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**SOME OF THE FLINT IMPLEMENTS FOUND BY SOCIETY
MEMBERS IN 1970-71**

1. Mesolithic notched blade from Beach Farm, Benacre.
2. Angle burin of Mesolithic date direction of blow to form the burin facet, from Rushmere Hall.
3. Leaf Arrowhead. Brays Lodge, Kessingland.
4. Single faced Leaf Arrowhead. Elm Farm, Lound.
5. Flint saws on blades. Mesolithic type from Beach Farm, Benacre.
6. Neolithic chisel with partially ground surfaces. Beach Farm Benacre.
7. Bi-facially worked Neolithic spearhead from Rushmere Hall.
8. Hammerstone with well battered surfaces from Rushmere Hall.
9. Fabricator of the Neolithic type from Beach Farm, Benacre. *see diagram on next page*

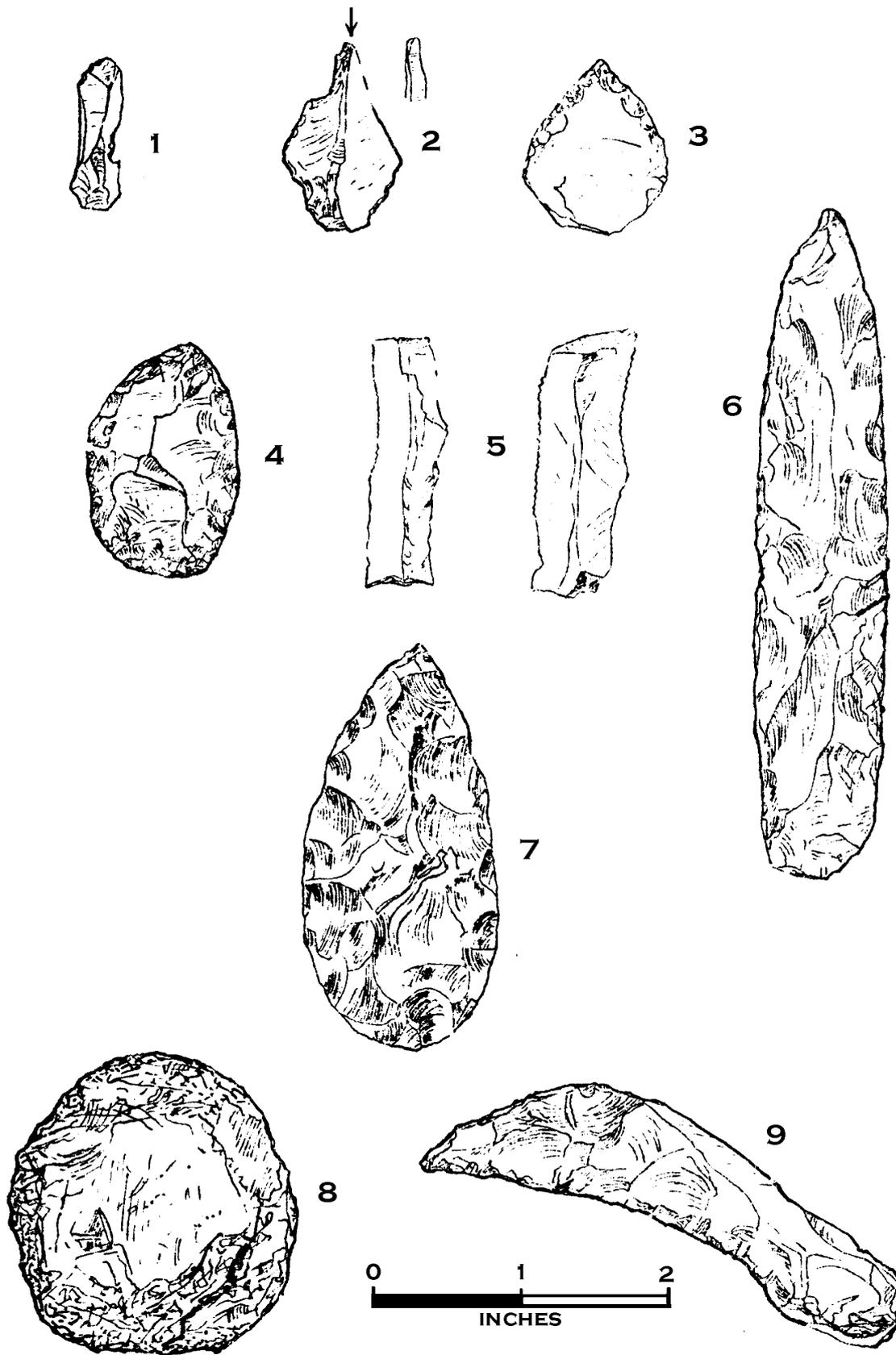
A MEDIEVAL HOMESTEAD AT COLLEGE FARM RAVENINGHAM - NORFOLK.

by Paul Durbidge

Excavations were carried out at weekends under the writers direction, from the early spring of 1970 up to September of the same year. Thanks are due to Sir Edmund Bacon and also Mr. T. Skoulding for permission to excavate and also Mr. C.G. Rye who gave much time and valuable criticism in the field. I would also like to acknowledge the kindness of Mr. and Mrs. Playford who also provide us with storage for the equipment. Finally I am indebted to the Lowestoft Archaeological and Local History Society who provided the labour force.

INTERIM REPORT ON THE EXCAVATION

In resuming the 1970 season at Raveningham we were unable to complete the dug section through the North Moat because of flooding. Several attempts were made to drain the cutting but owing to the steady drain of water through the boulder clay this was not successful, so reluctantly we were forced to abandon the investigation. A second dug section was started 100 feet from the access over the South Moat and this was completed by the end of the season. It showed a flat-bottomed ditch, some 18 feet wide by approximately 6 foot deep, with a scattering of animal and bird bones, fragments of freshwater mussels were again encountered as in the North ditch.



Construction of the South moat differs from the North, with the former showing no visible signs of consolidated banks, suggesting redistribution of the upcast. A single water-worn sherd of the 13th-14th century, a cooking pot rim, was the only evidence of early pottery being encountered in mid-section.

INNER ENCLOSED AREA

At approximately 18 feet from the inner moat in the S.W. corner of the site, two 10 foot squares were opened up, separated by a three foot earth baulk. It was hoped at this point to encounter some evidence of access over the second moat, and although this was not confirmed the amount of finds were very prolific, being well distributed over both squares.

Main features of the squares were a consolidated chalk pathway running parallel to the moat in an easterly direction and beside this, remains of a flint wall set in clay foundations. The wall measured 16 inches wide and had fragments of chalk and even part of a lava millstone used as building material, further pieces of lava stone, some showing signs of intense heat, were later recovered, scattered over both squares. The main features of the second square were the small fire stains, oyster shells and another millstone, this millstone differed, from the first, being thicker, and showing part of the centre hole, its surface had been pecked as compared with the grindy surface of the first specimen. The majority of the oyster shells, along with some whelk and cockle shells have mostly been recovered from close to the fire area, with a liberal scattering over the second square.

Pottery distribution has been fairly even, with types of cooking pot and green glazed ware well represented. It is likely that some timber structure stood at this point as a number of clenched iron nails have come to light, as well as other well corroded types, iron slag on the site also suggests a local industry. The amount of research on this part of the site has been very little, although, it is very surprising to encounter so much in this particular part of the enclosure.

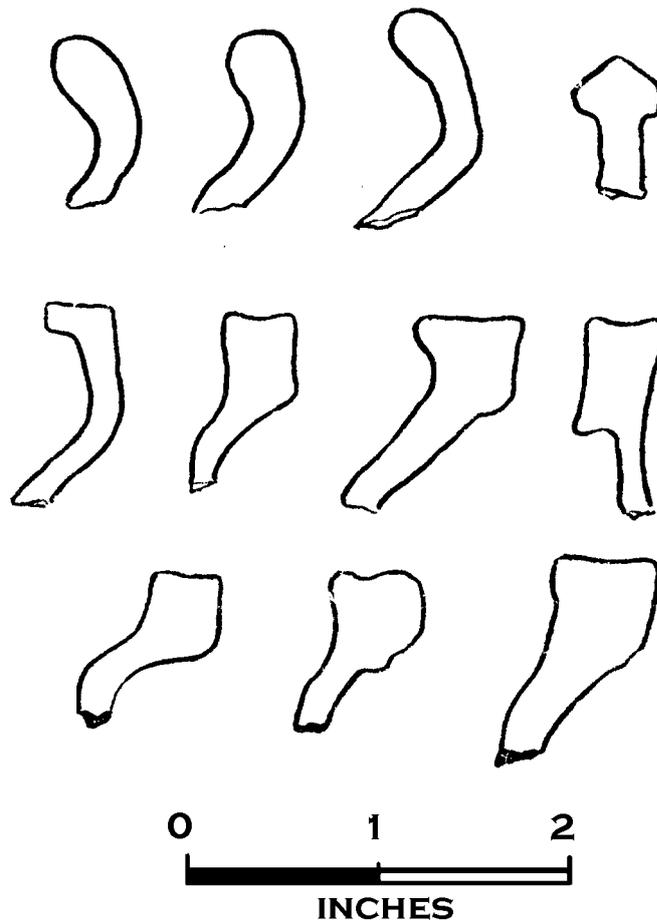
From our research it does seem that there was a large family either living or working here with no apparent high standard of life, though later developments may change this idea.

With the resumption of work in 1971 there will have to be further investigation of the pathway and way limits to determine their function. Furthermore, at some convenient time part of the earth baulk will have to be removed as part of a pit has been observed which appears to run under it.

FINDS MADE AT COLLEGE FARM DURING THE 1970 SESSION

17	Sherds. circa 1700-1800	
413	Sherds. circa 1300-1400 (cooking pot)	
38	Sherds. Glazed. 1300-1400.	<i>see diagram on next page</i>
3	Rim types. 1250-1300.	
112	Animal, and bird bones	
143	Oyster shells.	
3	Whelks,	
4	Cockles.	
7	Animal teeth and tusk.	
1	Medieval key.	
49	Iron slag fragments.	
71	Iron Nails	
26	Lava fragments.	
	Fragments of coal.	
3	Small bronze objects.	
1	Human molar	
3	Flint flakes.	

