden antiques, and jet seals and necklaces from Cannel coal.

Upon returning to Yorkshire he, for twelve months, collected genuine chalk fossils for the York Museum. At length, one day, at North Shields, he found flint among the shingle, and started on his old life again, doing good trade at Durham. The following year he went to Ireland, and in 1852 again set out for London. At Bottesford he found an open quarry of lias, and stopped there some time collecting fossils. He sent his first basketful to a clergyman at

Peterborough, who had befriended him--gratitude being a redeeming trait in "Flint Jack's" character. At St. Albans he, found a good customer, and sold him spurious flint knives and arrowheads. He also made an ancient silver coin to order, out of the handle of a German silver teaspoon. In after life, "Flint Jack" related with evident glee how a Roman urn (calcined bones, earth, and all), which a canny sceptic had refused to accept for five shillings, was afterwards bought up for £3.

In 1854 Wiltshire was the scene of his operations, and at Devizes (where he sold both forged fossils and implements to the Museum) he sat for his first portrait, which sold freely as a photograph of "The Old Antiquarian." The same year he thoroughly worked the West of England, and during the next three years he also visited Scotland and most of the English counties, doing a flourishing trade. Many and many a time did he chuckle at having deceived the very elect of antiquaries. After further wanderings, Edward Simpson again came to the Eastern Counties by way of Boston, Spalding, and Lynn, visiting Norwich, Brandon, Yarmouth, and Ipswich. This was in 1860. Concerning this visit Major Fitch has kindly informed me that "Flint Jack" lodged at the "Half Moon," a public house, which then stood in Norwich Market Place. He made implements with a sort of tool that kept old-fashioned windows open and carried with him a plan, about twelve inches square of specimens of Palæolithic and Neolithic implements, which he imitated with great success. Dr C B Plowright was informed by the keeper of the Blackmore Museum at Salisbury, that "Flint Jack" could make *obsidian* arrowheads out of the bottom of a black glass wine bottle. He also told this lady that he used a round pebble for working flints; but, at another time, he told an uncle of Dr Plowright that he used the hasp of a gate for this purpose. It is furthermore recorded that he used a small round-faced hammer of soft iron, so that his tools were very varied. Perhaps this was one of the two old flaking hammers that Mr Fred Snare of Brandon tells me "Flint Jack" begged of his father, Mr W. E. Snare. Previous to this visit, "Flint Jack" had been charged by Mr Tennant of London with making spurious implements, and had confessed the imposture. From that time his trade became very precarious, and he gave way more and more to dissipated habits. On January 6th 1862, there was a meeting of the Geologists' Association, in their rooms in Cavendish Square, when a paper was read by the Rev. T. Wiltshire, on "The Ancient Flint Implements of Yorkshire and the modern fabrication of similar specimens." "Flint Jack" was present, and demonstrated his simple method of manufacture.

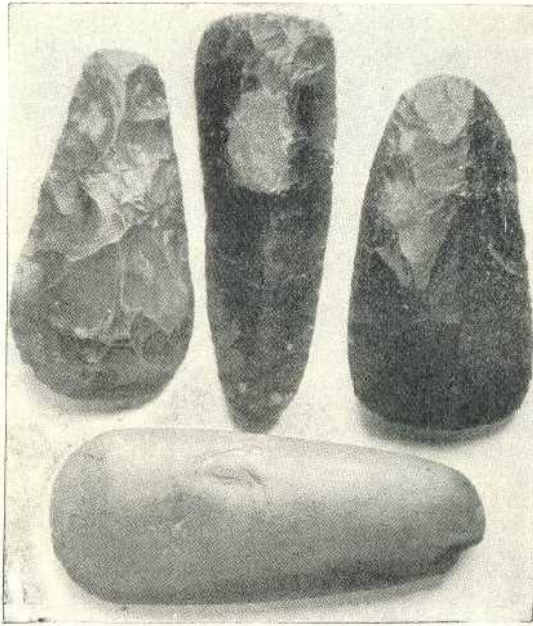
"Flint Jack" again visited Salisbury in 1863, when his photograph as taken by Mr Treble. A full-page engraving from this appeared in the "People's Magazine" and the Reliquary." Lower and lower did he sink in vice and misery, until at length, in April 1867, he stole some

goods at Bedford, while in an intoxicated and half-starved condition. He was sentenced to twelve months' imprisonment, and was confined in Bedford Gaol, where John Bunyan had preceded him in durance vile. It was, however, stated in January of that year that " among antiquarians he could generally raise a trifle for pressing needs—a proof of their placable disposition, but when possessed of a little cash he drank without ceasing until it was gone." At that time many archæologists had hanging in their residences a portrait of "Flint Jack" framed in spurious flint implements of his making. In the "Reliquary" for October, 1867, the editor appeals for help to assist "Flint Jack" when he came out of prison, and says: "The man possesses more real practical antiquarian knowledge than many of the leading antiquarian writers of the day; and he is a good geologist and palæontologist" The pity is that his talents were not put to better use. The "Newcastle Daily Journal" of May 14th, 1868, says: "The celebrated' Flint Jack' has been released from prison, and is engaged in his old trade of fabricating flint arrowheads."

* A few years later he appeared in Stamford, and remained there for some time.

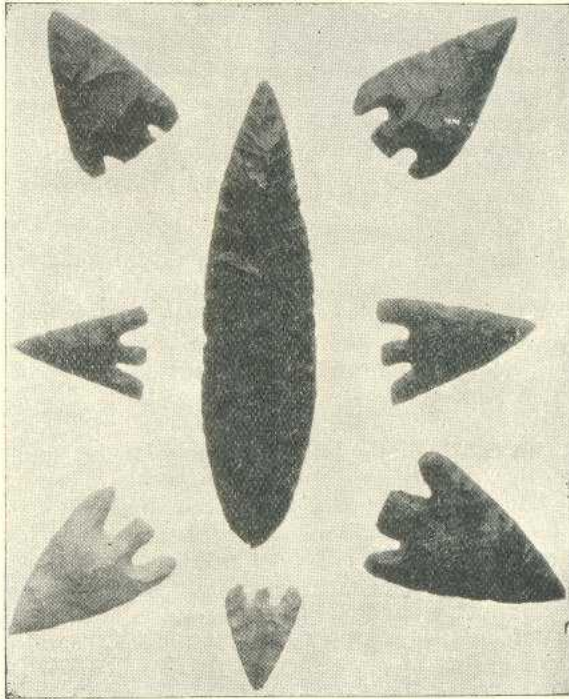
* The concluding paragraphs of this article have been added by the author, and did not appear in the Transactions of the Norfolk and Norwich Society.

Mr. A. C. Elliott, of Newark-on-Trent, writes:-- "He frequented Savage's lodging-house in St. Martin's, Stamford, and used a passage or cellar of the monastery, a fine old groined ceiling and arches, away from everybody. I visited him there, a dreadful hole, but I was always well received. 'Flint Jack' was not the poor miserable imbecile some state. He was well spoken, well behaved, badly dressed, a fair scholar, a clever craftsman, and undoubtedly a clever impostor. The collecting clergy were his mark, but how some could be taken in, showed they had more money than brains. His pottery was rough in the extreme. His tools were good and rather numerous." As to his methods of manufacturing stone axes, Mr Elliot states that he first chiselled the stone to a wedge-shape, then rubbed it smooth with "grit stone", and finished it off with raw cowhide. These "celts" sold at about 10s. each. His rings were drilled and then reduced by a file. When finished they looked like jet that had been buried. His photograph was taken at Stamford and as many as 40 a day were sold at 1s. each—the profits being equally divided between Mr A.C. Elliot and " Flint Jack." The last named seems to have disappeared about 1873 and is said to have died in a workhouse, probably Pocklington, or one the others in East Yorkshire. Anything more definite I have been unable to find.