P. Durbidge.



COLLEGE FARM RAVENINGHAM NORFOLK

c. 1200 - 1400 Cooking Pot Rim's

A REVIEW OF FIELD WALKING

by P.W. Durbidge.

Comparatively few people are aware of the amount of historical finds that lie on the surface of our fields, and in an attempt to remedy this a small group of energetic individuals have worked very hard. It is a long term study requiring patience and a sharp eye, but from the research already carried out we do have some idea of early mans activity within the area.

A sizable amount of historical facts have come from Kessingland and they have been dominated by prehistoric evidence found at Manor Farm, this very prolific Mesolithic/Neolithic site produced several hundred discoveries of flint tools scattered over a wide area. From the same site a BARB and TANG arrowhead was found during a field search along with a broken BEAKER knife, and these were the first suggestion of Bronze Age settlers at Kessingland. Land development saw more evidence of the period, namely, a hoard of metal Bronze Age axes and broken knives which were likely part of a founders hoard. So again we can see the area was favoured as an occupation site.

Various theories have been offered, though possibly Kessingland's relationship to the continent at that time both for trade and migration must be one of the principle reasons.

Pot sherds of Roman date have come from four areas in Kessingland as well as remains of roofing tiles. Fragments of coarse ware came from Bethel Drive while a local builder spoke of a hard core

surface while laying some drains close by.

Remains of what may have been a rectangular building could apparently be seen in crops prior to building work close by, since then with chalet construction on the spot there is no longer any visible shape to be seen, from these finds of pottery etc. it puts fresh light on potsherds observed on Manor Farm, suggesting that some, previously thought to be of medieval date, may well belong to the Roman period.

As a new approach to field work this year it was decided to search land adjacent to the Hundred River on a line between Beach Farm, Benacre, and Rushmere Hall, and it turned out to be highly successful. With some 75 % of the area covered by searches we were able to confirm three small sites and several scatterings of implements on both sides of the river.

As raw material flint abounds on the surface of many of the fields and coupled with well drained soil and a ready supply of fresh water it appears that the environment suited early man. From the recovered finds, he did in fact settle on both sides of the river and the single finds of arrowheads suggests that there was a ready supply of game in the vicinity.

It was encouraging to find fresh evidence of Mesolithic flints in two separate areas, one at Beach Farm Benacre, the other at Rookery Farm, from both spots blade cores and blades along with two flint saws were found. Further finds of Neolithic implements came from both areas, as well as scatterings from both sides of the river, in each case roughly opposite each other. Scrapers made up the main quantity of finds along with several hundred worked secondary flakes which could have been employed by either period with no clear cut purpose. From the list of implements received this season one can clearly see the extent of finds that can be discovered if searches are carried out systematically, it also shows that there is a great amount still awaiting discovery. To conclude I would like to extend my thanks to the field work team who did so well, and I feel sure that in the winter session they will be even more successful on the existing search areas as well as the new ones.

SUMMARY OF THE FLINT REMAINS – BROADLY CLASSIFIED

- 45 Cores. Including blade and Neolithic types.
- 68 Skin scrapers. End, side and core.
- 32 Blades. Worked plain and broken.
- 5 Hammerstones.
- 2 Notched blades
- 2 Fabricators.
- 2 Saws on blades.
- 2 Knives. One bucked, one three corner type.
- 2 Gravers. One blunted.
- 1 Willow leaf arrowhead.
- 2 Leaf arrowheads.
- 1 Broken arrowhead.
- 15 Pot boilers.
- 1 Borer.
- 1 Broken ground axe.
- 2 Broken chipped axes.
- 1 Roughout axe.

These are confirmed identifications and exclude worked secondary flakes which amount to several hundred.

THE ROUND TOWERS OF EAST ANGLIA. – Some Questions and Answers*by R.J. Kedney.*

The following article is based on a lecture given recently to this Society, when a number of questions were posed, and various opinions considered. There has been comparatively little study in-depth undertaken of the round towers, and the information that is available in print is often contradictory and confusing. I shall therefore attempt to renew some of the questions which are related to the Society's researches into this subject in the light of existing opinions and suggest areas of research where help is needed with the Society's survey of the East Anglian Round Towers.

The Parish Churches and their round towers are a characteristic feature of the East Anglian scene yet comparatively little is known with any certainty about them. This is particularly surprising as they must represent one of the major sources of local history of the 11th and 12th centuries that we have left to us today as well as being an important regional feature. One quarter of all the English Saxon Towers are situated in East Anglia and the majority of these are round towers, surely evidence enough that 'East Anglia was one of the most prosperous provinces in Britain with a dense and progressive population'.

This article is an attempt to draw together and compare the opinions of a number of authors in order to gauge the existing knowledge and to look for areas of conflict or gaps that could usefully be studied in the future. Some towers have fallen or are in danger of collapsing or are being drastically restored so that records are necessary and could be incorporated in a wider survey which could bring together a considerable quantity of information.

The detailed accuracy of the following statistics may be faulted due to a number of factors that have complicated their compilation, e.g. differences in terminology such as Saxon-Norman overlap and 11th century vagueness by some authors, occasional contradictions, Cox lists 23 Saxon towers, he describes five as Norman in his text, and also due to possible errors on my part. However any minor differences in the figures do not, I am sure, detract in any way from the general patterns that emerge.

WHAT IS AN EAST ANGLIAN ROUND TOWER?

In defining an East Anglian round tower I should like to show its difference from other ecclesiastical round towers such as those raised in a central position or those placed in pairs at the west end, or the round tower turrets – six are known to date from the late Saxon period including North Elmham. Comparisons have also been drawn with the Irish towers, but they are built of freestone not flint, they are detached and monastic in their origin, not attached to parish churches and are tall and slender.

SUFFOLK

Aldeburgh R.C. : a modern tower Messent.
 Beccles Endgate : see Morley's article.
 Buxlow : in a garden.
 Harleston : see Morley's article.
 Haslewood : noted in 1870 book-Morley.
 Higham : built 1861 Messent.
 Ipswich St. George : see Morley's article.

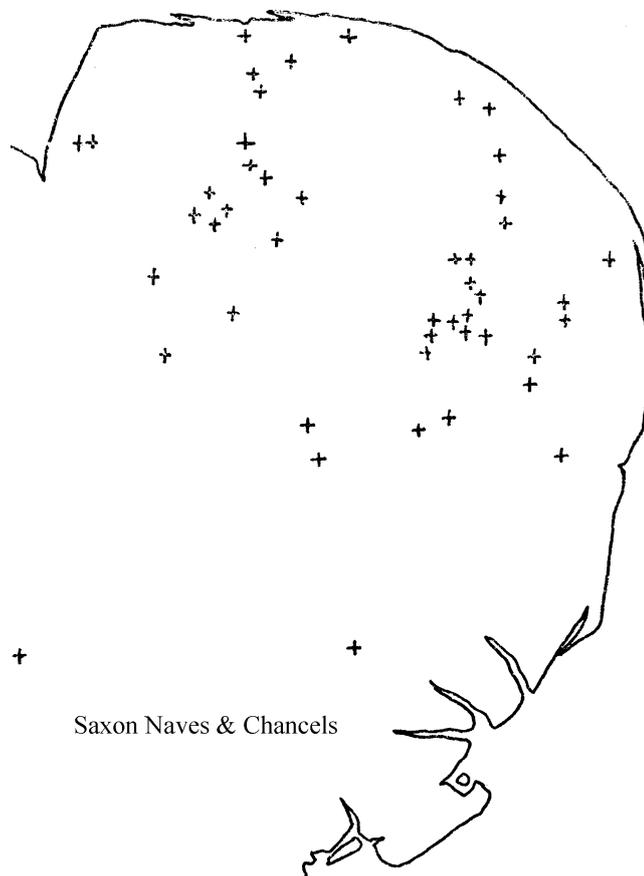
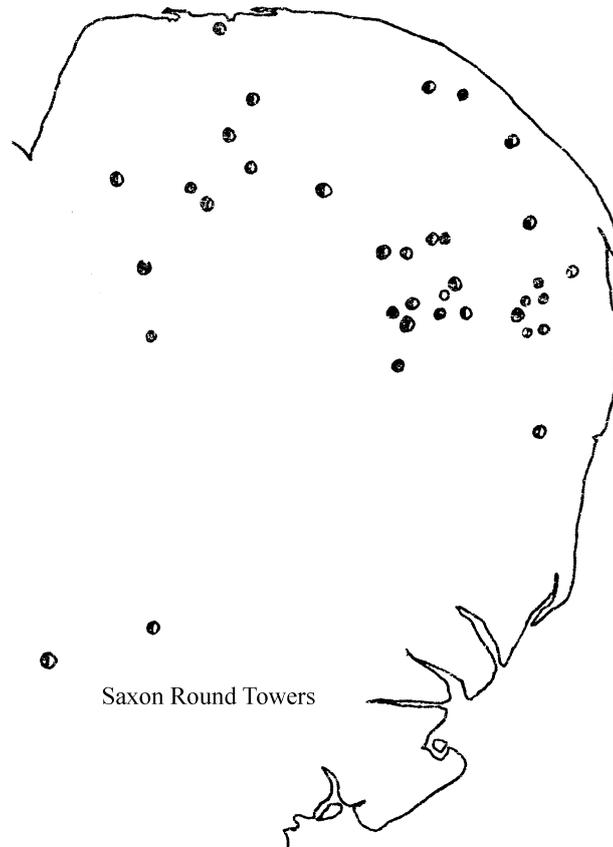
NORFOLK

Brinton : evidence in floor Messent.
 Eccles by the sea : on the beach Messent.
 Gasthorpe : ruined Messent.
 Holveston : documentary evidence
 Messent.
 Helhoughton : listed by J. Charles Cox.
 Mundesly : noted by Messent.
 Thurgate : destroyed in 1082 Messent.
 Witton by Norwich : modern-Cox.

WHERE (distributed)

The division of East Anglia into two counties followed by many of the authors bears no relationship to the pattern of distribution of the towers and in the same way there is no link with the pattern of the Hundreds. A variety of reasons for the random pattern of distribution have been put forward by authors, notably the distribution of Danish place names and links with the coast, the rivers and the network of Roman roads. I added to these such other features of the period as Major Settlements, early Norman Castles, Saxon naves and chancels and the distribution of Saxon towers in England and Wales. The only close correlation was the one that would be expected if the towers were attached to churches, that is to the siting of the towers to early naves and chancels. It was also clear from the more general map based on the findings of Taylor and Fisher that the early towers are very much a feature of Eastern England, notably on the limestone belt through Northamptonshire to Yorkshire and in the Eastern Counties. Norfolk and Suffolk are clearly an isolated group with the sea to the north

and east, fen and marsh to the west and forest to the south. The only other reasonable correlation was with the communications network i.e. roads and rivers though I feel that this is an aspect that needs to be checked in depth.

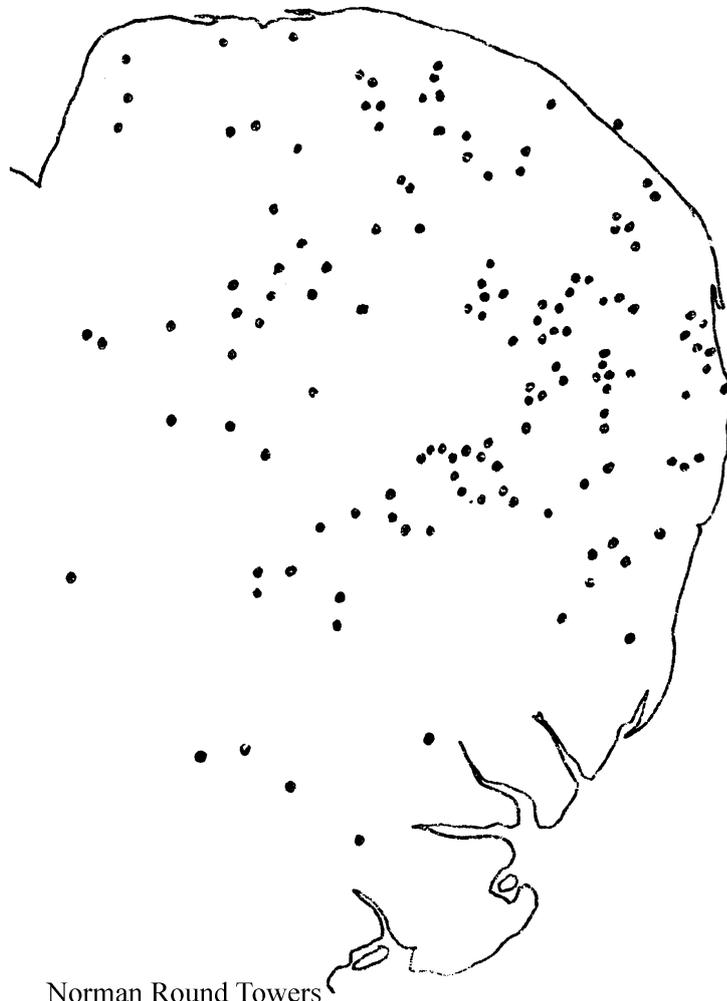


WHERE (siting)

The confused thinking over the siting of the round towers can best be demonstrated by comparing the views of Cautley and Messent. Munro Cautey suggests that the towers were low in height and built on low-laying sites hidden from view for protection, whereas Messent claims that many of the early towers were built on the highest points e.g. Haddiscoe, and quotes their use by the Royal Engineers in the 1914-18 War for signalling. There is an obvious need to establish the truth in detail by recording details of the positions of as many towers as possible to see if there are any underlying patterns.

HOW BIG

Again this is another area where generalisations are made apparently without any research in depth, for example some authors claim that the towers are low but would be in proportion with small Saxon naves. Only two authors seem to have published the dimensions of some of the towers and only the Taylors have bothered with the dimensions of architectural features, yet they only give sizes for some twenty-four Saxon round towers and nine Saxon square towers in East Anglia. It is therefore difficult to draw generalisations with any certainty from so few examples, but some interesting facts have emerged. The average height of the round and square towers are almost identical, 47' 6" compared with 48' 7" whereas the average internal space of the round towers is only half that of the square towers and they are 25% less masonry. Here again there is a need for further information particularly of the presence and dimensions of original openings and the thickness of the walls.



HOW CAN THE INFORMATION BE COLLECTED.

As I think will have been proven from the above notes there is a considerable volume of information about the 200+ towers that can be collected without any more equipment than a tape measure, that may prove invaluable in resolving some of the conflicts of opinion. Recording is obviously vital of any changes either due to the ravages of nature or to repair work which may uncover or hide architectural features. H.M. Taylor, for example, visited and recorded a Saxon window in the west wall of the nave at Moreton-on the Hill in 1958, whereas Cautley and Pevsney mistakenly describe it

as being in the tower that collapsed in 1959.

I prepared copies of the record sheet, enclosed with this report, and gave them to members of the committee in the hope that they would be useful for recording information either on Society visits or on Sunday afternoon drives when only parts of the cards will be completed as I think it is obvious that only rarely will it be possible to complete the card. The headings used are only guides and may need to be modified as the survey progresses, but it is hoped that in due course they will form the base of a card index system supplemented by photographs and written references where-ever possibly.

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SUFFOLK AND NORFOLK DRAINAGE MILLS

by P.E. Delf

It is generally assumed that the first wind pumps were erected in the fens. In an early map one was shown at Satterly Bridge, Holbeach in 1538. A later map of Cambridgeshire and the Isle of Ely 1816 shows 700. It can be assumed that long before 1700 many wind pumps were already erected in East Anglia. One still exists with the date mark of an earlier mill on the site in 1735.

The first pump mills were smock type with common sails of cloth or canvas, with dead curb, that is to say there were no rollers for the cap to revolve on, just hard wood pads or segments under the cap resting on the wooden flat top of the skirt.

The tail pole for turning the cap and sail to face the wind, was braced each side to give a better turning movement. If it was too heavy to be moved by, say one man, a small winch was sometimes attached, to the pole and suitable anchor posts to heave on round the base of the mill.

The first pumps transmitted the power from the windshaft by the head or brakewheel to the upright shaft by what was known to millwrights as the whole and half lantern wheel.

The head or brake wheel on the windshaft was built up of wood with square section bore to suit the windshaft and wedged true. Wooden pegs being fitted on the periphery at right angles to the disk, those would mesh with the lantern wheel made up of two discs of wood with tunnels spaced to suit the pitch of the head wheel pegs. The wood used for the pegs, trunnels and gears were selected pieces of apple, hornbeam or beech.

The pit wheel and drives were sometimes all wood mortised to take wood teeth. The late Mr. Thrower, an old millwright friend of mine, told me he had known of whole and half lantern wheel drives to last 50 years without replacement.

The smock mill standing on Herringfleet Marshes and owned Lord Somerleyton, is an example of one of the earliest types of wind pump. It was, happily, restored in 1956 and new sails were made by Mr Thrower.

Several more of similar pattern remain in the vicinity but in derelict condition. The ratio of these mills were one revolution of sails to one scoop wheel.

The brick marsh mills that remain today were probably rebuilt on the site of older smock mills, sometime after Edmund Lee invented the fly or fantail, in 1745. The shot curb or courbille was necessary with the fly, it consisted of iron rollers being round the base of the cap, a circular track for the rollers to run in fixed to the top of the brickwork. The fly, being placed at right angles to the sails would start revolving with a side wind, and by means of the gears transmitted to the circular rack gear fixed to the roller track. The fly drive was fitted, with a reduction train of gears whereby the fly would have to revolve 1000 or more revolutions to one of the cap. A sliding gear with handle is provided for turning the cap by hand if required. After the invention of the fly many mills were rebuilt to take this improvement. Hence you will see on paintings of this period of mills with cloth sails and fantails.

An old smock mill similar to Herringfleet stood just below St. Olaves Bridge, called the Priory Mill. I have a photograph of this mill dated 1890. It was replaced in 1910 by the present one. Another old mill stood on the bank at Fritton which I believe was at one time a cloth sail. Over the island were several mills one of which was a cloth sail.

On the Haddiscoe level beside the new cut, there once stood Pottingills Mill, demolished about ten years ago, some 15 years ago when I first visited the mill, the poll head and what remained of the sails laid by the mill where they had been a good number of years. It had been converted to steam many years before, all was disconnected and the boiler gone, being replaced by an electric motor with automatic switch. During the 1953 floods it ran for three weeks without stopping. Old Patrick the millman sleeping on the job, his bed an old sofa, a fire to keep him warm in the old boiler flue stack. He lived at the house by the mill with his wife and daughter, the house was not much above marsh level. They were rescued on the night of February 1st. 1953 by railway men from Reedham station by means of a manually operated platelayers trolley. A splendid achievement on that terrible night. Shortly after the floods, the turbine was in need of repair, it was taken out and a replacement made using the old one as a pattern. Finally, one winter rats gnawed the insulation off the motor wiring. Exit motor. It finished up being driven by a tractor.

Walberswick Mill, now derelict, had cloth sails and scoop wheel, some years ago a fund was raised to restore it, shortly afterwards young vandals set fire to the sails and cap, what is left lies beside the mill. The drive on the upright shaft and the pit wheel are still there. The pit wheel is a composite one, built up and mortised to take wood teeth, the type which precede cast iron gears.