Souris Axes, made in Suffolk in 1898. Chipped ones of Flint;
unchipped of Plaster, $\frac{1}{2}$ size of originals.

Source: *Salisbury*, 1894, "Pleistocene Tools," *Journal of the Geological Society*, 50, 101.



Spurious Flint Arrowheads and Spearheads; made in Suffolk
in 1890, $\frac{2}{3}$ size of originals.

CLEVELAND LEPIDOPTERA IN 1902.

By T. ASHTON LOFTHOUSE, F.E.S.

*Denotes Species recorded in our Proceedings for first time.

The weather conditions prevailing this year were not at all favourable to insect life. Early spring insects were out fairly well to tune and fairly numerous, the weather being a little more favourable

then than later; May, which is generally cold and wet, was much colder and wetter even than usual, and in the whole of the month there was scarcely one fine day. The summer and autumn months, with the exception of a fortnight in June, were extremely cold and sunless throughout, with the result that moths generally were very scarce, and practically nothing occurred at sugar at any time. Many species put in a notably late appearance, and then only sparingly. Other species, generally taken, were not even noticed at all.

Mr. Sachse sent a list from which the principal species are noted below. With reference to the season, he says that "it was a most unpropitious one, the weather being either wet or cold." Between August 12th and September 10th he was on the Continent, and therefore did not do any collecting in England during that period.

As an example of the late occurrence of many species, I may mention the following :- *Zygæna filipendulæ* fairly fresh on August 10th at Acklam ; *Bryophila perla*, fresh out at Danby on August 9th; *Cerigo matura* at sugar on August 22nd; *Tapinostola elymi* bred August 26th; *Rumia luteolata* fresh, and *Venusia cambricaria* at Kildale on August 30th; *Hepialus sylvinus* on August 31st and many other late occurrences could be instanced, but the above will give a better idea to those who are acquainted with the usual time of appearance of the species named, as to the extraordinary character of the season.

Diurni. *Thecla rubi*.--Noticed at Eston on May 24th.

Nocturni. *Acherontia atropos*---A specimen emerged in Mr. Clayton's greenhouse on March 16th, from *larvæ* found at Kildale (W. Sachse).

Nola cucullatella----Several bred from *larvæ* beaten off whitethorn at Eston (T. Belk).

Noctuæ **Cymatophora flavicornis*---A male specimen was taken at foot of birch trees at Carlton-in-Cleveland on April 1st.

Acronycta rumicis---Specimen taken off a tree trunk at Acklam On May 14th, noticeable on account of early appearance in a season when almost every other species was late.

Xylophasia hepatica. --This moth appears to be fairly plentiful in favourable seasons at Thornaby, several being taken at sugar this year.

* *Tæniocampa munda*.---Bred from Cleveland *larvæ* (T. Belk), also bred from Kilton (Proud), and caught at Great Ayton (F. R. Atkinson).

Cerastis vaccinii.---Great Ayton, January 1st (F. R. A.) ; on sallows, at Kildale, in April.

Xanthia fulvago var. *flavescens*--- a few from willow catkins from Kildale, also caught a specimen at Kildale in August.

Cirrhædia xerampelina. ---Larvæ plentiful at Great Ayton in the spring, also taken at Acklam and Tollesby.

Cirrhædia xerampelina var. *unicolor*. --From a large number of specimens bred by Mr. Atkinson, he was fortunate to breed four specimens of this beautiful variety.

Agriopsis aprilina. --On oak tree trunks at Ingleby in September.

Xylocampa areola. - - This insect occurred at East Harlsey on March 31st, at Carlton on April 1st, and at Great Ayton on April 5th, and subsequently several on willows.

* *Cucullia chamomillæ* -- A specimen taken off railings at Great Ayton on May 31st.

Habrostola fripartita. --Castleton, 5th July.

Heliaca tenebrata. --Plentiful flying in the sun at Picton on June 21st, on the occasion of the Field Club meeting in that locality (W Sachse).

Geometræ. *Acidalia virgularia*.- on July 7th, at Grosmont, also several at Redcar in July and August.

Scodionia belgiana--- Taken at Comondale on July 5th, on occasion of Field Club meeting in that district.

* *Aspilates strigillaria*. --Two or three specimens taken and several noticed near Danby on July 5th (W. Sachse and F. Elgee)

Hylbernia aurantiaria --- Specimens (both male and female) taken among birch at Kildale in November.

* *Cheimatobia boreata* ---Occurred commonly among birch at Kildale in November.

* *Oporabia filigrammaria*---Bred in September from larvæ swept on moors near Guisborough.

Eupithercia minutata.---Bred from Danby larvæ.

**Hypsipetes ruberata*--- Bred in April from larvæ, found at Great Ayton in September.

Cidaria suffumata var. *piceata* ---Eston. :May 24th (W. Sachse) Thornaby (Proud).

Pelurga comitata.--- Linthorpe (W. Sachse).

Tortrices. **Dictyopteryx bergmanniana*. --Kildale, August 30th.

* *Grapholitha ramella*---Among birch on Eston Hills.

* *Grapholitha subocellana*---Guisborough, in May.

* *Grapholitha trimaculana*.---Kildale, September.

* *Stigmonota dorsana*--- Took two or three specimens; flying in sun on railway embankment near Great Ayton on June 24th. One of the specimens is interesting, it having dark lines in the white blotches on the upper wings.

Tineæ. **Cerostoma radiatella*.---Park wood Guisborough, in August

* *Teleia proximella*---Kildale, in August.

Gracilaria elongella. - Kildale, in November

* *Elachista argentella*.-Swainby, in May.

LEPIDOPTERA TAKEN IN 1900 AND 1901

(OMITTED FROM LISTS PUBLISHED FOR THOSE YEARS.)

* *Sphinx pinastri*.—I examined a specimen some little time since that had been taken in the autumn of 1900, in a garden at Linthorpe, Middlesbrough. The insect was not in very good condition, the edge of the wings being damaged and the colouring faded. It would probably either be an immigrant or have come into port with some ship, the garden in which it was taken only being some two or three miles from the Middlesbrough Docks.

* *Acronycta leporina*.-One in Mr. Sachse's collection, taken at Great Ayton on June 10th, 1900.

* *Coccyx splendidulana*.-Park wood, Guisborough, May, 1901.

* *Coccyx argyrana*.-Park wood, Guisborough, May, 1901

* *Prays curticeilus*.-Bred from ash buds, Park wood, Guisborough, May, 1901

* *Cerostoma vitella*.—Eston, 1900

* *Depressaria ciliella* – Middlesbrough 1901.

* *Lithocolletis quercifoliella*. --Park wood, Guisborough, May, 1901.