The front gears of cast iron were made by John Murdock, father of William Murdock, at the Carron Ironworks in 1760. Before this date all mill gearings were made of wood. Later Sir William patented his sails in 1805 when he was working at his father's mill at Bacton Wood. It operated on the simple plan of connecting all the shutters or louvers of the sails by means of uplong rods connected to a central spider which connected to the striking rod which went through the hollow wind shaft, a chain being attached to the end of the rod ran over a pulley and down the back of the mill, slotted weights being provided to hang the end, when the weights were removed it allowed the vanes to open and 'Spill the Wind'. If the mill was to be used weights were added according to the strength of the wind. The tail poles being provided for attaching the weight rod to prevent it blowing about in a wind. The patent sails being mechanical had its own laws, the fly mechanism and all the running gear had to be kept in good working order, if for any reason the fly was unable to turn the cap, there would be a likelihood of the mill being tail-winded, this would close the shutters and the sails would tend to turn in the reverse direction. If the wind was strong enough it would creep the brake, and if not corrected would fire up and destroy the cap and sails, many have been lost under these circumstances. Millmen will tell you that in high winds they were a constant source of anxiety. With the introduction of patent sails some mills had to be hained, that is, the mill brickwork heightened some five or six foot of parallel brickwork. The reason being that the patent sails were not so efficient as the cloth sail it replaced, and consequently the new sails had to have longer sweeps to do the same work.

At the Great Exhibition of 1851, an engineer named Oppold demonstrated that his adaption of the turbine pump of his design would lift half as much water again as the scoop wheel it replaced, using the same sail power. Again another advance, and many were soon fitted.

Some of the old cloth sailed mills had wooden wind shafts, and to take the new type sails, when they were converted, it was necessary to either fit a new iron one or to bore the old one through to take the striking rod. Mr Thrower told me that when he was an apprentice he was given the job of boring one out, and that it took him three weeks.

Berney Arms Mill was built in about 1864 for the Berney family by Stolworthy of Yarmouth. It was designed for the dual purpose of grinding cement clinker from their own kilns situated a little further up the bank, and to drain the marshes. With the invention of Portland cement, by Aspin in 1839, (it was so called because it looked like portland stone) a few years before 1865 Cleavers Portland Cement & Suffolk Brick Co. started up in business with kilns on the opposite side of the river at Burgh Castle. It appears that Berney discontinued his kilns and ground clinker for the Burgh Castle cement works. The stuff being transported over the river by wherry, the freight being one shilling per ton. The cement company did own several wherries of their own. The company changed hands, but was out of business well before the turn of the century. The mill is built of brick and kept tarred, the internal diameter at the bottom is 28 foot and is 70 feet to the top of the brickwork. The bottom gear on the upright shaft which drives the pitwheel is designed to drive or remain idle, by means of a sliding key which is controlled by a long screw which is fixed to the upright shaft. This is to allow the cap to turn without movement of the scoop wheel when the mill is not in use.

There were Berney's here in the 14th century. An interesting memorial to Henry Berney in armour, his 5 sons and 4 daughters all in ruffs is to be seen in Reedham Church, I have an old lantern slide of the cement works when it was in use.

Braydon Mills, a friend of mine told me many years ago, that she was with a party that visited the 'Dickey Works' at the extreme end of Braydon in the spring of 1913 or 1914, and that they counted 27 pump mills, nearly all of which were working.

There were six mills which drained the marshes into the Fleet Dyke, all brick mills with patent except one which was a cloth sail. The first was Walpole's Mill once owned by Sir Hugh Walpole, later Hewitts, which stands in the parish of Freethorpe. Ben Howards mill stands about 200 yards further up on the opposite side of the dyke, known as South Walsham Mill. The Howards have been marshmen here for well over a hundred years. Next, Len Carters mill, the only one with cloth sails and scoop wheel. Ben Howards big black mill, Mr Thrower told me that this mill had longer stocks than Berney Mill, and that he had them cut from tree lengths of 62 feet. The scoop wheel was larger in diameter and wider and capable of lifting a larger quantity of water. The other three were Suttons, Muttons, and Banhams, all powerful mills and capable of lifting a lot of water.

Lockgate Mill standing on Braydon Bank, a fine tower mill built by Stolworthy of Yarmouth drained the Acle and Halvergate marshes. Two old smock mills once stood on Breydon south wall, both had cloth sails and scoop wheels. One about a mile up the bank from the suspension bridge at Yarmouth, known as Jibers Mill, it was demolished about 1905. I have an old lantern slide of this mill. The other one stood further up the bank nearer to Burgh Castle. The only record I know of this mill is in a painting by Stannard titled 'On the Yare' in the Castle Museum collection. It shows a water frolic day, with the Burgh Castle cement works in the distance.

The Bure Mills. There were at one time 14 mills between Yarmouth and Acle. The first was Durrants, an old tarred mill derelict many years. Next Ash Tree, which was in good working order when it was destroyed on the night of the gale during the 1953 floods. A smock mill rebuilt on the site of a former mill in 1912, by Smithdale of Acle, she is 35 foot high to the top of the brickwork with Englands boat-shaped cap, and deep petticoat. It had a fly, four double shuttered sails spanning 40 foot, the scoop wheel was 15 feet diameter and 7 inches wide. The cast iron boss of the scoop wheel shaft, was made in two halves and bolted. It had 8 arms and 24 wooden floats. As is usual the lower half of the wheel fits into a bricklined culvert, the sluice doors leading into the river. The old wooden driving wheels were replaced by iron ones from Fleggburgh Mill near Acle, The pit wheel bears the inscription W.T. England Millwright, Yarmouth 1896. The normal speed of the wheel being 15 revolutions of the sails turning the scoop wheel at a 105 revolutions, at this speed it would be capable of lifting 8 tons of water per minute, or rather less than half of a modern turbine pump.

Mill straddled the river being known by place names or mile houses. Mautby with plenty of batter and did bear a date mark 1797. The brickwork was three feet thick at the base.

Three mills stood above and below Runham Swim all big mills capable of lifting a lot of water per minute. One stood just above the Swim, the millman's house close by dating back to 1600. Many

families had been brought up there, drinking the river water until about ten years before it was demolished in 1957 when a 35 foot dyke was cut to connect up with Herringsby which had been electrified. The Swim derived its name from the fact that the Parish of Runham extended over the river, cattle were swum over the river in the spring to fatten on the marshes, and swum back in the Autumn. Plough horses used to go over on Friday nights and brought back Monday morning. This had been the practice for a good many years, long before the new road was built. The approach to the banks on each side of the river were kept gravelled. The swim was discontinued about 1880.

Just above Acle Bridge stands Oby Mill, you will note it is built close to the river bank. Many years ago a passing wherry luffed very close when the sails were turning, the sails struck the wherry's gaff boom damaging it and the millsails. By the way, it did bear the date mark 1753, but I was told that years ago when it was rebuilt, the date was put back wrong by the bricklayer, and was not corrected, it should have been 1735.

The mill standing on Thurne Dyke is an example of a 'Hained Mill'. It has been heightened by about 5 or 6 feet of parallel brickwork on the top of the brickwork to take the longer sweeps when it was converted to patent sails.

Horsey Mill stands on the site of the old Horsey Black Mill which was reputed to be about 200 years old. When it was demolished in 1912, the present mill was built on the same site by Dan England. The old one was demolished and the new mill built in twelve months. The estate at that time belonged to Miss Massarene and Ferrard, her crest is on the mill, three coronets over M&M 1912.

On the east bank of the cut at West Somerton stands a derelict mill which once had patent sails and drove a turbine. It was superseded by a steam engine about 1896, it was again converted to electric motor drive with autoswitch. Again it was superseded by a floating pump in the dyke with pipe leading to the river. Four conversions on one site.

Many of the big brick tower mills had sweeps of 50 feet or more, driving scoop wheels twenty odd feet in diameter, lifting over ten tons of water per minute, and when converted to turbine considerably, more.

The mills I have mentioned are only a percentage of the total number in East Anglia. Every one has something of interest in its history. If you can find an old millman before it is too late, you will find him a most interesting fellow.

COLLECTING CERAMICS.

by B.P. Girling.

Since I was a boy I have been an avid collector of miscellaneous antique objects, but never specialising in any particular one subject. This brief account will show how I became interested in specialising in porcelain.

Whilst employed on ground work and clearing operation on the site of St. Peter's Court adjacent to Factory Street during July 1967 I noticed scattered over the site a number of bases and sherds of a material of which I was not familiar. As I was gathering these up during the first week of my noticing them I began to realise that the abundance of these was too great a significance for them to have been used by householders living there. Knowing the local history of the existence of a china factory on the north side of Factory Street, I began to wonder whether these could be kiln wasters, for at that time I had had no experience of porcelain in its raw state called biscuit ware. By biscuit ware I mean that it is porcelain that is unglazed and in most cases free from underglazed decoration, though there was a small amount found with cobalt blue decoration where the cobalt had not been fired into the biscuit ware. So with a cardboard box full of those wasters I proceeded to Norwich Museum where at once it aroused great interest and only then did I realise the importance of my finds.

The Lowestoft china factory was excavated in 1902/3 by a F.A. Crisp Esq., and the finds published in 1905 by W.W.R. Spelman Esq. So my finds were the first to come to light since 1902/3 and these surprisingly enough from outside the factory which proved that most of the houses in Factory Street, Gun Lane, Thurston Road and Dukes Head Street were not built during the factory's reign as there are thick layers of those wasters laid in scattered area over the complete site becoming more sporadic towards the west end of Factory Street and Thurston Road. The densest areas being immediately in front of the factory and in Gun Lane, but there does not seem to be particular basis from which you

can date any particular layer. Among the profusion of wasters found there were some examples of oriental hard paste porcelain which had obviously been used as a guide for shape and decoration by the Lowestoft soft paste factory. The oriental porcelain has a hard body with a hard shiny glaze, the body being made of Kaolin and Petunse, which when broken gives a concoidal marble like fracture. Lowestoft porcelain which like some other British factories is made of soft paste, which when broken shows a granular like fracture. The Lowestoft body, like its counterpart, Bow, is known as a phosphatic soft paste, which means it uses a large amount of bone ash. The recipe for this particular porcelain is as follows:-

Silica	51.24%
Lime	21.65%
Phosphate	17.15%
Alumina	6.76%
Soda	0.80%
Potash	0.67%
Magnesia	0.63%
Forric Oxide	0.58%
Titanic Oxide	0.50%
Loss (Calcined at 950°C)	0.57%

	100.45

Briefly the history of the factory is as follows :-

It is recorded that in 1756 Hewlin Lusen found on his estate at Gunton, a clay which proved on experiments to be fine enough to be used in the manufacture of porcelain. He built an experimental kiln which he worked for a year, but it is also recorded that workmen who he employed came from the London factories, possibly Bow, and through sabotage by them he had to give up the manufacture of porcelain. There has never been any porcelain of Hewlin Lusen's recorded, although a Kiln in recent years was unearthed behind a house called 'Kingsmead' Yarmouth Road, and by certain people was stated to be the kiln of Hewlin Lusen. As I have seen from photographs and cuttings from the Lowestoft Borough Library this does not seem quite feasible, as the kiln appears to have been too large for an experimental kiln and that a pit in the near vicinity, in recent years filled and levelled, was far too large for the small amount of porcelain which could have been produced on an experimental basis. In all probability the pit and kiln was that of Philip Walker, manufacturer of glazed and red pantiles, who was also one of the four proprietors of the Lowestoft china manufactory 1757 - 1802.

The other three proprietors of the manufactory were Obed Aldred, John Richman and Robert Brown, the latter being a chemist and so understanding the technicalities of the formula for the making of phosphatic soft paste porcelain. These four men bought some property the south side of Bell Lane, which is now known as Crown Street, and there they decided to set up the manufactory for the purpose of making porcelain.

The wares they produced were mainly household and domestic tablewares, including such items as eye baths, pounce pots, ink-wells, chamber candlesticks, scent bottles, figures, garnitures of vases and of course, quite unique to the Lowestoft factory only, their famous birth tablets which produce documentation recording names and dates, of which only 33 examples are known, 26 painted in underglaze blue and 7 decorated in overglaze enamel colours. The factory produced these wares until their closure in 1802. There are several reasons stated for their closure, but probably the most popular one given is that towards the end of the 18th century the roads and transport throughout England were vastly improved, and the goods manufactured from the vast numbers of Staffordshire potteries were well spread throughout the country including East Anglia, which could probably have added greatly to the decline in the factories remaining years.

After the discovery of the porcelain wasters which I mentioned at the beginning of this article, this whetted my appetite for further knowledge and I spent many hours delving into the history of the Lowestoft factory and English ceramics as a whole. This, in turn, led me to the desire to collect porcelain so I ventured forth and bought my first piece of Lowestoft porcelain, a teapot. After some months of saving, and selling a lot of my miscellaneous bric-a-brac I managed to buy a few more

pieces. All this time I was still studying the background of other factories and began to learn the difference between soft and hard pastes, and also bone china which was made at a later date. Also visiting museums and local antique shops, where I was known, and having the opportunity of handling the products of various 18th century factories, I found I began to be more proficient in determining the various types of paste or body that porcelain is generally referred to, such as soft paste, steatic, and hard paste. Also the translucency that the body transmits under artificial light, a good strong electric bulb is necessary for this. As each factory had their own particular recipe for the making of porcelain, so the materials used would, transmit different colours under artificial light e.g. Lowestoft, soft paste, white to light straw, Seth Pennington, Liverpool the same, medium straw colour, New Hall and Caughley, hard paste, dark straw, Worcester, Dr Wall 1st period steatic, duck egg green, later as this factory changed hands, which it has many times up to the present day, so the body of the paste has changed and is not to be referred to the colour of the first period. As stated New Hall and Caughley are both hard paste and show the same translucency and the only way you can tell these apart, other than the variants in the glaze and decoration, i.e. that Caughley removed surplus glaze from the inside of the foot rim with a sharp pointed instrument before firing on the glaze, therefore Caughley has a distinct retraction of glaze from the inside of the foot rim. These examples are only a few of the many 18th century factories of which there are many variants of detection.

After gaining more experience I began to notice that my Lowestoft teapot, which was my first buy, did not seem quite correct, after which I sought the advice of two experts in this field and both confirmed my suspicions, my teapot was in fact, Liverpool, the Seth Pennington factory 1769-99 which is similar in body characteristic but has a darker cobalt blue underglaze decoration and the glaze forms in 'thundercloud' effects on the base, due to the cobalt which mixes with the glaze and gathers in these heavy dark puddles on the base.

So now I have begun to have enough knowledge to recognise that the teapot which I originally bought was not Lowestoft, though I had dearly paid for my mistake so I was determined to learn much more and not to make the same mistake again. Up to now I have not repeated this mistake and have bought several pieces of porcelain at auctions and junk shops of which the factory and value I appreciated. To date I have a modest collection of a variety of 18th century factories, and this is just a beginning, the bug has bit.

FLINT.

by Ian Iosson.

Practically all of the readers of this report will be familiar with the mineral, flint. It is very common in most parts of East Anglia. It is found, in our gardens, in the fields, and upon our beaches.

It may be that it is almost a plague to farmers and gardeners, alike; but to our stone age ancestors it was of immense importance. It was the ideal material and was in plentiful supply for the manufacture of his tools and weapons. The beginnings of industrialization in man – Man the Toolmaker.

Flint was probably used by man in the times of his very beginnings, over 1 million years ago A large nodule of flint, which had become broken by some natural force, and left with a sharp edge, then picked up and used as a weapon against some adversary, be it another of his species or be it some animal for food or defence from that animal.

By the Palaeolithic period, flint was being shaped into rough axes with sharp edges. The Mesolithic period saw the development of barbs, of scrapers and of arrowheads. The perfection in flint tools took place in the Neolithic period. It saw the manufacture of beautifully crafted and sometimes polished spearheads, scrapers, arrowheads, axes, knives and adzes, just to mention a few.

Of course flint does not occur everywhere in the British Isles; thus in the areas where flint does not naturally occur, Early Man, just had to make do with whatever type of rock which was available. Probably the best of those, with properties nearest to that of flint, was a very hard green banded volcanic ash, found in the Langdale area of the Lake District.

It was not until the time of the Neolithic period that the flint mines and axe factories were established.

Roughouts were made in situ of the factory or mine and then transported to various parts of the country. The roughouts were finally completed into the various tools etc. at their ultimate destination. Grimes Graves, near Thetford in Norfolk was such a Neolithic flint mine. In fact an axe factory was

set up near the top of the 2,500 ft Langdale Pikes in the Lake District, manufacturing roughouts in green volcanic ash.

What was flint? and what were the wonderful properties which made it so desirable for the making of implements? Just what was its distribution throughout the country? How was it formed? These are just a few of the questions which will be answered in the forthcoming paragraphs.

As a natural follow on to the use of flint in the lives of early man; the second question would be best answered first. What are the properties of flint that makes it so desirable in the manufacture of his implements? Flint when it is struck with a hard blow by a hard object (Early man used another nodule of flint for this purpose) it fractures. A flake of flint being detached from the main body of the nodule. The type of fracture being known as a conchoidal fracture, that is to say, one face of the fracture is roughly convex whilst the other is roughly concave. The habit of the fracture is sometimes roughly semi-circular. Owing to the convex-concave nature of the fracture, sharp edges are generally formed on the edges of the area of fracture. With experience an operator can usually make the fracture occur in the position where they are required, that is to say they are predictable. Hence flint can be worked into the desired tools and weapons.

The reason why the conchoidal fracture takes place in flint is to be found in its internal structure. It is composed of silica and silica dioxide (SiO_2) in a crystalline form although not crystalline in the usual sense, as say sodium chloride (salt) is. The crystals are microscopically small, packed so tightly, that the mineral appears almost amorphous (having no crystalline form). The name given to this structure is cryptocrystalline. Flint is a cryptocrystalline form of silica, whereas quartz is a holocrystalline form of silica, having beautiful hexagonal crystals which are easily seen by the naked eye.

Another important property of flint is that it is very hard material – it is harder than steel. This can be proved by a simple test. Take a piece of flint, preferably with a sharp edge and then scratch a piece of steel with it, then try it the other way round, try to scratch a piece of flint with a sharp knife – you will find hardly a mark made upon the flint.

What then are the origins of flint? How was it formed? When was it formed? About 60 million years ago, a vast warm sea existed over much of the area which is now land, and we call Britain. These were the Cretaceous seas and they were teeming with life of all kinds. It varied from algae to sharks. Several of these creatures were composed partly of silica, for example diatoms, the spines or sponges and edunoids (sea urchins). When these creatures died the silica was deposited upon the sea bed. These Cretaceous seas were responsible for the formation of vast chalk deposits which eventually became land, after the passage of a long period of time (it is thought algae was partly responsible for the formation of the chalk deposits). Now the chalk, which has eventually become a firm rock, and on dry land, had entrapped within it, and scattered throughout it, these deposits of silica mentioned earlier. It is thought that over the passage of millions of years, waters (from rain and rivers etc.) percolating through the chalk formed a colloidal solution of silica, which perhaps due to changes in pressure or temperature, re-deposited the silica at a lower level, generally in thick bands. Several flint bands are recognisable in the flint formation. This is only one, theory on the subject, there are others, but perhaps nobody really knows the true mode of formation of this unusual mineral. It is to be found, where-ever the Cretaceous chalk deposits are to be found.

From Flamborough (Yorks) through Eastern England, the Home Counties and Hampshire.

In our area, the actual chalk deposit is rarely seen. The best known outcrop is the cliffs at Hunstanton in Norfolk. Nevertheless it is still there, and under the thick deposits of Pleistocene boulder clay and the Plio-Pleistocene crag deposits.

The reason why flint is so widely scattered over our locality although the virgin deposits are buried beneath these thick clay and sand deposits; is that when the Pleistocene ice moved across the area, it sucked up vast quantities of flint from the chalk, then when the ice melted and the clays were deposited, the flints were deposited too.