SOME NOTES ON LOCAL LEPIDOPTERA

BY THE LATE R. G. CLAYTON.*

Vanessa antiopa and *V. io* at Middlesbrough.--Many years ago I took a perfect specimen of the Camberwell Beauty (*Vanessa antiopa*) off the Pottery wall, which is about 500 or 600 yards away in a direct line from St. Hilda's Church; and often captured specimens of the Peacock (*Vanessa io*) upon the Dock Hill, but have not seen any since the enlargement of the Dock water area took place.

[I remember myself some years ago seeing single specimens of *Vanessa io* taken near the Albert Park and also at the Docks, but I have not seen or heard of it being taken in this district for some years now. - T. A. L.]

Hibernation of Vanessa urticae at Middlesbrough--_On 17th March, 1895, I took a living specimen of a Common Tortoise-shell Butterfly (*Vanessa urticae*) from off the window next to the Vestry in St. Hilda's Church, Middlesbrough, and, excepting one winter since then, there has always been one of these insects in the same place. In November last I noticed, suspended from the stonework, an apparently defunct fully-developed imago, but, on the 23rd

instant, during service, it descended to the bottom of the window and was very lively.

Of course, records of the appearance of a Tortoise-shell Butterfly during winter are extremely numerous, but what is most peculiar in the present instance is that only upon one Window, and that one of those most exposed in the Church, should there have been a succession of the insects over so many years. The Church stands in the Market Place, in the middle of the town, and is in the midst of a very smoky district, and the side, which the insects have affected is due north. There is a small hole for the drainage of moisture at the bottom of the window, and they have probably made an entrance there. --R. G. Clayton, 67, Douglas Terrace, Borough Road, Middlesbrough, 25th February, 1902.

*Reprinted from the "Naturalist"

REPORT ON THE COLEOPTERA OBSERVED IN CLEVELAND.

BY M. LAWSON THOMPSON, F.E.S.

The year 1902 was not a good one for beetles, the prevailing absence of warm and sunny weather being very unfavourable for collecting during most of the time. A few very interesting species, however, were met with in September, and the following notes refer chiefly to the work done during that month.6 of the insects then taken appear to be new to Yorkshire. These are *Aepus marinus*, *Homalota occulta*, *Tachinus pallipes*, *Proteinus atomarius*, *Scaphisoma boleti*, and *Pocadius ferrugineus*.

I am again much indebted Mr E A Newbery, of London for his kindness in examining a few of the more critical specimens.

COLEOPTERA.

Carabus granulatus, L.—At Middlesbrough, 1901(O C Hudson).

Clivina collaris, Herbst.—Saltburn Wood, among gravel at the edge of the stream (July).

Bembidium nigricorne, Gyll.—On Stanghow Moor in June.

Bembidium quadriguttatum, F. — at Saltburn in July.

Aepus marinus, Ström. —Saltburn, on the coast, under large stones embedded in shingle at high water mark near Huntcliffe (June). I have not yet found *A. robinii*.

Hydroporus melanarius, Sturm. —Stanghow Moor; common in a mossy pool in June.

Aleochara ruficornis, Grav.—Saltburn, at the foot of the sea banks; one specimen (Sept).

Homalota occulta, Er. – Saltburn, on the coast, in a dead gull (Sept).
Homalota xanthoptera, Steph.—Saltburn Wood; common in decaying fungi.
Homalota nigra, Kr.—Common at Saltburn.
Phytosus spinifer, Curt. – Saltburn; common on the coast in dead gulls (Sept)
Tachinus pallipes, Grav.-Saltburn Wood, in decaying fungi (September).
Philonthus corvinus, Er.-Saltburn, on the coast; one specimen in July.
Lathrobium elongatum, L.—At Saltburn.
Stenus junco, F.-Saltburn, at the edge of a pond (May).
Proteinus atomarius, Er.- Saltburn Wood, in decaying fungi (September).
Scaphisoma boleti, Panz.-Saltburn Wood, in decaying fungi (September).
Omosita depressa, L.-Saltburn Wood, in decaying fungi (September).
Pocadius ferrugineus, F.-Saltburn Wood, In decaying fungi (September).
Sericosomus brunneus, L. (fungax, F.)-On Eston Moor, in June, 1901 (O. C. Hudson).
Corymbites cupreus, F. --At Middlesbrough in June.
Anaspis Garneysi, Fowler. --Saltburn, on whitethorn; one specimen in June.
Limnobaris T -album, L. --On Stanghow Moor, in a marshy place (June).

Since I last examined the Rev. J. Hawell's collection of Beetles taken in the neighbourhood of Ingleby Greenhow, he has been making a few additions to it. I will conclude the Report with a list of these insects.

Cicindela campestris, L.
Carabus nitens, L.
Harpalus ruficornis, F.
Harpalus æneus, F.
Anchomenus dorsalis, Mull.
Agabus bipustulatus, L.
Anacæna globulus, Payk.
Sphæridium scarabæoides, F.
Epuræa æstiva, L.
Meligethes æneus, F.
Aphodius ater, De G.
Aphodius rufescens, F.
Aphodius conspurcatus, L.
Aphodius lapponum, Gyll.
Aphodius punctato-sulcatus, Stm.

Aphodius depressus, Kng.
Melolontha vulgaris, F.
Agriotes obscurus, L.
Rhagonycha limbata, Thoms.
Crepidodera ferruginea, Scop.
Sphæroderma cardui, Gyll.
Lagria hirta, L.
Sciaphilus muricatus, F.
Barynotus obscurus, F.
Ceuthorrhynchus contractus, Marsh.

**NOTE ON THE SUBMERGED FOREST & PEAT BEDS AT
REDCAR.**

By Mr Henry Simpson.

Those members of the Field Club who are interested in geology will not need to be told that the general opinion has long been that in times not very remote, from a geological point of view, what is now covered by the North Sea was a verdant well-wooded plain with a large river---a continuation of the present Rhine---running down the middle of it to the North, and debouching into the Atlantic Ocean somewhere between the North of Scotland and the South-west of Norway. Of this great river the Thames, Ouse, Tees, and other east coast rivers would probably be tributaries. Between the North of Scotland and the West Coast of Norway there exists a bank now submerged through which it is supposed the waters of the ocean burst, and formed the North Sea, and doubtless also the Baltic. That was, it is believed, before the Straits of Dover existed. The North Sea is very shallow, being nowhere more than 400 feet deep, and what is now known as the Dogger Bank, which is opposite the Coast of Yorkshire and Durham, must have been one of the highlands of this extensive plain. On that bank the depth of the water is so small that in a storm the sand from the bottom is often carried on to the decks of vessels sailing over it. When the North Sea was dry land Huntcliff, Rockcliffe, Flamborough Head, &c., would slope gently into the plain in the same way as Eston Hills, Highcliffe, Roseberry, &c., do in these days.