Perhaps it was as well though, providing our ancestors with the necessary material to make his tools and weapons with; which we can now find in many of the fields of our area.

THE AGARIAN HISTORY OF LOTHINGLAND IN THE 14th CENTURY

by Ian Iosson.

Three manorial account-rolls for Fritton, 1317-18 (Ipswich and East Suffolk Record Office, ref; HB6; 468/10), and Flixton, 1355-6 and 1356-7 (ref; HB6; 468/5), contain useful information about the economic history of 14th century Lothingland. Rendered annually at Michaelmas, this type of document usually gives a fairly detailed account of the manorial income and of the manorial expenditure, followed often by a section recording the products ('Exits') of the manor in corn, livestock, and how they were deployed.

What is immediately striking in all three accounts is the high percentage of manorial income derived from turbarry, the extraction of various types and grades of peat; no less than 76% at the Manor of Fritton, and 31½ on average at the Manor of Flixton-in-Lothingland. At Fritton, there was virtually no other significant factor in the manorial income, except for the money received in rents, about 14% of the total. Rents at Flixton produced on average 2.5%, but, on this manor, income was more varied in source, 20% in 1355-6 coming from the sale of timber and wood and 17% in 1356-7 from livestock and their products. On the face of things, therefore, it may be supposed that the Manor of Flixton had a fairly mixed economy, whereas Fritton was a specialised manor dependant on turbarry; it should be noted however, that the Fritton roll stands alone and in isolation, making it hazardous to draw firm conclusions from the economic events of a single year.

Not surprisingly, the costs of cutting and processing the peat are also prominent on the expenditure side of the accounts, 32% of the expenses at Fritton, 15% on average at Flixton. A further 31% of the expenses were accounted for at Fritton by a transfer of money to the lord of the manor. Grain had to be imported into Flixton, 1356-7, and this, together with the labour and food costs of producing crops grown locally totalled 38%; wages at Flixton averaged 17% of total expenditure and the mill (very probably a windmill), 14%.

A feature of Fritton livestock details are the exports of cattle, poultry and dairy products to Somerleyton and Wathe, a manor in North Cove, Cove Hythe; reference to the 1327 Subsidy Return for Suffolk shows North Hales to have been an important settlement in the early 14th century. Exports to nearby Somerleyton were mostly of poultry. A bull, an ox and 30 cheeses head the list of things sent to Wathe.

Neither Fritton nor Flixton appear to have had pigs or sheep, although the roll for Flixton 1356-7 is partly illegible and the existence there of these species cannot be ruled out.

Cattle dominates the Flixton livestock entries. In the two years covered by the documents, the manor seems to have been building up a fairly substantial livestock population with imported animals from Aylsham and Caldecote, another manor with land in the parish of Fritton.

The acreages of crops sown in Fritton between Michaelmas 1317 and Michaelmas 1318 are of interest;

Barley	34 acres
Rye & Mixture	9½ "
Peas	8 "
Wheat	4 "
Oats	2¼ "

Of the barley received at the following harvest, 40% was used as seed, 22% was consumed by humans on the manor and a further 28% was converted to malt also consumed locally. Beans were not sown in this particular year, although 14 quarters of beans, last year's produce, were exported, again to Somerleyton and Wathe. Otherwise the movements of cereal and leguminous crops do not appear to have been important. The bushel of barley given to the 'passagium' (ferry?) at St. Olaves is of interest.

Barley also heads the list of acreages sown at Flixton-in-Lothingland 1356-7 (The account for 1355-6 is mostly illegible here):

Barley	23½ acres
Oats	12 "
Peas	10 "
Wheat	6 "
White Peas	1 "

There were no significant movements of the produce. The low priority given to wheat is again of distinct interest. The documents do not indicate whether or not an open-field system was in operation (this was not, in any case, their function), but it was recorded that the 10 acres of peas above, together with the acre of white peas were all sown in Heghestoft. Black peas and vetch were also purchased in Flixton 1356-7. A Fleming was hired at 9d a day to pick most of the peas; this apparently high wage may reflect the shortage of labour after the Black Death in 1348-9; Flemings were also employed at hay harvest.

Returning to the all important peat-cutting industry, there appears to have been three products, turves sold by the lest or last, 'Pullocks' or 'puttocks' sold by the thousand, and 'flaggs' sold likewise. It is not stated in which way puttocks differed from either of the other two grades. Turves of peat from old stock sold for 9s. the last in Fritton in 1317-8, as against 8s. for new produce, suggesting that drying was part of the normal processing; it would be useful in these circumstances, to know quite what the function of the 'Puttock' house was, leased out by the lord of the Fritton Manor at 4s. per annum, not an insubstantial rent.

Small boats were used on the marshes for carrying the excavated peat, possibly to some central collection or drying point; a new boat cost 8s. in 1356-7. The sods of peat were apparently turned at a cost of 1d. per last, then restacked and dried at 20d. the last. The finished product seems to have been carried short distances from the manor by cart. Some of the tools used in the various processes may have been mentioned in the rolls, for example 'Dydepoke' (Didle-pole?) costing 4d. in 1356-7.

To manufacture a last of peat cost 3s. in Fritton in 1317-8. It is not clear from the documents whether the last was measured by number (a last of Herring numbered 10,000) or weight (a last of wool weighing about 2 tons). Money realised from the sale of freshly-cut peat exceeded production costs by 160% in Fritton in 1317-18. After the Black Death, the manufacturing cost (Flixton 1355-6) had risen by 67% to 5s. per last, the sale price by 100% to 16s. There is no indication as to where the market lay for the finished fuel, although the proximity of Yarmouth may be important in this respect. Heavy parts for the mill at Fritton were brought by water from 'Jernemitha'.

The effects on the landscape of the peat workings are difficult to ascertain. The manor of Fritton manufactured 50½ lasts of peat in 1317-8, possibly in excess of half a Million sods of peat in the year. Failing good evidence to the contrary, therefore, it seems probable that the lake in both Fritton and Flixton owe their origin to the cutting of peat in the 14th. century.

LOTHINGLAND AND STONE IMPLEMENTS

by T.H. McClough.

For many years a programme of examining prehistoric stone implements has been organised by the Council for British Archaeology's Sub-Committee for implement Petrology. Brief notes on results from all over the British Isles have been published in the CBA's Annual Reports (obtainable from the Secretary, Council for British Archaeology, 8 St. Andrews Place, London NW 1), and numbers of local finds have been recorded in the Annual Bulletins of the CBA Regional Group VII which covers Cambridgeshire, Huntingdon, Norfolk and Suffolk (copies of which are obtainable, from the Editor, Miss Elizabeth Owles, Ipswich Museum, High Street, Ipswich, Suffolk – send s.a.e. for detail). By some administrative quirk, the area now covered for stone axe petrology purposes from Norwich Castle Museum, where the East Anglian part of the scheme is administered, does not coincide with the regional group, since it covers Norfolk, Suffolk, Cambridgeshire and Essex. The practice has been to work through the museum collections in the area and, wherever possible, to include new finds and items in private, collections as well. The existing collections in museums at Norwich, King's Lynn, Bury St. Edmunds, Ipswich and Colchester have been covered, and work is currently taking place on Cambridge collections at a rate of about 30 implements a year.

The system, for those who are unfamiliar with it, works as follows. The specimens, polished stone axes, battle axes, axe-hammers and other types, are assembled at Norwich Castle Museum, where they are drawn and where all known details about their findspot, circumstances of discovery and so on are recorded on standard record cards. The implements themselves are then sent in groups to the University of Bristol, where in the Geology Department a slice is removed from each specimen and made into a thin section which is mounted on a glass slide for examination through a microscope. By careful and accurate comparison of those slides with those from previous specimens and with others

from known rock sources, it is possible to build up groups of implements and often to identify the source of the rock which was used for making them. For example, over sixty axes from the four East Anglian counties mentioned above can be assigned to a group whose origins lie in the Langdale area of the Lake District. Each group, as it is identified, is given a group number, so that the Langdale group is referred to as group VI. In addition, each individual implement is given a county petrology number, which is written as indelibly as possible on it when the card is made out for it, and which is used to identify it from that moment onwards. The petrological work has been done for many years by Dr. P.S. Wallis and Mr E.D. Evans, and without them a note such as this could not be written. Similar schemes, some more active than others, are operating all over Great Britain, so that gradually a clearer pattern of trade in prehistoric times can be assembled. After examination the implements are returned to Norwich together with the results which are entered on the record cards. Each implement now bears a scar caused by the slicing operation; by carefully repair using Plaster of Paris and powder paints, the scar can be filled and rendered virtually invisible to all but the most careful scrutiny. The object of this is to conceal the repair in such a way that it is not immediately obvious, while someone who is looking for it will be able to see it, since it is sometimes necessary to refer to the actual specimens or to identify the ones which have been sliced (if for example the petrology number should accidentally be removed). Finally, the implements are gratefully returned to their owners. All implements in private possession are repaired in this way, but some of the larger museums are able or prefer to repair their own implements.

There has not so far been a detailed publication of all the East Anglian results, and work is at present in progress of such a report. This is perhaps then an opportune moment to draw attention to a small but significant group of finds from Lothingland. So far about 300 implements from Norfolk, Suffolk, Cambridgeshire and Essex have been examined, and rather more than half of these have been assigned to known groups. Further work on the subject may, of course, lead to the identification of new groups and so reduce the number of specimens of unknown origin. The distribution of these implements in the four counties is as follows; 91 from Cambridgeshire, 42 from Essex, 139 from Norfolk and 89 from Suffolk. Of the implements from Lothingland, 5 have so far been identified as belonging to specific groups. This is at first sight a small total, but it should be seen in context; there are no grouped implements, except for one from Caister-on-Sea, from any coastal area other than Lothingland between Mundesley to the north and Woodbridge in Suffolk to the south. There are none in Broadland, from the Yare below Norwich, the Tas below Tasburgh, or the Waveney below Billingsford, with the exception of one from Thurlton. This does not mean that there are no axes of any kind from the whole of this area; there certainly are, both flint and stone, but none of them are assigned to known groups and thus they do not help with the identification of trade patterns. Flint axes in particular are by no means uncommon. The importance of the Lothingland implements lies in their concentration in that small area.

Of the five implements concerned, two are of Cornish rock, one is a Langdale axe, and one belongs to a recently identified group whose origins are not known (as also does the Caister-on-Sea axe); the fifth is a jade axe. Although the fifteen or so axes of jade and similar rocks from East Anglia do not in themselves form a specific group, they are sufficiently distinct from all others that they can be kept apart from the mass of ungrouped implements; their rock sources are not known precisely, but such evidence as points definitely to a continental origin. The axe from Thurlton mentioned above is assigned to a group whose origins are thought to be in SW Wales. Thus, far reaching trade connections in Neolithic and Early Bronze Age times are reflected in the archaeological records from Lothingland.

The stone implements represent incoming trade. In addition, it should be pointed out that there is a considerable concentration of flint axes from Lothingland as well, although these do not so clearly represent distant trade since it may be that the origin of the flint is quite close at hand. The Lound Run hoard of flint axes, accompanied by a rubbing or polishing stone, is probably the best known of several finds made during the Lowestoft Water and Gas Company's activities in the area. Current research into the characterisation of flint mine products will make it possible, it is thought, to distinguish axes made at, for example, Grimes Graves from those made at other British or continental mining centres; it is not yet certain, however, how far this can be taken. A preliminary note on the subject appeared in *Nature* 228, No.5268 (Oct.17th 1970), pp. 251-4. The flint axe from the Lound Run hoard as well as those from two or three other Norfolk flint axe hoards, have been made available by Norwich Castle Museum for sampling in connection with these investigations. It may eventually be possible to initiate a nationwide survey of flint axes in Museums and private collections on the

general lines of the CBA's petrology survey, but the quantities of implements involved are enormous and their sampling and examination would be a massive undertaking.

At the moment local efforts are being concentrated on implements of stone other than flint, and it is hoped that this brief article may bring to light other stone implements from the area which have not yet been recorded or examined. The archaeology department at Norwich Castle Museum, which administers the East Anglian programme, would very much like to hear about any such finds, so that wherever possible they can be included in the petrology survey.

THOUGHTS FROM AFAR – THE FUTURE OF THE SOCIETY.

by R.J. Kedney.

Derby may not be so far from Lowestoft as the title suggests, but it is too far to help at Raveningham or search for flints at Kessingland, so that I have had to content myself with reading and thinking. Recently my thoughts have centred around what the Society has achieved and where it may be going in the future as many of our original aims seem to have been achieved. The Society has a healthy membership and has attracted over 230 to some lectures and the accommodation is both varied and excellent in contrast with our beginnings when hours were spent on pinning black paper over windows from the top of a ladder and trying to black out the autumn sun with a sheet of canvas strung from the reference library ceiling.

The Society has always had a first class lecture programme that compares most favourably with many county societies and offers its members a wide range of activities including visits, field searches and an excavation at Raveningham carried out in conjunction with the Great Yarmouth Society. In addition the Society publishes this Annual Report and a newsletter. It has built up a number of collections of museum specimens so preserving much of the local history unearthed in the last five years, and has also organised a number of exhibitions. At present we seem to be achieving some degree of success in establishing a museum for Lowestoft. It was hoped the Society would support the Local Council in this venture as at Bungay and Great Yarmouth but, unfortunately, it seems that it will have to depend mainly on the voluntary efforts of a few Individuals. Finally, of course, a note should be made of the drive to publicise the Society even to the extent of winning a shield.

Much therefore has been achieved in the short five years that the Society has been formed, so much so that I feel that the Society is already at a crossroads and must consider future policy carefully. Too often this is not done and we may unwittingly drift into self satisfied apathy rather than continue to fulfil a useful and dynamic role, (though the very considerable challenge of establishing a museum will be a major objective for some time to come). The Society seems to reflect the national picture in that it is faced with the problem of formulating policies to meet the demands of a rapidly changing social pattern. A recent article in 'Current Archaeology' (Nov.1970) by Peter Fowler gave an account of a recent conference dealing with this problem and the following passage is taken from it – 'need to make way for more vigorous and relevant organisations; many of the so-called archaeological groups, clubs, etc which have mushroomed in the last 20 years (5 in our case) could certainly direct their energies more profitably to organised and systematic field survey and rescue work rather than rivalling one another with yet more incomplete, unpublished and unpublishable diggings.'

Our Society has, I feel, already started to make some moves to answer this indictment and we can offer considerable evidence of the value of our activities. Yet I would suggest that we have not stopped to consider what our priorities should be, what activities we can offer that may attract more of the members to play an active and valuable role rather than a passive one. The first priorities of starting a tradition of activity and research and publishing the results have been established and surely the time is ripe to take the next step and plan these activities carefully rather than just rely on the individual interest and ideas of members though, of course, this will always be the base from which to work.

First and foremost, I would suggest, should be emergency work and rescue operations to record the very rapid changes that are taking place, it was suggested in the above article that virtually all of the country's archaeological heritage in the field will have been destroyed by the turn of the century at the present rate of progress. It is certain that modern building techniques with deep foundations are rapidly destroying for ever the historic centres of our towns and that nothing will be left in the not too distant future. In Lowestoft, for example, the fishing community of the Beach Village has gone and a

tower block of flats stands on the site of the Lowestoft China Factory, the swing bridge too, for so long a part of the town's character and scenery, has gone and I am sure that this list could be continued ad infinitum; Fortunately, thanks to the efforts of too few of the Society's members, some of these changes have been recorded in part at least but much more needs to be done. Ideally any major change should be noted for future reference preferably with illustrations and/or specimens. Even the least promising site can often yield surprises and though this area has not produced any gold torcs such as turned up at Ipswich and Snettisham, many fine prehistoric flint tools have been found on building sites such as the Pound Farm estate and even a piece of a dinosaur's backbone was found by a school boy when the road was cut through to the beach at Corton. It follows, therefore, that any form of digging is worth watching and noting before it is too late. The following list of possible research projects covers only those that occur to me at a distance of some 200 miles. I am sure that it can and must be extended and I hope that it will help to stimulate some interest in recording the changing scene while we still have a chance.

POSSIBLE RESCUE PROJECTS

- 1 Trenches on building sites
- 2 Roadworks for pottery, tools,
- 3 Coastal/drainage work coins etc.
- 4 Gravel/sand/brick pit diggings
- 5 Coastal erosion
- 6 Demolition work-changes in existing buildings etc.

OTHER RESEARCH PROJECTS

- 1 Prehistoric flint tools – an existing project
- 2 Round towers survey – an existing project
- 3 Moated sites – an existing project
- 4 Windmills and watermills of Lothingland
- 5 The Changing face of Lowestoft
- 6 Life in the Beach Village
- 7 Local Railways and waterways
- 8 The Fishing industry
- 9 Dialect and local words
- 10 Lothingland and the 2nd World War
- 11 The Life and times of Ada Roe
- 12 The Lifeboat service and its predecessors
- 13 The Changing industrial scene – Netmaking especially in Kessingland
 - Rural Crafts and industries
 - Local brickyards
 - Fish curing and preserving
 - Agricultural building and machinery
 - Industrial machinery such as the steam engines at Lound.

As I have already tried to say I feel that the emphasis should be placed on emergency and rescue work but any effort to preserve or record our heritage will be valuable and must be done quickly as the rate of destruction and change is so rapid that it is difficult to comprehend. Yet one has only to think of the fate of the china factory site or of the estate of bungalows built on the Roman town of Caister to realise what is happening to known sites alone and we have already realised that at present we only know of a small part of this area's rich remains.

In concluding this article I would like to mention some of the ways in which I feel that this work may be done as not everybody is able or sufficiently interested to commit their weekends to working on a project or have the skills or desire to regularly take part in an excavation. Much can be done in a single afternoon or an occasional hour if it is planned, recorded and the results are made known so that others can call on your knowledge. The obvious dangers of digging holes here and there should hardly need mentioning as they only produce wanton destruction and do far more harm than good. Accepting

that digging is confined to the controlled excavation as at Raveningham what are the alternatives ? –

(1) Field searches – as the name suggests these searches of ploughed fields, gravel pits etc. for any archaeological material such as flint tools, pottery, etc. that may have been turned up. These are organised on occasions by the Society but can of course be carried out when taking the dog for a walk.

(2) Field surveys – not necessarily confined to fields but any methodical survey of an area of a subject e.g. the Society's work on moated sites and round towers.

(3) Interviews – which can be recorded in written form or on a portable tape recorder, obvious choices here are the study of dialect and talks with well known local personalities. Though it is too late to talk to Mrs. Ada Roe I am sure much could be learnt both about her and her life in Lowestoft in the last 100 years from her friends.

(4) Classification of specimens is particularly necessary as the finds of the members of the Society grow, flint tools or medieval pottery for example desperately need listing, classifying and their locations recorded.

(5) Illustrations – are particularly valuable and a simple photograph or quick sketch is a record which we can all make but added to this there is the wealth of information provided by old drawings, maps, paintings, seaside postcards etc. which no doubt are available. Once again a classified list would be extremely valuable and could, for example, be started with a simple list of maps held in the reference library.

(6) Written records – tend too often to deter potential researchers from recording their knowledge but they do not have to take the form of a book. The Council for British Archaeology has produced record cards for the non-specialist and the Society has some in stock. Some valuable work on the local railways has been started by Mr. Mitchell using these cards.

Occasions will, of course, arise when specialist skills are needed and help is often readily at hand as has been shown on the Raveningham excavation and the survey of the motte and bailey castle at Denton. This Society is only one of many in this area and others have interests which touch upon ours and may well be able to help us as well as of course, the assistance from the county museums and professional archaeologists. The need for action now cannot be overstated as tomorrow may literally be too late.

R.J. Kedney.