Evidence of the change from land to sea is afforded by the fact that tree trunks and branches have been brought up from the bottom of the ocean by trawlers and others, and at considerable distances from the present shore line, while close to the coast in various parts of the East of England are to be found remains of ancient forests. More particularly is this the case in the neighbourhood of Redcar, and between Seaton Carew and Hartlepool on the opposite side of the Tees Mouth. The remains at Redcar are the more extensive and are embedded in deposits of peat, which deposits are covered by sand of considerable thickness. At rare intervals after unusually heavy storms this sand is swept away, and the beds of peat are exposed near low water mark, but it is only for a few tides that they remain uncovered. Doubtless, it is due to the fact that these beds are protected by the rocks further to seaward and are covered by the sand that they are still preserved, for to the North and South the sand, the peat, and the remains of forests have largely disappeared. Further south also the strong current which flows down the East Coast of Scotland and England has a great denuding influence, whereas Hartlepool Heugh and Redcar Rocks deflect the current to the eastward, and Redcar and Seaton beaches are comparatively unaffected by this cause. While, however there are no deposits of peat to the East of Redcar, occasionally there may be found branches of trees, &c., in the stiff clay, which, covered by a thin layer of sand, forms the floor of the beach between high and low water marks between Redcar and Saltburn. Similar remains have also been seen between Coatham and the South Gare Breakwater, though less frequently, as the covering of sand on the beach is much thicker on the West than it is to the East of Redcar.

Within comparatively recent years beds of peat have been exposed close to the east end of West Scar Rocks, immediately in a line with West Terrace, and also not far from the West end of the same rocks, almost opposite to the Convalescent Home. The beds, however, remain "on view" for a very short time, but some thirty years ago that opposite West Terrace was exposed for some weeks, and during that time large quantities were dug out when the tide was low and carted away by the inhabitants, who dried it and found it as excellent a fuel as the present day peat, or the sea coal which is so largely consumed by the fishermen and others at Redcar. The period during which the bed was left bare by each tide was only short, not more than two or three hours, but those who were securing supplies of the deposit, in some cases, got to considerable depths. When first dug out this peat was black and somewhat evil smelling, but the odour quickly disappeared when it was dried. Embedded in the peat were large portions of trees, chiefly, oaks and firs, and they included trunks as well as branches but seldom roots. Hazel nuts, acorns and decayed leaves were plentiful, apparently well preserved by the astringent qualities of

the peat. Antlers of the red deer and tusks of the wild boar were found and I believe some of the antlers were presented to the Museum at York. At Seaton Carew, I am informed the submarine peat beds have yielded antlers of the Irish elk and a tusk of the mammoth, but from what I can learn these have not been met with at Redcar.

RAINFALL IN CLEVELAND IN 1902

The following Records are taken from "British Rainfall," published by Mr. H. Sowerby Wallis and Dr. H. R. Mill.

STATIONS	AUTHORITY	RAIN GAUGE		Depth of Rain 1902	Days on which ·01 or more rain fell	
		Diam. ins.	Heights Ft. ins.			
Ingleby Manor	Right Hon. Lord De L'Isle	5	0 11	440	27·29	188
Ingleby Greenhow Vicarage	Rev. J. Hawel	5	1 0	448	24·71	204
Easby Hall	J. Emmerson Esq.	5	1 0	355	24·23	191
Whitby (Royal Crescent)	T. Newbitt,	8	1 6	145	20·49	135
Hutton Hall	Mr J. McIndoe	5	1 3	400	22·35	168
Lockwood Beck Reservoir (Monthly)	Mr. l'Anson, C.G	8	1 0	632	28·04	172
	Mr. l'Anson	8			27·50	

Ormesby	Mr. W. Sanderson.	5	1	0	100	19-85	198
Albert Park, Middles- -brough	J M Parnaby, Esq.	8	1	0	30	17-92	174

CLEVELAND NATURALISTS' FIELD CLUB

SECRETARY'S REPORT, 1902-1903.

I have pleasure in submitting my Report on the operations of the Club during the past year, and before entering into details I may be allowed to state that on the whole the year has been a satisfactory one, the work accomplished by the Society being well up to the average; Summer and Winter Meetings being held with a fair amount of success, and a further part of our Proceedings being published during the year.

SUMMER MEETINGS---*Seven*, meetings were arranged to take place during the summer months, exclusive of the Y N U Meetings, none of which were held in our district during the past year. The attendance at these meetings (except when the weather was very unfavourable) was very good.

The opening excursion was held at Potto on May 3rd, when, although the day was a little threatening and cold, there was an attendance of about 30, including members from Middlesbrough, Stockton, Redcar, Ingleby Greenhow, Guisborough, and Whorlton. Six or seven members cycled over.

The party arriving by train at Potto, walked by way of the old mineral line (along the banks of which some interesting finds were made by the botanists) to Whorlton Castle, where they were met by the Rev. J. C. Fowler, B.A, F.G.S., the Vicar of Whorlton, who described the various features of interest about the Castle remains. He showed an interesting drawing of the Castle as it existed many years ago, copied from a drawing in the Warburton Collection at the British Museum. He also exhibited a coin that had been dug up in the neighbourhood of the time of Edward II. (?) After inspecting the Castle the party walked over to the old Church, where Mr. Fowler also acted as guide, describing the various features of interest in what is one

of the most interesting Churches in Cleveland—a Church, which has examples of all periods of work from Early Norman to Late Perpendicular. In the interior of the chancel (now used as a cemetery Chapel) is a very fine recumbent figure (in oak) of a Knight, Sir Nicholas de Meynell. There are also a number, of interesting sculptured heads, and early grave covers built into the walls in various portions of the Church. Two or three of the more venturesome of the party climbed up into the belfry in the tower to inspect an interesting pre-Reformation bell.

After leaving the Church, a walk was taken through the fields up towards Scugdale a little way, and then back into Swainby.

The botanists and geologists of the party did a little investigating, but time being limited not much of interest was turned up. With regard to Lepidoptera, the day being cold and the season very backward, very little was noticed.

The thanks of the Club are especially due to the Rev. J. Cowley Fowler, B. A, for kindly conducting the party over the Castle, the Old Church, &c., and thus being the means of a most instructive and enjoyable afternoon being spent.

On May 24th the second meeting was held at Eston. The day being exceptionally fine, after a very long spell of cold sunless days, resulted in the attendance at the excursion being very satisfactory especially so as the time of departure, 1-10 p.m, was rather early, and would no doubt prevent some of our members from attending. A party of 22 were set down at Eston Station, and other 4 members being noticed on the ground during the afternoon, brought the attendance up to 26.

From Eston Station the party made tracks immediately for the top of the hills. The geologists, who were more in evidence than usual, were under the able guidance of one of our Vice-Presidents, Dr. W. Y. Veitch, F.G.S., and went across Eston Moors by the mines, and through Park Wood to Guisborough, noting the particular geological features *en route*.

A portion of the members spent some little time in investigating the remains of an "*Ancient Encampment*." conjectured to be of Saxon origin, and situated close to *the Beacon*. It is very distinct, and is rather unusual in form, being only a portion of a circle, the escarpment forming the boundary along the diagonal. Two "*tumuli*" were also viewed from here; these have both been examined some years since by Canon Atkinson and others,

The party, after leaving the encampment, walked through some pine woods, across Wilton and Barnaby Moors to Park Wood,

where the botanists found their best ground, and from thence into Guisborough.

Entomologist members were in strong force, there being six on the moors during the afternoon. Several *Emperor Moths* were noticed dashing about the moors, and provided much exercise with very little result to some of our members. Three or four species of butterflies were noticed, the most noteworthy being a specimen of the *Green Hairstreak*, the first that has been noted on Eston Moors that I am aware of. A number of other species of both butterflies and moths were noticed, but they, being only common species, do not call for special mention, with one exception, that being *T. biundularia*, specially noticeable on account of some very finely marked and dark specimens that occurred on fir and larch trunks.

Among the birds noticed during the afternoon the Cuckoo seemed to be very plentiful. A Grasshopper Warbler was heard. It was noticed that the warblers seemed to be very backward in their nesting operations.

On reaching Guisborough some of the members spent some time in looking over the objects of archaeological interest in the Church, including the fine De Brus Cenotaph.

The next meeting was fixed for June 7th, on which day it was proposed to walk from Ayton Station to Kildale via Little Ayton and Easby; owing, however, to it raining very heavily all day, this meeting had to be abandoned.

The fourth meeting took place on June 21st, when a party of about 15 journeyed to Picton and walked from thence to Yarm, the day being very fine; but owing to an expected guide not turning up, and the party being unable to get any local information as to a path through the fields, the journey had to be made by the road which I am informed did not prove very interesting, although a few specimens of a fairly good moth, *H. arbuti* (one of the "smaller yellow underwings"), were taken by an entomologist of the party; and the *Tway Blade Orchis* was noticed as being very abundant in one or two places *en route*.

The next excursion was one arranged as the result of the Rev. J. Hawell's lecture on the Evolution of Cleveland Scenery (which he gave to the Society in April last). The party, of upwards of 20, on arrival at Comondale Station on Saturday, July 5th, were taken charge of by the Rev. J. Hawell, M.A., who kindly acted as guide, the route being from "Comondale Station through the village and over the moors to Stoney Ruck, and from thence by way of Eve Crag Slack to Danby Station."

The day being fine a very profitable afternoon was spent especially so by those interested in Geology, who had the various features of geological interest pointed out to them *en route* by Mr. Hawell. The entomologists of the party did a little work and turned up one or two very interesting species, the most notable being *A. strigillaria* (a species taken for the first time in Cleveland to my knowledge), *F. belgiaria* and *Acidalia fumata*.

Owing to the tide not being favourable, the next excursion, which was intended partly as a coast excursion, Loftus being the rendezvous, was postponed from Saturday, July 19th to the 26th. The postponement was (as often is the case) unfortunate as the weather conditions were anything but pleasant. However, in spite of the weather, 5 members attended, but although Dr Veitch kindly attended, he having consented to act as guide to the geologists, the coast part of the excursion was not persisted in.

Four of the members on arrival at Loftus walked direct to Kilton Castle, but the weather getting worse instead of better, two of the party left and caught an early train back. The two who remained did a little entomological work under very disagreeable circumstances and with very little success.

The other member (a local gentleman) went direct to Liverton Church, and he reported that the Church was in the course of restoration. He found that the Norman arch had been bottomed and the floor lowered, and that a fine sculptured stone memorial slab in excellent preservation had been found.

The *last* excursion of the Summer season, down on the card to be held at Boosbeck, was altered, and instead was held at Loftus on August 30th, when a portion of the programme for the last excursion was carried out, it being considered that as the restoration work was being carried out at Liverton Church, it was a very opportune time to inspect it and also to see a fine sculptured memorial slab which had been unearthed during the carrying out of the work.

Fourteen members attended the meeting, *twelve* of whom had a very enjoyable time under the able guidance of a local member Mr. Garbutt. Unfortunately, owing to the members getting out at Carlin How Station instead of Loftus, as intended by the circular, two of our members missed the party altogether.

A fine fossil (supposed remains of Pleseosaurus) was examined by the geologist members on the pit landing stage at Carlin How Station. I should be glad if some member would give a description of this for the Proceedings.

None of the Yorks Naturalists' Union Meetings being held in the Cleveland district during the year, no special circulars were sent out. Some of our members attended the meetings at Coxwold, Sedbergh, and Brimham Rocks.

The Yorkshire Archæological Society kindly invited members of our Society to join them in an excursion they were holding at Guisborough on June 13th when the route taken was from thence to Marske *via* Kirkleatham. Some of our members availed themselves of the kind invitation.

We were indebted during the season to Messrs Bolckow, Vaughan and Co., Limited, for permission to view Eston mines workings, and also to Lord Downe, W. H. A. Wharton, Esq., and J. Swan, Esq., for permission to visit Kilton Woods.

WINTER MEETINGS----Since the last Annual Meeting six Winter meetings have been held out of a programme of *eight*, two of the meetings being postponed----one, the Lecture by the Rev. W. Lower Carter, M.A. ("On Tracking a Yorks. River Underground") owing to the illness of the Lecturer; and the second, a Paper promised by Mr. Frank Elgee "*On the Study of Insects*," which he was unable to get ready in time.

The Winter meetings were all arranged and the Papers given by our own members, with one exception, that being the Yorks. Naturalists' Union Lecture delivered by Kenneth McLean. The Club are very much indebted to those members who kindly rendered assistance in this way, and I am quite sure there are more of our members who could assist if they would, and I should be glad to hear from any who are willing to assist us next session.

On April 10th the Rev. J. Hawell, M.A., F.G.S., delivered a Lecture entitled "Evolution of Cleveland Scenery." There was a very good attendance of members at this Lecture, who had the pleasure of listening to a very able and instructive Paper, the result of recent research made in the district by the Lecturer, Percy F. Kendall, F.G.S., F. R. Cowper Reed, M.A., F.G.S., and others. The Lecture was well illustrated by slide diagrams and also views of scenery in different portions of the district; there were also a number of slides of Swiss scenery, illustrating the glaciers, etc.

A vote of thanks was proposed by Alderman J. F. Wilson, seconded by J. M. Meek, M.A., and carried unanimously.

The first meeting in the Autumn, which took place on Thursday, Nov. 6th, took the form of an Exhibition Meeting, when a number of microscopes with objects were arranged by Mr. Henry Simpson, to whom the Society are specially indebted for the trouble he took to

make the evening a successful one. He was also assisted by Mrs. Hood and one or two others of our members.

Although the evening was fine, and there was no other counter-attraction of any importance that I am aware of, the attendance, which numbered not more than 20, was not altogether satisfactory.

Microscopes were kindly lent by H. Simpson, Mrs. C. Hood, J. E. Stead, T. F. Ward, and Angus Macpherson, and living objects and slides by Mr. Simpson, and slides by Mrs. C. Hood.

A number of botanical specimens, mostly local, were exhibited by Mr. Charlton, of Stockton, and one or two specimens of the *Stag Beetle and Hornet*, taken in the New Forest last summer by T. A. Lofthouse.

On Thursday, Nov. 20th a Lecture was delivered in the Lit. & Phil. Hall by Kenneth McLean, on "Birds that are misunderstood." The Lecture was given by arrangement with the Yorks. Naturalists' Union, and Lit. & Phil. members attended at the Club's invitation. There was a fairly large audience, our members being very well represented. Those present had the pleasure of listening to a very instructive and well illustrated Paper on the habits of many birds, such as the Owls, Nightjar, Cuckoo, Kestrel, Kingfisher, Heron etc which, owing to mistaken ideas more often than not, are very much and unjustly persecuted.

At the conclusion of the Paper a vote of thanks to the Lecturer was proposed by Alderman Amos Hinton, J.P., President of the Literary and Philosophical Society, and seconded by J. M. Meek, M.A., and put by the President, Thos. F. Ward, and carried.