FOOTNOTE

Since writing this article further examples of the destruction of our heritage have been published. These illustrate what is known to be happening in areas where local interest in archaeology is strong and active. What is happening around you? A few examples are listed below:-

1. Of the 870 Bronze Age barrows recorded in South Dorset 95% have already been destroyed.
2. Of a sample of 640 scheduled sites in Wiltshire 400 were damaged from 1954 to 1964.
3. In the 450 years before 1950 some 300 deserted medieval village sites were destroyed. In the 20 years since then a further 300 village sites have been destroyed
4. On the route of the M5 motorway through Gloucestershire and North Somerset only 2 sites were known in advance. A further 125 sites were recorded as work progressed.
5. All sites not specifically preserved are likely to have been destroyed by the year 2,000 A.D.

THE RESPONSIBILITY IS YOURS, NOT YOUR COMMITTEE'S

WORTHIES OF LOWESTOFT No. 2: HENRY TUTTLE.

by H.D.W. Lees.

Henry Tuttle was born at Barford, a small village; some seven miles west of Norwich on December 12th. 1817. He was the son of 'William and Mary Tuthill' for so; the name appears in Barford Parish Register, for the year 1818, where he was baptised on the 15th. February of that year. In 1833, when he was 16 he entered the firm of Bennet and. Bream of 12 Upper Market, Norwich, wholesale and retail grocers, and later went into the employ of Messrs. Copeman and son; 12 Gentlemen's Walk; in the City, wholesale and retail grocers.

In the year 1843 Henry Tuttle came to Lowestoft and established himself as a grocer and provision

merchant, first at No. 66 High Street. In 1850, he purchased, a site and erected the property now known as No. 58 High Street and known as 'Victoria House'. The name of Tuttle was connected with this shop until 1920 when it was closed down.

By 1912. The International Tea Co's Stores had opened here and continued in business until February 15th. 1941, when the shop received a direct hit having been bombed at 0054 hours, on that date, Mr and Mrs Smith, who lived over the shop, were killed. The International re-opened across the road at No. 145.

During the 1850's Henry Tuttle began to expand his business and in 1854 he opened a branch establishment at the junction of Raglan and Barn Street, the manager of which was a Mr. N. Fyshe, who afterwards entered the Free Church Ministry.

By 1856 Henry Tuttle had again branched out, having taken over No. 2 Virant Place, Denmark Road, later known as No. 4 Denmark Road, from Clarke and Burrell, grocers, and remained there until the year 1865.

After that he opened his Commercial Road branch at No. 4 in 1866.

The following item found in the Lowestoft Vestry Book 1851-1857 makes interesting reading:-

POOR RATE ASSESSMENT

Rate for the benefit of the Poor at sixpence in the pound. Tuttle,
Henry:- House and shop, Commercial Road, 40. _____

It was about this time that Henry Tuttle, issued a Token, redeemable at his High Street shop, for we find 'The Tuttle Token' mentioned on page 94 of Charles Goldings 'The Coinage of Suffolk' which was privately printed in London in 1868 – Golding gives no details apart from the following description of the design.

'O. Victoria. Queen of Great Britain.
Head of Queen Victoria to the left.'
'R.H. Tuttle. Lowestoft. Grocer & Tea
dealer. High Street, in three lines.'

The writer is indebted to Mr. G.P. Dyer, librarian, Royal Mint, Tower Hill, London E.C.3. in a letter dated 4th. April 1967 for the foregoing information on this local token.

Soon after Henry Tuttle came to Lowestoft he was appointed a Parish Constable for we find the following entry recorded in the Lowestoft Vestry Book – 1827 - 1850. Which reads:-

Lowestoft 12th. Feb. 1846.

A town meeting was held this day according to public notice, for making out a list of twenty persons to serve the office for the ensuing year. 'Henry Tuttle, Grocer' being No. 16 on the list. He served only twice – again in 1849.

The Handbook to Lowestoft for 1871, Page 50, reads that 'The Post Office in the New Town is near the harbour and is in the care of Mr. Henry Tuttle'.

THE LOWESTOFT MAGAZINE.

New series. No. 59.

Nov. 1875.

HENRY TUTTLE.

50, High Street and 4, Commercial Road. Lowestoft.

Family Grocery, Fine Teas, Coffees and Provisions.

Bottled and Cask Ales and Stout.

Wines and Spirits of the most approved qualities at moderate prices.

	Impl. pnts.
Allsopp's fine choice ales	3s. 6d and 4s. per doz.
Youngers Dinner, ditto	2s. 6d "

" India Pale, ditto	3s. 6d	"
Guinness's Stout	4s. 0p	"
Bass's Fine Ales	4s. 0p to 6s.	"
Lion Stout	3s. 0d	"
Lion Cooper	2s. 6d	"

 Drapery & Millinery Establishments.

5. Commercial Road.

A well assorted stock of Hosiery & Gloves.

Special line in Half-crown Kid.

New Novelties of the season always on hand.

Advertisement

The Lowestoft Journal in its issue of March 24th, 1888 records that 'The firm purchased an extensive plot of ground abutting on London Road nearly opposite the Post Office, forming part of the Grove Estate and situated in one of the busiest parts of the Borough. On this large area the present handsome establishment has been erected and having been favoured by Mr. J. Porter, the architect, with a description of the same, with the following particulars, we have much pleasure in laying them before our numerous readers:-'

'In November 1886 Messrs Tuttle & Son purchased from the proprietors of the Grove Estate a valuable plot of land, having a frontage of about 92ft. towards London Road and a depth of 75 ft. and on a portion of this site they have erected some commanding business premises, embracing one of the largest shops in town (if not the largest) for the drapery business.

The shop is about 45ft. by 37ft. and fully 12 ft. high having frontage towards London Road and Suffolk Road . . . It has two entrances in London Road and a main entrance at the corner of the building – consisting of a spacious vestibule paved with ornamental tiles and enriched with large sheets of plate glass at the sides. The swing doors to the shop are of mahogany, the upper panels glazed with plate glass, and the lower panels moulded; the vestibule has pilasters of Pavien Cement and moulded caps and bases, and a pententive and dunicaly ceiling from which a lamp may be suspended.

A staircase of pitch pine in the centre of the shop giving access to a large showroom on the first floor, about 36ft. by 26ft. The remainder of the first floor embraces a dining room, kitchen, scullery and other offices. The second floor contains six bedrooms and a sitting room for the accommodation of those employed in the establishment. A private entrance and staircase are provided and entered from Suffolk Road. Lavatories and water-closets are placed in convenient positions, and the sanitary arrangements have been thoughtfully considered.

The new buildings are faced with red brick, stone has only been used when its use was considered more economical and effective than brick. The building is lighted throughout by large plate glass windows.

The style of architecture adopted is a free treatment of Anglo-Italian. Pilasters of red brick are introduced between the windows and coupled pilasters at the angles, which are carried up into dwarf turrets forming chimney stacks and each flue has a specially designed chimney pot of terra cotta. The whole of the building, the account adds, has been solely and in a liberal spirit carried out by Mr. Jas. Gill, builder and contractor, of Clapham Road, Lowestoft, from the designs and superintendence of Mr. Thomas Porter, 140 High Street Lowestoft. A word of praise is also due to the workmen (one and all) who have been employed, and who have shown an intelligent interest in their work and exhibited a desire to carry out their respective duties with conscientious care. It may he added the constructors employed were Mr. W. Whitehead for the masons work, and Mr. T. Wright for the painters and glazier work. The stove and gas services were supplied by Messrs. Garrod, Waller and Smith'

This shop was modernised in April 1957. The architect for the alterations in this case was Mr. R. Corless of Messrs. Skipper & Partners, Lowestoft.

The Bon Marche was opened in 1888. Two years later the furnishing store and other departments were added and the present building was constructed in 1897.

Mr. Henry Tuttle's son, Ebenezer became a partner in the firm which was then known as H. Tuttle &

Son, in 1876. He later took an active part in the municipal affairs of the town and was elected to the Town Council in 1891, became an Alderman four years later and was Mayor of the borough in 1904-5 and 1905-6.

The business was formed into a limited liability co. in 1902 when Mr. E. Tuttle, who had succeeded his father as head of the firm, was joined by his two sons, Mr. Arthur and Mr. Ernest Tuttle, and his wife, as directors.

Mr. Ebenezer Tuttle died on . . . December 1921 and Mr. Arthur Tuttle was appointed chairman, he was succeeded on his death in 1937 by his brother Mr. Ernest, who remained chairman till he died in 1955 when he was succeeded by his eldest son, Mr. John Tuttle. With his cousin Mr. T.H. Tuttle he had been appointed a director in 1936.

Mr. John Tuttle is the third generation of the family to have been appointed a Justice of the Peace for the borough; and is a brother of Sir Geoffrey Tuttle former Chief of Air Staff who recently retired from the R.A.F.

At midday on Thursday December 8th 1960 this family business was taken over by Debenham Ltd. who already include some of the biggest stores in East Anglia among their chain of 14 properties:- Curls, Marshall & Snelgrove, Bunting and Garlands in Norwich, Arnolds at Yarmouth, Footmans, Corders and Gardners at Ipswich, Jermyns at King's Lynn, and Prett's at Bury St. Edmunds. Mr. John Tuttle handed over to Mr. John Bedford, Chairman of Debenhams, on the date above. A statement issued by Debenhams Ltd. after the official takeover said 'Debenhams have acquired the whole of the issued capital in Tuttle & Sons Ltd of Lowestoft. The total consideration has been satisfied by the issue of 45,900 10s. ordinary shares in Debenhams Ltd. fully paid and ranking part passo in all respects with the issued ordinary shares of Debenhams except that they will not rank for the forthcoming script issued it is stated, at the time.'

'Mr. J.E. Tuttle and Mrs. D.M. Eyre are retiring and Mr. H.R. Coleman has been appointed chairman of the Company. Mr. J. Bedford and Mr. R.F. Dye have been appointed to the board' added the account.

And thus was the end of a family business started 123 years ago.