The next Lecture was delivered on Thursday December 11th by Mr. Angus Macpherson, on "Rome." It was fairly well attended, the subject being an attractive one to all interested in archæologica¹ and architectural subjects. The very fine slides, by which the Lecture was illustrated would be specially appreciated by all those who had the pleasure of being present.

The first Paper in the New Year was given by Mr. T. C. Elgee, on Thursday, January 15th whose subject was entitled "Land Mollusca of Cleveland."

The Paper was a very able one, and one that showed that great care had been exercised in its preparation, and was the result of some years' practical observation in the district by the Lecturer. The attendance at the Lecture was extremely disappointing (some 7 or 8 in all). No doubt the severe wintry weather deterred many from turning out, but this even should not have affected it to the extent

that only some *seven* members attended out of a membership of about 120.

The Lecturer, after giving a brief description of the characteristics of Mollusca habits, etc, gave a more detailed description of some of the species that occur in the Cleveland district.

The Paper was illustrated by means of specimens of shells locally collected.

A vote of thanks was proposed to the Lecturer by T. Y. Howcroft, seconded by M. Wolstenholme, and supported by the President, T. F. Ward.

The Lecture down for February 12th, to be given by the Rev. W. Lower Carter, M.A., F.G.S., and for which circulars were sent out, was unavoidably postponed owing to the serious illness of the Lecturer.

On March 18th an Exhibition Meeting was held, when a very interesting series of exhibits were made by Dr. W. Y. Veitch, F.G.S., and others.

Dr Veitch exhibited among other things the following---A collection of shells (named) from Raised Beach near Odde, Norway, especially interesting in so far as they are similar in almost all respects to what would be taken in raised beaches that occur in the Cleveland district; a Lump Sucker, a species of fish taken in the River Tees recently; a very fine *Modiola*, or Horse Mussel, taken from the Tees; a supposed Paleolithic Hammer Head, found in connection with the Dock extension, among ballast supposed to have come from the Tyne. This had been forwarded to Canon Greenwell, and he said if it was a hammer, it was more probably Neolithic than Paleolithic; some very fine selenite crystals obtained in the red sandstone formation during the Dock extension works, etc.

Mr. C. Milburn exhibited a case of *Dotterel* obtained in the Tees district, and also a case of common *Dunlin*, noticeable in so far as it included the two forms, the large and the small, that occur at the Tees mouth, and which by many ornithologists are regarded as two separate species.

Mr. T A Lofthouse exhibited a case of insects, showing the life history as far as circumstances permitted—*i.e.* from the ovum to the imago stage, including larvæ and pupæ.

The thanks of the club are due to those members who have kindly come forward and given Papers and other assistance at our

meetings held during the winter months. These have, as hereto fore, been given voluntarily, the only expense incurred being for postage, printing, lantern and the travelling expenses of the Yorks. Naturalists Union Lecturer, the latter of whom was kindly put up for the night by our President, Mr T. F. Ward.

The attendance at some of our Winter Meetings has been disappointing; in fact, more so even than last Winter, and it is a question for the Club whether it is advisable to continue the expenditure involved in carrying these out when they are so little appreciated. Of course, the night and time of holding the lectures may not have been convenient; but if this is so, or there is any other reason, I am sure your committee will give any suggestion members may make as to the carrying out of these meetings every consideration. For my own part, I think the lectures and Exhibition meetings do good if they only bring half a dozen members together who are interested, but this perhaps is not very satisfactory to those who have been at considerable trouble in preparing papers and exhibits.

COMMITTEE MEETINGS--- During the year five committee meetings were held, with an average attendance of five.

The thanks of the Club are due to the Council of the Cleveland Literary and Philosophical Society for permission to use their rooms for "Winter Meetings and Committee".

MEMBERSHIP,-The *membership* of the Club now stands at 111 including two honorary members, being an increase over last year of 6 (and being the largest number of members the Club has had at one time since it was formed). During the year 16 new members have been elected. This is considerably below the number added last year, which were 35. On the other hand, 9 have resigned, some of these having left the district, and one has been struck off for non-payment of arrears of subscription.

PROCEEDINGS--During the past year Proceedings for the year 1901 (Part IV. Vol. 1) have been published, and these have been issued to members during the past week. The number is I consider, well up to the average both as regards size (it containing upwards of 60 pages, with five illustrations) and the value of the Papers contributed.

Seeing that the number has only been sent out during the past week, it is not necessary for me to enumerate the Papers that are contained therein; but I am sure that members will agree with me in saying that the best thanks of the Society are due to the members who contributed Papers, among them being J. Archyll Jones, B.Sc., T.M. Fallow, M.A., F.S.A., C. Milburn, and our valued contributor

and indefatigable Editor, the Rev. J. Hawell, M.A., F.G.Sc., to whom we are again indebted not only for his valuable Paper on the "Evolution of Cleveland Scenery," but also for the able and very careful manner in which he has kindly edited our latest publication.

All the Papers have been contributed to the Society voluntarily, and also the whole of the blocks have been lent by members and others, the Society being indebted to the Rev. Grant James, and Mr. T. M. Fallow for the loan of the blocks of Marske Font and Cross, and to the "Editor of the Friend" for the Map illustrating the Rev. J. Hawell's paper.

I have already some Papers received and promised for the 1902 Proceedings, and hope we may be able to put these in hand during the year. This, however, will depend somewhat on funds, these being at present exhausted, or at all events they will be shortly, owing to our last publication, but if members would pay up the arrears of subscription which amounted, a few days ago, to about £14, we should be about clear and in a position to go on with further work of publication.

There are a good many other members who could assist us by contributing Papers of local interest, and I hope that more of these will lend us their aid in the future.

BOTANY SECTION--The attention of the Botany Sectional Committee is directed to an *important paper* in the "Naturalist" for January last on Botanical Survey for Local Naturalist Societies, in which workers are asked to undertake Botanical Survey work on the lines laid down by the paper, in the North Riding and other parts of Yorkshire. As Cleveland forms an important part of the North Riding it seems to be desirable that the botanical members of our Society should take up this work and publish the result of their labours in future numbers of our Proceedings. This work, I may say, is being taken up by local societies in other parts of the Country, and a Yorkshire Botanical Survey Committee has been formed by the Yorkshire Nat. Union for the furtherance of this valuable work.

LIBRARY--The only addition that has been made to the Library this year is the volume of the Naturalist, for 1902. I have also received two numbers of a new quarterly magazine being published on Natural History Subjects.

The Club would be glad to receive any works bearing on Natural History, Archæology, &c. especially those bearing on the Cleveland district, which any of our members or others may see their way to present to us.

MUSEUM -The building which is being erected by the munificence of Mr. A. J. Dorman for this purpose has now made material progress and it is possible that before our next Annual Meeting that the building, with its collections, may be opened to the public.

I do not know how it is proposed to manage and work the Museum, but I should say that it is not probable that paid curators will be engaged for all the different sections of the exhibits, and this being so I should say that it would be of advantage if honorary curators for the different sections were appointed from our society, of course, to work along with the curator and under the Museum Committee. This is usual in many local museums all over the country. It would also be well if our Club were to make its headquarters at the Museum (of course, with the permission of the authorities) and to hold its meetings there, seeing that the chief object of our Society is the study of Natural History and Archæology, especially with regard to the Cleveland District, and the first aim of the Museum should be to illustrate this in all its sections as fully as possible, the local part of the collection being of the utmost importance.

GENERALLY--During the past year two of our members have been appointed divisional Hon. Secretaries of the Yorkshire Naturalists Union, for the purpose of arranging and carrying out the excursion meetings in their division, the members being the Rev. J. Hawell, M.A. and Mr. J. J. Burton, and by virtue of this office they become members of the Executive of the Union.

By the kind assistance of some of our members, viz.-- Messrs. T. F. Ward, Sachse, Punch and Frank Elgee, some considerable saving has been effected in postage by the delivery of notices for the meetings during the winter months. As it is essential that we should work as economically as possible I should be obliged if other of our members would kindly assist in the distribution of circulars during the year; It is hardly fair that this should be done by only two or three members when it is for the benefit of the whole Society.

It has occurred to me that it would be worth the consideration of the Society whether it would not be a good time to divide the Cleveland district into four or five divisions and during the summer months hold a meeting in each division. It would also be of assistance to the Secretaries if members would take one of the divisions and make all necessary arrangements as to programme, route and guides and personally attend the meeting. This, at the same time, would enable more members to take an active part in the work of the Society.

If it were not for the expenses involved in multiplying the number of meetings, I sometimes think it would be well to have one or two outdoor meetings in the late autumn or early spring months to visit local churches of architectural and archæological interest such as Billingham, Norton, Eaglescliffe, Hartlepool, or local Museums such as Whitby, which have many things of local interest, especially geologically.

I hope members will do their utmost to increase the membership (which for the Cleveland district should certainly not be less than 200) during the coming season, there should be no difficulty in doing this if members would point out the amount of work the Society is doing and what return the members get for the nominal subscription of 5/-. By increasing the number we should not only put the Club on to a sounder footing, but we should ensure the publication of Proceedings more regularly and of larger size, material for which I am quite sure would be forthcoming for many years to come.

The thanks of the Society are again due to the members of the press for kindly printing notices of our various meetings and also to the North-Eastern Railway for the special privileges granted to the members by them.

Great assistance has again been rendered me by my co-secretary, Mr. Frank Elgee, assistance, which has been the means of materially lightening my labours on behalf of the Club, which tend to grow considerably. I have also to thank our esteemed President, Mr. Ward, and other members, for assistance in carrying out the work appertaining to my office.

PROCEEDINGS OF THE CLEVELAND NATURALISTS' FIELD CLUB.

VOL. 1
1895-1902

Edited by the Rev. J. HAWELL, M.A., F.G.S

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1904
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LIST OF MEMBERS.

Addison, H., Woodlands Road, Middlesbrough.
 Allott, Miss M., c/o. Mr. Drust, The Avenue, Linthorpe.
 Archer, Ronald H., Yarm-on-Tees.
 Atkinson, Frank R., The Tile Sheds, Great Ayton, R.S.O.
 Baines, Charles, 31, Crescent Road, Middlesbrough.
 Baker, Frank, C.E: F.G.S., The Crescent, Linthorpe.
 Barnley, George, Albert Road, Middlesbrough,
 Bell, T. Hugh, D.L, J.P., Coatham, Redcar.
 Bell, Chas. Lowthian, J.P., Linthorpe.
 Bell, J. Hyslop, J.P., Stockton-on-Tees.
 Belk, Thos. White House, Normanby, R.S.O .
 Brown, Thos, Royal Exchange, Middlesbrough.
 Burton, J. J., Rosecroft, Nunthorpe, R.S.O.
 Burton, Lawrence, Nunthorpe, R.S.O.
 Butler, J. Theobald, Ayton Hall, Great Ayton; R.S.O.
 Calver, Miss, 17, Crescent Road, Middlesbrough.
 Calvert, Mrs. Joseph, Grove Hill, Middlesbrough.
 Calvert, Miss E., The Avenue, Linthorpe.
 Calvert, J. S, The Avenue, Linthorpe.
 Clarke, W.153, High Street, Stockton-on-Tees.
 Charlton, F.B., Victoria Buildings, Stockton-on-Tees.
 Clive, Robert, A.M.I.M.E., Carlin How; R.S.O.
 Constantine, Herbert, Hazeldene, Linthorpe.
 Cozens, T, J., Preston Grammar School, Stokesley, RS.O.

 Derwent, E., Cliff Ridge House, (Great Ayton, R.S.O.
 Dixon, Waynman, J.P., Ayton House, Great Ayton, R.S.O.
 Dorman, A. J. J.P., Grey Towers, Nunthorpe, R.S.O.
 Edgar, W, Hugh Bell School, Middlesbrough.
 Elgee, T.C., 23, Kensington Road, Middlesbrough.
 Elgee, Frank, 23, Kensington Road, Middlesbrough.
 Ellerton, John, M.D. J.P., Grove Hill, Middlesbrough.
 Emerson, J.J, J. P., LL.D., Easby Hall, Great Ayton, R.S.O.
 Fallow, T. McAll., M.A., F S.A., Coatham House, Coatham,
 Redcar.
 Fidler, Geo., The Poplars, Coatham, Redcar.

Forster, F. J. Albert Chambers, Middlesbrough.
Fowler, Rev. J. Cowley, B.A., F.G.S., Whorlton Vicarage,
Northallerton.
Fry, John.P. M.A. D.L., Cleveland Lodge, Great Ayton, R.S.O.
Garbutt, John, Kilton Mill Carlin, How R.S.O.
(Gjers, Lawrence F., J.P., Busby Hall, Northallerton.
Hall, Hy, Inland Revenue Office, Middlesbrough.
Hallimond, H. T., 3, Lime Street, Saltburn-by-the-Sea.
Hart, John, Imeson Terrace, Middlesbrough.
Harwood, L.C., 56, Albert Road, Middlesbrough.
Hawell, Rev. John, M.A., F G.S., Ingleby Greenhow, Middlesbrough
Hawley, Miss B., 8, Park Road S., Middlesbrough.
Hinton, Miss F., Hilda House, Middlesbrough.
Hinton, Amos, J. P., Hilda House, Middlesbrough.
Hodges, J. Percy, 19, Victoria Road, Grangetown.
Holloway, Rev. A. J., M.A., St. John's Vicarage, Middlesbrough.
Hood, Miss, 2, Ayresome Terrace, Middlesbrough.
Hood, Miss Nellie, 16 Southfield Rd Middlesbrough
Hood, Mrs. C., Heath House, North Ormesby
Hood, Christopher, Heath House, North Ormesby
Hood. A. Gordon, 2 Ayresome Terrace, Middlesbrough.
Hooton, W. M., B.A. High School, Middlesbrough
Howcroft, T.Y. 62, Grange Road, Middlesbrough.
Howson, R. Southfield Terrace, Middlesbrough.
Hudson, Baker (Hon Member), Free Library Middlesbrough.

Ingham,W. Porritt, Blenheim Terrace, Coatham.
Inglis, Alex. 25 Hartington Road, Stockton.

Jackson, E.W. c/o Messrs. Pattinson and Stead, Queen's Square,
Middlesbrough.
James, Rev. F. Grant, The Vicarage, Marske-by-the-Sea
Jones, J.A., B.Sc. F.C.S. 2, Stanhope Avenue, West Hartlepool.

Kedward, Thos. J. King's Road, North Ormesby
Kirby, Miss B.J. 9 Imeson Terrace, Middlesbrough
Kirkpatrick, Miss A., 10 Park Street, Middlesbrough.
Kitching, A.E., D.L. J.P., Ayton Firs, Great Ayton.
Knaggs, Mrs Kate, 129 Grange Road, Middlesbrough
Knaggs, W.T., Grove Hill, Middlesbrough.

Lawrence, Ernest, Britannia Works Middlesbrough.
Lewis, Thomas Park Road, Middlesbrough.
Linton, Henry, Cambridge Road, Middlesbrough.
Lithgow, Samuel, F.A.I. Linthorpe Middlesbrough.
Lofthouse, A.W.F.S.I. Linthorpe, Middlesbrough.
Lofthouse, T.A. A.R.I.B.A. F.E.S. The Croft Linthorpe

Macdonald, Miss Grace, The Avenue, Linthorpe, Middlesbrough.
Makepeace, W. Ridley, Stockton-on-Tees.
Marshall, F. Herbert, Grove Hill, Middlesbrough.
Meek, J. M., M.A., Coatham, Redcar.
Milburn, Chas. 105, Grange Road, Middlesbrough.
Pease, Sir Alfred E., Bart., M.A, Pinchingthorpe
Pease, John H., J. P., Woodside, Darlington.
Pennyman, J. W., D.L., J.P., Ormesby Hall, Middlesbrough.
Punch, Mrs. J. W. R, Hastoe House, Middlesbrough.
Punch, J. W. R, Hastoe House, Middlesbrough.
Ridley, Thos Coatham, Redear.
Ridsdale, F. D., North of England School Furnishing Co., Linthorpe Road, Middlesbrough.
Roebuck, W. Denison, F.L.S., (Hon. Member) 259, Hyde Park Road Leeds.
Robson, Miss J., 9, Imeson Terrace, Middlesbrough.
Robinson, A. S B.A., M.B., Dundas Villa, Coatham, Redcar.
Robinson, M., Hartburn, Stockton-on-Tees.

Sachse, Walderman, The Avenue, Linthorpe, Middlesbrough.
Sadler, Col. S. A., M.P., J.P., Preston-on-Tees.
Sanderson, Mrs., Cumberland Villas, Borough Road, Middlesbrough
Senior, Miss F., 9, St. John's Terrace, Middlesbrough.
Shaw, Fred Grove Hill, Middlesbrough.
Simpson, Henry, Coatham, Redcar.
Stephens, Geo. W., 7, Cleveland Terrace, Coatham, Redcar.
Stuart, Chas, M.B, L.R.C.P., Great Ayton, R.S.G

Tidman, Chas Fernleigh, Eaglescliffe Junction.
Thomas, Rev. C. N., M.A., The Rectory, Guisborough.
Thomas, W. H., 7, Ryedale Terrace, Middlesbrough.
Thomas, E. Herbert, High Street, Boosbeck, R.S.O.
Thompson, M. L., F.E.S., 2, Thorncliffe Villas, Saltburn-by-the-Sea.

Veitch, W. Y., L.R.C.P. L.R.C.S. F.G.S., Linthorpe Middlesbrough.

Walton Joseph, M.P. D.L., J.P., Saltburn-by-the-Sea.
Ward Thos Park Road S. Middlesbrough.
Ward A. E., Highfield, Eaglescliffe Junction, R.S.O.
West, Miss, 116 Grange Road W., Middlesbrough.
Wilkins, Miss E., 8, Park Road, N., Middlesbrough.
Williams, Rev. F.J, B.A., The Rectory, Guisborough.
Williams, W.J. M.D. Grange Road W., Middlesbrough.
Wilson, T. Russell, Dovecot Street, Stockton-on-Tees.
Wood, E. W., Albert Road, Middlesbrough.
Woolston, Miss F.M.F M 92 Wilson Street, Middlesbrough

Woolston, T. 92 Wilson Street, Middlesbrough
Worstenholme, L., Linthorpe, Middlesbrough.,
Wright, J. W. B., Albert Road, Middlesbrough.
Wynne-Finch, E.H. B.A., J. P. The Manor House, Stokesley, R.S.O

CLEVELAND NATURALISTS' FIELD CLUB

*Honorary Treasurer's Accounts for the year ending 30th March,
1903*

RECEIPTS

1903

Mar 30	To Subscriptions	£24 5s 0d
	Transactions sold	£0 5s 0d
	Total	£24 10s 0d

March 24, 1903 balance in hand £3 19s 1d

PAYMENTS.

1902

Mar 24.	By Balance due Treasurer	£1 17s 2d
Mar 26	By "Naturalist" 1902 and Binding 2 Vols.	£0 9s 3d
Jun 30	By Jordison & Co balance 1901-2 Printing	£8 15s 0d
Sept 30	By Lit. and Phil. Subs.	£1 1s 0d
Oct 23	By Y.N.Union Subs	£0 9s 1d

1903

Mar 16	By Secretary's Postages, Envelopes etc.	£3 5s 5d
Mar 16	By Mr. West, Lantern	£0 19s 0d
Mar 16	By Mr. McLean, Travelling Expenses	£0 8s 0d
Mar 30	By Jordison & Co Ld Printing	£3 7s 0d
Mar 30	By Balance Forward	£3 19s 1d

Total **£24 10s 0d**

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Mar 16	By Mr. West, Lantern	£0	19s	0d
Mar 16	By Mr. McLean, Travelling Expenses	£0	8s	0d
Mar 30	By Jordison & Co Ld Printing	£3	7s	0d
Mar 30	By Balance Forward	£3	19s	1d
	TOTAL	£24	10s	0d

LIST OF PUBLICATIONS received by the Society as Donations or Exchanges, and which are deposited at the Free Library, Middlesbrough, and may be seen on application to Mr. Baker Hudson, Hon. Librarian to the Club.

"The Naturalist," 1886-1903.
Cleveland Naturalists' Field Club "Record of Proceedings," 1889, 1895, 1896-8, 1899-1900, 1901.
Yorkshire Naturalists' Union Transactions, pts. 15, 16, 17, 19, 21, 22, 23, 24, 25, 26, 28, 29.
Weardale Naturalists' Field Club Transactions, Vol 1. Vol 11, Vol 111.
Hull Scientific and Field Naturalists' Club Transactions, Vol. I. Vol. II. Vol. III, part I.
Fawcett's "Historic Places in the Derwent Valley."
Salt's "List of Plants collected chiefly in the neighbourhood of Sheffield."
Proceedings of the Yorkshire Geological and Polytechnic Society, vol. 14, pt 1:- Hawell's "Peat Deposit at Stokesley."
Keeble and Gamble's "The Colour-Physiology of Hippolyte varians."
Keeble's "Observations on the Loranthaceæ of Ceylon."
Keeble's "The Hanging Foliage of certain Tropical Trees."
Gurney's "Diurnal Birds of Prey."
Smith's "Botanical Survey for Local Naturalists' Societies."
Grant's "List of Pease's Somaliland Collection of Birds."
Vale of Derwent Field Club Proceedings, vol. II. IV.